

# Illustrated Parts & Service Map

## HP Elite 7300/7500 Microtower Business PC



© 2011, 2012 Hewlett-Packard Development Company, L.P. The information contained herein is subject to change without notice. HP shall not be liable for technical or editorial errors or omissions contained herein. Microsoft and Windows are either trademarks or registered trademarks of Microsoft Corporation in the United States and/or other countries.

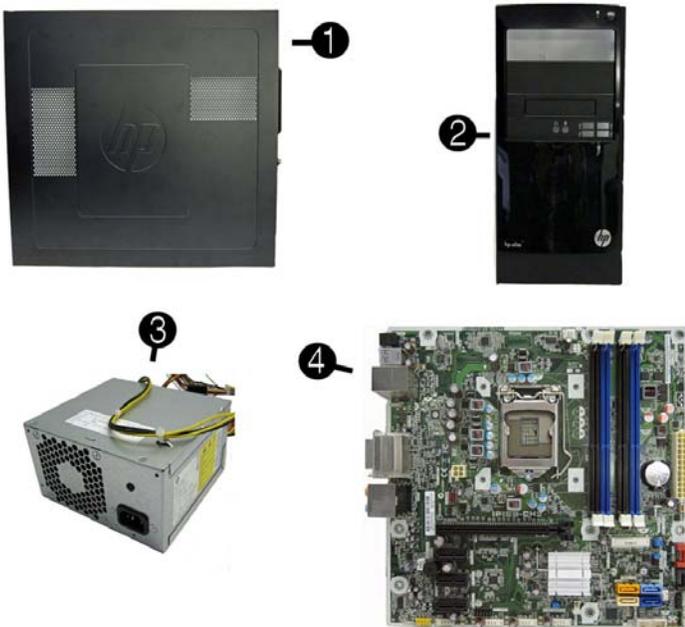
Document Number 663324-003. 3rd Edition June 2012.



### Key Specifications

<b>Processor Type</b>	Intel® Core™ i7, i5, i3, Pentium, Celeron
<b>RAM Type</b>	PC3-10600 DDR3 (1066/1333 MHz), non-ECC (model 7300) PC3-12800 DDR3 (1600 MHz), non-ECC (model 7500)
<b>Maximum RAM</b>	16 GB
<b>Expansion Slots</b>	<ul style="list-style-type: none"> <li>• (1) PCIe-x16</li> <li>• (3) PCIe-x1</li> <li>• (1) MiniPCI</li> </ul>
<b>Chipset</b>	Intel H67 Express (model 7300) Intel Z75 Express (model 7500)
<b>Graphics Adapter</b>	Intel HD graphics
<b>Bays</b>	<ul style="list-style-type: none"> <li>• (2) external 5.25-inch</li> <li>• (1) external 3.5-inch</li> <li>• (2) internal 3.5-inch</li> </ul>
<b>I/O Interfaces</b>	Front: (2) USB 2.0, (2) USB 3.0, headphone, microphone Rear: (4) USB 2.0, DVI-I, DVI-D, VGA, PS/2 keyboard and mouse, audio in, microphone, 5.1/7.1 channel audio out, SPDIF Digital out, RJ-45, surround side/rear/center
<b>Preinstalled Operating Systems</b>	<ul style="list-style-type: none"> <li>• Windows® 7</li> <li>• FreeDos</li> </ul>

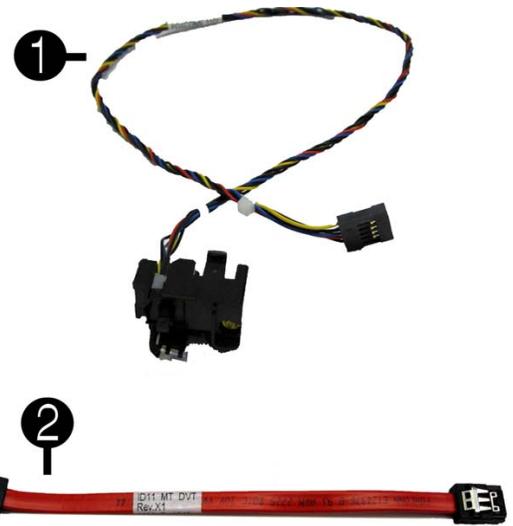
### Spare Parts



#### System Unit

1	Access panel	657104-001
2	Front bezel	657112-001
3	Power supply, 300W	656721-001
System boards with thermal grease, alcohol pad, and CPU socket cover		
4	System board for use in 7300 models	656599-001
*	System board for use in 7500 models	687940-001

\* Not shown



#### Cables

1	Power switch/LED assembly	657105-001
2	SATA cable, 165 mm	657102-001
*	Adapter, DVI to VGA	202997-001
*	Adapter, DVI to VGA, HF	657401-001
*	Adapter, DVI to VGA, 29-pin, HF	657851-001

\*Not shown



#### Miscellaneous Parts

1	Chassis fan	657103-001
2	Fan sink	657402-001
3	Front USB and I/O assembly	657113-001
*	Fan duct	657403-001
*	Card reader, 15-in-1	657099-001
*	Card reader, bezel blank	657853-001
*	Card reader, bezel	657854-001
*	Mouse, USB, optical	596410-001
*	RTC battery	319603-001
*	Rubber feet	530593-001

\*Not shown

#### Mass Storage Devices (not illustrated)

16X SATA DVD±RW drive with	581600-001
Blu-ray BD-RW SuperMulti DL Drive	617030-001
Bezel, optical drive	657852-001
3 TB, 5400 rpm SATA hard drive	668149-001
2 TB, 7200 rpm SATA hard drive	616608-001
2 TB, 5400 rpm SATA hard drive	613210-001
1.5 TB, 7200 rpm SATA hard drive, 6G	613209-001
1.5 TB, 5400 rpm SATA hard drive, 3G	652272-001
1 TB, 7200 rpm SATA hard drive	636930-001
1 TB, 7200 rpm SATA hard drive	621418-001
750 GB, 7200 rpm SATA hard drive, 6G	639363-001
750 GB, 7200 rpm SATA hard drive, 3G	632938-001
500 GB, 7200 rpm SATA hard drive, 6G	636929-001
500 GB, 7200 rpm SATA hard drive, 3G	621421-001
320 GB, 7200 rpm SATA hard drive, 6G	621420-001
320 GB, 7200 rpm SATA hard drive, 3G	621420-001
256 GB Solid-state drive (SSD)	661842-001
128 GB Solid-state drive (SSD)	665961-001
120 GB Solid-state drive (SSD)	661841-001

### Standard and Optional Boards (not illustrated)

Memory modules (PC3-10600, CL9) for use in 7300 models		
*	1 GB	635802-001
*	2 GB	635803-001
*	4 GB	585157-001
Memory modules (PC3-12800, CL11) for use in 7500 models		
*	2 GB	671612-001
*	4 GB	671613-001
Other boards		
*	ATI Radeon HD 7570 2-GB graphics adapter for use only on 7500 models	679219-001
*	ATI Radeon HD 7450 1-GB graphics adapter for use only on 7500 models	679218-001
*	ATI Radeon HD 6570 2-GB graphics adapter, full height	638406-001
*	ATI Radeon HD 6570 1-GB graphics adapter, full height	638405-001
*	ATI Radeon HD 6450 1-GB graphics adapter	638132-001
*	ATI Radeon HD 6450 512-MB graphics adapter	647449-001
*	nVidia GeForce GT640 3-GB graphics adapter for use only on 7500 models	687226-001
*	nVidia GeForce GT630 2-GB graphics adapter for use only on 7500 models	687580-001
*	nVidia GeForce GT620 1-GB graphics adapter for use only on 7500 models	687579-001
*	nVidia GeForce GT545 3-GB graphics adapter, full height	657107-001
*	nVidia GeForce GT530 2-GB graphics adapter, full height	657106-001
*	nVidia GeForce GT520 1-GB graphics adapter, full height	657399-001
*	nVidia GeForce GT520 1-GB graphics adapter, low profile	657400-001
*	nVidia GeForce GT440 1.5-GB graphics adapter, full height	638408-001
*	nVidia GeForce GT440 3-GB graphics adapter, full height	638409-001
*	nVidia GeForce GT420 2-GB graphics adapter, includes bracket	632920-001
*	nVidia GeForce GT405 1-GB graphics adapter, includes bracket	638407-001
*	nVidia GeForce GT405 512-MB graphics adapter	657108-001
Intel Core i7 processors (include thermal material)		
*	3770K, 3.5 GHz, 8-MB L3 cache for use in only 7500 models	688165-001
*	3770, 3.4 GHz, 8-MB L3 cache for use in only 7500 models	688164-001
*	2600S, 2.8 GHz, 8-MB L3 cache	638419-001
Intel Core i5 processors (include thermal material)		
*	3570K, 3.4 GHz, 6-MB L3 cache for use in only 7500 models	688163-001
*	3570, 3.4 GHz, 6-MB L3 cache for use in only 7500 models	688162-001
*	3550, 3.3 GHz, 6-MB L3 cache for use in only 7500 models	687944-001
*	3470, 3.2 GHz, 6-MB L3 cache for use in only 7500 models	687943-001
*	3450, 3.1 GHz, 6-MB L3 cache for use in only 7500 models	687942-001
*	3330, 3.0 GHz, 6-MB L3 cache for use in only 7500 models	687941-001
*	2500S, 2.7 GHz, 6-MB L3 cache	638420-001
*	2500, 3.3 GHz, 6-MB L3 cache	638631-001
*	2405S, 2.5 GHz, 6-MB L3 cache	656790-001
*	2400S, 2.5 GHz, 6-MB L3 cache	640953-001
*	2400, 3.1 GHz, 6-MB L3 cache	638630-001
*	2320, 3.0 GHz, 6-MB L3 cache for use in only 7500 models	665121-001
*	2310, 2.9 GHz, 6-MB L3 cache	657111-001
*	2300, 2.8 GHz, 6-MB L3 cache	654601-001
Intel Core i3 processors (include thermal material)		
*	2120, 3.3 GHz, 3-MB L3 cache	638629-001
*	2105, 3.1 GHz, 3-MB L3 cache	655970-001
*	2100, 3.1 GHz, 3-MB L3 cache	638628-001
Intel Pentium Dual-Core processors (include thermal material)		
*	G860, 3.0 GHz, 3-MB L3 cache	665122-001
*	G850, 2.9 GHz, 3-MB L3 cache	655973-001
*	G840, 2.8 GHz, 3-MB L3 cache	655972-001
*	G630, 2.7 GHz, 3-MB L3 cache	665123-001
*	G620, 2.6 GHz, 3-MB L3 cache	655971-001

### System Setup and Boot

Access the Setup Utility during the computer boot sequence by pressing the **Esc** key while “Press the ESC key for Startup Menu” message is displayed at the bottom of the screen, and then pressing the **F10** key. If you do not press **Esc** at the appropriate time, you must restart the computer and again press **Esc** when the monitor light turns green to access the utility.

#### Computer Setup Menu

Heading	Option/Description	
File	System Information - Lists the following main system specifications: <ul style="list-style-type: none"> <li>Product name</li> <li>SKU number (some models)</li> <li>Processor type/speed/stepping</li> <li>Cache size (L1/L2/L3)</li> <li>Installed memory size/speed/chan</li> <li>Integrated MAC Address</li> <li>System BIOS</li> <li>Chassis serial number</li> <li>Asset tracking number</li> </ul>	
	About - Displays copyright notice.	
	Set Time and Date - Allows you to set system time and date.	
	Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.	
	Ignore Changes and Exit - Exits Computer setup without saving changes.	
	Save Changes and Exit - Saves changes to system configuration or default settings and exits Computer Setup.	
Storage	Device Configuration - Lists all installed BIOS-controlled storage devices. The following options are available: <ul style="list-style-type: none"> <li>CD-ROM - Let you view model, firmware version, serial number</li> <li>Hard Disk - Let you view drive size, model, firmware version, serial number, connector color, SMART. Also lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off).</li> <li>Diskette - model and firmware version.</li> <li>SATA Defaults - lets you set Translation Mode (Automatic, Bit-Shift, LBA Assisted, User, and Off).</li> </ul>	
	Storage Options - Allows you to set SATA Emulation, IDE or AHCI.	
	DPS Self-Test - Allows you to execute self-tests on ATA hard drives.	
	Boot Order - Allows you to specify boot order. <ul style="list-style-type: none"> <li>Shortcut to Temporarily Override Boot Order</li> </ul>	
	Setup Password - Allows you to set and enable the setup (Admin) password.	
	Power-On Password - Allows you to set and enable power-on password.	
Security	Password Options - When any password exists allows you to lock legacy resources, enable/disable Setup Browse Mode, set password prompt, enable/disable network server mode, specify password requirement for warm boot, and set stringent passwords.	
	Device Security - Allows you to set Device Available/Device Hidden for: embedded security devices, serial and parallel ports, system audio, network controller, and SATA ports.	
	USB Security - Allows you to set Device Available/Device Hidden for front USB ports 1-4, rear USB ports 8-11, internal USB ports 0 and 5.	
	Slot Security - Allows you to disable any PCI or PCI Express slot.	
	Network Boot - Enables/disables boot from OS (NIC models only).	
	System IDs - Allows you to set Product name, serial number, UUID, SKU number, family name, asset tag, feature byte, build ID, keyboard locale setting for system ID entry.	
	System Security (some models) - Allows you to enable/disable: <ul style="list-style-type: none"> <li>Data Execution Prevention (enable/disable)</li> <li>Virtualization Technology (VTx/VTd) (enable/disable)</li> <li>Intel TXT (LT) (enable/disable)</li> <li>Embedded Security Device Support (enable/disable)</li> <li>OS management of Embedded Security Device (enable/disable)</li> <li>Reset of Embedded Security Device through OS (enable/disable)</li> </ul>	
	DriveLock Security - Allows you to assign or modify a master or user password for hard drives.	
	Power	OS Power Management - Allows you to enable/disable Runtime Power Management, Idle Power Savings, Unique Sleep State Blink Rates.
		Hardware Power Management - Allows you to enable/disable SATA bus power management, S5 maximum power savings, and S5 Wake On LAN.
		Thermal - Allows you to view CPU and system fan speeds.
Advanced	Power-On Options - Allows you to set: <ul style="list-style-type: none"> <li>POST messages - Enable/disable</li> <li>After Power Loss - Off/on/previous state</li> <li>POST Delay - None, 5, 10, 15, or 20 seconds</li> </ul>	
	BIOS Power-On - Allows you to set the computer to turn on at a preset time.	
	Bus Options (some models) - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.	
	Device Options - Allows you to set: <ul style="list-style-type: none"> <li>Num Lock State at Power-on - off/on</li> <li>Integrated Video - enable/disable</li> <li>Multi-Processor - enable/disable</li> <li>Hyper-threading - enable/disable</li> <li>NIC Option ROM Download - enable/disable</li> </ul>	
	VGA Configuration - Displayed only if there are multiple PCI video adapters in the system. Allows you to specify which VGA controller will be the “boot” or primary VGA controller.	
	AMT Configuration - Allows you to set: <ul style="list-style-type: none"> <li>AMT-enable/disable functions of the embedded Management Engine (ME) such as Active Management Technology (AMT).</li> <li>Unconfigure AMT/ME-unconfigure any provisioned management settings for AMT.</li> <li>Watchdog Timer-set amount of time for an operating system and BIOS watchdog alert to be sent if the timers are not deactivated.</li> </ul>	

## 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. Enter Computer Setup and run the Drive Protection System test under <b>Storage &gt; DPS Self-test</b> . 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive.

## 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

## 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:

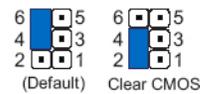
- Turn on or restart the computer.
- To change the Setup password, go to step 2.  
To change the Power-on password, go to step 3.
- To change the Setup password, as soon as the computer turns on:
    - Press the **Esc** key while “Press the ESC key for Startup Menu” message is displayed.
    - Press 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

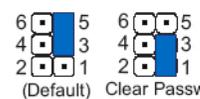
- Turn off the computer and disconnect the power cord from the power outlet.
- Remove the access panel.
- On the system board, locate the CMOS/password header.
- Remove the jumper from pins 4 and 6.
- Place the jumper on pins 4 and 2 for 10-15 seconds.
- Replace the jumper on pins 4 and 6.



- Replace the chassis access panel and reconnect the power cord.
- Turn on the computer and allow it to start.
- Use F10 setup to verify or configure new settings.

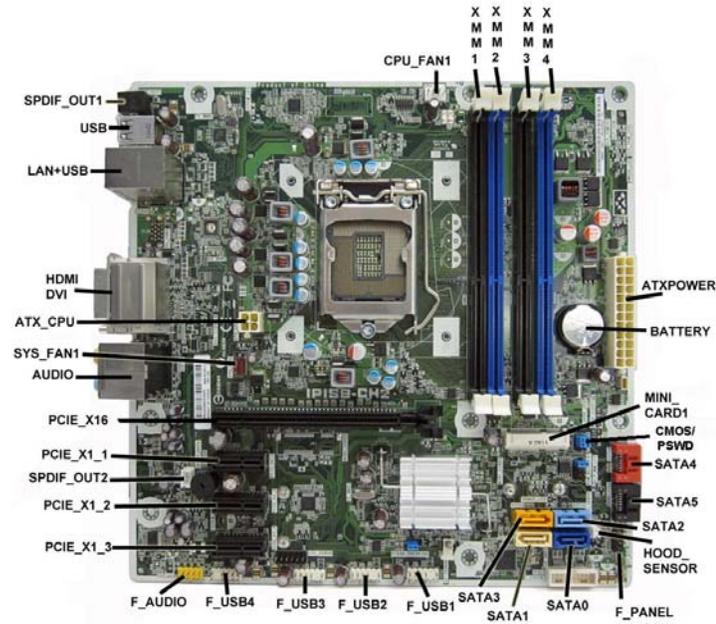
### Clearing Passwords

- Turn off the computer and disconnect the power cord from the power outlet.
- Remove the access panel.
- On the system board, locate the CMOS/password header.
- Remove the jumper from pins 5 and 3.
- Place the jumper on pins 3 and 1 for 10-15 seconds.
- Replace the jumper on pins 5 and 3.

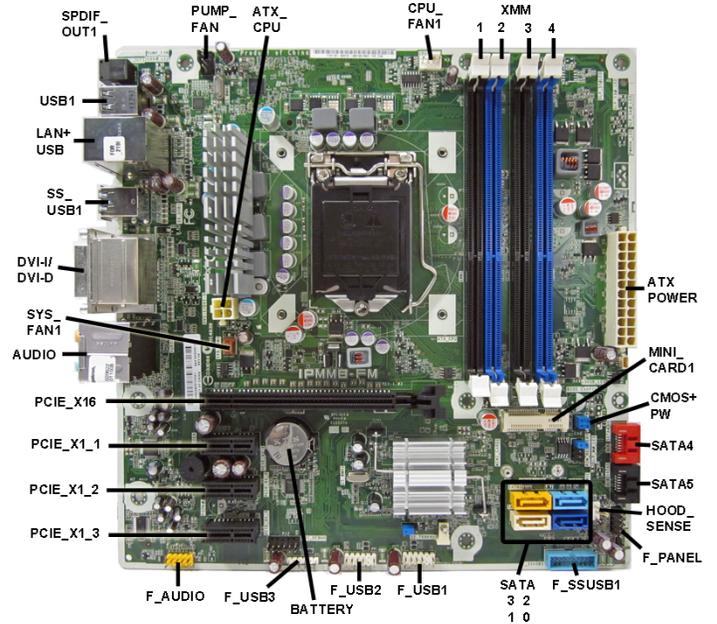


- Replace the chassis access panel and reconnect the power cord.
- Turn on the computer and allow it to start.
- Use F10 setup to verify or configure new settings.

## System Board for use in HP Pro 7300 models



## System Board for use in HP Pro 7500 models



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

CPU_FAN1	Heat sink fan connector	F_USB1	1st USB connector
XMM1	Memory socket - channel A	F_USB2	2nd USB connector
XMM2	Memory socket - channel B	F_USB3	3rd USB connector
XMM3	Memory socket - channel A	F_USB4	4th USB connector
XMM4	Memory socket - channel B	F_AUDIO	Front audio connector
ATXPOWER	Main power connector	PCIEX1_3	PCIe X1 slot
BATTERY	RTC battery socket	PCIEX1_2	PCIe X1 slot
MINI_CARD1	Mini PCIe connector	SPDIF_OUT2	Internal SPDIF connector
CMOS/PSWD	CMOS/password header	PCIEX1_1	PCIe X1 slot
SATA4	SATA drive	PCIEX16	PCIe X16 slot
SATA5	SATA drive	AUDIO	Audio connectors
SATA2	1st optical drive	SYS_FAN1	Fan connector
HOOD_SENSOR	Hood sensor connector	ATX_CPU	CPU power connector
F_PANEL	Front panel connector	HDMI/DVI	Combo HDMI/DVI connector
SATA0	1st hard drive	LAN+USB	LAN + USB connector
SATA1	2nd hard drive	USB	USB connectors
SATA3	2nd optical drive	SPDIF_OUT21	External SPDIF connector

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

SPDIF_OUT1	Internal SPDIF connector	SATA2	1st optical drive
PUMP_FAN	CPU cooler connector	SATA3	2nd optical drive
ATX_CPU	CPU power connector	F_USB1	1st USB connector
CPU_FAN1	Heat sink fan connector	F_USB2	2nd USB connector
XMM1	Memory socket - channel A	BATTERY	RTC battery socket
XMM2	Memory socket - channel B	F_USB3	3rd USB connector
XMM3	Memory socket - channel A	F_AUDIO	Front audio connector
XMM4	Memory socket - channel B	PCIEX1_3	PCIe X1 slot
ATXPOWER	Main power connector	PCIEX1_2	PCIe X1 slot
MINI_CARD1	Mini PCIe connector	PCIEX1_1	PCIe X1 slot
CMOS/PW	CMOS/password header	PCIEX16	PCIe X16 slot
SATA4	SATA drive	AUDIO	Audio connectors
SATA5	SATA drive	SYS_FAN1	Fan connector
HOOD_SENSE	Hood sensor connector	DVI-D//DVI-I	Combo HDMI/DVI connector
F_PANEL	Front panel connector	SS_USB1	USB 3.0 connectors
F_SSUSB1	Internal USB 3.0 connector	LAN+USB	LAN + USB connector
SATA0	1st hard drive	USB1	USB 2.0 connectors
SATA1	2nd hard drive		