

Illustrated Parts & Service Map

HP Compaq Pro 6305 Business PC Microtower



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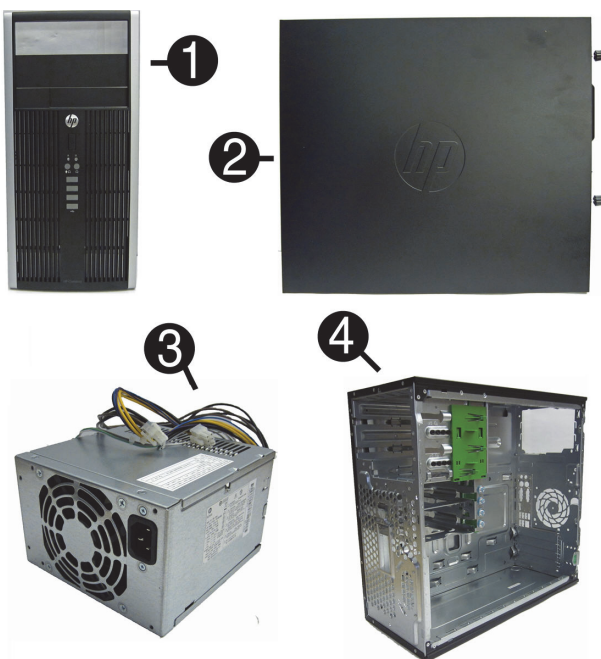
3rd Edition August 2013.



Key Specifications

Processor Type	AMD A-Series Quad-Core (A10-5800B, A8-5500B) and Dual-Core Processors (AMD A6-5400B, A4-5300B)
RAM Type	Non-ECC DDR3 PC3-12800 (1600 MHz)
Maximum RAM	32 GB
Expansion Slots (Low profile)	(1) PCI, (1) PCI Express x1, (1) PCI Express x4, and (1) PCI Express x16
Chipset	AMD A75
Graphics Adapter	Integrated ATI Radeon™ 7000D Series HD Graphics (version depends on processor). Optional discrete graphics solutions from AMD and NVIDIA
Bays	<ul style="list-style-type: none"> External: (2) 5.25", (1) 3.5" Internal: (2) 3.5"
I/O Interfaces	Front: (4) USB 2.0 ports, headphone output, microphone jack Rear: (4) USB 3.0 ports, (2) USB 2.0 ports, serial port, PS/2 mouse and keyboard ports, RJ-45 network interface, DisplayPort and VGA video interfaces, 3.5mm audio in/out jacks
Preinstalled Operating Systems	<ul style="list-style-type: none"> Windows® 7 Windows 8 FreeLnx

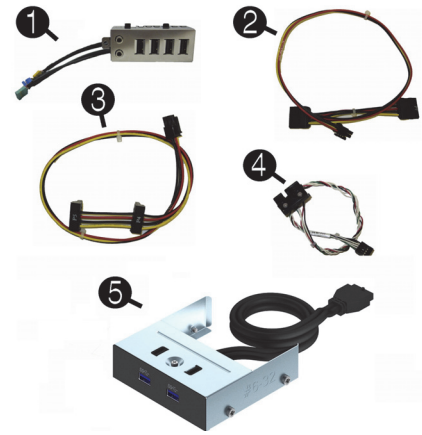
Spare Parts



System Unit

1	Front bezel	689377-001
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	HP USB 3.0 Front Port Adapter	716391-001
*	SATA cable, 18 inch, 1 straight end, 1 angled end	646830-001
*	SATA cable, 17.7 inch, 2 straight ends	639959-001
*	DMS-59 to dual VGA cable	463023-001
*	DMS-59 to dual DVI cable	463024-001
*	Adapter, DisplayPort to VGA	603250-001
*	Adapter, DisplayPort to DVI	662723-001
*	Adapter, DVI -I to VGA	202997-001
*	Adapter, DVI -D to VGA	657401-001
*	Adapter, USB 3.0 to USB 2.0	736835-001
*	Adapter, DisplayPort to HDMI	617450-001
*	DisplayPort cable	487562-001

*Not shown

Keyboards (not illustrated)

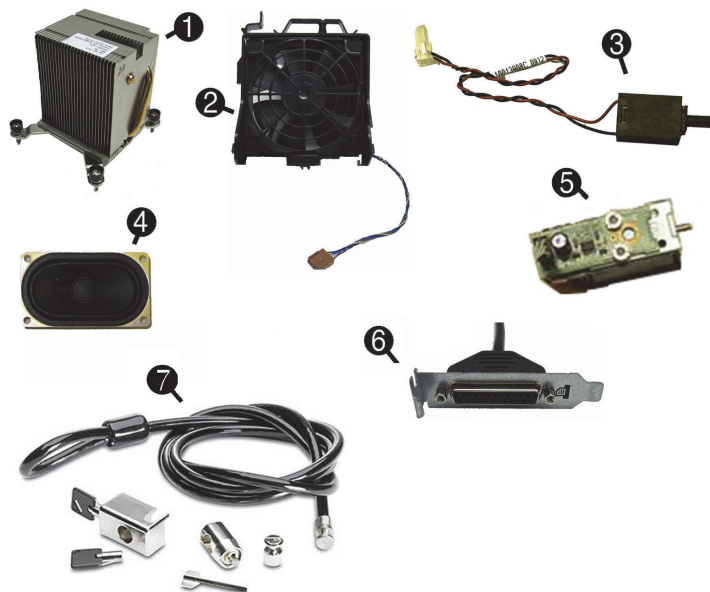
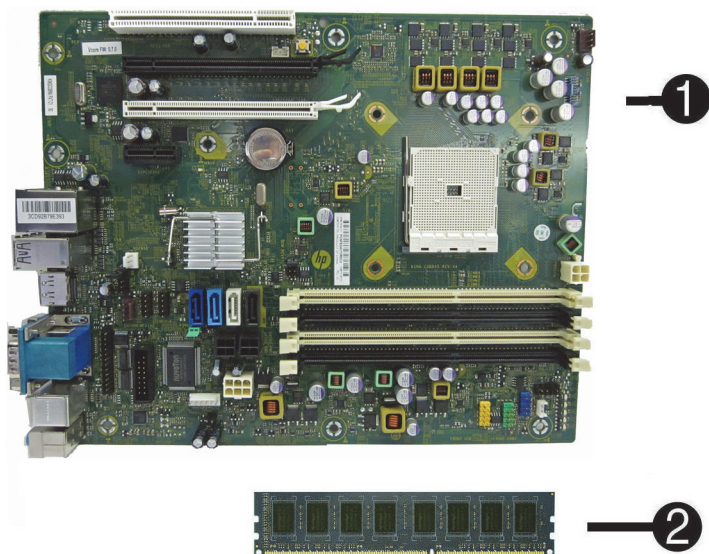
PS/2 (standard/Windows 8)	537745-xx1/701423-xx1
USB, silver/black (Windows 8)	701429-xx1
USB, black (standard/Windows 8)	537746-xx1/701424-xx1
Wireless (standard/Windows 8)	674314-xx1/701426-xx1
Washable (standard/Windows 8)	613125-xx1/700510-xx1
Smart card (standard/Windows 8)	631411-xx4/701427-xx1
Smart card (Windows 8)	701671-xx1

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
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
India	-D61	Thai	-28x
International	-37x	Turkish	-14x
International English	-L3x	U.S.	-00x
Italian	-06x	U.K.	-03x

Mass Storage Devices (not illustrated)

16X SATA DVD-ROM drive	682550-001
16X SATA DVD±RW drive	690418-001 660408-001
Blu-ray BD-Writer XL drive	682219-001
1 TB hybrid hard drive (8-GB SSD)	724937-001
1 TB, 7200 rpm hard drive	636930-001
500 GB hybrid hard drive (8-GB SSD)	724938-001
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, 7200 rpm hard drive, SATA	636927-001
256 GB Solid State Drive (SSD), self-encrypting (SED)	680020-001
160 GB Solid State Drive (SSD)	646809-001
128 GB Solid State Drive (SSD)	665961-001
120 GB Solid State Drive (SSD)	661841-001
Grommet, hard drive isolation, blue	450712-001
2.5-in drive adapter	586721-001
Drive carrier, 2.5 inch to 3.5 inch	703597-001
Hard drive conversion bracket	397117-001

*2.5-inch drives require an adapter for installation.



Standard and Optional Boards

System boards (include replacement thermal material)

1	For use in Windows 7 models	703596-001
*	For use in Windows 8 Standard models	703596-501
*	For use in Windows 8 Professional models	703596-601

Memory modules (PC3-12800, CL11)

*	8-GB	689375-001
*	4-GB	671613-001
2	2-GB	671612-001

Other boards

*	GeForce GT630 PCIe x16 graphics card, 2 GB (for use only with Windows 8)	702084-001
*	nVidia Quadro NVS310 PCIe x16 graphics card, 512 MB (for use only with Windows 8)	707252-001
*	nVidia Quadro NVS300 PCIe x16 graphics card, 512 MB (for use only with Windows 8)	700578-001
*	nVidia Quadro NVS315 PCIe x16 graphics card, 1 GB (for use with Windows 8)	720837-001
*	AMD Radeon HD8490 PCIe x16 graphics card, 1 GB (for use with Windows 8)	717219-001
*	AMD Radeon HD8470 PCIe x16 graphics card, 2 GB (for use with Windows 8)	729085-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (for use only in China)	702646-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (includes adapter; not for use with Windows 8)	682411-001
*	AMD Radeon HD7450 PCIe x16 graphics card, 1 GB (for use only with Windows 8)	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 only with Windows 8)	697246-001
*	HP WLAN 802.11 g/n 1x2 PCIe NIC	538048-001
*	Intel PRO/1000, single port, GbE, NIC	728562-001
*	Intel Centrino Advanced-N 6205, 802.11a/b/g/n WLAN module	695915-001
*	HP USB 3.0 SuperSpeed PCIe x1 card	663213-001
*	HP USB 3.0 SuperSpeed power extension cable (for use with 663213-001)	663214-001

AMD processors (include thermal material)

*	A10-5800B, 3.8 GHz, 4-MB L2 cache (100-W), HD 7660D	703598-001
*	A8-5500B, 3.2 GHz, 4-MB L2 cache (65-W), HD 7560D	703601-001
*	A6-5400B, 3.6 GHz, 4-MB L2 cache (65-W), HD 7540D	703600-001
*	A4-5300B, 3.4 GHz, 4-MB L2 cache (65-W), HD 7480D	703599-001

* Not shown

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

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	643908-001
*	Fan duct assembly	646824-001
*	Serial port, PCI card	638815-001
*	Card reader, 22-in-1, 3.5 inch	636166-001 698877-001
*	Card reader, 14-in-1, USB 2.0/3.0, 3.5-inch	716390-001
*	USB powered speakers	636917-001
*	Mouse, PS2, optical, jack black (non-ECO)	609250-001
*	Mouse, washable	619580-001
*	Mouse, wireless	674317-001
*	Mouse, wireless (not for use in APJ region)	608150-001
*	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
*	Antenna kit, for use with WLAN card	583345-001

*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-Keybaord 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 is giving correct error message. Enter Computer Setup and run the Drive Protection System test under Storage > DPS Self-test . 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"> Product name SKU number (some models) Processor type/speed/stepping Cache size (L1/L2/L3) Installed memory size/speed/ch Integrated MAC Address System BIOS Chassis serial number Asset tracking number ME firmware version ME management mode 	
	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"> CD-ROM Hard Disk Default Values Translation Mode SSD Life Used SMART (ATA disks only) Diskette SATA Defaults
		Storage Options - Allows you to set: <ul style="list-style-type: none"> eSATA Port - Set SATA port as eSATA port for use with external drive. SATA Emulation - Choose how the SATA controller and devices are accessed by the OS. SATA Emulation choices are AHCI, RAID, or IDE. 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. By default, the speed is limited to 1.5 Gbps for maximum reliability.
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"> Shortcut to Temporarily Override Boot Order 		
Security		Setup Password - Set and enable the setup (Admin) password.
	Power-On Password - Set and enable power-on password.	
	Password Options - Allows you to enable/disable: <ul style="list-style-type: none"> Lock Legacy Resources Setup Browse Mode Password prompt on F9 & F12 Network Server Mode 	
	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"> Data Execution Prevention (enable/disable) SVM CPU Virtualization (enable/disable) Virtualization Technology (VTx) (enable/disable) Virtualization Technology/Directed IO (VTd) (enable/disable) Trusted Execution Technology (enable/disable) Embedded Security Device (enable/disable) Reset to Factory Settings (Do not reset/Reset) Measure boot variables/devices to PCR1 (enable/disable) OS management of Embedded Security Device (enable/disable) Reset of Embedded Security Device through OS (enable/disable) No PPI provisioning (Windows 8 only; enable/disable) Allow PPI policy to be changed by OS (enable/disable) 	
	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"> Legacy Support (enable/disable) Secure Boot (enable/disable) Key Management (enable/disable) Fast Boot (enable/disable) 	
	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"> POST mode (QuickBoot, Clear Memory, FullBoot, or 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, 20, or 60 seconds) Remote Wakeup Boot Source (remote server/local hard drive) Factory Recovery Boot Support (enable/disable) Bypass F1 Prompt on Configuration Changes (enable/disable)
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"> Printer mode (Bi-Directional, EPP + ECP, Output Only) Num Lock State at Power-on (off/on) Integrated Video (enable/disable) Integrated Graphics (Auto/Disable/Force) Internal Speaker (enable/disable) NIC PXE Option ROM Download (enable/disable) SATA RAID Option ROM Download (enable/disable) Multi-Processor (enable/disable) Hyper-threading (enable/disable) Turbo Mode (enable/disable)
	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"> AMT (enable/disable) Unconfigure AMT/ME (enable/disable) Hide Unconfigure ME Confirmation Prompt (enable/disable) Watchdog Timer (enable/disable)

Password Security

Establishing a Setup or Power-On password:

1. Turn on or restart the computer.
2. 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.
3. Press the **F10** key to enter Computer Setup.
4. 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
5. Before exiting, click **File > Save Changes and Exit**.

Changing a Setup or Power-On password:

1. 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.
2. 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.
 3. 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.
 4. Press **Enter**.
- The new password will take effect the next time the computer is restarted.

Deleting a Power-On or Setup password

1. 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.
2. 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.
 3. When the key icon appears, type your current password followed by a slash (/) or alternate delimiter character as shown. Example: *currentpassword/*
 4. Press **Enter**.

Clearing CMOS

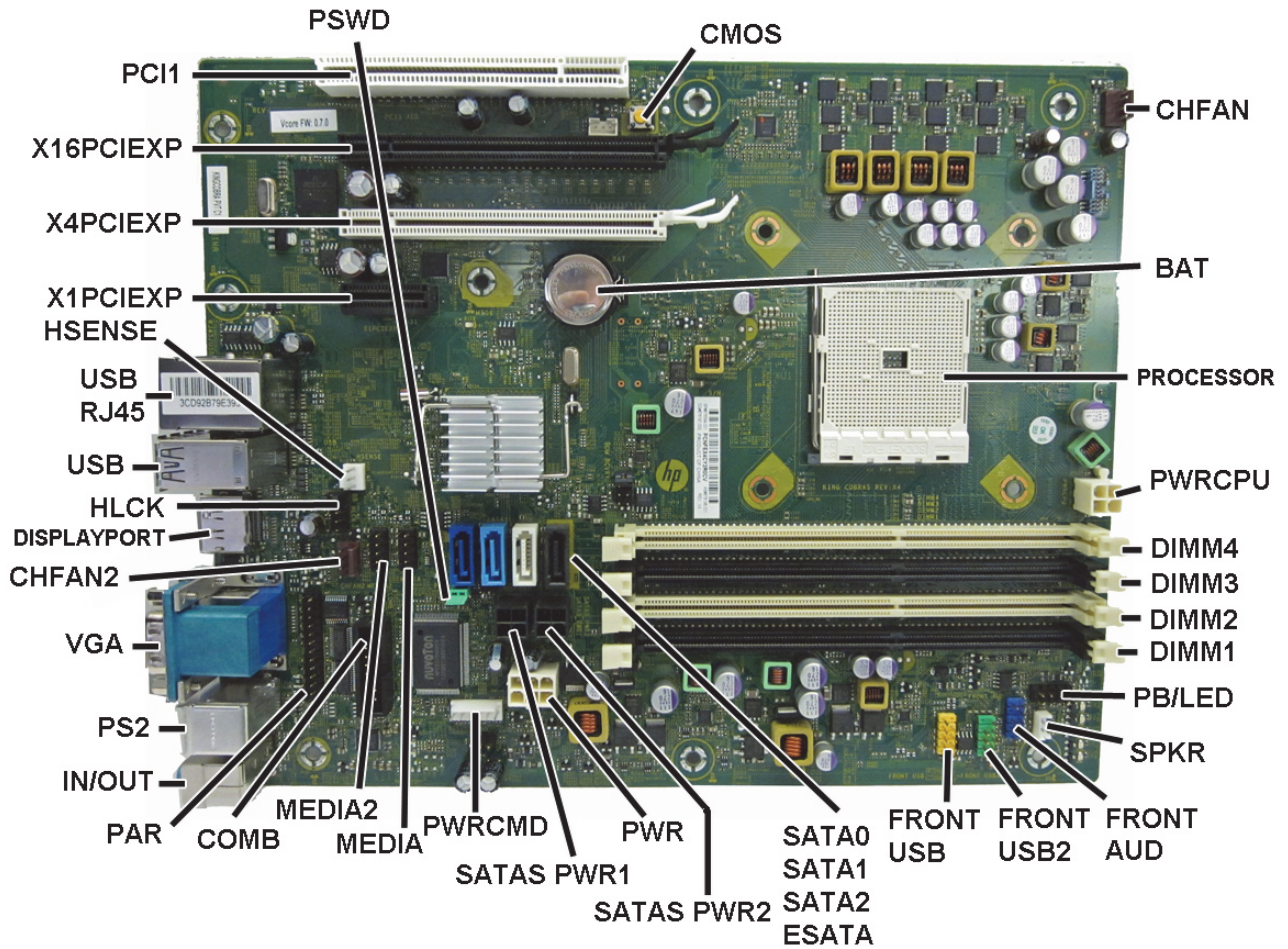
1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, press and hold the CMOS button for 5 seconds.
4. Replace the chassis access panel and reconnect the power cord.
5. Turn on the computer and allow it to start.

Resetting the Password Jumper

To disable the power-on or setup password features, or to clear the power-on or setup passwords, complete the following steps:

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. Locate the header and jumper.
4. Remove the jumper from pins 1 and 2. Place the jumper on either pin 1 or 2, but not both, so that it does not get lost.
5. Replace the access panel, and then turn on the computer and allow it to start.
6. Reconnect the external equipment.
7. Plug in the computer and turn on power. Allow the operating system to start. This clears the current passwords and disables the password features.
8. To establish new passwords, repeat steps 1 through 4, replace the password jumper on pins 1 and 2, then repeat steps 6 through 8. Establish the new passwords in Computer Setup.

System Board



System Board Connectors and Jumpers (component location may vary)

PSWD	Password header	PWR	Main power connector
CMOS	CMOS header	SATA SPWR1	Hard drive power connector
CHFAN	Fan connector	PWR CMD	Power connector
BAT	RTC battery socket	MEDIA	USB Device (Media card reader)
PROCESSOR	Processor socket	MEDIA2	USB Device (Media card reader)
PWRCPU	CPU power connector	COMB	Serial port
DIMM4	Memory socket - Channel A	PAR	Parallel port connector
DIMM3	Memory socket - Channel A	IN/OUT	Audio in/Audio out
DIMM2	Memory socket - Channel B	PS2	PS/2 keyboard + mouse connector
DIMM1	Memory socket - Channel B	VGA	Monitor connector+serial port
PB/LED	Power switch connector	CHFAN2	System fan connector
SPKR	Speaker connector	DISPLAYPORT	DisplayPort connector
FRNT AUD	Front panel connector	HLCK	Hood lock connector
FRONT USB2	2nd USB connector	USB	USB connectors
FRONT USB	1st USB connector	USB RJ45	Network+USB connectors
SATA0	1st hard drive (SATA3.0)	HSENSE	Hood sensor connector
SATA1	2nd hard drive, or 2nd ODD if ESATA Adapter Cable exists (SATA 2.0)	X1PCIEXP	PCIe X1 slot
SATA2	1st optical drive (SATA 2.0)	X4PCIEXP2	PCIe X16 slot
ESATA	eSATA connector or 2nd ODD	X16PCIEXP	PCIe X16 slot
SATAS PWR2	Optical drive power connector	PCI1	PCI slot