# Illustrated parts & service map

## HP ProOne 400 G1 All-in-One Business PC

### Key specifications

| | |
|---|---|
| **Processor type** | Intel® Core i7, i5, i3, Pentium, Celeron |
| **RAM type** | Non-ECC, DDR3 SDRAM, 1600 MT/s, SODIMM, 2 slots |
| **Maximum RAM** | 16 GB |
| **Expansion slots** | (1) Mini PCIe half-length (used by wireless LAN module) |
| **Chipset** | Intel H81 Express |
| **Bays** | (1) 3.5" internal that supports (1) 3.5" or 2.5" hard drive<br>(1) 5.25" external that supports (1) slim line optical drive |
| **I/O interfaces** | Side: (2) USB 3.0 ports, including (1) fast charging port; microphone; headphone; SD card reader (optional)<br>Rear: (4) USB 2.0 ports; DisplayPort video port; RJ-45 Gigabit Ethernet network connector; RS-232 serial port; 3.5mm stereo line out jack |
| **Display** | 21.5-inch (1920 x 1080) diagonal widescreen WLED backlit anti-glare |
| **Operating systems** | Windows 8.1<br>Windows 7<br>FreeDOS<br>Novell SUSE Linux Enterprise Desktop 11 |

## Spare parts

### Standard and optional boards
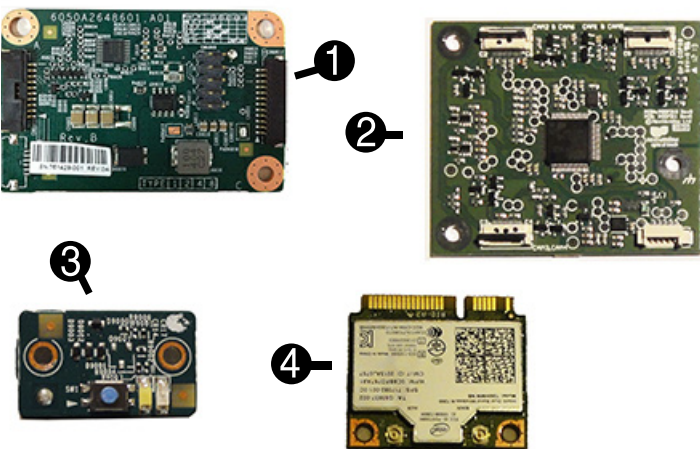


| 1 | Converter board | 763205-001 |
|---|---|---|
| 2 | Touch controller board (included with display panel kit, 763203-001) | not spared separately |
| 3 | Power button board (includes insulator) | 764962-001 |
| 4 | WLAN module, 802.11 a/b/g/n 2x2 | 767424-001 |
| * | HP WLAN 802.11 a/b/g/n + Bluetooth 4.0 | 697316-001 |
| * | Webcam | 763215-001 |

*Not shown*

## System unit
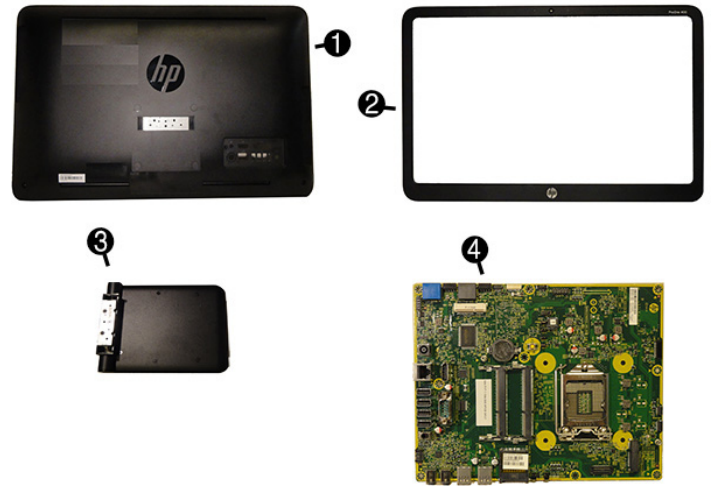


| 1 | Rear cover | 764957-001 |
|---|---|---|
| 2 | Front bezel for use in models with a webcam | 764958-001 |
| * | Front bezel for use in models without a webcam | 764959-001 |
| 3 | Stand assembly | 763209-001 |
| * | Power supply, 120W | 740243-001 |
| * | Raw display panel, WLED (includes touch controller board) | 763203-001 |
| **System boards (include thermal material; callouts illustrated on last page)** | | |
| 4 | System board for use in models without Windows 8 | 737340-001 |
| * | System board for use in models with Windows Standard | 737340-501 |
| * | System board for use in models with Windows Professional | 737340-601 |
| **Memory modules** | | |
| * | 8-GB | 689374-001 |
| * | 4-GB | 689373-001 |
| * | 2-GB | 689372-001 |
| **Processors (include thermal material)** | | |
| * | Intel Core i7-4770T, 2.5 GHz, 8-MB L3 cache | 758446-001 |
| * | Intel Core i7-4765T, 2.0 GHz, 8-MB L3 cache | 754000-001 |
| * | Intel Core i5-4670T, 2.3 GHz, 6-MB L3 cache | 753999-001 |
| * | Intel Core i5-4570T, 2.9 GHz, 4-MB L3 cache | 753998-001 |
| * | Intel Core i3-4330T, 3.0 GHz, 4-MB L3 cache | 753995-001 |
| * | Intel Core i3-4130T, 2.9 GHz, 3-MB L3 cache | 757416-001 |
| * | Intel Pentium G3420T, 2.7-GHz, 3 MB cache | 763217-001 |
| * | Intel Pentium G3220T, 2.6-GHz, 3 MB cache | 763216-001 |
| * | Intel Celeron G1820T, 2.4-GHz, 2 MB cache | 753994-001 |

*Not shown*

## Miscellaneous parts
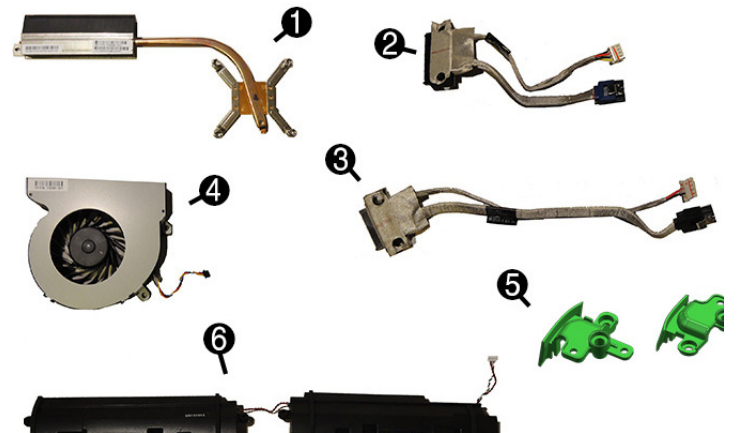


| 1 | Heat sink (thermal module) | 763213-001 |
|---|---|---|
| 2 | Hard drive cable (data and power assembly) | 763122-001 |
| 3 | Optical drive cable (data and power assembly) | 763121-001 |
| 4 | Fan | 763214-001 |
| 5 | Foot cover (includes left and right covers) | 764961-001 |
| 6 | Speakers (left and right) | 763212-001 |
| * | Card reader cover (for models without a media card reader) | 764960-001 |
| * | HP ultraslim keyed cable lock | 703372-001 |
| * | Hard drive removable frame carrier | 732060-001 |
| * | Optical drive bezel | 763207-001 |
| * | Hard drive isolation grommet | 763210-001 |
| * | Rubber feet | 763211-001 |
| * | Mouse, washable | 724795-001 |
| * | Mouse, USB, optical | 537749-001 |
| * | Mouse, USB, laser | 674318-001 |

*Not shown*

**Cables (not illustrated)**

| | | |
|---|---|---|
| * | Power button board cable | 763126-001 |
| * | Backlight cable | 763129-001 |
| * | Touch control cable | 763124-001 |
| * | Converter board cable | 763123-001 |
| * | LVDS (display) cable | 763127-001 |
| * | Webcam cable | 763128-001 |
| * | Antenna kit | 763125-001 |
| * | Adapter, DisplayPort to VGA | 632484-001 |
| * | Adapter, DisplayPort to DVI | 662723-001 |
| * | Adapter, DisplayPort to HDMI | 617450-001 |
| * | DisplayPort cable | 487562-001 |

*Not shown*

**Keyboards (not illustrated)**

| USB | | |
|---|---|---|
| **Wireless with mouse and dongle** | | **724720-xx1** |
| **Washable\*** | | **730323-xx1** |
| **Smart card, CCID** | | **700510-xx1** |
| | | **701671-xx1** |

| | | | |
|---|---|---|---|
| Arabic | -17x | Japanese | -29x |
| F Arabic | -DEx | LA Spanish | -16x |
| BHCSY | -B4x | Norwegian | -09x |
| Belgian | -18x | People's Republic of China | -AAx |
| Brazilian Portuguese | -20x | Portuguese | -13x |
| Bulgaria | -26x | Romanian | -27x |
| Czech and Slovakian | -22x -CG1 | Russian | -25x |
| Danish | -08x | Slovenian | -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 | -D6x | Turkish | -14x |
| International English | -L3x | U.S. | -00x |
| Italian | -06x | U.K. | -03x |

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

**Mass storage devices (not illustrated)**

| | |
|---|---|
| Blu-ray writer (BD-RE) drive (includes bezel) | 719157-001 |
| DVD-ROM drive (includes bezel) | 608394-001 |
| DVD±RW drive (includes bezel) | 657958-001 |
| 2 TB, 7200 rpm hard drive | 616608-001 |
| 1 TB hard drive | 621418-001 |
| 1 TB hard drive, 2.5-inch, hybrid SSD, self-encrypting (SED) | 724937-001 |
| 500 GB, 7200 rpm hard drive, 3.5-inch | 621421-001 |
| 500 GB, 7200 rpm hard drive, 2.5-inch, self-encrypting (SED) | 696442-001 |
| 500 GB, 7200 rpm hard drive, 2.5-inch | 686217-001 |
| 500 GB, 7200 rpm hard drive, 2.5-inch | 754078-001 |
| 500 GB hard drive, 2.5-inch, hybrid SSD, self-encrypting (SED) | 724938-001 |
| 320 GB, 7200 rpm hard drive | 639135-001 |
| 320 GB, 7200 rpm hard drive, 2.5-inch | 754077-001 |
| 256 GB Solid State Drive (SSD), self-encrypting (SED) | 746141-001 |
| 180 GB Solid State Drive (SSD), MLC | 754076-001 |
| 128 GB Solid State Drive (SSD), self-encrypting (SED) | 746140-001 |
| 120 GB Solid State Drive (SSD), MLC | 756459-001 |

**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 | 2 blinks 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 | 11 blinks, 1 blink every second followed by a 2 second pause | Current processor does not support a feature previously enabled. |
| Power | Red | 12 blinks, 1 blink every second followed by a 2 second pause | MXM thermal shutdown |
| none | none | System does not power on and LEDs are not flashing | System unable to power on |

**Common POST error messages**

| Screen message | Probable cause | Recommended action |
|---|---|---|
| 101-Option ROM Error | System ROM checksum error. | 1. Verify ROM, reflash if required 2. Clear CMOS memory, reboot 3. Replace system board |
| 103-System Board Failure | DMA, timers | 1. Clear CMOS memory. 2. 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. |
| 213-Incompatible Memory Module in Memory Socket(s) X,X | A memory module in memory socket identified in the error message is missing critical SPD information, or is incompatible with the chipset. | 1. Verify proper memory module type. 2. Try another memory socket. 3. Replace DIMM with a module conforming to the SPD standard. |
| 214-DIMM Configuration Warning | Populated DIMM configuration is not optimized | 1. Check DIMMs for proper seating, type, compatibility. 2. Rearrange the 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. | If additional memory was recently added, remove it to see if the problem remains. |
| 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. |
| 510-Flash Screen Image Corrupted | Flash Screen image has errors. | Reflash the system ROM with the latest BIOS image. |
| 912-Computer Cover Has Been Removed Since Last System Startup | Computer cover was removed since last system startup. | No action required. |
| 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. |
| 1796-SATA Cabling Error | One or more SATA devices are improperly attached. For optimal performance, the SATA 0 and SATA 1 connectors must be used before SATA 2 and SATA 3. | Ensure SATA connectors are used in ascending order. For one device, use SATA 0. For two devices, use SATA 0 and SATA 1. For three devices, use SATA 0, SATA1, and SATA 2. |
| 1801-Microcode Patch Error | Processor not supported by ROM BIOS. | 1. Upgrade BIOS to proper version. 2. Change the processor. |
| 2200-PMM Allocation Error during MEBx Download | Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM | 1. Reboot the computer. 2. Unplug the power cord, re-seat the memory modules, and reboot the computer. 3. If the memory configuration was recently changed, unplug the computer, restore the original memory configuration, and reboot the computer. 4. If the error persists, replace the system board. |
| Invalid Electronic Serial Number | Electronic serial number is missing. | Enter the correct serial number in Computer Setup. |
| Network Server Mode Active and No Keyboard Attached | Keyboard failure while Network Server Mode enabled. | 1. Reconnect keyboard with computer turned off. 2. Check connector for bent or missing pins. 3. Ensure that none of the keys are depressed. 4. Replace keyboard. |

## 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:<br><br>• Product name<br>• Manufacturer<br>• SKU number<br>• Processor type/speed/stepping<br>• Installed memory size/speed/ch<br>• Integrated MAC Address<br>• Chassis serial number<br>• Asset tracking number<br>• System board ID<br>• System board CT Number<br>• BIOS |
| | **About** - Displays copyright notice. |
| | **Set Time and Date** - Allows you to set system time and date. |
| | **Flash System ROM** - Allows you to update the system ROM with a BIOS image file located on removable media. |
| | **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:<br><br>• CD-ROM<br>• Hard Disk<br>• Diskette (external USB) |
| | **Storage Options** - Allows you to set:<br>• SATA Emulation - Choose how the SATA controller and devices are accessed by the OS. SATA Emulation choices are AHCI or IDE.<br>• 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.<br>• 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 to you enable/disable:<br>• Lock Legacy Resources<br>• Setup Browse Mode<br>• Password prompt on F9, F11, & F12<br>• Network Server Mode<br>• Stringent Password |
| | **Device Security** - Set Device Available/Device Hidden for: system audio, network controller, and SATA ports. |
| | **USB Security** - Set Device Available/Device Hidden for front USB ports, rear USB ports, accessory USB ports. |
| | **Slot Security** - Disable any PCI, or PCIe 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:<br>• Data Execution Prevention (enable/disable)<br>• Virtualization Technology (VTx) (enable/disable)<br>• Virtualization Technology/Directed IO (VTd) (enable/disable) |
| | **DriveLock Security** - Allows you to assign or modify a master or user password for hard drives. |
| | **Secure Boot Configuration** (Windows 8 only)<br>• Legacy Support (enable/disable)<br>• Secure Boot (enable/disable).<br>• Key Management (enable/disable)<br>• 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:<br>• POST mode (QuickBoot, Clear Memory, FullBoot, or FullBoot Every x Days)<br>• POST messages (enable/disable)<br>• Press the ESC key for Startup Menu (enable/disable)<br>• Option ROM Prompt (enable/disable)<br>• After Power Loss (off/on/previous state)<br>• POST Delay (none, 5, 10, 15, 20, or 60 seconds)<br>• Remote Wakeup Boot Source (remote server/local hard drive)<br>• Factory Recovery Boot Support (enable/disable)<br>• Bypass F1 Prompt on Configuration Changes (enable/disable)<br>• POST Memory Manager Runtime Allocation (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:<br>• Turbo Mode (enable/disable)<br>• Num Lock State at Power-on (off/on)<br>• Internal Speaker (enable/disable)<br>• Multi-Processor (enable/disable)<br>• USB 3.0 BIOS Driver Support<br>• USB EHCI Port Debug<br>• USB Charging Port (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** - Allows you to set:<br>• PXE Option ROMs (UEFI Only/Do Not Launch)<br>• Storage Option ROMs (UEFI Only/Do Not Launch)<br>• Video Option ROMs (UEFI Only/Do Not Launch)<br>• NetClone Option ROMs (Legacy Only/Do Not Launch) |
| | **PCIe Family Controller** - Provides info about the PCIe controller, including:<br>• Driver Name<br>• Driver Version<br>• Drive Release Date<br>• Device Name<br>• PCI Slot<br>• MAC Address |

## 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.

# System board
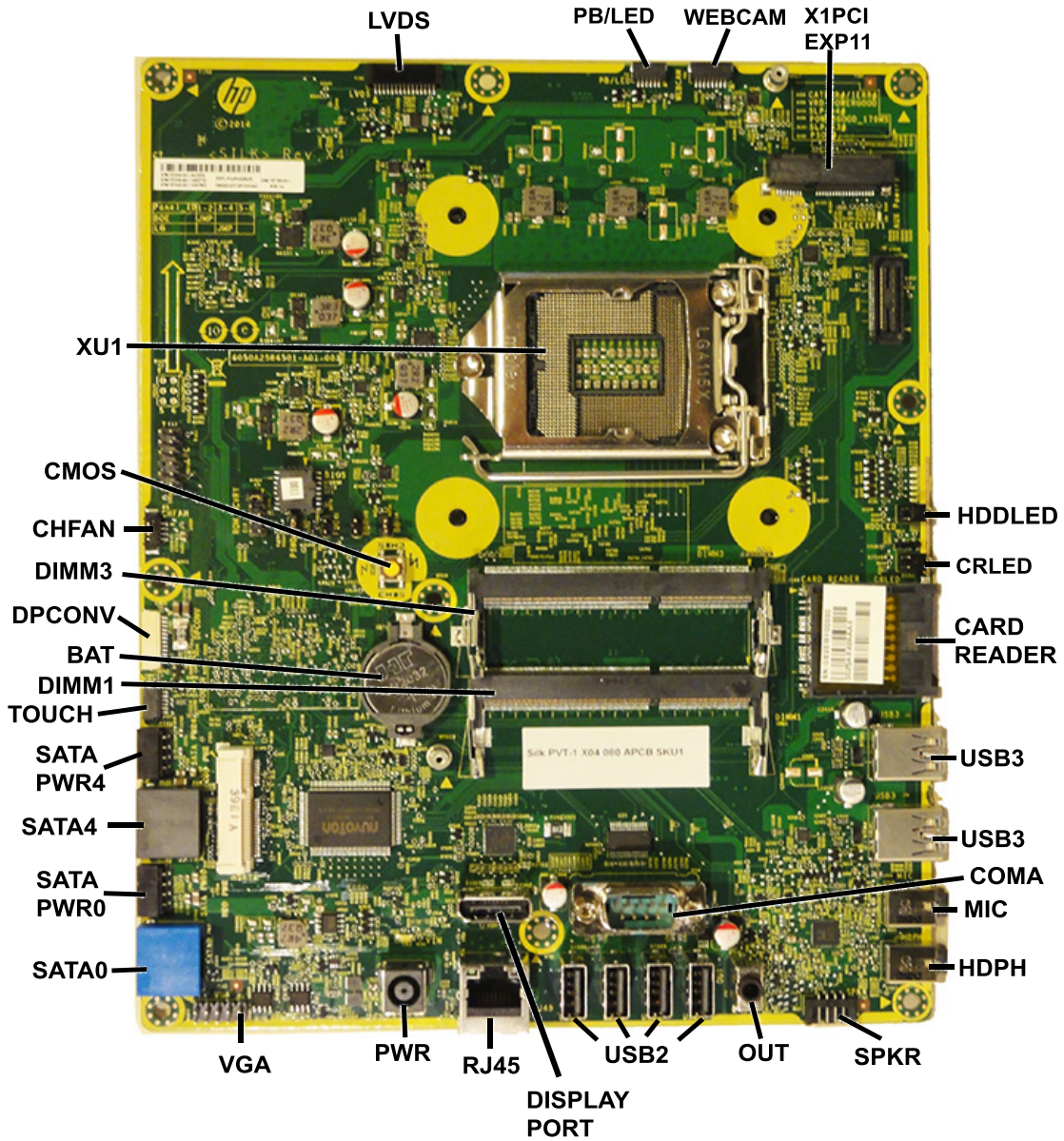


## System board connectors and jumpers (component location may vary)

| | | | |
|---|---|---|---|
| LVDS | Display connector | RJ45 | Network jack |
| PB/LED | Power switch connector | PWR | Main power connector |
| WEBCAM | Webcam connector | VGA | Display connector |
| X1PCIEXP11 | PCIe X1 slot | SATA0 | 1st hard drive data connector |
| HDD LED | Hard drive LED | SATA PWR0 | Hard drive power connector |
| CR LED | Card reader LED | SATA4 | Optical drive data connector |
| CARD READER | Card reader slot | SATA PWR4 | Optical drive power connector |
| USB3 | USB 3.0 connector | TOUCH | Touch board connector |
| USB3 | External USB 3.0 connector with fast charging support | DIMM1 | Memory socket – Channel A |
| COMA | Serial port | BAT | RTC battery socket |
| MIC | External microphone connector | DPCONV | Converter board connector |
| HDPH | External headphone connector | DIMM3 | Memory socket – Channel B |
| SPKR | Speaker connector | CHFAN | Fan connector |
| OUT | External audio out connector | CMOS | CMOS button |
| USB | External USB 2.0 connectors | XU1 | Processor socket |
| DISPLAYPORT | DisplayPort connector | | |