

Illustrated Parts & Service Map

HP Pro 3400/3500 Series Microtower Business PC



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Document Number 670581-003. 3rd Edition November 2012.



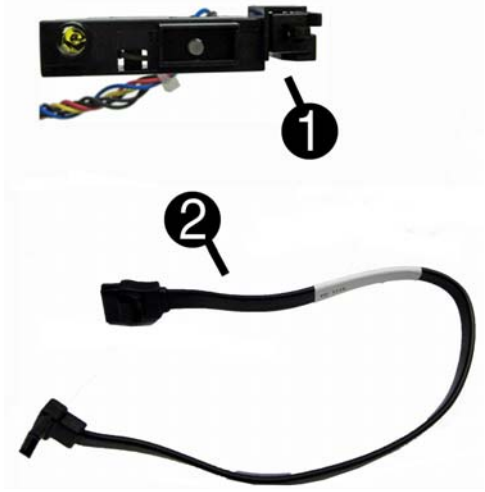
Key Specifications

Processor Type	Model 3400/3410/3500: Intel® Core i7, i5, i3, Pentium, Celeron Model 3405/3505/3515: AMD A-Series (APU), Phenom, E2 Series
RAM Type	PC3-10600 DDR3 (1333 MHz) (3400 series models) PC3-12800 DDR3 (1666 MHz) (3500 series models)
Maximum RAM	8 GB 16 GB (model 3515)
Expansion Slots	Model 3400/3405/3500/3505/3515 <ul style="list-style-type: none"> • (1) PCIe-x16 • (3) PCIe-x1 • (1) MiniPCI
Chipset	Model 3410 <ul style="list-style-type: none"> • (1) PCIe-x16 • (1) PCIe-x1 • (2) PCI 2.3
Chipset	<ul style="list-style-type: none"> • Intel H61 (model 3400/3410/3500) • AMD A55 FCH (model 3405/3505) • AMD A75 FCH (model 3515)
Graphics Adapter	<ul style="list-style-type: none"> • Integrated Intel HD (model 3400/3410/3500) • AMD Radeon HD (model 3405/3505/3515)
I/O Interfaces	Front: (2) USB 2.0, headphone, microphone Rear: 3400/3500: (4) USB 2.0 ports, RJ-45 Ethernet Port, DVI and VGA video Ports, microphone jack, audio in/out jacks (5.1 channel audio out) 3405/3505/3515: (4) USB 2.0 ports, RJ-45 ethernet port, DVI video ports, microphone jack, audio in/out jacks (7.1 channel audio out). Model 3515 includes (4) USB 3.0 ports and (10) USB 2.0 ports 3410: (4) USB 2.0 ports, RJ-45 ethernet port, HDMI and VGA video interfaces, microphone jack, audio in/out jacks (5.1 channel audio out) COM port, PS/2 KB/MS controller
Preinstalled Operating Systems	<ul style="list-style-type: none"> • Windows® 8 (3500 series) • Windows 7 • FreeDos • RedFlag Linux

Spare Parts

System Unit		
1	Access panel	674373-001
2	Front bezel for use in EMEA region only	667849-001
*	Front bezel with optical drive door for use in 3410 models	667849-201
*	Front bezel with for use in North American and Latin American regions	670692-001
3	Power supply, 300W (Active PFC; not for use in 3410 models)	656721-001 689005-001
*	Power supply, 300W	664862-001 692096-001
System boards with thermal material		
4	System board for use in 3400 models (Intel)	660281-001
*	System board for use in 3405 models (AMD)	660155-001
*	System board for use in 3410 models (Intel)	665223-001
*	System board for use in 3500 models (Intel) without Windows 8	687577-001
*	System board for use in 3500 models (Intel) and Windows 8 with no Digital Product Key (DPK)	701413-001
*	System board for use in 3500 models (Intel) and Windows 8 Standard	701413-501
*	System board for use in 3500 models (Intel) and Windows 8 Professional	701413-601
*	System board for use in 3505 models (AMD)	687578-001
*	System board for use in 3505 models (AMD) and Windows 8 with no Digital Product Key (DPK)	701022-001
*	System board for use in 3505 models (AMD) and Windows 8 Standard	701022-501
*	System board for use in 3505 models (AMD) and Windows 8 Professional	701022-601
*	System board for use in 3515 models (AMD) and Windows 8 with no Digital Product Key (DPK)	700846-001
*	System board for use in 3515 models (AMD) and Windows 8 Standard	700846-501
*	System board for use in 3515 models (AMD) and Windows 8 Professional	700846-601

* Not shown



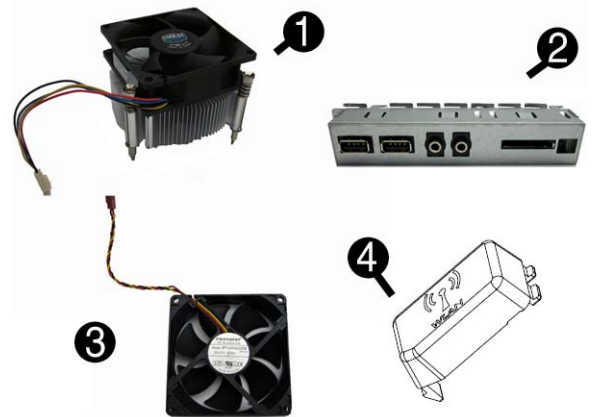
Cables

1	Power switch/LED assembly with cable	667850-001
2	SATA cable, 254 mm	667854-001
*	Adapter, DVI to VGA, HF	657401-001
*	Antenna, for use with 2x2 WLAN modules	593890-001
*	Antenna, for use with 1x1 WLAN modules	701397-001

*Not shown

Mass Storage Devices (not illustrated)

16X SATA DVD±RW drive	581600-001
16X SATA DVD-ROM drive (not for Brazil)	581599-001
2 TB hard drive, 7200 rpm for use in all 3500/3505/3515 models	616608-001
2 TB hard drive, 5400 rpm for use in all models without Windows 8	613210-001
1.5 TB, 7200 rpm hard drive for use in all models	613209-001
1.5 TB, 5400 rpm hard drive for use in all models except 3410 without Windows 8	652272-001
1 TB hard drive for use in all models	667719-001
750 GB hard drive for use in 3400/3405/3410 models	632938-001
500 GB hard drive for use in all models	667720-001
250 GB hard drive for use in all models	621419-001



Miscellaneous Parts

1	Fan sink for use in models with Intel processors	667727-001
*	Fan sink for use in models with AMD processors	657402-001
2	Front USB and I/O assembly, includes card reader	667852-001
*	Front USB and I/O assembly; does not include card reader	667853-001
3	Chassis fan for use in all models except for 3410	657103-001
*	Chassis fan for use in 3410 models (Brazil)	514238-001 434645-001
4	WLAN cover	701400-001
*	Mouse, USB, optical	596410-001
*	HP Business Digital Headset	642738-001
*	Rubber feet (not for use in Brazil)	530593-001

*Not shown

Standard and Optional Boards

Memory modules (PC3-10600, CL9) (for use in 3400 series models)		
*	1 GB	635802-001
*	2 GB	635803-001
*	4 GB	585157-001
Memory modules (PC3-12800, CL11) (for use in 3500 series models)		
*	2 GB	671612-001
*	4 GB	671613-001
WLAN modules:		
*	Ralink RT5390R 802.11bgn 1x1 Wi-Fi Adapter for use in models with Windows 8	634906-001
*	Ralink RT5390R 802.11bgn 1x1 Wi-Fi Adapter	701396-001
*	Atheros AR9462 802.11b/g/n Wi-Fi Adapter	701398-001
*	Ralink RT3290LE 802.11bgn 1x1 Wi-Fi and Bluetooth 4.0 Combo Adapter for use in models with Windows 8	701399-001
Graphics adapters for use in models without Windows 8		
*	AMD Radeon HD 7570 2-GB DDR3 FH PCIe x16 Card for use in all models	679219-001
*	AMD Radeon HD 7450 1-GB DDR3 FH PCIe x16 Card for use in all models	679218-001
*	AMD Radeon HD 7350 512MB DDR3 FH PCIe x16 Card for use in all models	676356-001
*	AMD Radeon HD 6570 2GB DDR3 FH PCIe x16 Card for use only in 3400/3405/3410 models	638406-001
*	ATI Radeon HD 6450 1-GB graphics adapter for use only in 3400/3405 models	638132-001
*	ATI Radeon HD 6450 512-MB graphics adapter for use only in 3400/3405/3410 models	647449-001
*	AMD Radeon HD 6350 512MB DDR3 FH PCIe x16 Card for use only in 3400/3405 models	671728-001
*	nVidia GeForce GT640 3-GB graphics adapter, full height for use only in HP Pro 3500/3505 models	687226-001
*	nVidia GeForce GT630 2-GB graphics adapter, full height for use only in HP Pro 3500/3505 models	687580-001
*	nVidia GeForce GT620 1-GB graphics adapter, full height for use only in HP Pro 3500/3505 models	687579-001
*	nVidia GeForce GT530 2-GB graphics adapter, full height for use in 3400/3405/3500/3505 (not for 3410 models)	657106-001
*	nVidia GeForce GT405 512-MB graphics adapter for use in 3400/3405 models	657108-001
*	nVidia GeForce GT520 1-GB graphics adapter, full height for use in 3400/3405/3500/3505 (not for 3410 models)	657399-001
Graphics adapters for use in models with Windows 8		
*	AMD Radeon HD 7570 2-GB DDR3 FH PCIe x16 Card for use in 3500/3505/3510 models	701403-001
*	AMD Radeon HD 7450 1-GB DDR3 FH PCIe x16 Card for use in 3500/3505/3510 models	701402-001
*	AMD Radeon HD 7350 512MB DDR3 FH PCIe x16 Card for use in 3500/3505/3510 models	701401-001
*	nVidia GeForce GT630 2-GB graphics adapter, full height for use in 3500/3505/3510 models	701405-001
*	nVidia GeForce GT620 1-GB graphics adapter, full height for use in 3500/3505/3510 models	701404-001
Intel Core i7 processors (include thermal material)		
*	3770, 3.4 GHz, 8-MB L3 cache (use only in 3500 models)	688164-001
*	2600, 3.4 GHz, 8-MB L3 cache (use only in 3400/3500 models)	638632-001
*	2600S, 2.7 GHz, 8-MB L3 cache (use only in 3400/3500 models)	638419-001
Intel Core i5 processors (include thermal material)		
*	3470, 3.2 GHz, 6-MB L3 cache (use only in 3500 models)	687943-001
*	2500, 3.3 GHz, 6-MB L3 cache (use only in 3400/3410/3500 models)	638631-001
*	2400, 3.1 GHz, 6-MB L3 cache (use only in 3400/3410/3500 models)	638630-001
*	2320, 3.0 GHz, 6-MB L3 cache (use only in 3400/3500 models)	665121-001
*	2310, 2.9 GHz, 6-MB L3 cache (use only in 3400/3500 models)	657111-001
*	2300, 2.8 GHz, 6-MB L3 cache (use only in 3400/3500 models)	654601-001
Intel Core i3 processors (include thermal material)		
*	3240, 3.4 GHz, 3-MB L3 cache (use only in 3500 models)	688951-001
*	3220, 3.3 GHz, 3-MB L3 cache (use only in 3500 models)	688950-001
*	2130, 3.4 GHz, 3-MB L3 cache (use only in 3400/3500 models)	665120-001
*	2125, 3.3 GHz, 3-MB L3 cache (use only in 3400/3500 models)	677427-001
*	2120, 3.3 GHz, 3-MB L3 cache (use only in 3400/3500 models)	638629-001
*	2105, 3.1 GHz, 3-MB L3 cache (use only in 3400/3500 models)	655970-001
*	2100, 3.1 GHz, 3-MB L3 cache (use only in 3400/3410/3500 models)	638628-001
Intel Pentium Dual-Core processors (include thermal material)		
*	G870, 3.1 GHz, 3-MB L3 cache (use only in 3500 models)	691936-001
*	G860, 3.0 GHz, 3-MB L3 cache (use only in 3400/3500 models)	665123-001
*	G850, 2.9 GHz, 3-MB L3 cache (use only in 3400/3500 models)	655973-001
*	G840, 2.8 GHz, 3-MB L3 cache (use only in 3400/3500 models)	655972-001
*	G645, 2.9 GHz, 3-MB L3 cache (use only in 3500 models)	704228-001
*	G640, 2.8 GHz, 3-MB L3 cache (use only in 3500 models)	691935-001
*	G630, 2.7 GHz, 3-MB L3 cache (use only in 3400/3410/3500 models)	665122-001
*	G620, 2.6 GHz, 3-MB L3 cache (use only in 3400/3410/3500 models)	655971-001
Intel Celeron processors (include thermal material)		
*	G550, 2.6 GHz, 2-MB L3 cache (use only in 3500 models)	691934-001
*	G540, 2.5 GHz, 2-MB L3 cache (use only in 3400/3410/3500 models)	665119-001
*	G530, 2.4 GHz, 2-MB L3 cache (use only in 3400/3410/3500 models)	665117-001
*	G440, 1.6 GHz, 1-MB L3 cache (use only in 3400/3410 models without Windows 8)	665467-001

Standard and Optional Boards (continued)

AMD A-Series Advanced Processing Units (include thermal material; not used in Brazil)		
*	A10-5800K, 3.8 GHz, 4-MB L2 cache; Radeon HD7660D graphics core (use only in 3515 models)	701408-001
*	A10-5700, 3.4 GHz, 4-MB L2 cache; Radeon HD7660D graphics core (use only in 3515 models)	701407-001
*	A8-5600K, 3.6 GHz, 1-MB L2 cache; Radeon HD7560D graphics core (use only in 3515 models)	701412-001
*	A8-5500, 3.2 GHz, 1-MB L2 cache; Radeon HD7560D graphics core (use only in 3515 models)	701411-001
*	A8-3870, 3.0 GHz, 4-MB L2 cache; Radeon HD6550D graphics core	671611-001
*	A8-3820, 2.5 GHz, 4-MB L2 cache; Radeon HD6550D graphics core (use in only 3505 models)	671610-001
*	A8-3800, 2.4 GHz, 4-MB L2 cache; Radeon HD6550D graphics core	667723-001
*	A8-3550, 2.8 GHz, 4-MB L2 cache; Radeon HD6550D graphics core	667721-001
*	A6-5400K, 3.6 GHz, 1-MB L2 cache; Radeon HD7540D graphics core (use only in 3515 models)	701410-001
*	A6-3670, 2.7 GHz, 4-MB L2 cache; Radeon HD6550D graphics core (use in only 3505 models)	671609-001
*	A6-3650, 2.6 GHz, 4-MB L2 cache; Radeon HD6550D graphics core	667722-001
*	A6-3620, 2.2 GHz, 4-MB L2 cache; Radeon HD6530D graphics core (use in only 3505 models)	671608-001
*	A6-3600, 2.1 GHz, 4-MB L2 cache; Radeon HD6530D graphics core	667724-001
*	A4-5300, 3.4 GHz, 1-MB L2 cache; Radeon HD7480D graphics core (use only in 3515 models)	701409-001
*	A4-3420, 2.8 GHz, 1-MB L2 cache; Radeon HD6530D graphics core	680937-001
*	A4-3400, 2.7 GHz, 4-MB L2 cache; Radeon HD6530D graphics core	667725-001
*	X2 E2-3200, 2.4 GHz, 1-MB L2 cache; Radeon HD6370D graphics core	667726-001

Common POST Error Messages

Screen Message	Probable Cause	Recommended Action
101-Option ROM Error	System ROM or expansion board option ROM checksum.	<ol style="list-style-type: none"> 1. Verify ROM, reflash if required 2. Remove recently added cards to see if problem remains. 3. Clear CMOS. If message disappears, may be card problem. 4. Replace system board
103-System Board Failure	DMA or timers	<ol style="list-style-type: none"> 1. Clear CMOS memory. 2. Remove expansion boards. 3. Replace system board.
163-Time & Date Not Set	Invalid time or date in configuration memory. RTC battery may need to be replaced.	Reset the date and time under Control Panel (Computer Setup can also be used). If the problem persists, replace the RTC battery.
164-Memory Size Error	Memory amount has changed since the last boot (memory added/removed).	Press the F1 key to save the memory changes.
164-Memory Size Error	Incorrect memory configuration	<ol style="list-style-type: none"> 1. Run Setup (F10). 2. Make sure memory module(s) installed properly. 3. If third-party memory added, test using HP-only memory.
201-Memory Size Error	RSM failure	<ol style="list-style-type: none"> 1. Verify proper module type.
214-DIMM Configuration Warning	Populated DIMM configuration is not optimized	Rearrange DIMMs so that each channel has the same amount of memory.
219-ECC Memory Module Detected ECC Modules not supported on this Platform	Recently added memory module(s) support ECC memory error correction.	<ol style="list-style-type: none"> 1. If additional memory was recently added, remove it to see if the problem remains. 2. Check product documentation for memory support information.
301-, 304-Key-board error	Keyboard failure.	<ol style="list-style-type: none"> 1. Reconnect keyboard with system turned off. 2. Check kybd connection or keys. 3. Check connector for bent or missing pins. 4. Replace keyboard. 5. If 304, possible sys bd problem.
511-CPU Fan not Detected	CPU Fan not Detected.	<ol style="list-style-type: none"> 1. Reseat CPU fan. 2. Reseat fan cable. 3. Replace CPU fan.
1805-Ambient Temperature Previously Over Limit	This system was placed in a low power state to prevent damage due to excessive environmental temperature.	<p>Make sure the system meets the HP enclosure guidelines as listed in the Quick Specs, including the following:</p> <ol style="list-style-type: none"> 1. Clean the air vents on the front, back, or any other vented side of the computer. 2. Ensure that there is a 10.2 cm (4 in) clearance on all vented sides of the computer to permit the required airflow. 3. Ensure that computers are not so near each other that they are subject to each other's re-circulated or preheated air.
2200-PMM Allocation Error during MEBx Download	(2200) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	<ol style="list-style-type: none"> 1. Reboot the computer. 2. Unplug the power cord, re-seat the memory modules, and reboot the computer.
2201-MEBx Module did not checksum correctly	(2201) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	<ol style="list-style-type: none"> 3. If the memory configuration was recently changed, unplug the computer, restore the original memory configuration, and reboot the computer.
2202-PMM Deallocation Error during MEBx cleanup	(2202) Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	<ol style="list-style-type: none"> 4. If the error persists, replace the system board.
2230-General error during MEBx execution	(2230) Error occurred during MEBx execution which falls into the "General" grouping. Status information displayed along with the error provides further clarity into the failure. MEBx handles transference of information between the system BIOS and ME firmware.	<ol style="list-style-type: none"> 1. Reboot the computer. 2. If the error persists, update to the latest BIOS version and ME firmware version. 3. If the error still persists, replace the system board.

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"> 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.	

Security <i>(continued)</i>	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.
	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:

- 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**.

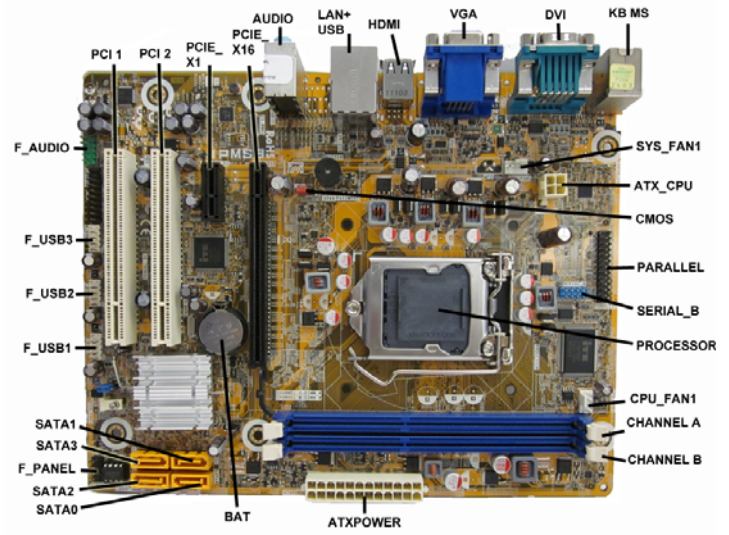
Clearing CMOS

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, locate the CLR_CMOS or CMOS header. Header label varies based on model.
4. Remove the jumper from pins 2 and 3.
5. Place the jumper on pins 1 or 2.
6. Replace the jumper on pins 2 and 3.
7. Replace the chassis access panel and reconnect the power cord.
8. Turn on the computer and allow it to start.

Clearing Passwords

1. Turn off the computer and disconnect the power cord from the power outlet.
2. Remove the access panel.
3. On the system board, locate the CLR_PASS or CLR_PWD header.
4. Remove the jumper from pins 2 and 3.
5. Place the jumper on pins 1 or 2.
6. Replace the jumper on pins 2 and 3.
7. Replace the chassis access panel and reconnect the power cord.
8. Turn on the computer and allow it to start.

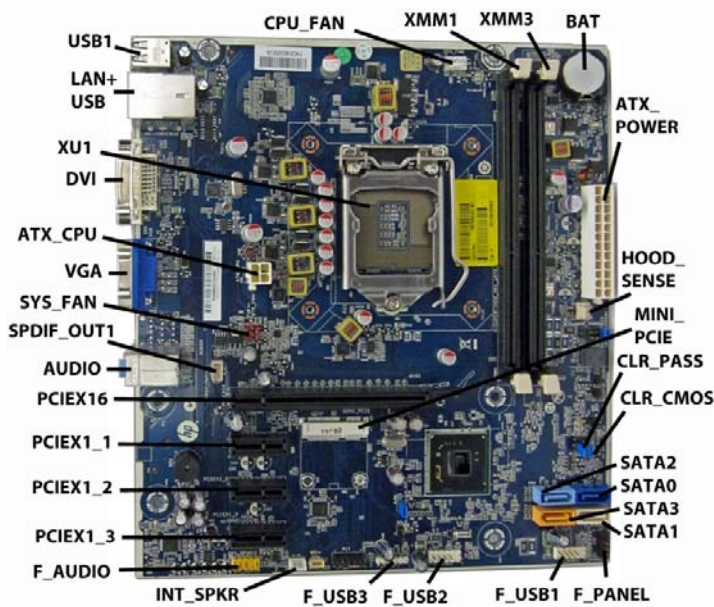
System Board - HP Pro 3410



System Board Connectors and Jumpers (component location may vary)

PCI 1	PCI slot	PROCESSOR	Processor socket
PCI 2	PCI slot	CPU_FAN1	Heat sink fan connector
PCIE_X1	PCIe x1 slot	CHANNEL A	Memory socket - Channel A
PCIE_X16	PCIe x16 slot	CHANNEL B	Memory socket - Channel B
AUDIO	Audio connectors	ATXPOWER	Main power connector
LAN+USB	LAN + USB connector	BAT	RTC battery socket
HDMI	HDMI connector	SATA0	1st hard drive
VGA	Monitor connector	SATA2	1st optical drive
DVI	DVI connector	F_PANEL	Front panel connector
KB/MS	PS2 connectors	SATA3	2nd optical drive
SYS_FAN1	Fan connector	SATA1	2nd hard drive
ATX_CPU	CPU power connector	F_USB1	1st USB connector
CMOS	CMOS jumper	F_USB2	2nd USB connector
PARALLEL	Parallel port connector	F_USB3	3rd USB connector
SERIAL B	2nd Serial port connector	F_AUDIO	Front audio connector

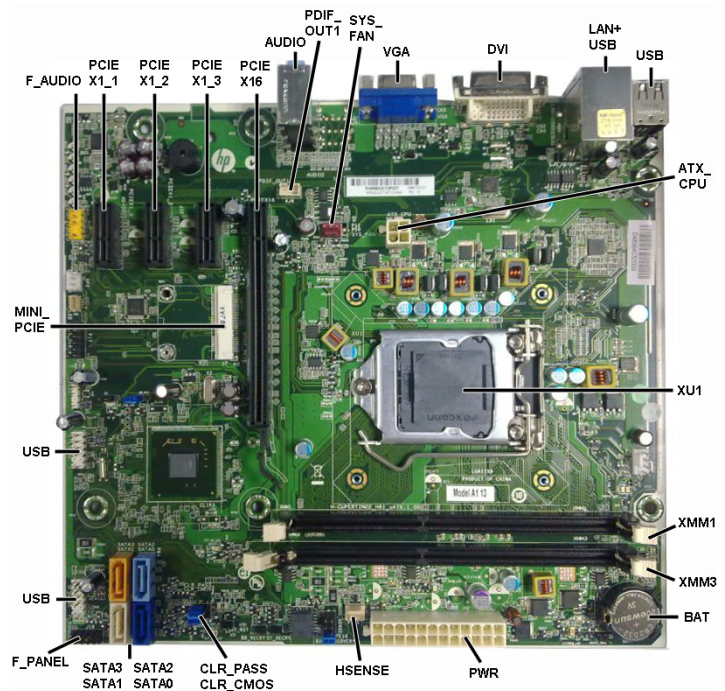
System Board - HP Pro 3400/3405 (3400 shown)



System Board Connectors and Jumpers (component location may vary)

CPU_FAN	Heat sink fan connector	F_USB3	3rd USB connector
XMM1	Memory socket - Channel A	INT_SPRK	Speaker connector
XMM3	Memory socket - Channel B	F_AUDIO	Front audio connector
BAT	RTC battery socket	PCIE_X1_3	PCIe X1 slot
ATX POWER	Main power connector	PCIE_X1_2	PCIe X1 slot
HOOD_SENSE	Hood sensor connector	PCIE_X1_1	PCIe X1 slot
MINI_PCIE	Mini PCIe connector	PCIE_X16	PCI slot
CLR_PASS	Password header	AUDIO	Audio connectors
CLR_CMOS	CMOS header	S/PDIF_OUT1	SPDIF audio connector
SATA2	1st optical drive	SYSFAN	Fan connector
SATA0	1st hard drive	VGA	Monitor connector
SATA3	2nd optical drive	ATX_CPU	CPU power connector
SATA1	2nd hard drive	DVI	DVI connector
F_PANEL	Front panel connector	XU	Processor socket
F_USB1	1st USB connector	LAN+USB	LAN + USB connector
F_USB2	2nd USB connector	USB1	USB connectors

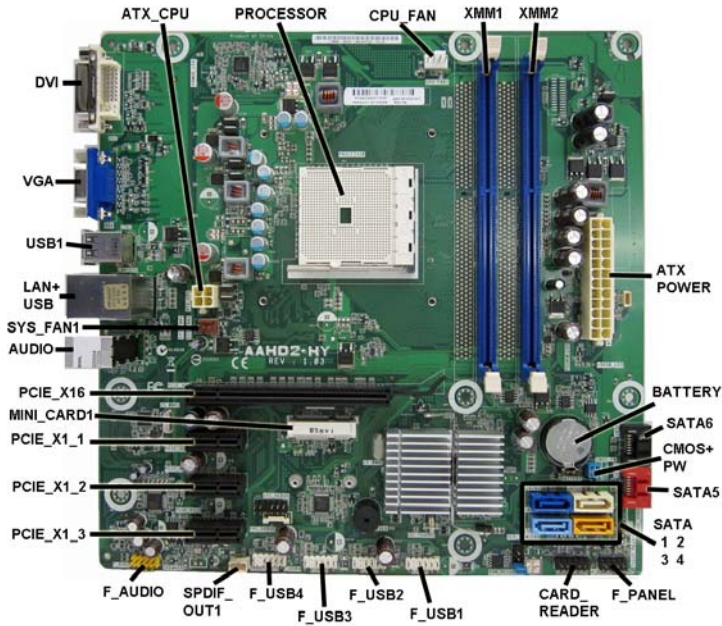
System Board - HP Pro 3500



System Board Connectors and Jumpers (component location may vary)

F_AUDIO	Front audio connector	XMM1	Memory socket - Channel A
PCIE_X1_1	PCIe x1 slot	XMM3	Memory socket - Channel B
PCIE_X1_2	PCIe x1 slot	BAT	RTC battery socket
PCIE_X1_3	PCIe x1 slot	POWER	Main power connector
PCIE_X16	PCIe x16 slot	HSENSE	Hood sensor connector
CPU_FAN	Heat sink fan connector	CLR_PASS	Password header
AUDIO	Audio connectors	CLR_CMOS	CMOS header
PDIF_OUT1	SPDIF audio connector	SATA2	1st optical drive
SYS_FAN	Fan connector	SATA0	1st hard drive
VGA	Monitor connector	SATA3	2nd optical drive
DVI	DVI connector	SATA1	2nd hard drive
LAN+USB	LAN + USB connector	F_PANEL	Front panel connector
USB	USB connectors	USB	Internal USB connector
ATX_CPU	CPU power connector	USB	Internal USB connector
XU	Processor socket	MINI_PCIE	Mini PCIe connector

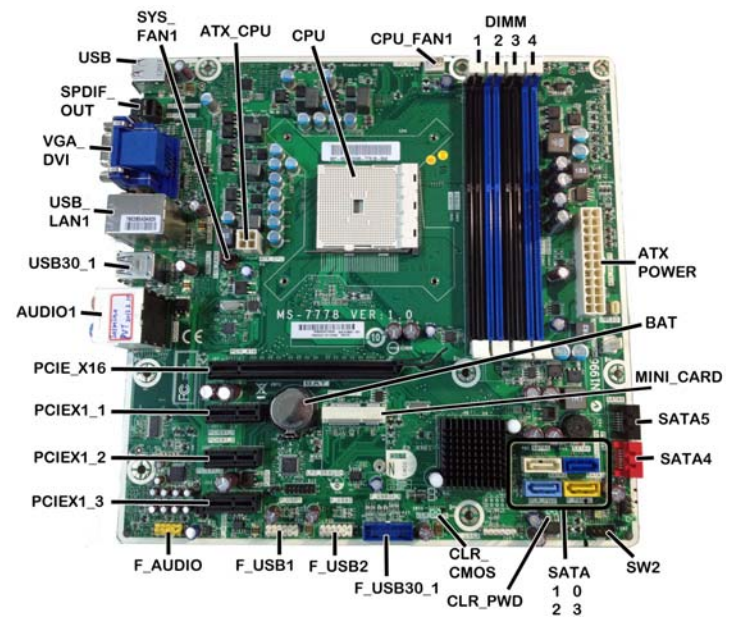
System Board - HP Pro 3505



System Board Connectors and Jumpers (component location may vary)

ATX_CPU	CPU power connector	F_USB2	2nd USB connector
PROCESSOR	Processor socket	F_USB3	3rd USB connector
CPU_FAN	Heat sink fan connector	F_USB4	4th USB connector
XMM1	Memory socket - Channel A	SPDIF_OUT1	SPDIF audio connector
XMM2	Memory socket - Channel B	F_AUDIO	Front audio connector
ATX_POWER	Main power connector	PCIE_X1_3	PCIe X1 slot
BATTERY	RTC battery socket	PCIE_X1_2	PCIe X1 slot
SATA6	SATA drive connector	PCIE_X1_1	PCIe X1 slot
CMOS+PW	CMOS and password reset headers	MINI_CARD1	Mini PCIe connector
SATA5	SATA drive connector	PCIE_X16	PCI slot
SATA1	1st hard drive	AUDIO	Audio connectors
SATA2	2nd hard drive	SYS_FAN1	Fan connector
SATA3	1st optical drive	LAN+USB	LAN + USB connector
SATA4	2nd optical drive	USB1	USB connectors
F_PANEL	Front panel connector	VGA	Monitor connector
CARD_READER	Card reader connector	DVI	DVI connector
F_USB1	1st USB connector	SYS_FAN1	Fan connector

System Board - HP Pro 3515



System Board Connectors and Jumpers (component location may vary)

SYS_FAN	Fan connector	SATA3	2nd optical drive
ATX_CPU	CPU power connector	CLR_PWD	Password header
PCIE_X1_1	PCIe X1 slot	CLR_CMOS	CMOS header
CPU	Processor socket	F_USB30_1	Internal USB 3.0 connector
CPU_FAN	Heat sink fan connector	F_USB2	Internal USB connector
DIMM1	Memory socket - Channel A	F_USB1	Internal USB connector
DIMM2	Memory socket - Channel B	F_AUDIO	Front audio connector
DIMM3	Memory socket - Channel A	PCIE_X1_3	PCIe X1 slot
DIMM4	Memory socket - Channel B	PCIE_X1_2	PCIe x1 slot
ATX_POWER	Main power connector	PCIE_X1_1	PCIe x1 slot
BAT	RTC battery socket	PCIE_X16	PCIe x16 slot
MINI_CARD	Mini PCIe connector	AUDIO1	Audio connectors
SATA5	SATA connector	USB30_1	External USB 3.0 connector
SATA4	SATA connector	USB_LAN1	LAN + USB connector
SW2	Front panel connector	VGA_DVI	Monitor connector/DVI connector
SATA0	1st hard drive	SPDIF_OUT1	SPDIF audio connector
SATA1	2nd hard drive	USB	USB connectors
SATA2	1st optical drive		