

Illustrated Parts & Service Map

HP Compaq 8000f Elite Business PC Ultra Slim Desktop



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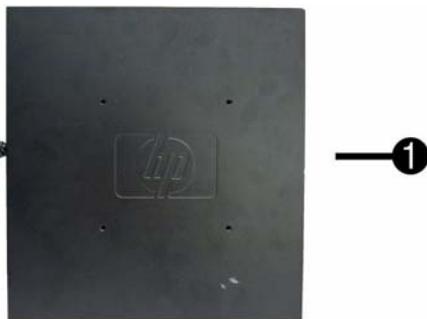
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Key Specifications

Processor Type	Intel® Core2 Duo
RAM Type	DDR3-SDRAM DIMMs, PC3-10600 (1333 MHz) non-ECC
Maximum RAM Supported	4 GB
Expansion Slots	(1) PCI Express Mini Card
Chipset	Intel Q45 Express supporting Core 2 processors with vPro
Graphics Adapter	Integrated Intel Graphics Media Accelerator 4500
Drive Support	<ul style="list-style-type: none"> Internal: (1) 2.5-inch External: (1) Slimline optical
I/O Interfaces	Front: (4) USB, microphone, headphone Rear: (6) USB, PS/2 keyboard and mouse, line in, line out, VGA, DisplayPort, RJ-45
Operating Systems	<ul style="list-style-type: none"> Windows 7 Professional 32 Windows 7 Home Premium 32

Spare Parts



System Unit

1	Access panel	587455-001
2	Front bezel	587457-001
3	AC adapter, 135W	587744-001
*	Stand	593231-001
*	Bezel blank, Jack Black	593230-001

* Not shown



Cable and accessory

1	Optical drive cable/connector	605163-001
*	Cable cover	588981-001

* Not shown

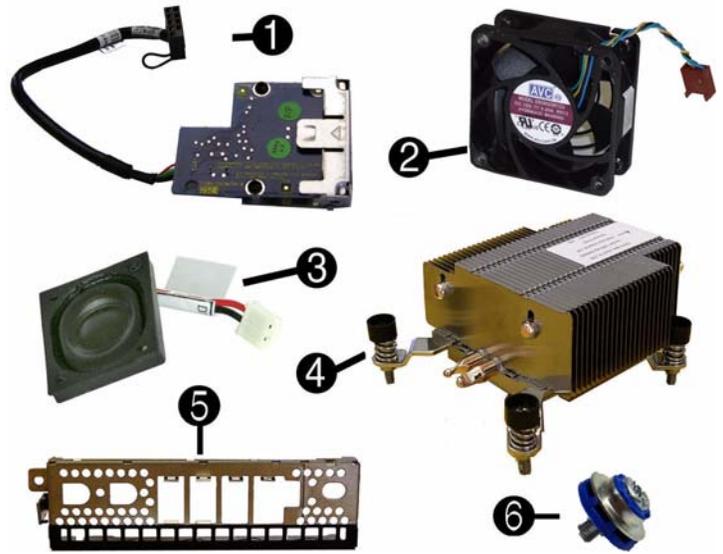
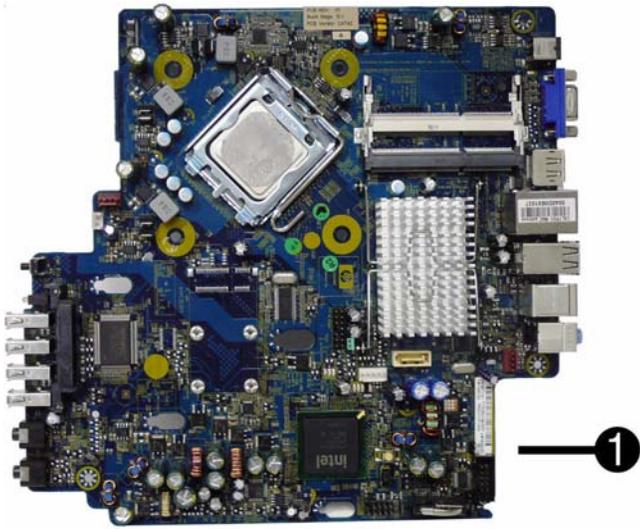
Keyboards (not illustrated)

USB, Basic	590271-xxx		
Brazilian Portuguese	-201	LA Spanish	-161
French Canadian	-121	U.S.	-001



Mass Storage Devices

1	DVD±RW and CD-RW Super Multi Double-Layer Combo Drive with LightScribe. This kit also includes the drive bracket.	595115-001
*	250 GB, 7200 RPM hard drive	608746-001
2	160 GB, 7200 RPM hard drive	608745-001
*	64 GB solid state drive (SSD)	581057-001



Standard and Optional Boards

System boards with thermal grease, alcohol pad, and CPU socket cover

1	System board	586717-001
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Memory modules (PC3-10600, CL9)

2	2 GB	605157-001
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Intel Core 2 Duo Processors with alcohol pad and thermal grease

*	E8400, 3.00 GHz, 6-MB L2 cache	509554-001
*	E7600, 3.06 GHz, 3-MB L2 cache	573954-001

* Not shown

Miscellaneous Parts

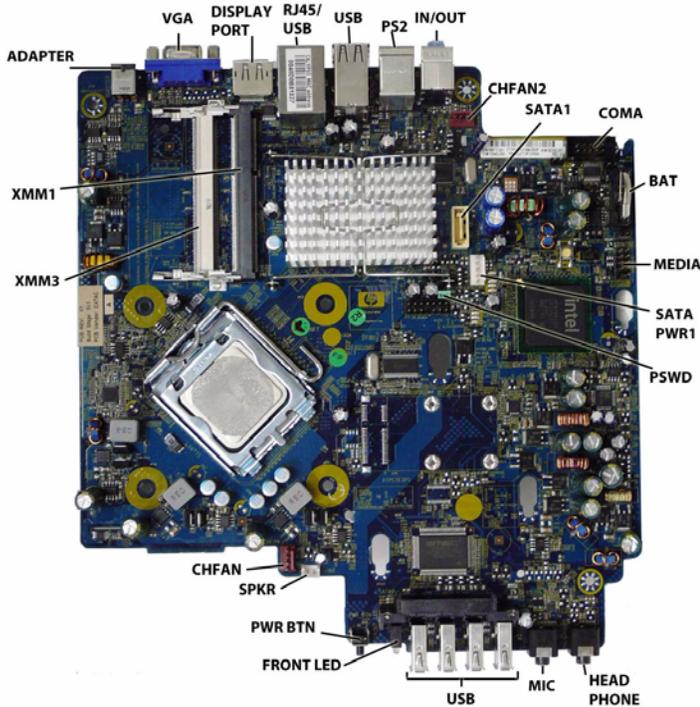
1	Card reader assembly	593235-001
2	Chassis fan, rear	605155-001
3	Internal speaker	605156-001
4	Heatsink with alcohol pad and factory-applied thermal grease	587456-001
5	Front I/O panel	587458-001
6	Grommet, hard drive	594220-001
*	Chassis fan, front	605154-001
*	Mouse, USB	605162-001

Power cord for use in:

Argentina	605160-001
Brazil	605159-001
Italy	605161-001
United States	605158-001

*Not shown

System Board



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

ADAPTER	DC power input	PSWD	Password header/jumper (E49)
VGA	Video connector	CMOS	Clear CMOS
DISPLAY-PORT	Display port connector	HEAD-PHONE	Headphone jack
RJ45/USB	Stacked RJ-45/Dual USB	MIC	Microphone jack
USB	Quad stacked USB	USB	USB ports (4)
PS2	Stacked keyboard/mouse connector	FRONT LED	System power LED
IN/OUT	Double stacked line-out/line-in	PWR BTN	System front power button
CHAN2	Chassis fan	SPKR	Internal speaker
SATA1	Second SATA connector	CHAN	Front fan connector
COMA	Primary serial port	XMM3	SODIMM 3
BAT	Real-time-clock battery	XMM1	SODIMM 1
MEDIA	Media reader	ADAPTER	DC power input
SATAPWR1	SATA power header		

System Setup and Boot

Basic system information regarding system information, setup, power management, hardware, and passwords is maintained in the Setup Utility held in the system ROM. The Setup Utility is accessed by pressing the F10 key when prompted (on screen) to do so during the boot sequence. If the screen prompt opportunity is missed, a restart will be necessary. For more information about Setup Utilities refer to the *Service Reference Guide*.

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) Installed memory size/speed/channels Integrated MAC Address System BIOS Chassis serial number Asset tracking number ME firmware version Management node 	
	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 Rmv Media and Restore from Rmv Media	
	Default Setup <ul style="list-style-type: none"> 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 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 Translation Mode Default Values SATA Defaults 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. <ul style="list-style-type: none"> Shortcut to Temporarily Override Boot Order
Security		Setup Password - Allows you to set and enable the 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.	
	Smart Cover (some models) - Allows you to lock/unlock cover lock and set status of cover removal sensor.	
	Device Security (some models) - Enables/disables all I/O ports, audio, network controllers, SMBus controller, SATA ports, eSATA, and embedded security devices.	
	USB Security - Allows you to set Device Available/Device Hidden for front USB ports 3-6, rear USB ports 7-12, internal USB ports 1-2.	
	Slot Security - Allows you to disable any PCI or PCI Express slot.	
	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 - Allows you to assign/modify a hard drive password for added security.	
	System Security (some models) - Allows you to enable/disable: <ul style="list-style-type: none"> Data Execution Prevention PAVP (Protect Audio Video Path) (some models) Virtualization Technology Virtualization Technology Directed I/O Trusted Execution Technology Embedded Security Device Support OS management of Embedded Security Device through OS 	
	Master Boot Record Security - Protects the master boot record from viruses or other corruption. Saves a copy of the current 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 - Allows you to enable/disable Runtime Power Management, Idle Power Savings, ACPI S3 Hard Disk Reset, ACPI S3 PS2 Mouse Wakeup, USB Wake on Device Insertion (some models), Unique Sleep State Blink Rates.	
	Hardware Power Management - Allows you to enable/disable SATA bus power management and S5 maximum power savings.	
	Thermal - Allows you to control minimum permitted fan idle speed.	

Computer Setup Menu (Continued)

Heading	Option / Description
Advanced	Power-On Options - Allows you to set: <ul style="list-style-type: none"> 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 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 Bypass F1 Prompt on Configuration Changes - Enable/disable
	Execute Memory Test (some models) - 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 - Allows you to 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: <ul style="list-style-type: none"> Printer Mode - Bi-Directional, EPP & ECP, Output Only Num Lock state at power-on - off/on S5 Wake on LAN - enable/disable Multi-Processor - enable/disable Internal speaker - enable/disable Monitor Tracking - enable/disable NIC PXE Option ROM Download - enable/disable
	Management Devices - Only displayed in Advanced menu when BIOS detects multiple management options.
	Management Operations - Allows you to set: <ul style="list-style-type: none"> MEBx Setup Prompt - enable/disable Intel Remote PC Assist Prompt - enable/disable Intel PC Assist Timeout - 5, 10, 15, 20, 30, 40, 50, 60, 120, 180, 240 seconds SOL Terminal Emulation Mode - enable/disable SOL Keyboard - enable/disable Unprovision AMT on next boot

Password Security

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.

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.

Clearing and Resetting CMOS

The computer's configuration memory (CMOS) stores information about the computer's configuration. 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 the power cord.
2. Disconnect the keyboard, monitor, and any other external equipment.
3. Remove the access panel.
4. Locate, press, and hold the CMOS button in for five seconds.
5. Replace the access panel.
6. Reconnect the external devices.
7. Plug in the computer and turn on power.

Clearing or Disabling a Power-On or Setup password

1. Shut down the operating system properly, then turn off the computer and any external devices, and disconnect the power cord.
2. With the power cord disconnected, press the power button again to drain any residual power.
3. Remove the access panel.
4. Locate the header and jumper. The password jumper is green.
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. Reconnect the external equipment.
8. Plug in the computer and turn on power. Allow the operating system to start. This clears the current passwords and disables the password features.
9. To establish new passwords, repeat steps 1 through 4, replace the password jumper on pins 1 and 2, then repeat steps 6 through 8. Establish the new passwords in Computer Setup.

Hewlett-Packard Vision Diagnostics

The Hewlett-Packard Vision 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.

Use HP Vision 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.

To access HP Vision Diagnostics, you must create a Recovery Disc Set then boot to the CD containing the utility. It can also be downloaded from <http://www.hp.com> and either burned to CD or installed to a USB flash drive.

1. In Windows Explorer, go to **C:\SWSetup\ISOs** and burn the file **Vision Diagnostics.ISO** to a CD or copy it to a USB flash drive.
2. While the computer is on, insert the CD in the optical drive or USB flash drive in a USB port.
3. Shut down the operating system and turn off the computer.
4. Turn on the computer. The system will boot into HP Vision Diagnostics.
NOTE: If the system does not boot to the CD in the optical drive or to the USB flash drive, you may need to change the boot order in the Computer Setup (F10) utility.
5. At the boot menu, select either the **HP Vision Diagnostics** utility to test the various hardware components in the computer or the **HP Memory Test** utility to test memory only.
NOTE: The HP Memory Test is a comprehensive memory diagnostic utility that is run as a stand-alone application, outside of HP Vision Diagnostics.
6. If running **HP Vision Diagnostics**, select the appropriate language and click Continue.
7. In the End User License Agreement page, select **Agree** if you agree with the terms. The HP Vision Diagnostics utility launches with the Survey tab displayed.

Diagnostic LEDs

Activity	Beeps	Possible Cause	Recommended Action
Green pwr LED On	None	Computer on.	None.
Green LED, 1 blink/2 seconds	None	Computer in Suspend to RAM mode (some models only) or normal Suspend mode.	None required. Press any key or move the mouse to wake the computer.
Red LED, 1 blink/sec, 2 sec pause	2	Processor thermal protection activated: A fan may be blocked or not turning. OR The heat sink/fan assembly is not properly attached to the processor.	1. Ensure computer air vents not blocked and processor cooling fan running. 2. Open hood, press power button, see if processor fan spins. If not spinning, make sure fan's cable plugged onto system board header. 3. If fan plugged in, but not spinning, replace heat sink/fan assembly.
Red LED, 3 blinks/sec, 2 sec pause	3	Processor not installed (not an indicator of bad processor).	1. Check if processor is present. 2. Reseat processor.
Red LED, 4 blinks/sec, 2 sec pause	4	Power failure (power supply is overloaded).	1. Open hood and ensure the 4 or 6-wire power supply cable is seated into connector on system board. 2. Check if a device is causing the problem by removing ALL attached devices. Power on system. If system enters the POST, then power off and replace one device at a time and repeat until failure occurs. Replace device causing failure. Continue adding devices one at a time to ensure all devices functioning properly. 3. Replace the power supply. 4. Replace the system board.

Red LED, 5 blinks/sec, 2 sec pause	5	Pre-video memory error.	1. Reseat DIMMs. 2. Make sure a DIMM is installed in black DIMM connector first if only one DIMM. 3. Replace 3rd-party with HP memory. 4. Replace system board.
Red LED, 6 blinks/sec, 2 sec pause	6	Pre-video graphics error.	For systems with a graphics card: 1. Reseat graphics card. 2. Replace graphics card. 3. Replace system board. For systems with integrated graphics, replace system board.
Red LED, 7 blinks/sec, 2 sec pause	7	System board failure (ROM detected failure prior to video).	Replace system board.
Red LED, 8 blinks/sec, 2 sec pause	8	Invalid ROM based on bad checksum.	1. Reflash system ROM with latest BIOS image. 2. Replace system board.
Red LED, 9 blinks/sec, 2 sec pause	9	System powers on but is unable to boot.	1. Check that voltage selector, located on the rear of power supply (some models), is set to appropriate voltage. Proper voltage setting depends on region. 2. Unplug power cord from computer, wait 30 seconds, plug back in. 3. Replace system board. 4. Replace processor.
Red LED, 10 blinks/sec, 2 sec pause	10	Bad option card.	1. Check each option card by removing the card (one at a time if multiple cards), then power on system to see if fault goes away. 2. Once bad card identified, remove and replace bad option card. 3. Replace system board.
Red LED, 11 blinks/sec, 2 sec pause	11	The current processor does not support a feature previously enabled on this system.	1. Install a TXT capable processor. 2. Disable TXT in Computer Setup (F10) utility. 3. Reinstall original processor.
System does not power on and LEDs are not flashing	None	System unable to power on.	Press and hold power button for less than 4 seconds. If hard drive LED turns green, power button working correctly. Try the following: 1. Check that voltage selector (some models), located on the rear of power supply, is set to appropriate voltage. Proper voltage setting depends on region. 2. Replace system board. OR Press and hold power button for less than 4 seconds. If hard drive LED does not turn on green then: 1. Check that unit plugged into a working AC outlet. 2. Open hood and check that power button harness is properly connected to system board. 3. Check that both power supply cables are properly connected to system board. 4. Check if 5V_aux light on system board is turned on. If yes, replace power button harness. If problem persists, replace system board. 5. If 5V_aux light on system board is not turned on, remove expansion cards one at a time until 5V_aux light on system board turns on. If problem persists, replace power supply.

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 4. If message disappears, may be problem with expansion card 5. 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	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 DIMMs so that each channel has the same amount of memory.
301-, 304-Key-board 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 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, SATA 1, and SATA 2.
1801-Microcode Patch Error	Processor not supported by ROM BIOS.	1. Upgrade BIOS to proper version. 2. Change the processor.