


Illustrated Parts & Service Map

HP ProDesk 400 G1 Microtower



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Key Specifications

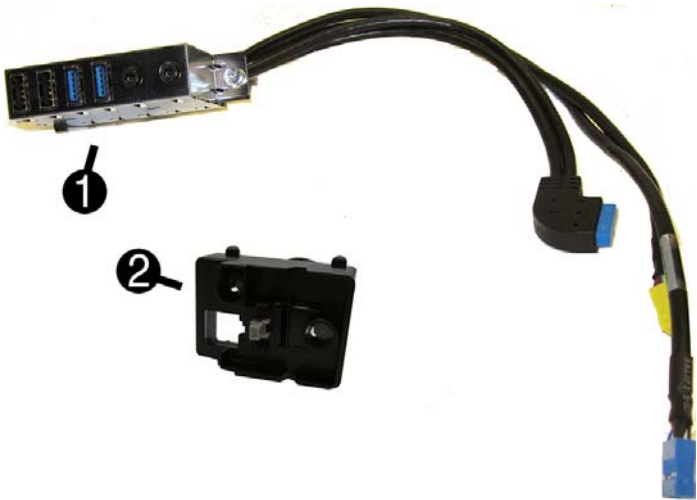
| | |
|--------------------------------|--|
| Processor Type | Intel® 4th Generation Pentium®, Core™ i3, i5, i7 |
| RAM Type | 1600 MHz DDR3 SDRAM |
| Maximum RAM | 16 GB |
| Expansion Slots | <ul style="list-style-type: none">(1) PCI Express x16 graphics connectors(3) PCI Express x1 accessory connectors |
| Chipset | Intel H81 Express |
| Graphics Adapter | Integrated Intel HD Graphics; optional discrete graphics |
| Removable Storage | <ul style="list-style-type: none">(1) Slimline optical drive bay(1) external 3.5-inch(2) internal 3.5-inch storage drive bay(1) internal 2.5-inch storage drive bay |
| I/O Interfaces | Front: (2) USB 2.0 ports; (2) USB 3.0 ports microphone; head-phone Rear: (4) USB 2.0 ports; (1) VGA video port; (1) DVI-D video port; (1) RJ-45 network connector; (1) RS-232 serial port; (1) RS-232 serial (optional 2nd port); 3.5mm audio in/out jacks; PS/2 keyboard and mouse ports |
| Preinstalled Operating Systems | <ul style="list-style-type: none">Windows 8.1Windows 7Novell SUSE Linux Enterprise Desktop 11FreeDOS 2.0 |

Spare Parts



| System Unit | | |
|-------------|---|------------|
| 1 | Front bezel | 745047-001 |
| * | Front bezel for use in the People's Republic of China | 745048-001 |
| 2 | Access panel | 745046-001 |
| 3 | Power supply, 300W, Energy Star 5.0 | 712298-001 |
| * | Power supply, 300W, Energy Star 6.0 | 748824-001 |
| * | Power supply, 300W, active PFC | 715184-001 |
| * | Power supply, 300W, regular | 715185-001 |
| * | 5.25-inch bezel blank | 745036-001 |

* Not shown



| Cables | | |
|--------|---|------------|
| 1 | Front I/O assembly | 745049-001 |
| 2 | Power switch/LED assembly | 745050-001 |
| * | SATA data cable, 14 inch, 2 straight ends | 745051-001 |
| * | DMS-59 to dual VGA cable | 463023-001 |
| * | DMS-59 to dual DVI cable | 463024-001 |
| * | Adapter, DisplayPort to VGA | 632484-001 |
| * | Adapter, DisplayPort to DVI | 662723-001 |
| * | Adapter, DisplayPort to HDMI | 617450-001 |
| * | Adapter, DVI to VGA | 657401-001 |
| * | Adapter, DVI-I to VGA (BFR/PVC free) | 720216-001 |
| * | Adapter, DVI-I to VGA (standard) | 202997-001 |
| * | DisplayPort cable | 487562-001 |

*Not shown

| Keyboards (not illustrated) | | | |
|---|------|----------------------------|------|
| PS/2 | | 724718-xx1 | |
| USB | | 724720-xx1 | |
| USB, unbranded, Katydid* | | 729339-xx1 | |
| Wireless, HP Elite (includes USB dongle)** | | 724722-xx1 | |
| Smart card, CCID | | 701671-001 | |
| Wireless kit (keyboard, mouse, dongle) | | 730323-xx1 | |
| Washable*** | | 700510-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 |

*-001, -161, -201, -281, -291, -AA1, -AB1 only
**-201 only

***-001, -121, -161, -201 only

| Mass Storage Devices (not illustrated) | |
|---|------------|
| DVD-ROM drive | 682550-001 |
| DVD±RW drive | 690418-001 |
| Blu-ray BD-RW SuperMulti XL Drive | 682219-001 |
| 2 TB, 7200 rpm hard drive, 3.5 inch | 747993-001 |
| 1 TB, hybrid SSD, 2.5-inch hard drive | 724937-001 |
| 1 TB, 7200 rpm hard drive, 3.5 inch | 747992-001 |
| 500 GB hard drive, hybrid SSD, 2.5-inch hard drive | 724938-001 |
| 500 GB, 7200 rpm hard drive, 3.5-inch | 747991-001 |
| 256 GB Solid State Drive (SSD), self-encrypting (SED) | 680020-001 |
| 128 GB Solid State Drive (SSD) | 665961-001 |
| 20 GB Solid State Drive (SSD) | 683305-001 |

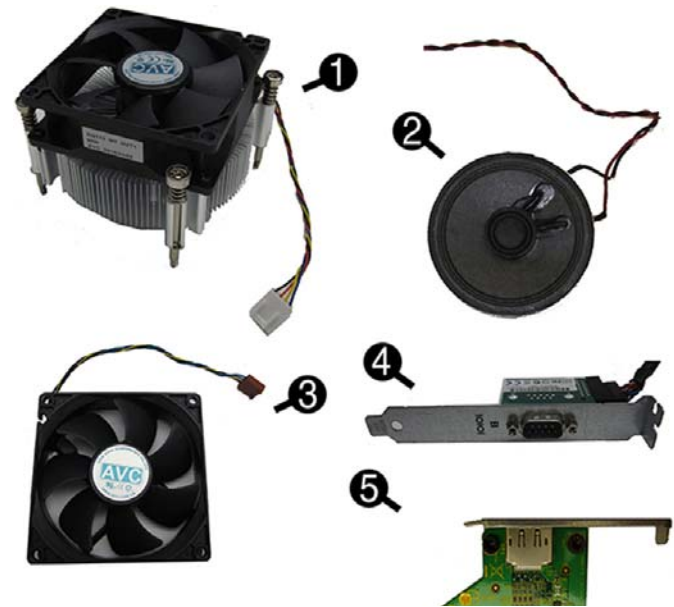
Standard and Optional Boards

| | | |
|---|---|------------|
| System boards (includes replacement thermal material) | | |
| * | System board for use in models without Windows 8 | 718413-001 |
| * | System board for use in models with Windows 8 Standard | 718413-501 |
| * | System board for use in models with Windows 8 Professional | 718413-601 |
| * | System board for use in models with NetClone (the People's Republic of China only) | 745238-001 |
| Memory modules (PC3-12800, CL11) | | |
| * | 8-GB | 689375-001 |
| * | 4-GB | 671613-001 |
| * | 2-GB | 671612-001 |
| Other boards | | |
| * | Nvidia NV5315 PCIe x16 graphics card, 1 GB | 720837-001 |
| * | Nvidia NV5310 PCIe x16 graphics card, 512 MB | 707252-001 |
| * | AMD Radeon HD8490 DP PCIe x16 graphics card, 1 GB | 717219-001 |
| * | AMD Radeon HD8470 PCIe x16 graphics card, 2 GB (the People's Republic of China only) | 729085-001 |
| * | AMD Radeon HD8350 DH PCIe x16 graphics card, 1 GB DDR3 | 717220-001 |
| * | AMD Radeon HD8350 PCIe x16 graphics card, 1 GB DDR3 (the People's Republic of China only) | 729084-001 |
| * | Nvidia GeForce GT630 DP PCIe x16 graphics card, 2 GB | 702084-001 |
| * | Intel PRO/1000 single port GbE NIC, includes bracket | 728562-001 |
| * | Intel Dual Band Wireless-N 7260 802.11 a/b/g/n (2x2) Wireless NIC | 745668-001 |
| Intel Core i7 processors (include thermal material) | | |
| * | 4771 3.5 GHz, 8-MB L3 cache, 84W | 742563-001 |
| * | 4770, 3.4 GHz, 8-MB L3 cache, 84W | 727373-001 |
| * | 4770s, 3.1 GHz, 8-MB L3 cache, 65W | 732507-001 |
| Intel Core i5 processors (include thermal material) | | |
| * | 4670, 3.4 GHz, 6-MB L3 cache, 84W | 727381-001 |
| * | 4670s, 3.1 GHz, 6-MB L3 cache, 65W | 732506-001 |
| * | 4570, 3.2 GHz, 6-MB L3 cache, 84W | 727380-001 |
| * | 4570s, 2.9 GHz, 6-MB L3 cache, 65W | 732505-001 |
| * | 4430, 3.0 GHz, 6-MB L3 cache, 84W | 745033-001 |
| * | 4430s, 2.7 GHz, 6-MB L3 cache, 65W | 745034-001 |
| Intel Core i3 processors (include thermal material) | | |
| * | 4340, 3.6 GHz, 4-MB L3 cache, 54W | 742562-001 |
| * | 4330, 3.5 GHz, 4-MB L3 cache, 54W | 742561-001 |
| * | 4130, 3.4 GHz, 3-MB L3 cache, 54W | 742560-001 |
| Intel Pentium processors (include thermal material) | | |
| * | G3430, 3.3 GHz, 3-MB L3 cache, 54W | 742566-001 |
| * | G3420, 3.2 GHz, 3-MB L3 cache, 54W | 742565-001 |
| * | G3220, 3.0 GHz, 3-MB L3 cache, 54W | 742564-001 |

* 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. Use F2 Diagnostics to run DPS Self-test. 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive. |



Miscellaneous Parts

| | | |
|---|--|------------|
| 1 | Fan sink | 745054-001 |
| 2 | Speaker | 745053-001 |
| 3 | Fan | 745052-001 |
| 4 | Serial port, PCI card | 638815-001 |
| * | Fan, BFR/PVC free | 748825-001 |
| * | Printer port, PCI card | 638817-001 |
| * | Card reader, 14-in-1, USB 3.0, 3.5-inch | 716390-001 |
| * | Adapter, USB 3.0 to 2.0 | 736835-001 |
| * | HP Ultrastim Keyed Cable Lock | 703372-001 |
| * | Hard drive carrier, 2.5-inch to 3.5-inch | 703597-001 |
| * | Hard drive adapter bracket, 2.5-in or 3.5-in hard drive in 5.25-in bay | 397117-001 |
| * | WLAN antennas | 583345-001 |
| * | Mouse, PS2, optical | 674315-001 |
| * | Mouse, USB, HP Elite | 674318-001 |
| * | Mouse, washable | 724795-001 |
| * | Mouse, wireless, HP Elite (Brazil only) | 674317-001 |
| * | Mouse, USB, optical | 674316-001 |
| * | Mouse, USB, Portia | 719901-001 |

*Not shown

Diagnostic LEDs

| LED | Color | LED Activity | State/Message |
|-------|-------|--|--|
| Power | White | On | Computer on |
| Power | White | 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 over-load) |
| 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 nameManufacturerSKU number (some models)Processor type/speed/steppingCache size (L1/L2/L3)Installed memory size/speed/chIntegrated MAC AddressChassis serial numberAsset tracking numberSystem BIOS |
| | 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 may display depending on configuration: <ul style="list-style-type: none">CD-ROMHard DiskSMART (ATA disks only)Diskette |
| | Storage Options - Allows you to set: <ul style="list-style-type: none">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. |
| | 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 |
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| 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">Lock Legacy ResourcesSetup Browse ModePassword prompt on F9 & F12Network 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, 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) |
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| 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 express power management, 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. |

| | |
|--------------------------------|--|
| Advanced <i>(continued)</i> | 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. |
| | Option ROM Launch Policy - lets you set the launch policy for option ROMs. |
| | 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**.

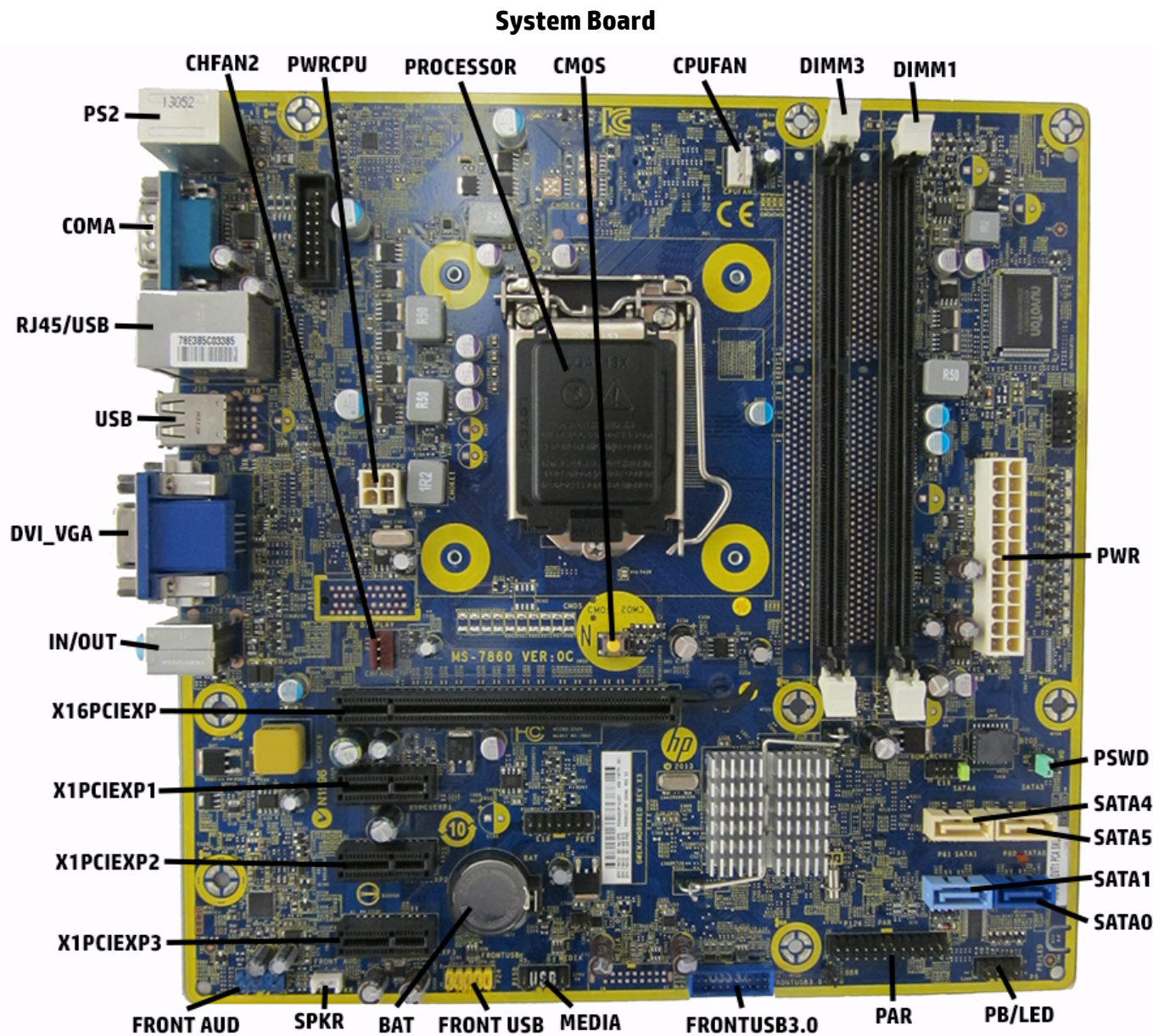
The new password will take effect the next time the computer is restarted.

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

- 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 Connectors and Jumpers (component location may vary)

| | | | |
|---------------|------------------------------|-----------|---|
| CHFAN2 | System fan connector | MEDIA | USB 2.0 device, such as a media card reader |
| PWRCPU | CPU power connector | FRONT_USB | 1st USB connector |
| PROCESSOR | Processor socket | BAT | RTC battery socket |
| CMOS | CMOS header | SPKR | Speaker connector |
| CPU FAN | Processor fan connector | FRNT AUD | Front panel connector |
| DIMM3 | Memory socket - Channel A | X1PCIEXP3 | PCI Express x1 slot |
| DIMM1 | Memory socket - Channel B | X1PCIEXP2 | PCI Express x1 slot |
| PWR | Main power connector | X1PCIEXP1 | PCI Express x1 slot |
| PSWD | Password header | X16PCIEXP | PCI Express x16 slot |
| SATA5 | Optical drive | IN//OUT | Audio connectors |
| SATA4 | Optical drive | DVI/VGA | Display connector/DVI connector |
| SATA1 | Secondary hard drive | USB | USB connectors |
| SATA0 | Primary hard drive | RJ45/USB | Network/USB connectors |
| PB/LED | Power switch connector | COMA | Serial port |
| PAR | Parallel port connector | PS2 | PS/2 keyboard/mouse connectors |
| FRONT USB 3.0 | Front USB 3.0 port connector | | |