Illustrated Parts & Service Map

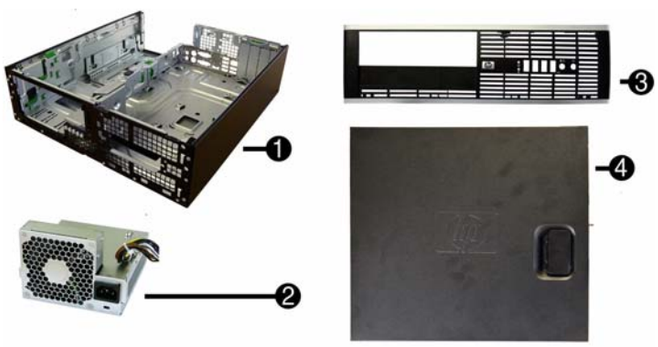
HP Compaq 6000 Pro Small Form Factor Business PC

Document Number 581652-001. 1st Edition September 2009.

Key Specifications

Processor Type	Intel Celeron, Core2 Duo, Core2 Quad
RAM Type	DDR3-SDRAM DIMMs, PC2-10600 (1333 MHz) non-ECC
Maximum RAM Supported	16 GB
Expansion Slots	• 1 PCIe-x16 (SDVO/ADD2) • 2 PCIe-x1 • 1 PCI
Graphics Adapter	Integrated Intel GMA 4500 graphics
Chipset	Intel Q43 Express
Drive Support	• (1) 3.5-inch external bay for optional HP 22-in-1 media card reader, pocket media drive, or other 3.5-inch device • (1) 5.25-inch external bay for optional optical drive • (1) 3.5-inch internal bay for primary hard drive
I/O Interfaces	USB 2.0 (10, 4 front, 6 rear), DisplayPort, parallel (optional), serial (optional), RJ-45, front and rear audio jacks (2 each), PS/2 ports (2), VGA connector, dual color diagnostic LEDs
Operating Systems	• Windows 7 • Windows Vista • Windows XP

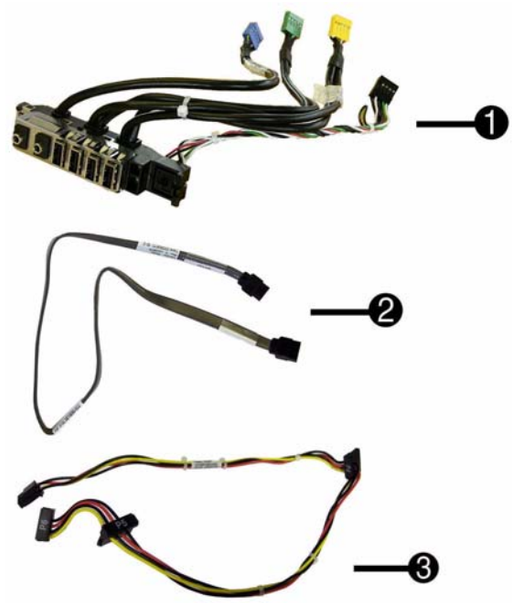
Spare Parts



System Unit

1	Chassis	Not spared
2	Power supply, 240W	508151-001
2	Power supply, 240W, 89% efficient	508152-001
3	Front bezel	581353-001
4	Access panel	581356-001
*	Bezel blank	583653-001

** Not shown*



Cables

1	Front I/O cable assembly	581351-001
2	19-inch SATA cable	391739-001
3	SATA power cable	581355-001
*	SATA ODD cable, 25 inch, 1 straight, 1 angled end	461535-001
*	eSATA port assembly	497726-001
*	Adapter, Display Port (DP) to DVI	484156-001
*	Adapter, Display Port (DP) to VGA	484155-001

**Not shown*

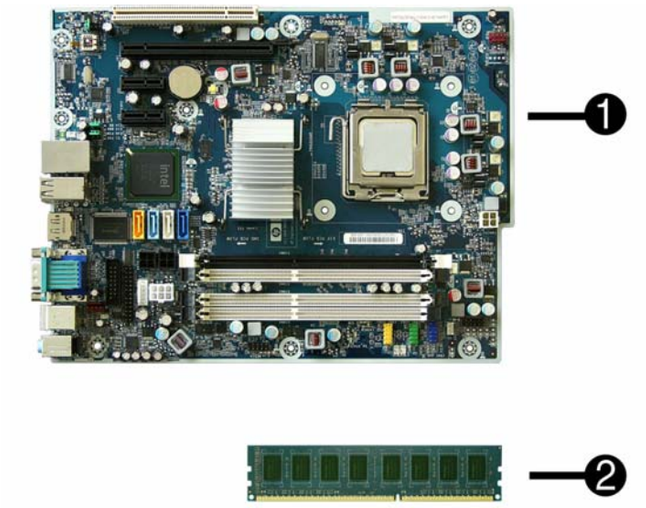
Keyboards (not illustrated)

PS/2, Basic	**537745-xxx**		
USB, Standard	**537746-xxx**		
USB SmartCard	**537747-xxx**		
USB, Mini[a]	**535873-xxx**		
Washable[b]	**577495-xxx**		
Arabic	-171	Korean (Hangul)[a]	-KD1
Belgian	-181	LA Spanish	-161
BHCSY*	-B41	Netherlands	-331
Brazilian Portuguese	-201	Norwegian[b]	-091
Bulgarian	-261	Polish	-241
Czech	-221	PRC[a][b]	-AA1
Danish	-081	Portuguese	-131
Finnish	-351	Romanian	-271
French[b]	-051	Russian	-251
French Arabic	-DE1	Slovakian	-231
French Canadian[a][b]	-121	Spanish[b]	-071
German	-041	Swedish[b]	-101
Greek	-151	Swiss	-111
Hebrew	-BB1	Taiwanese[a]	-AB1
Hungarian	-211	Thai[b]	-281
Iceland	-DD1	Turkish	-141
International	-B31	Turkish F	-541
Italian[b]	-061	U.S.[a][b]	-001
Japanese[a]	-291	U.K.[b]	-031
Kazakhstan	-DF1		

**Not for 537747-xxx*
[a] only countries marked with [a] are valid for 535873-xxx
[b] only countries marked with [b] are valid for 577495-xxx

Mass Storage Devices (not illustrated)

22-in-1 media card reader, 3.5-inch	480032-001
Blu-ray ROM DVD+/-RW SuperMulti DL Drive	581601-001
16X DVD±RW SuperMulti drive with LightScribe	581600-001
16X DVD-ROM drive	581599-001
500 GB SATA hard drive	504339-001
500-GB hard drive, 2.5-inch	449980-001
320 GB SATA hard drive	504338-001
250 GB, 7200-RPM SATA hard drive	504337-001
160 GB, 10000-RPM SATA hard drive, 2.5-inch with adapter	508312-001
160 GB, hard drive, 3.5-inch	504336-001
80 GB Solid-State Drive (SSD), 2.5-inch with adapter	508311-001
64 GB Solid-State Drive	581057-001
250-GB portable USB hard drive	500019-001



Standard and Optional Boards

System boards with thermal grease, alcohol pad, and CPU socket cover		
1	System board	531965-001
1	System board, excludes ES	581350-001
Memory modules		
2	4 GB, PC3-10600	585157-001
2	2 GB, PC3-10600	576110-001
2	1 GB, PC3-10600	576109-001
Other boards		
*	Broadcom NetXtreme GbE PCIe NIC	488293-001
*	HP Wireless 802.11b/g/n WLAN card	538048-001
*	Antenna for use with 538048-001	583345-001
*	LSI 56K modem, PCIe	490689-001
*	ATI HD3470 (RV620) 256-MB graphics card, one DP 1.1a connector, one dual-link DVI connector, includes bracket	516913-001
*	ATI Radeon HD4550 (RV710) PCIe x16 graphics card, 512 MB	538051-001
*	ATI Radeon HD4650 (RV730) PCIe x16 graphics card, 1 GB	538052-001
*	Nvidia Quadro NVS290 256-MB PCIe graphics card	460815-001
*	Nvidia Quadro NVS295 256-MB PCIe graphics card	578226-001
*	Intel Gigabit NIC, includes bracket	490367-001
*	HP FireWire IEEE 1394 PCI card, FH	515182-001
*	Video card, SDVO, ADD2, DVI-D, includes bracket	398333-001
Intel Celeron Processors with alcohol pad and thermal grease:		
E3300, 1-MB cache, 2.50 GHz		585886-001
E3200, 1-MB cache, 2.40 GHz		585885-001
450, 512-KB cache, 2.20 GHz		508256-001
Intel Core2 Quad Processors with alcohol pad and thermal grease:		
Q9650, 12-MB cache, 3.00 GHz		497734-001
Q9550, 12-MB cache, 2.83 GHz		465758-001
Q9400, 6-MB cache, 2.66 GHz		497733-001
Q8400, 4-MB cache, 2.66 GHz		573955-001
Intel Core2 Duo Processors with alcohol pad and thermal grease:		
E8600, 6-MB cache, 3.33 GHz		497732-001
E8500, 6-MB cache, 3.16 GHz		466170-001
E8400, 6-MB cache, 3.00 GHz		509554-001
E7600, 3-MB cache, 3.06 GHz		573954-001
E7500, 3-MB cache, 2.93 GHz		583006-001
E6300, 2-MB cache, 2.80 GHz		580748-001
E5400, 2-MB cache, 2.70 GHz		531989-001
E5300, 2-MB cache, 2.60 GHz		516900-001

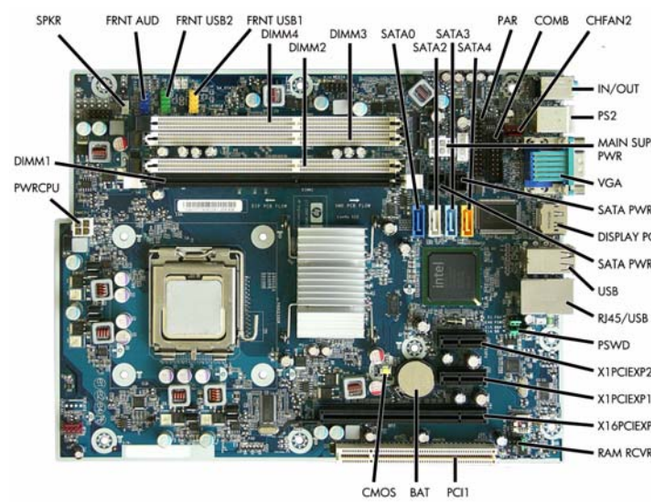
** Not shown*

Miscellaneous Parts

1	Chassis fan assembly	581352-001
2	Heatsink with alcohol pad and factory-applied thermal grease	581354-001
3	Internal speaker	394779-001
4	Fan baffle	583652-001
*	Rubber feet kit	583654-001
*	Second serial port, LP	392414-001
*	Solenoid lock assembly	586752-001
*	Printer port	497727-001
*	Mouse, PS2, optical	537748-001
*	Mouse, optical, jack black	537749-001
*	Mouse, USB laser	570580-001
*	Powered USB speakers	466618-001
*	HP Business PC Security Lock Kit	508987-001
*	Hard drive conversion kit, 2.5-inch to 3.5-inch	397117-001

**Not shown*
LP = Low profile

System Board



System Board Connectors and Jumpers (position of some untitled components may vary in location)

SPKR	Speaker connector	SATA PWR2	Hard drive power connector
FRNT AUD	Front audio connector	USB	Stacked USB ports
FRNT USB2	Front USB connector	SATA PWR1	Optical drive power connector
FRNT USB1	Front USB connector	RJ45/USB	Stacked network/USB connector
DIMM1-4	Memory slots	PSWD	Password header
SATA0-3	Drive connectors	X1PCIEXP2	PCIe x1 slot
PAR	Parallel port connector	X1PCIEXP1	PCIe x1 slot
COMB	Serial port connector	X16PCIEXP	PCIe x16 slot
CHFAN2	Rear fan connector	RAM RCVRY	RAM header
IN/OUT	Double stack audio connector	PCI1	PCI slot
PS2	PS/2 mouse and keyboard connectors	BAT	RTC battery
MAIN SUPPLY PWR	Main power	CMOS	CMOS reset button
VGA	Monitor connector	PWRCPU	CPU power connector

Setup Utility

Basic system information is in the Setup Utility held in the system ROM, accessed by pressing **F10** when prompted (on screen) during the boot sequence.

Computer Setup Menu

Heading	Option/Description
File	System Information - Lists the following main system specifications: • Product name • SKU number (some models) • Processor type/speed/stepping • Cache Size (L1/L2) • Memory size/speed/ no. channels • Integrated MAC Address • System BIOS • Chassis serial number • Asset tracking number • ME firmware version • Management mode
	About - Displays copyright notice.
	Set Time and Date - Allows you to set system time and date.
	Flash System ROM - Allows you to select a drive containing a new BIOS.
	Replicated Setup-Save to Removable Media & Restore from Removable Media
	Default Setup • Save Current Settings as Default • Restore Factory Settings as Default
	Apply Defaults and Exit - Applies the selected default settings and clears any established passwords.
	Ignore Changes and Exit - Exits setup without applying or saving any 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. • Drive Emulation • Emulation Type - ATAPI Zip or LS-120 drive, hard disk, CD-ROM drive • Translation Mode • Translation Parameters • SATA Default Values
	Storage Options: Removable Media Boot, eSATA Port, Max eSATA Speed, SATA Emulation
	DPS Self-Test - Allows you to execute self-tests on ATA hard drives.
	Boot Order - Allows you to specify boot order. • Shortcut to Temporarily Override Boot Order
Security	Setup Password - Allows you to set and enable setup (Administrator) password.
	Power-On Password - Allows you to set and enable power-on password.
	Password Options - When any password exists allows you to lock legacy resources, enable/disable network server mode, specify password requirement for warm boot, and allows you to enable/disable Setup Browse Mode, enable/disable Stringent Password.
	Device Security (some models) - Enables/disables all I/O ports, audio, network controllers, embedded security devices., SATA0-4.
	USB Security - Allows you to set Device Available/Device Hidden for: Front USB Ports 1-6, Rear USB Ports 1-12.
	Slot Security - Allows you to disable PCIe/PCI slots and associated cards.
	Network Service Boot - Enables/disables boot from OS on a server.
	System IDs - Allows you to set Asset tag, ownership tag, chassis serial number/ UUID, and keyboard locale setting.
	DriveLock Security-Lets you assign/modify hard drive p/w for added security.
	System Security (some models) - Allows you to enable/disable: • Data Execution Prevention • Protected Audio Video Path (PAVP) (some models) • Virtualization Technology(some models) • Virtualization Technology Directed I/O (some models) • Trusted Execution Technology I/O • Embedded Security Device Support • OS management of Embedded Security Device (some models)
	Master Boot Record Security - Allows you to save or restore master boot record.
	Setup Security Level - Provides method to allow users limited access to change specified setup options without knowing Setup password.
Power	OS Power Management - Lets you enable/disable Runtime Power Management, Idle Power Savings, ACPI S3 Hard Disk Reset, ACPI S3 PS2 Mouse Wakeup, USB Wake on Device Insertion, Unique Sleep State Blink Rates.
	Hardware Power Management-Lets you enable/disable SATA bus power mgmt.
	Thermal - Allows you to control minimum permitted fan idle speed.
Advanced	Power-On Options - Allows you to set: • POST mode-QuickBoot, FullBoot, Clear Memory, FullBoot every x days • POST messages - Enable/disable • F9 prompt - Enable/disable • F10 prompt - Enable/disable • F12 prompt - Enable/disable • Factory Recovery Boot Support - Enable/disable • Option ROM prompt - Enable/disable • WOL After Power Loss - Enable/disable • Remote wakeup boot source - Remote server/local hard drive • After Power Loss - Off/on/previous state • POST delay - None, 5, 10, 15, or 20 seconds • Limit CPUID Value to 3 • Bypass F1 prompt
	Execute Memory Test -Restarts computer and executes POST memory test.
	BIOS Power-On - Allows you to set the computer to turn on at a preset time.
	Onboard Devices - Lets you set resources or disable onboard system devices.
	PCI Devices - Lists installed PCI devices with their IRQ settings and allows you to reconfigure IRQ or disable devices.
	PCI VGA Configuration - Allows you to specify which VGA controller will be used when multiple video adapters are available.
	Bus Options (some models) - Allows you to enable/disable PCI SERR# Generation and PCI VGA palette snooping.
	Device Options - Allows you to set: • Printer Mode - Bi-Directional, EPP & ECP, Output Only • Num Lock state at power-on - off/on • S5 Wake on LAN - enable/disable • Processor cache - enable/disable • Integrated video - enable/disable • Multi-Processor - enable/disable • Internal speaker - enable/disable • Monitor Tracking - enable/disable • NIC PXE Option ROM Download - enable/disable

Recovering the Configuration Settings

This method of recovery requires that you first perform the **Save to Removable Media** command with the Computer Setup (F10) Utility before Restore is needed.

NOTE: It is recommended that you save any modified computer configuration settings to a USB flash media device or a diskette-like device (a storage device set to emulate a diskette drive) and save the device for possible future use.

To restore the configuration, insert a USB flash media device or other storage media emulating a diskette with the saved configuration and perform the Restore from Removable Media command with the Computer Setup (F10) Utility.

Drive Protection System

The Drive Protection System (DPS) is a diagnostic tool built into the hard drives installed in some computers. DPS is designed to help diagnose problems that might result in unwarranted hard drive replacement.

Running DPS will not affect any programs or data stored on the hard drive. The test resides in the hard drive firmware and can be executed even if the computer will not boot to an operating system. The time required to execute the test depends on the manufacturer and size of the hard drive; in most cases, the test will take approximately two minutes per gigabyte.

Use DPS when you suspect a hard drive problem. If the computer reports a SMART Hard Drive Detect Imminent Failure message, there is no need to run DPS; instead, back up the information on the hard drive and contact a service provider for a replacement hard drive.

Accessing DPS through Computer Setup

1. Turn on or restart the computer.
2. When the **F10** Setup message appears in the lower-right corner of the screen, press the **F10**.
3. Select **Storage > DPS Self-Test**.
4. Select the hard drive to be tested and follow the screen prompts to complete the testing process.

Password Security

This computer supports security password features, which can be established through the Computer Setup Utilities menu.

This computer supports two security password features that are established through the Computer Setup Utilities menu: setup password and power-on password. When you establish only a setup password, any user can access all the information on the computer except Computer Setup. When you establish only a power-on password, the power-on password is required to access Computer Setup and any other information on the computer. When you establish both passwords, only the setup password will give you access to Computer Setup.

When both passwords are set, the setup password can also be used in place of the power-on password as an override to log in to the computer. This is a useful feature for a network administrator.

If you forget the password for the computer, you can clear that password so you can gain access to the information on the computer by resetting the password jumper.

CAUTION: Pushing the CMOS button will reset CMOS values to factory defaults.

Resetting the password jumper

1. Shut down the computer.
2. With the power cord disconnected, press the power button again to drain the system of any residual power.
3. Remove the access panel.
4. Locate the header and jumper.
5. Remove the jumper from pins 1 and 2. Place the jumper on either pin 1 or 2, but not both.
6. Replace the access panel.
7. Plug in and turn on power. Allow the operating system to start. This clears the current passwords and disables the password features.
8. To establish new passwords, repeat steps 1 - 4, replace the password jumper on pins 1 and 2, then repeat steps 6 - 8. Establish new passwords in Computer Setup.

Clearing and Resetting the CMOS

The CMOS button resets CMOS but does not clear the power-on and setup passwords. Clearing CMOS will clear the Active Management Technology (AMT) settings in the Management Engine BIOS Extension (MEBx), including the password. The password will default to “admin” and will need to be reset. The AMT settings will also need to be reset. To access the MEBx, press **Ctrl+P** during POST.

1. Turn off the computer and any external devices, and disconnect power.
2. Remove the access panel.
3. On the system board, press and hold the CMOS button for 5 seconds.
4. Replace the access panel, external devices, and reconnect the power cord.
5. Turn on the computer.

You will receive POST error messages after clearing CMOS and rebooting advising you that configuration changes have occurred. Use Computer Setup to reset any special system setups along with the date and time.

HP Vision Field Diagnostics

The Hewlett-Packard Vision Field Diagnostics utility allows you to view information about the hardware configuration of the computer and perform hardware diagnostic tests on the subsystems of the computer. The utility simplifies the process of effectively identifying, diagnosing, and isolating hardware issues.

The Survey tab is displayed when you invoke HP Vision Field Diagnostics. This tab shows the current configuration of the computer. From the Survey tab, there is access to several categories of information about the computer. Other tabs provide additional information, including diagnostic test options and test results. The information in each screen of the utility can be saved as an html file and stored on a diskette or USB flash drive.

Use HP Vision Field Diagnostics to determine if all the devices installed on the computer are recognized by the system and functioning properly. Running tests is optional but recommended after installing or connecting a new device.

Vision Field Diagnostics may be found on the CD that shipped with some computer models. The tool may also be downloaded from the HP Web site using the following procedure:

1. Go to www.hp.com
2. Click the **Software & Download driver** link.
3. Select **Download drivers and software (and firmware)**.
4. Enter the product number in the text box and press Enter.
5. Select the specific product.
6. Select the OS.
7. Click the **Diagnostic** link.
8. Click **Hewlett-Packard Vision Field Diagnostics**.
9. Click **Download**.

NOTE: The download includes instructions on how to create a bootable CD or USB flash drive.

Common POST Error Messages

Screen Message	Description	Recommended Action
101-Option ROM Error	1. System ROM checksum. 2. Expansion board option ROM checksum.	1. Verify ROM, reflash if required 2. If expansion board recently added, remove to see if problem remains. 3. Clear CMOS. 4. If message disappears, may be problem with expansion card. 5. Replace system board.
103-System Board Failure	DMA or timers	1. Clear CMOS. 2. Remove expansion boards. 3. Replace the system board.
162-System Options Not Set	Configuration incorrect. RTC battery may need to be replaced.	Run Computer Setup and check configuration in **Advanced > Onboard Devices**. Reset date and time in Control Panel. If problem persists, replace RTC battery.
163-Time & Date Not Set	Invalid time or date in configuration memory. RTC battery may need to be replaced. - or - CMOS jumper may not be properly installed.	Reset the date and time under Control Panel (Computer Setup can also be used). If the problem persists, replace the RTC battery. - or - Check for proper placement of the CMOS jumper.
164-Memory Size Error	Memory amount has changed since the last boot (memory added or removed). - or - Incorrect memory configuration.	Press F1 to save memory changes. -or- 1. Run Setup (F10). 2. Make sure the memory module(s) are installed properly. 3. If 3rd party memory added, test using HP-only memory. 4. Verify proper memory type.
201-Memory Error	RAM failure.	1. Ensure memory modules are correctly installed. 2. Verify proper memory type. 3. Remove and replace the identified faulty memory module(s). 4. If the error persists after replacing modules, replace system board.
213-Incompatible Memory Module in Memory Socket(s) X, X, ...	A memory module in memory socket identified in error message missing critical SPD information, or incompatible with the chipset.	1. Verify proper memory 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.	Rearrange DIMMs so each channel has the same amount of memory.
215-DIMM Configuration Warning	Populated DIMM configuration is not optimized.	Remove power from the system and reinstall memory modules. On AMD systems, populate modules starting with slot XMM4, then XMM3, XMM2, XMM1. On Intel systems, populate modules starting with slot DIMM1, then DIMM3, DIMM2, DIMM4.
219-ECC Memory Module Detected ECC Modules not supported on this Platform	Recently added memory module(s) support ECC memory error correction.	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-Keyboard error	Keyboard failure or System Unit Error	1. Reconnect keyboard with computer turned off. 2. Check connector for bent or missing pins. 3. Ensure no keys are depressed. 4. Replace keyboard. 5. If 304 possible system board issue
501-Display Adapter Failure	Graphics display controller.	1. Reseat graphics card. 2. Clear CMOS. 3. Check monitor connection. 4. Replace graphics card if possible
510-Flash Screen Image Corrupted	Flash Screen image has errors.	Reflash the system ROM with the latest BIOS image.
511-CPU Fan not Detected	CPU fan is not connected or may have malfunctioned.	1. Reseat CPU fan. 2. Reseat fan cable. 3. Replace CPU fan.
512-Rear Chassis Fan not Detected	Rear chassis fan is not connected or may have malfunctioned.	1. Reseat rear chassis fan. 2. Reseat fan cable. 3. Replace rear chassis fan.
605-Diskette Drive Type Error	Mismatch in drive type.	1. Disconnect any other diskette controller devices (tape drives). 2. Clear CMOS.
917-Front Audio Not Connected	Front audio harness has been detached or unseated from motherboard.	Reconnect or replace front audio harness.
921-Device in PCI Express slot failed to initialize	There is an incompatibility/ problem with this device and the system or PCI Express Link could not be retrained to an x1.	Try rebooting the system. If the error reoccurs, the device may not work with this system

Common POST Error Messages (continued)

Screen Message	Description	Recommended Action
1720-SMART Hard Drive Detects Imminent Failure	Hard drive is about to fail. (Some hard drives have a hard drive firmware patch that will fix an erroneous error message.)	1. Determine if hard drive is giving correct error message. Enter Computer Setup and run the Drive Protection System test under **Storage > DPS Self-test**. 2. Apply hard drive firmware patch if applicable. 3. Back up contents and replace hard drive.
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 4.
1797-SATA Drivelock is not supported in RAID mode.	Drivelock is enabled on one or more SATA hard drives, and they cannot be accessed while the system is configured for RAID mode.	Either remove the Drivelocked SATA device or disable the Drivelock feature. To disable the Drivelock feature, enter Computer Setup, change **Storage > Storage Options > SATA Emulation** to IDE, and select **File > Save Changes and Exit.** Re-enter Computer Setup and select **Security > Drivelock Security**. For each listed Drivelock-capable SATA device, ensure Drivelock is Disabled. Lastly, change **Storage > Storage Options > SATA Emulation** back to **RAID** and select **File > Save Changes and Exit**.
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 power cord, reseat memory, reboot computer. 3. If memory configuration recently changed, unplug computer, restore original memory configuration, and reboot computer. 4. If the error persists, replace the system board.
2201-MEBx Module did not checksum correctly	Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	1. Reboot the computer. 2. Unplug power cord, reseat memory, reboot computer. 3. If memory configuration recently changed, unplug computer, restore original memory configuration, and reboot computer. 4. If the error persists, replace the system board.
2202-PMM Deallocation Error during MEBx cleanup	Memory error during POST execution of the Management Engine (ME) BIOS Extensions option ROM.	1. Reboot the computer. 2. Unplug power cord, reseat memory, reboot computer. 3. If memory configuration recently changed, unplug computer, restore original memory configuration, and reboot computer. 4. If the error persists, replace the system board.
2203-Setup error during MEBx execution	MEBx selection or exit resulted in a setup failure.	1. Reboot the computer. 2. Unplug power cord, reseat memory, reboot computer. 3. If memory configuration recently changed, unplug computer, restore original memory configuration, and reboot computer. 4. If the error persists, replace the system board.
2204-Inventory error during MEBx execution	BIOS information passed to the MEBx resulted in a failure.	1. Reboot the computer. 2. If error persists, update to latest BIOS version. 3. If the error still persists, replace the system board.
2205-Interface error during MEBx execution	MEBx operation experienced a hardware error during communication with ME.	1. Reboot the computer. 2. If error persists, update to latest BIOS version. 3. If the error still persists, replace the system board.
2211-Memory not configured correctly for proper MEBx execution.	DIMM1 is not installed.	Make sure there is a memory module in the black DIMM1 socket and that it is properly seated.
Invalid Electronic Serial Number	Electronic serial number is missing.	Enter the correct serial number in Computer Setup.
Memory Parity Error	Parity RAM failure. Third-party graphics card may be causing a problem.	Run Computer Setup and Diagnostic utilities. Remove 3rd party graphics card to see if the problem goes away.
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 no keys are depressed. 4. Replace keyboard.
Parity Check 2	Parity RAM failure. Third-party graphics card may be causing a problem.	Run Computer Setup and Diagnostic utilities. Remove 3rd party graphics card to see if problem goes away.