HEWLETT® PACKARD

HP Omnibook 6000/6100

Service Manual

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Edition History

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Introduction

This manual provides reference information for servicing the HP Omnibook 6000/6100. It is for use by HP-authorized service personnel while installing, servicing, and repairing these products.

The manual is designed as a self-paced guide that will train you to install, configure, and repair Omnibook 6000/6100 computers. The manual is self-contained, so that you can follow it without having equipment available.

The following table lists other sources of information about the computers and related products.

Source	Address or Number	Comments
HP Notebook Web Site	http://www.hp.com/notebooks (http://www.europe.hp.com/notebook, European mirror)	No usage restriction.
HP Partnership Web	http://partner.americas.hp.com	Restricted to Authorized Resellers only.
HP Asia Pacific Channel Support Centre for DPSP Partners	http://www.hp.com.au	Restricted to DPSP Partners only.
America Online	Keyword: HP	Call (800) 827-6364 for membership within the US.
CompuServe	GO HP	Call (800) 524-3388 for membership within the US.
HP Bulletin Board Service		Refer to the latest Product Support Plan for non-US BBS numbers.
HP Support Assist CD-ROM	(800) 457-1762	US and Canada.
	(801) 431-1587	Outside US and Canada.
Microsoft Windows manual		Information about Windows operating system.
Microsoft Web	http://www.microsoft.com	Information and updates for Windows operating systems.

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Product Information

The HP Omnibook 6000 /6100 provides outstanding performance and expandability in a conveniently portable form. The high-performance components use the latest technologies to enable it to replace a desktop computer or serve as a portable multimedia presentation tool.

Table 1-1. Omnibook 6000/6100 Models

Omnibook Product *	CPU **	Display	Hard Drive	Drives	Standard SDRAM	Communication
Omnibook 6000 Series						
F2072*xy*	Celeron 550 MHz	14.1" XGA	5 GB	CD-ROM, FDD	64 MB	SW Modem
F2073*xy*	Celeron 550 MHz	14.1" XGA	5 GB	CD-ROM, FDD	64 MB	None
F2079*xy*	Pentium III 600 MHz	14.1" XGA	6 GB	CD-ROM, FDD	128 MB	Modem/LAN
F2080*xy*	Pentium III 600 MHz	14.1" XGA	6 GB	CD-ROM, FDD	128 MB	None
F2081*xy*	Pentium III 600 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	Modem/LAN
F2082*xy*	Pentium III 600 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	None
F2083*xy*	Pentium III 650 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	Modem/LAN
F2084*xy*	Pentium III 650 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	None
F2087*xy*	Pentium III 700 MHz	14.1" XGA	12 GB	DVD, FDD	128 MB	Modem/LAN
F2088*xy*	Pentium III 700 MHz	14.1" XGA	12 GB	DVD, FDD	128 MB	None
F2090*xy*	Pentium III 700 MHz	15.0" XGA	18 GB	DVD, FDD	128 MB	Modem/LAN
F2091*xy*	Pentium III 700 MHz	15.0" XGA	18 GB	DVD, FDD	128 MB	None
F2140*xy*	Celeron 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	SW Modem
F2141*xy*	Celeron 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	SW Modem
F2142*xy*	Celeron 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	None
F2143*xy*	Celeron 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	None
F2144*xy*	Pentium III 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	Modem/LAN
F2145*xy*	Pentium III 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	Modem/LAN
F2146*xy*	Pentium III 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	None
F2147*xy*	Pentium III 650 MHz	14.1" XGA	6 GB	CD-ROM, FDD	64 MB	None
F2148*xy*	Pentium III 700 MHz	14.1" XGA	10 GB	DVD, FDD	128 MB	Modem/LAN
F2149*xy*	Pentium III 700 MHz	14.1" XGA	10 GB	DVD, FDD	128 MB	None
F2150*xy*	Pentium III 700 MHz	15.0" XGA	20 GB	DVD, FDD	128 MB	Modem/LAN
F2151*xy*	Pentium III 700 MHz	15.0" XGA	20 GB	DVD, FDD	128 MB	None
F2182*xy*	Pentium III 800 MHz	14.1" XGA	20 GB	DVD, FDD	128 MB	Modem/LAN
F2183*xy*	Pentium III 800 MHz	14.1" XGA	20 GB	DVD, FDD	128 MB	None
F2184*xy*	Pentium III 850 MHz	15.0" SXGA	20 GB	DVD, FDD	128 MB	Modem/LAN
F2185*xy*	Pentium III 800 MHz	14.1" XGA	20 GB	DVD, FDD	128 MB	None
F2186*xy*	Pentium III 650 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	Modem/LAN
F2187*xy*	Pentium III 650 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	None
F2188*xy*	Celeron 750 MHz	14.1" XGA	7.5 GB	CD-ROM, FDD	64 MB	SW Modem
F2189*xy*	Celeron 750 MHz	14.1" XGA	7.5 GB	CD-ROM, FDD	64 MB	None
F2197*xy*	Pentium III 700 MHz	14.1" XGA	7.5 GB	CD-ROM, FDD	64 MB	Modem/LAN

Omnibook Product *	CPU **	Display	Hard Drive	Drives	Standard SDRAM	Communication
F2198*xy*	Pentium III 700 MHz	14.1" XGA	7.5 GB	CD-ROM, FDD	64 MB	None
F2200*xy*	Pentium III 900 MHz	14.1" XGA	20 GB	DVD, FDD	128 MB	Modem/LAN
F2201*xy*	Pentium III 900 MHz	14.1" XGA	20 GB	DVD, FDD	128 MB	None
F2202*xy*	Pentium III 1.0 GHz	15.0" XGA	30 GB	DVD, FDD	128 MB	Modem/LAN
F2203*xy*	Pentium III 1.0 GHz	15.0" SXGA+	30 GB	DVD, FDD	128 MB	None
Omnibook 6100						
F3257*xy*	Pentium III-M 933 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	Modem, LAN
F3258*xy*	Pentium III-M 933 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	None
F3259*xy*	Pentium III-M 933 MHz	14.1" XGA	10 GB	CD-ROM, FDD	128 MB	Modem, LAN, Wireless LAN
F3260*xy*	Pentium III-M 1.0 GHz	14.1" XGA	20 GB	DVD, FDD	128 MB	Modem, LAN
F3261*xy*	Pentium III-M 1.0 GHz	14.1" XGA	20 GB	DVD, FDD	128 MB	None
F3262*xy*	Pentium III-M 1.0 GHz	14.1" XGA	20 GB	DVD, FDD	128 MB	Modem, LAN, Wireless LAN
F3263*xy*	Pentium III-M 1.13 GHz	15.0 " SXGA+	30 GB	DVD, FDD	256 MB	Modem, LAN
F3264*xy*	Pentium III-M 1.13 GHz	15.0 " SXGA+	30 GB	DVD, FDD	256 MB	LAN
F3265*xy*	Pentium III-M 1.13 GHz	15.0 " SXGA+	20 GB	DVD, FDD	256MB	Modem, LAN, Wireless LAN
F3266*xy*	Pentium III-M 933 GHz	14.1 " XGA	20 GB	DVD, FDD	128 MB	Modem, LAN
F3267*xy*	Pentium III-M 933 GHz	14.1 " XGA	20 GB	DVD, FDD	128 MB	None
F3268*xy*	Pentium III-M 933 GHz	14.1 " XGA	20 GB	DVD, FDD	128 MB	Modem, LAN, Wireless LAN

This table lists only base product configurations—custom configurations are not included.

* For the products listed, the "*xy*" suffix means: "W" for Windows 95 or Windows 98, "K" for Windows 2000 , "H" for Windows XP Home, "J" for Windows XP Professional. A "*y*" suffix (none, "T", "G", or "U") is a marketing distinction only.

** Intel Mobile Pentium III or III-M with SpeedStep Technology or Intel Mobile Celeron processor.

Table 1-2. Product Comparisons

	Omnibook 6100	Omnibook 6000	Omnibook 500
Processor*	Pentium III-M (933 to 1133 MHz).	Celeron (550 to 750 MHz) or Pentium III (600 to 1000 MHz).	Celeron (500 or 600 MHz) or Pentium III (600 to 750 MHz).
Memory	128 or 256 MB PC-133 SDRAM in system slot. Expandable to 1024 MB.	64 or 128 MB PC-100 SDRAM in system slot. Expandable to 512 MB.	64, 128, or 256 MB PC-100 SDRAM in system slot. Expandable to 512 MB.
Display	15.0-inch TFT SXGA+ or 14.1inch TFT XGA.	15.0- or 14.1-inch TFT XGA, or 15.0-inch TFT SXGA+.	12.1-inch TFT XGA.
Video	AGP 4X graphics interface. 16 MB DDR video RAM with 64-bit graphics interface. 3D and OpenGL graphics support. Up to 16M colors (UXGA). Zoomed Video enabled.	AGP 2X graphics interface. 4 or 8 MB video RAM with 32- or 64-bit interface 3D and OpenGL graphics support. Up to 64K or 16M colors (UXGA). Zoomed Video enabled.	AGP 2X graphics interface. 4 or 8 MB video RAM with 32- or 64-bit graphics interface and 64-bit graphics controller. 3D and OpenGL graphics support. Up to 64K or 16M colors (UXGA). Zoomed Video enabled.
Operating System	Windows 98, Windows 2000, or Windows XP preinstalled.	Windows 95, Windows 98, or Windows 2000 preinstalled.	Windows 98 or Windows 2000 preinstalled.
HP Toptools	HP Toptools 5.5	HP Toptools 4.5 to 5.0.	HP Toptools 5.0.
Power Management	APM 1.2. ACPI compliant.	APM 1.2. ACPI compliant.	APM 1.2. ACPI compliant.
Power States	On, Standby, Hibernate, Off.	On, Standby, Hibernate, Off.	On, Standby, Hibernate, Off.

* Intel Mobile Pentium, Mobile Pentium-M, or Mobile Celeron Processor. Dual-speed processors use Intel SpeedStep Technology.

Features

The following three illustrations show the computer's main external features. For an exploded view of the computer, see page 4-2.

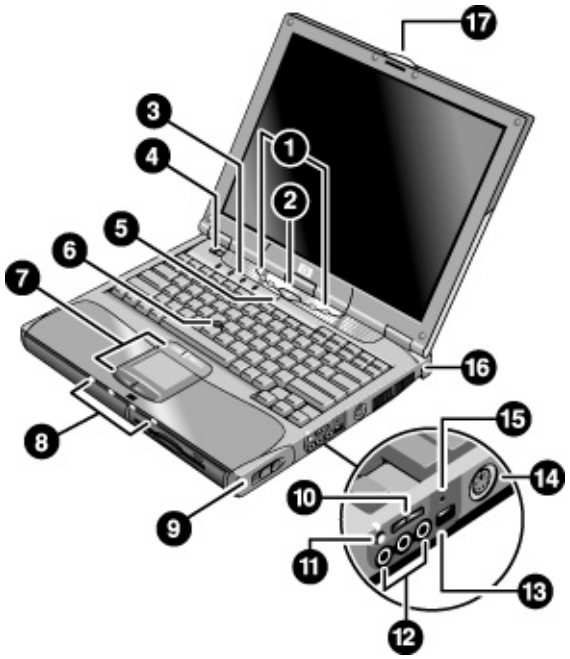


Figure 1-1. Omnibook — Front View

1. One-Touch buttons (on Omnibook 6100 models only).
2. Sleep button. Suspends and resumes operation.
3. Keyboard status lights (left to right: Caps Lock, Num Lock, Keypad Lock, Scroll Lock).
4. Power slide button. Turns the computer on and off.
5. Built-in microphone.
6. Pointing stick (pointing device).
7. Touch pad, click and scroll buttons.
8. Main status lights (left to right): power mode, hard disk activity, charging status for main battery, and charging status for secondary battery.
9. Module eject latch.
10. Volume control.
11. Audio-off button and audio-off light.
12. Audio jacks (left to right): audio out (headphones), external microphone, audio in*.
13. Infrared port.
14. S-video port (TV-out) (on Omnibook 6100 models only).
15. System-off switch.
16. Kensington lock slot (security connector).
17. Computer open/close latch.

*This diagram represents the Omnibook 6100 models. Placement varies slightly on Omnibook 6000 models.

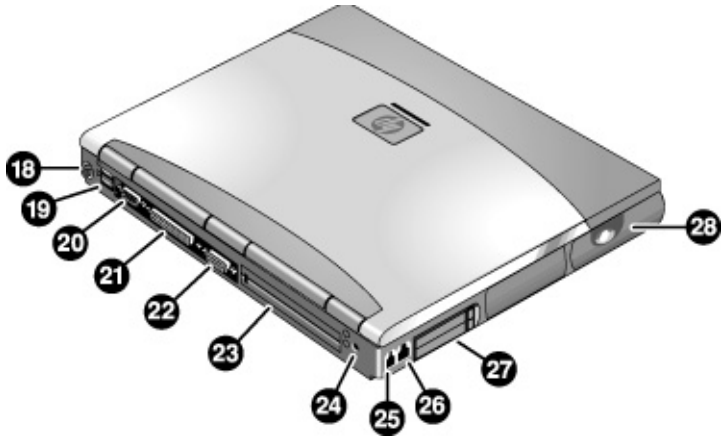


Figure 1-2. Omnibook — Back View

18. PS/2 keyboard or PS/2 mouse port (supports Y adapter).
19. One or two universal serial bus ports (USB), depending on model.
20. Serial port (COM1). Use this port for a serial mouse, modem, printer, or other serial device.
21. Parallel port (LPT1). Use this port for a parallel printer or other parallel device, or to connect the floppy disk drive externally.
22. External monitor port.
23. Docking port.
24. AC adapter jack.
25. Modem port (on certain models)
26. LAN port.
27. PC Card and CardBus slots (upper and lower)
28. Wireless on-off button and indicator light (on certain models)

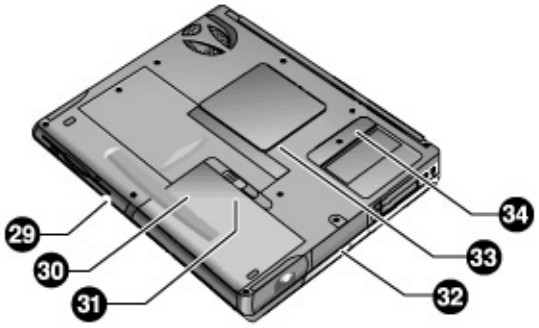


Figure 1-3. Omnibook — Bottom View

29. Plug-in module bay. Can contain a CD-ROM or DVD drive, floppy disk drive, secondary battery, or other plug-in module.
30. Main battery.
31. Main battery latch.
32. Hard disk drive.
33. RAM cover.
34. Mini-PCI cover (no user parts inside).

Operation

This section gives an overview of the computer's operation.

Turning the Computer On and Off

You can start and stop the computer using its blue sleep button. However, at certain times you may want to use other methods to start or stop the computer—depending on power considerations, types of active connections, and start-up time.

Table 1-3. Activating Power Modes

Power mode	To enter this mode	To turn on again
Standby mode Saves significant power. Turns off the display and other components. Maintains current session in SDRAM. Restarts quickly. Restores network connections. Power mode status light is on.	Press blue sleep button –or– click Start, Suspend (Windows 95*) or Start, Shutdown, Standby (Windows 98 and 2000) –or– allow timeout.	Press the blue sleep button to display your current session.
Hibernate mode Saves maximum power. Saves current session to disk, then shuts down. Restores network connections. Power mode status light is off.	Press Fn+F12 –or– Click Start, Shut Down, Hibernate (Windows 2000) –or– allow timeout.	Press the blue sleep button to restart and restore your previous session.
Shut down (off) Saves maximum power. Turns off without saving current session. At startup, resets everything, starts a new session, and restores network connections. Power mode status light is off.	Click Start, Shut Down (recommended) –or– slide the power button.	Press the blue sleep button to restart with a new session.
*Windows 95 is available only on Omnibook 6000 models.		

Checking the Status of the Computer

The computer's main status lights, located on the front of the computer, report power status, battery status, and drive activity

Table 1-4. Main Status Lights (front of computer)

	Meaning
	**Power status** Green: computer is on (even if the display is off). Amber or blinking: computer is in Standby mode. No light: computer is off or in Hibernate mode. Red light: computer failed when resuming, and must be reset.
	**Hard disk drive activity** On: computer is accessing the hard disk drive.
	**Main battery status** Green: The AC adapter is connected and the battery is fully charged. Amber: The AC adapter is connected and the battery is charging. Red or blinking: The AC adapter is connected and the battery is missing or has a fault. Off: The AC adapter is not connected.
	**Secondary battery status** Green: The AC adapter is connected and the battery is fully charged. Amber: The AC adapter is connected and the battery is charging. Red or blinking: The battery has a fault. Off: The AC adapter is not connected, a secondary battery is not installed, or the battery is not charging.

The keyboard status lights, located above the keyboard, indicate the states of the keyboard locks.

Table 1-5. Keyboard Status Lights

	Meaning
	**Caps Lock** Caps Lock is active.
	**Num Lock** Num Lock is active. (The Keypad Lock must also be on to use the embedded keypad.)
	**Keypad Lock** The embedded keypad is active (Fn+F8). Num Lock must also be on for the numeric keys—otherwise, cursor control is active (as marked on an external keyboard).
	**Scroll Lock** Scroll Lock is active.

In addition, the battery module has five lights on its back (flat) side that indicate its charge level. To see these lights, you must remove the battery and press the pad next to the lights. The number of lights that turn on indicates the charge.

Using Fn Hot Keys

The combination of the Fn key plus another key creates a *hot key*—a shortcut key sequence—for various system controls. To use a hot key, press *and hold* Fn, press the appropriate second key, then release both keys.

External keyboards support only Fn+F5, Fn+F7, and Fn+F12. To use these, press and hold left CTRL+left ALT, press the appropriate second key, then release both keys.

Table 1-6. Fn Hot Keys

Hot Key	Effect
Fn+F1	Decreases the display brightness.
Fn+F2	Increases the display brightness.
Fn+F5	Toggles among the built-in display, an external display, and simultaneous display on both.
Fn+F7	Mutes the computer's speakers.
Fn+F8	Toggles the built-in keypad on and off. Does not affect an external keyboard. If Num Lock is on, then the numeric functions are active; otherwise, cursor control is active.
Fn+F12	Enters Hibernate mode.
Fn+NumLock	Toggles Scroll Lock on and off.
Fn+UP ARROW	Increases sound volume (on Omnibook 6000 models only).
Fn+DOWN ARROW	Decreases sound volume (on Omnibook 6000 models only).

Resetting the Computer

Occasionally, Windows or the computer may stop responding, so that you cannot turn the computer off. If this happens, try the following in the order listed:

1. If possible, shut down Windows: press CTRL+ALT+DEL, then click Shut Down. Press the blue sleep button to restart.
2. Slide and hold the power button for 4 seconds, until the display shuts down, then press the blue sleep button to restart.

   –or, if this fails–

   Insert a straightened paper clip into the system-off switch on the right side of the computer, then press the blue sleep button to restart.

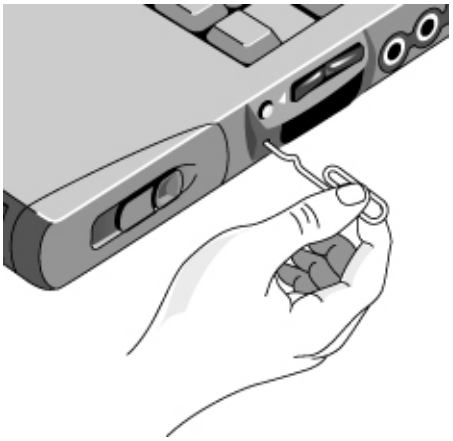


Figure 1-4. Resetting the Computer

Note

To boot from a floppy, CD-ROM, or DVD drive in the module bay, insert a bootable CD (such as the *Recovery CD*) into the drive, then reboot. Press ESC during reboot when the HP logo and prompt appear, then select the CD-ROM/DVD drive as the temporary boot device.

Specifications

The following tables list the specifications for the computer and its accessories. These are subject to change: for the latest versions, see the HP Notebook Web site (www.hp.com/notebooks).

Table 1-7. Omnibook 6000/6100 Specifications

Physical Attributes	Size (14.0-inch display): 315 × 261 × 32 mm (12.4 × 10.3 × 1.3 in). Size (15.1-inch display): 325 × 261 × 34 mm (12.8 × 10.3 × 1.4 in). Weight: 2.3–2.9 kg (5.0–6.4 lb), depending on configuration. Magnesium display cover.
Processor and Bus Architecture	**Omnibook 6000:** 550- to 750-MHz Celeron processor with 128-KB four-way set-associative L2 cache. –or– 600-, 650-, 700-, 850-, 900-, or 1000-MHz Intel Mobile Pentium III processor with SpeedStep technology with 256-KB four-way set-associative L2 cache. 1.6-V core, 2.5-V external, low-power processor. 32-KB (16-KB instruction, 16-KB data) L1 cache. 32-bit PCI bus. **Omnibook 6100:** 933-, 1000-, or 1133-MHz Intel Mobile Pentium III-M processor with Intel Speed Step technology. Integrated 32-KB (16-KB instruction, 16-KB data) L1 cache and 512-KB four-way set-associative L2 cache. 1.4-V core low-power processor with 133-MHz processor system bus. Core logic interfaces processor, system memory, graphics subsystem, 33-MHz system PCI bus, and other I/O.
Graphics	**Omnibook 6000:** 14.1- or 15.0-inch XGA active-matrix (TFT) display (1024 × 768) or 15.0-inch SXGA+ (1400 × 1050). External monitors up to 1600 × 1200 × 64K or 16M colors, and at least 75 Hz refresh rate (only 60 Hz at 1400 × 1050). Zoomed Video support for lower PC Card slot. 3D and OpenGL graphics support. *Celeron models:* ATI Mobility M graphics accelerator with 4-MB display RAM, 2x AGP graphics capability. *Pentium III models:* ATI Mobility M1 graphics accelerator with 8-MB display RAM, 2x AGP graphics capability. **Omnibook 6100:** 14.1-inch XGA (1024 × 768) or 15.0-inch SXGA+ (1400 × 1050) active-matrix (TFT) LCD display. External monitors up to 1600 × 1200 resolution, 16M (24- or 32-bit) colors, and at least 75 Hz refresh rate (only 60 Hz at 1400 × 1050). ATI Mobility Radeon graphics accelerator with 16-MB DDR graphics memory, 4x AGP graphics capability. Hardware 3D acceleration, hardware DVD acceleration. Dual display capability (depends on operating system support). Zoomed Video support for lower PC Card slot.
Power	Rechargeable lithium-ion battery with LED charge-level gauge (11.1 or 14.8 Vdc). Battery life (one battery): up to 4-5 hours typical with 8-cell Li-Ion 14.8-V battery (varies with model and usage). Fast battery recharge: 80% in 1.5 hour, 100% in 2 hours. Low-battery warning. Suspend/resume capability. Universal 60-watt AC adapter: 100–240 Vac (50/60 Hz) input, 19 Vdc output. Optional secondary battery available for module bay.

Mass Storage	5- to 30-GB removable hard drive. 1.44-MB floppy drive module (on certain models). 24x CD-ROM, 6x or 8x DVD, or other drive module. Optional drive modules available.
SDRAM	**Omnibook 6000:** Two slots for PC-100 or higher SDRAM modules. 64-MB SDRAM installed in one slot. At least 100-MB RAM preinstalled. **Omnibook 6100:** Two slots for PC-133 SDRAM modules. Up to 1024-MB RAM maximum. At least 128-MB RAM preinstalled.
Audio System	16-bit Sound Blaster Pro–compatible stereo sound. Stereo sound via two built-in speakers (500 Hz to 10 KHz range). 3D-enhanced PCI bus audio with Zoomed Video support. Built-in microphone. Separate audio-off button with indicator light. Headphone-out, microphone-in, and audio line-in.
Keyboard and Pointing Device	87/88-key touch-type QWERTY keyboard with 101/102 key emulation. Embedded numeric keypad. Left and right click buttons, center scroll button. 12 function (Fn) keys. Two pointing devices: pointing stick and touch pad. Four user-programmable One-Touch buttons (Omnibook 6100 models only).
LAN	Ethernet 10Base-T (10 Mbps) and 100Base-TX (100 Mbps) support. Supports wake-on-LAN (Windows 2000), remote wake-up (Windows 98), fast IP, DMI, dRMON. MBA (Managed Boot Agent) support for PXE/BINL, BOOTP, NCP/IPX, DHCP.
Modem	Hardware-based controllerless modem (US Robotics or 3Com) or software-based ACLink modem (Ambit), mini-PCI interface Data speed: 56 Kbps (V.90) maximum. Fax speed: 14.4 Kbps, Class 1 and 2. Modulation: V.21, V.22, V.22bis, V.23, V.32, V.32bis, V.34, V.90, X2 (US Robotics and 3Com only), Bell 103, Bell 212A. Synchronous transfer: V.80. Compression: V.42bis, MNP5. Error correction: V.42, MNP2-4. Fax: Group 3 fax, Class 1. V.17, V.27ter, V.29, V.21 channel 2.
Wireless LAN (Omnibook 6100 models only)	Radio: IEEE 802.11b, WECA Wi-Fi compliant, direct-sequence spread-spectrum. Operating frequency: 2.5-GHz ISM band, exact frequencies and channels depend on country. Raw data rate: 1, 2, 5.5, or 11 Mbps. Transmitter output: 15 dBm typical (approx. 30 mW), 16 dBm max (approx. 40 mW). Receiver sensitivity: –84 dBm typical. Range: up to 100 m (300 ft) or more, depending on environment and conditions. On-off button and indicator. Mini-PCI interface.
Input/Output	Universal serial bus (USB), one or two ports. 9-pin, 115,200-bps serial (16550 UART). 25-pin bi-directional ECP/EPP parallel. 15-pin VGA video-out with DDC support. Dual display. PS/2 keyboard/mouse. 4-Mbps IrDA-compliant infrared port. S-video (TV-out) (Omnibook 6100 models only)
Expandability	One Type III or two Type II 16-/32-bit PC Card slots (3.3- and 5-V support). CardBus enabled. Plug-in module bay for accessory modules. Optional port replicator, mini dock, and docking system.

Security Features	User and administrator passwords. System, hard drive, and docking passwords. PC identification displayed at boot. DMI-accessible electronic serial number. Kensington Microsaver lock slot.
Environmental Limits	Operating temperature: 5 to 35 °C (41 to 95 °F). Operating humidity: 20 to 90 percent RH (5 to 35 °C). Operating altitude: up to 3000 m (10,000 ft) at 25°C (77°F). Storage temperature: –20 to 50 °C (–4 to 122 °F).
Major ICs	CPU: Intel Mobile Pentium III or Celeron processor. Core logic: Intel South Bridge PIIX4M chipset. Graphics controller: ATI Mobility M or M1. Audio controller: ESS Maestro-3E and ESS ES1921. CardBus controller: TI PCI 1420. Keyboard/embedded controller: National PC87570. BIOS flash: SST28SF040. Super I/O: National NS97338. **Omnibook 6100:** CPU: Intel Mobile Pentium III-M processor. Core logic: Intel 830M/ICH3M chipset. Graphics controller: ATI Mobility Radeon M6-P. Audio controller: ESS ES1988. CardBus controller: TI PC1420. Keyboard/embedded controller: National PC87570. Super I/O: National PC87393F. LAN: integrated in core logic. Modem: USR controllerless or Ambit ACLink. 802.11b wireless LAN: Actiontec with Intersil Prism 2.5 chipset.

Table 1-8. Omnibook 6000/6100 Accessories

Accessory	Description	Omnibook 6100	Omnibook 6000	Omnibook 500
Memory				
F1456B	32-MB SDRAM module (PC100)		•	•
F1457B	64-MB SDRAM module (PC100)		•	•
F1457C	64-MB SDRAM module (PC133)	•	•	•
F1622B	128-MB SDRAM module (PC100)		•	•
F1622C	128-MB SDRAM module (PC133)		•	•
F1654A	256-MB SDRAM module (PC100)		•	•
F1654C	256-MB SDRAM module (PC133)		•	•
F3495A	128-MB SDRAM module (PC133)	•		
F3496A	256-MB SDRAM module (PC133)	•		
F2298A	512-MB SDRAM module (PC133)	•		
Hard Drives				
F2018B	20-GB hard disk drive module	•	•	•
F2018C	30-GB hard disk drive module	•	•	•
F2016B	20-GB hard disk drive module		•	
F2016C	30-GB hard disk drive replacement		•	
F2295A	30-GB hard disk drive replacement	•		
Plug-in Modules				
F2008A	Floppy disk drive cable (external)	•	•	
F2009A	Zip drive	•	•	•
F2013A	Floppy disk drive module	•	•	•
F2015A	DVD drive module	•	•	•
F2017A	CD-ROM drive module	•	•	•
F2022A/B	SuperDisk drive module	•	•	•
F2026A	CD read/write drive module	•	•	•
F2101A	USB floppy disk drive cable	•		•
F2107A	DVD-ROM/CD-RW drive module	•	•	•
Power Options				
F1454A	60-watt AC adapter	•	•	•
F1455A	75-watt auto/airline power adapter	•	•	•
F1781A	UltraSlim AC Adapter	•	•	•
F2011A	Battery charger (external)	•	•	•
F2014A	Lithium-ion secondary battery	•	•	•
F2019A	Lithium-ion primary battery	•	•	
F2297A	Auto power adapter (Europe only, 24 V)	•	•	•
8120-6312 8120-6313 8120-6314 8120-6316 8121-0702 8120-6317 8120-8367 8120-8373 8120-8452 8120-8699	Replacement power cord (Australia) Replacement power cord (U.S., Canada, Taiwan) Replacement power cord (Europe) Replacement power cord (Japan) Replacement power cord (India) Replacement power cord (South Africa) Replacement power cord (Argentina) Replacement power cord (People's Rep. of China) Replacement power cord (Chile) Replacement power cord (Hong Kong, Singapore, U.K.)	•	•	•
Adapters				
F1469A	PS/2 Y adapter	•	•	

Accessory	Description	Omnibook 6100	Omnibook 6000	Omnibook 500
PC Cards				
F1623A	10/100-Mbps Ethernet + 56-Kbps modem PC Card by Xircom	•	•	•
F1625A	56-Kbps global modem PC Card by Xircom	•	•	•
F1626A/B	10/100-Mbps Ethernet PC Card by 3Com	•	•	
F1627A	56-Kbps US modem PC Card by Xircom	•	•	•
F1643A/B	Realport 10/100-Mbps Ethernet + 56-Kbps modem PC Card by Xircom	•	•	
F1782A	10/100-Mbps Ethernet + 56-Kbps modem PC Card by 3Com	•	•	•
F1985A	10/100-Mbps USB-Ethernet adapter by 3Com	•	•	•
F2135A/B	802.11b wireless LAN access point	•	•	•
F2136A/B	802.11b wireless LAN PC Card	•	•	•
F2196A	Bluetooth PC Card by 3Com	•	•	•
Docking				
F1451A/B	Port replicator	•	•	
F1452A/B	Mini dock	•	•	
F1453A	Monitor stand (short) for F1451A and F1452A	•	•	
F1477A/B	Docking system and monitor stand (tall)	•	•	
F2012A	Docking tray	•	•	
F2021A	Docking module bay adapter	•	•	

Internal Design

The motherboard PCA is the central component of the Omnibook's design. It plays a role in virtually all system functions. The CPU module and most other subsystems connect to the motherboard.

The following figure shows the connections among the Omnibook's replaceable electronic modules. In addition, the table on page 1-15 lists the roles that the replaceable modules play in each of the Omnibook's functional subsystems.

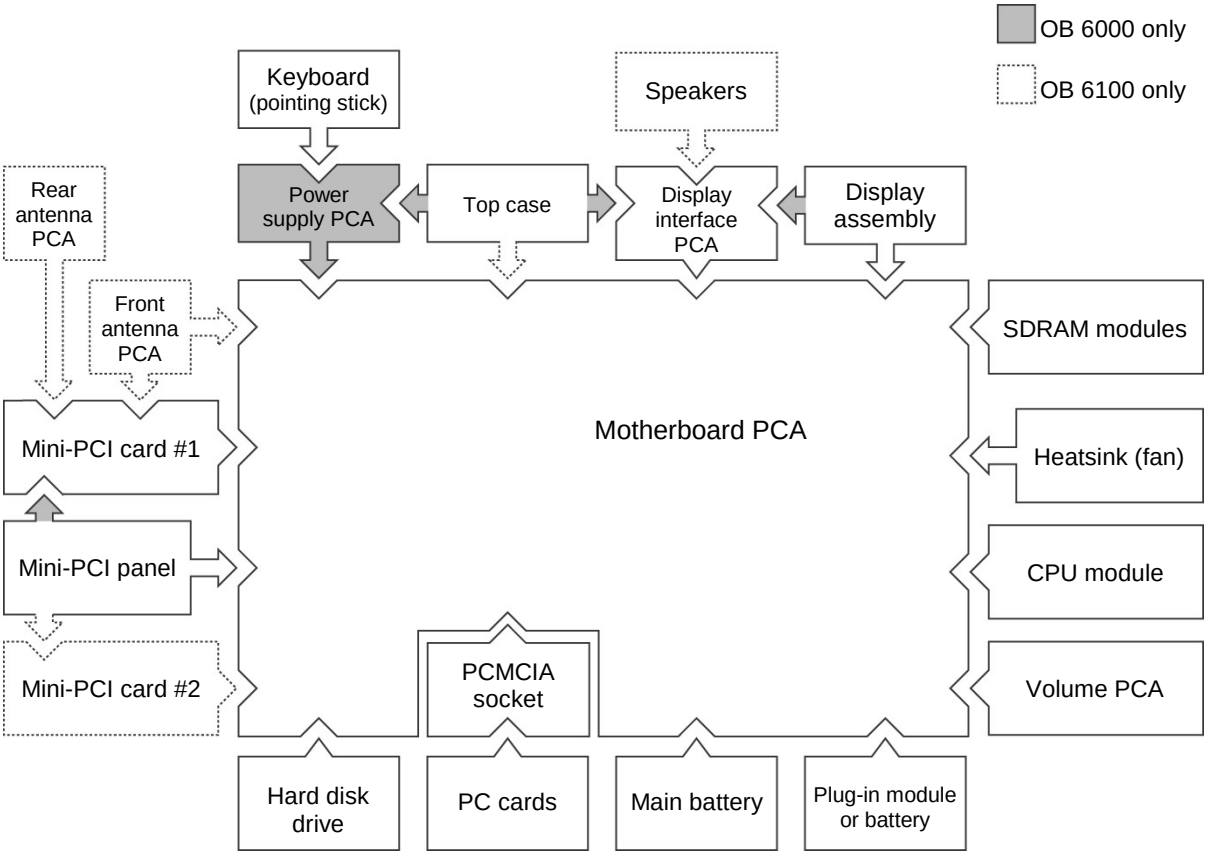


Figure 1-5. Replaceable Module Diagram

Table 1-9. Functional Structure

Bootup	CPU module Motherboard Power supply PCA (OB 6000) Floppy disk module Hard disk drive	Main processor (MMO). Primary system circuitry, system BIOS (OB 6100). System BIOS (OB 6000). First source of disk-based startup code. Second source of disk-based startup code.
Processor	CPU module Motherboard	Main processor, numeric data processor, L1 and L2 cache. Primary system circuitry.
Memory	Motherboard SDRAM module	No onboard RAM, video RAM. Changeable RAM (2 slots).
Power	Battery Motherboard Power supply PCA (OB 6000) AC adapter	Power storage. AC adapter socket, power switch, lid switch, system-off switch, power supply, power control circuitry (OB 6100). Power control circuitry (OB 6000). AC-to-DC converter.
Display	Motherboard Display assembly Display interface PCA	Graphics controller, ZV controller, video RAM. Display output, backlight, power converter for backlight. Display identification DIP switches.
Hard disk	Motherboard Hard disk drive	Hard disk controller. Hard disk mechanism.
Floppy drive	Motherboard Floppy disk module	I/O controller, floppy connector. Floppy disk mechanism.
Keyboard	Motherboard Power supply PCA (OB 6000) Keyboard	Keyboard BIOS (OB 6100), keyboard controller (OB 6100). Keyboard controller, keyboard BIOS (OB 6000). Key switches.
Pointer	Motherboard Power supply PCA (OB 6000) Keyboard Top case	Keyboard circuitry, keyboard controller (OB 6100). Keyboard controller (OB 6000), keyboard BIOS (OB 6000). Pointing stick sensor. Touch pad sensor, click buttons, controller (PS/2 output).
Audio	Motherboard Display interface PCA Volume PCA Top case Speaker assembly (OB 6100)	Audio controller, audio decoder, speaker amplifier, ZV controller. Microphone. External audio jacks, headphone amplifier, audio-off switch. Speakers (OB 6000). Speakers (OB 6100).
Status	Motherboard Power supply PCA (OB 6000) Display interface PCA Top case	LED circuitry, keyboard controller (OB 6100). Keyboard controller (OB 6000). Keyboard LEDs. Main status LEDs.
Serial	Motherboard	I/O controller, serial connector.
Parallel	Motherboard	I/O controller, parallel connector.
Infrared	Motherboard	I/O controller, infrared transmitter/receiver.
PS/2 port	Motherboard Power supply PCA (OB 6000)	PS/2 connector, keyboard controller (OB 6100). Keyboard controller (OB 6000).
USB	Motherboard	Bus controller (South Bridge), USB connector.
Docking port	Motherboard	Docking logic, docking connector.
PCMCIA	Motherboard PCMCIA socket	PCMCIA controller. PCMCIA connectors.
Wireless LAN	Motherboard Front antenna PCA Rear antenna PCA Mini-PCI card #1	I/O controller. Receive antenna, on-off button, indicator light. Transmit/receive antenna. Radio, radio frequency circuitry.
LAN	Motherboard Mini-PCI card #1 Mini-PCI panel	LAN circuitry (OB 6100), bus controller. LAN circuitry (OB 6000). LAN connector.
Modem	Mini-PCI card #1 Mini-PCI card #2 (OB 6100) Mini-PCI panel	Modem circuitry (OB 6000). Modem circuitry (OB 6100). Modem connector.

2

Removal and Replacement

This chapter tells you how to remove and replace the Omnibook's removable components and assemblies. The items marked by • in the following table are user-replaceable.

Table 2-1. Removal Cross-Reference

- Battery, main (page 2-4).
  Battery, CMOS (page 2-34).
- Bumpers, display (page 2-12)
- Cap, pointing stick (page 2-12).
- Card, mini-PCI #1 (page 2-9).
  Card, mini-PCI #2 (page 2-34).
  Case, bottom (page 2-22).
  Case, top (page 2-20).
  Cover, center hinge (page 2-34).
- Cover, left corner (page 2-12).
  Cover, left hinge (page 2-34).
- Cover, mini-PCI (page 2-12).
- Cover, SDRAM (page 2-12).
- Cover, right corner (page 2-12).
  Cover, right hinge (page 2-34).
- Covers, screw (page 2-12).
  CPU module (page 2-19).
  Display assembly (page 2-12).
  Doors, docking (page 2-27).
  Doors, PCMCIA (page 2-27).
- Drive, hard disk (page 2-7).
- Feet, rubber (page 2-12).
  Heatsink (with fan) (page 2-17).
  Keyboard (page 2-15).
  Panel, sound/IR (page 2-34).
  Panel, mini-PCI (page 2-34).
- Panel, power button (page 2-11).
  Panel, vent (page 2-34).
  PCA, display interface (page 2-34).
  PCA, power supply (page 2-34).
  PCA, motherboard (page 2-22).
  PCA, volume (page 2-34).
  PCA, front antenna (page 2-34).
  PCA, rear antenna (page 2-34).
- Plug-in module (page 2-5).
- SDRAM module (page 2-6).
  Socket, PCMCIA (page 2-34).
  Speaker assembly (page 2-28).
- Tray, hard disk drive (page 2-7).

Caution

Always provide proper grounding when performing repairs. Without proper grounding, an electrostatic discharge can damage the Omnibook and its components.

Notes

Reassembly steps are the reverse of the removal steps. Reassembly notes are included at the end of each section below.

Symbols like this throughout this chapter show approximate full-size screw outlines. You can use these to verify the sizes of screws before you install them. Installing a wrong-size screw can damage the unit. (The symbol at the left represents an M2.5×5mm T-head screw.)

Table 2-2. Required Equipment

- Small Phillips screwdriver, preferably magnetized.
- Small flat-blade screwdriver.
- IC (PLCC) removal tool (similar to OK Industries EX-5).

Table 2-3. Recommended Screw Torques

Screw Thread Size	Torque (cm-kgf)	Torque (in-lbf)
M2	1.3 – 1.8	1.1 – 1.5
M2.5 (2–11 mm long)	3.0 – 3.5	2.6 – 3.0
M2.5 (12–19 mm long)	2.5 – 3.0	2.2 – 2.6
M3	3.0 – 3.5	2.6 – 3.0

Disassembly Flowchart

The following diagram shows the general “path” you will use in disassembling the computer to access any particular component.

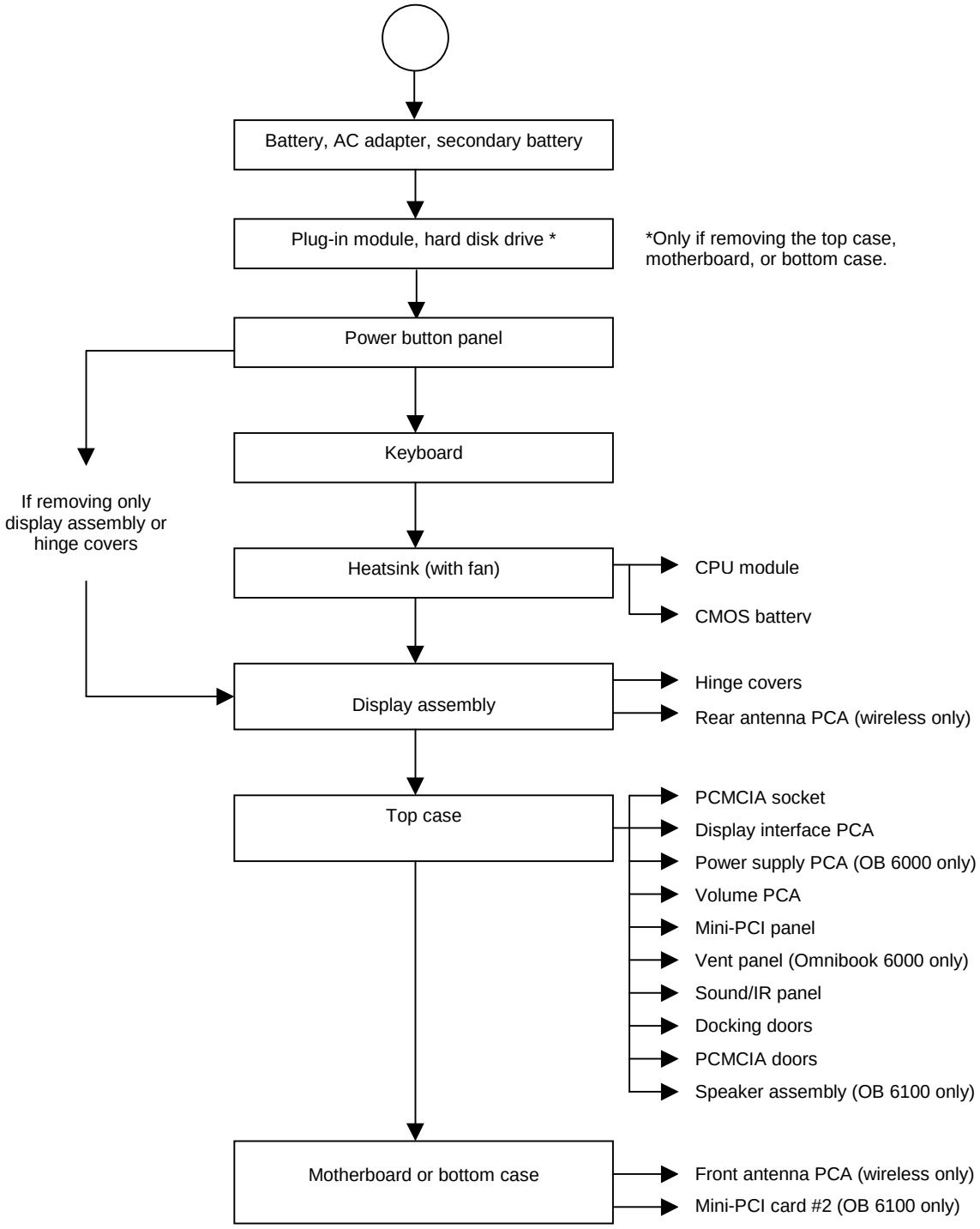


Figure 2-1. Disassembly Flow

Removing the Battery
(User-Replaceable)

Required Equipment

- None.

Removal Procedure

- Slide the battery's release latch, then lift the battery out of its compartment.

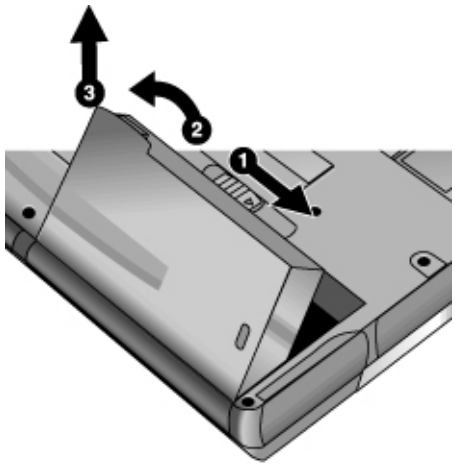


Figure 2-2. Removing the Battery

Reassembly Notes

- Insert the front (rounded) end of the battery into the battery compartment on the bottom of the computer, and lower the back end in until it clicks into place.

Removing a Plug-In Module
(User-Replaceable)

Required Equipment

- None.

Removal Procedure

1. Press the button on the module release latch, and slide the latch toward the front of the computer.

Figure 2-3. Removing a Module

2. Grasp the module and pull it out.

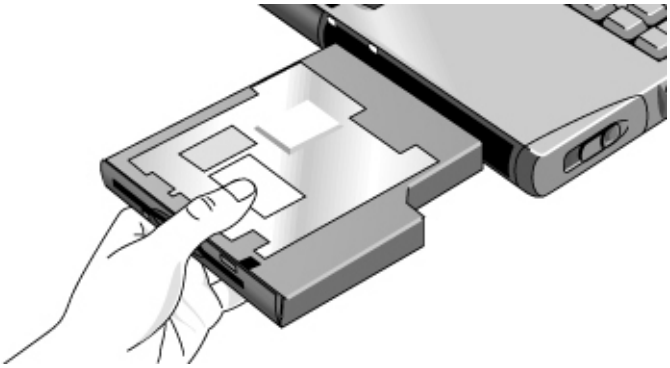


Figure 2-4. Removing a Module

Removing an SDRAM Module
(User-Replaceable)

The computer has no SDRAM on its motherboard, but has two slots for that hold two SDRAM modules. One slot contains a SDRAM module installed at the factory.

> **Caution**
> Handle the SDRAM module only by its edges and provide proper grounding, or you might damage the board by electrostatic discharge.

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Turn the unit bottom-side up, loosen the one or two screws holding the SDRAM cover (the cover may retain the screws), and remove the cover.
3. Release the two latches at the sides of the SDRAM module, so the free edge of the board pops up.
4. Pull the board out of the connector.

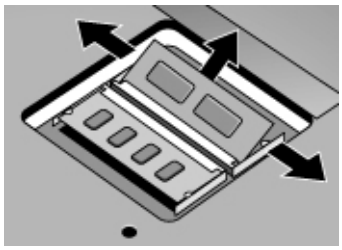


Figure 2-5. Removing a SDRAM Module

Reassembly Notes

- Gently press the SDRAM module into the connector at about a 30° angle, until it is fully inserted. Then press down on both sides until the latches snap closed.

Removing the Hard Disk Drive

(User-Replaceable)

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Turn the unit bottom side up and remove all hard drive screws.
3. Raise the cover on the end of the drive so that its retainer tab is free of the computer casing, then gently pull the hard drive out of the computer.

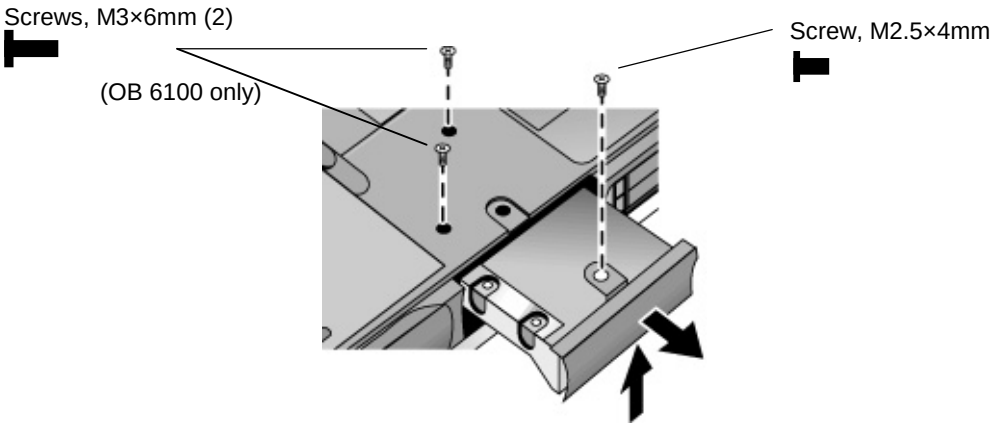


Figure 2-6. Removing the Hard Disk Drive

4. Remove all screws from the holder and drive case, then lift the drive out of the holder.
5. Notice that the hard drive has a pin connector attachment at one end. Carefully remove this connector from the end of the drive. Work alternately at each end so that the connector slides off evenly without bending the connector pins.

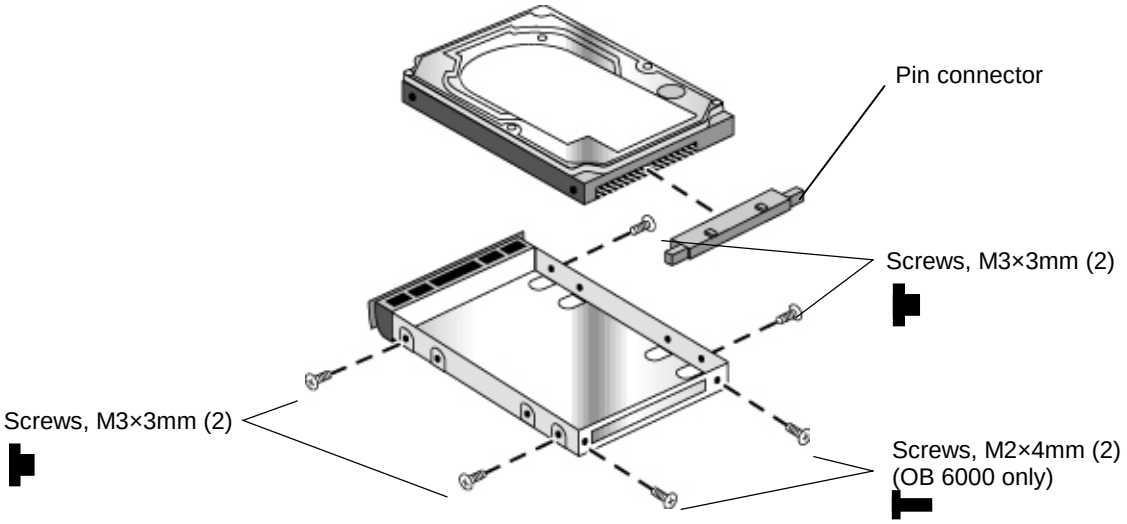


Figure 2-7. Removing the Hard Disk Case

- Slide the cover down into place so the retainer tab engages the casing.
- Carefully put the pin connector back onto the pins on the end of the new hard drive. Work at each end alternately so that the connector slides on evenly without bending the connector pins.

Important

If you are installing a new hard drive, create a Utility partition on the drive before loading any software—see “Creating a Utility Partition,” below.

Creating a Utility Partition

When you install a new hard drive, always create a Utility partition on the drive before loading any software.

1. Insert the *Recovery CD* in the CD-ROM drive. To open the drive when the computer is turned off, insert a straightened paper clip into the hole on the front of the drive.
2. Restart the computer. If the computer is running, click Start, Shut Down, Restart.
3. When you see the HP logo, press ESC.
4. Select the CD or DVD drive as the boot device.
5. When the *Recovery CD* dialog box appears, follow the displayed instructions. If prompted, accept the recommended partition size. If you install the factory software, the recovery process can take up to 10 minutes.

   If you want to create the Utility partition without installing the factory software, click Advanced and select the option to not install the operating system.

   If your hard disk is partitioned into several drives, you can install the factory software on drive C without affecting other drives. Click Advanced and select to restore only the C partition.
6. When prompted to reboot the computer, press CTRL+ALT+DEL and follow any instructions that appear onscreen.

Removing Mini-PCI Card #1

(User-Replaceable)

Certain computers include a mini-PCI card. Omnibook 6100 models may have a second mini-PCI card. See the table on page 2-34.

> **Caution**
>
> Handle the mini-PCI card only by its edges and provide proper grounding, or you might damage the board by electrostatic discharge.

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Loosen the screw holding the mini-PCI cover (the cover retains the screw), and remove the cover.

> **Caution**
>
> Be gentle when removing and attaching antenna cables from the mini-PCI card. Damage to cables or connectors can degrade performance.

3. Detach all the cables from the board.
4. Release the latches at the sides of the board, so that the free edge of the board pops up.
5. Gently pull the board out of its connector.

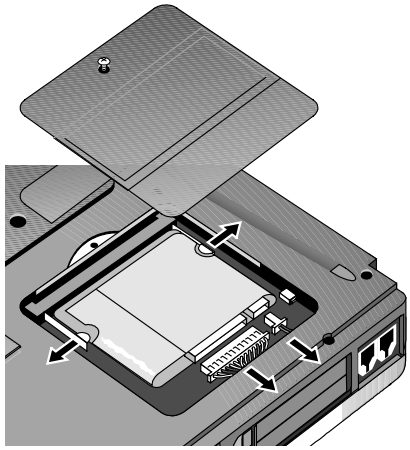


Figure 2-8. Removing the Mini-PCI Card

Reassembly Notes

- Gently press the mini-PCI card into the connector at about a 30° angle, until it is fully inserted. Then press down on both sides until the latches snap closed.

Removing the Power Button Panel

(User-Replaceable)

Required Equipment

- Small flat-blade screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Carefully insert the screwdriver blade under the power button panel along the edge shown below, and gently pry up the center of the cover.
3. Insert a thumb or finger under the center of the panel, and lift the panel out.

Figure 2-9. Removing the Power Button Panel

Reassembly Notes

- Insert the left end of the panel into the top case, and press the panel into place.

Replacing Small Parts
(User-Replaceable)

The user can replace the following small parts.

Table 2-4. Replacing Small Parts (User-Replaceable)

Part	Replacement Procedure
Cap, pointing stick	Pull the cap off the pointing stick.
Bumpers, display (on display bezel)	Insert a small flat-blade screwdriver under the bumper and pry it loose. To replace, firmly press the adhesive side of the bumper into the recess.
Cover, mini-PCI	On the bottom of the computer, loosen the screw in the mini-PCI cover (the cover retains the screw) and remove the cover.
Cover, SDRAM	On the bottom of the computer, loosen the one or two screws in the SDRAM module cover (the cover may retain the screws) and remove the cover.
Covers, screw (on display bezel)	Insert a small flat-blade screwdriver under the cover and pry it loose. To replace, firmly press the adhesive side of the cover into the recess.
Covers, left/right corner	From the bottom of the computer, remove the screws holding the corner covers, then remove the covers.
Feet, rubber (on bottom of unit)	Insert a small flat-blade screwdriver under the foot and pry it loose. To replace, firmly press the adhesive side of the foot into the recess.

Removing the Display Assembly

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove the power button panel (page 2-11).
3. From the back of the computer, remove the two screws near the PS/2 keyboard/mouse port, and the two near the AC adapter jack.
4. From the bottom of the computer, remove the two screws from the rear corners (closest to the back edge).
5. Open the display. Remove the screw from the display's ground wire, and disconnect the main cable.
6. Remove any screws from the center hinge cover, and from the left and right hinges.
7. Lift the display off of the computer.

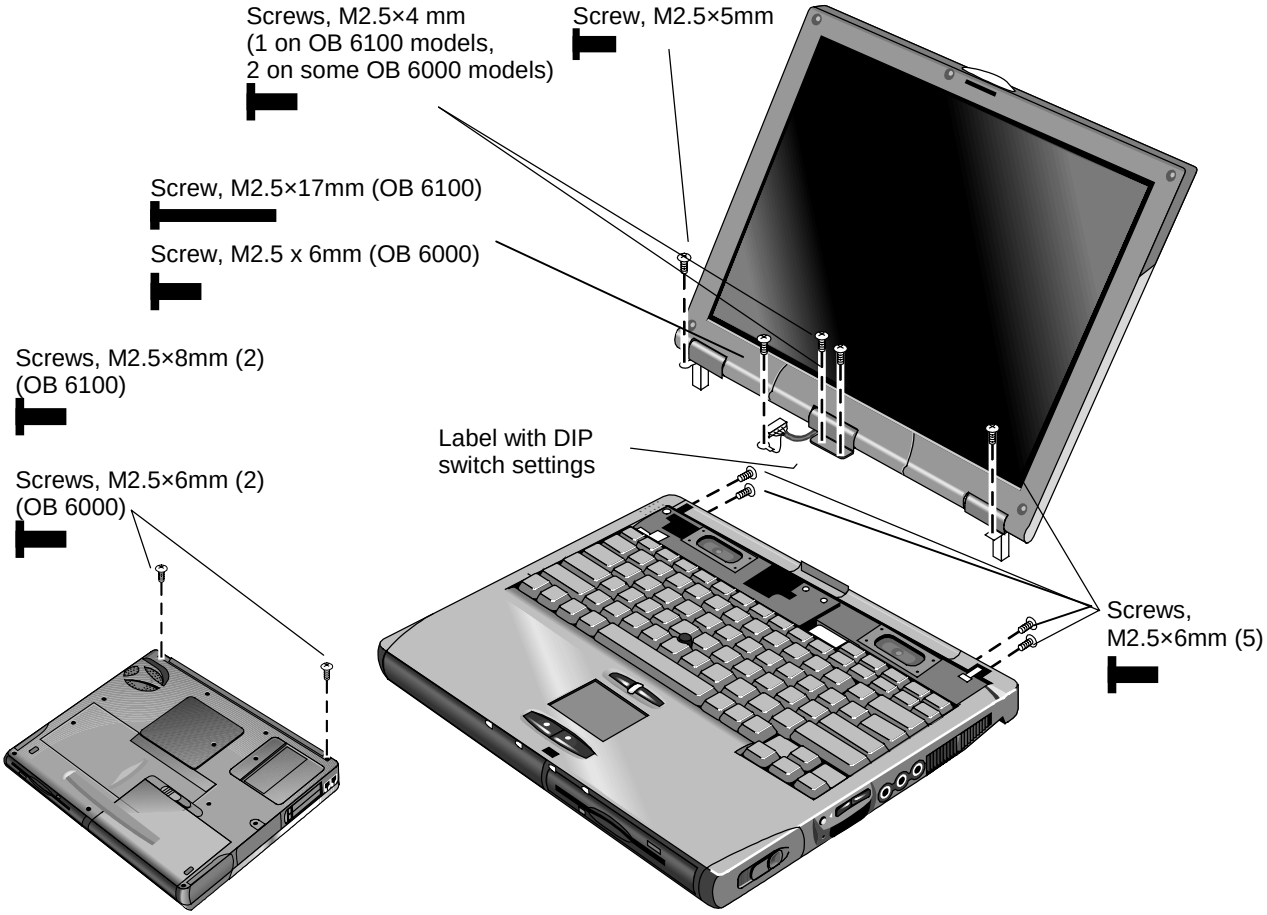


Figure 2-10. Removing the Display

Reassembly Notes

- Before installing any screws, make sure the center hinge cover fits over the tab in the bottom case.

Important

- Make sure the DIP switches on the display interface PCA match the settings shown on the label on the display cable, or you risk damaging the display.
- **Omnibook 6100:** Reprogram the BIOS IC, preferably with the latest BIOS for display compatibility.
- **Omnibook 6000:** If you change the DIP switches, use the service utilities disk to reprogram the EEPROM—see page 2-31. If the EEPROM is not programmed correctly, the display will not turn on.

Removing the Keyboard

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove the power button panel (page 2-11).
3. From the bottom of the unit, remove the single screw marked with a "K."

> **Caution**
>
> Be careful not to touch the heatsink until it has cooled. It could be hot if the computer was running recently.

4. Remove the four retaining screws from the tabs along the back end of the keyboard.

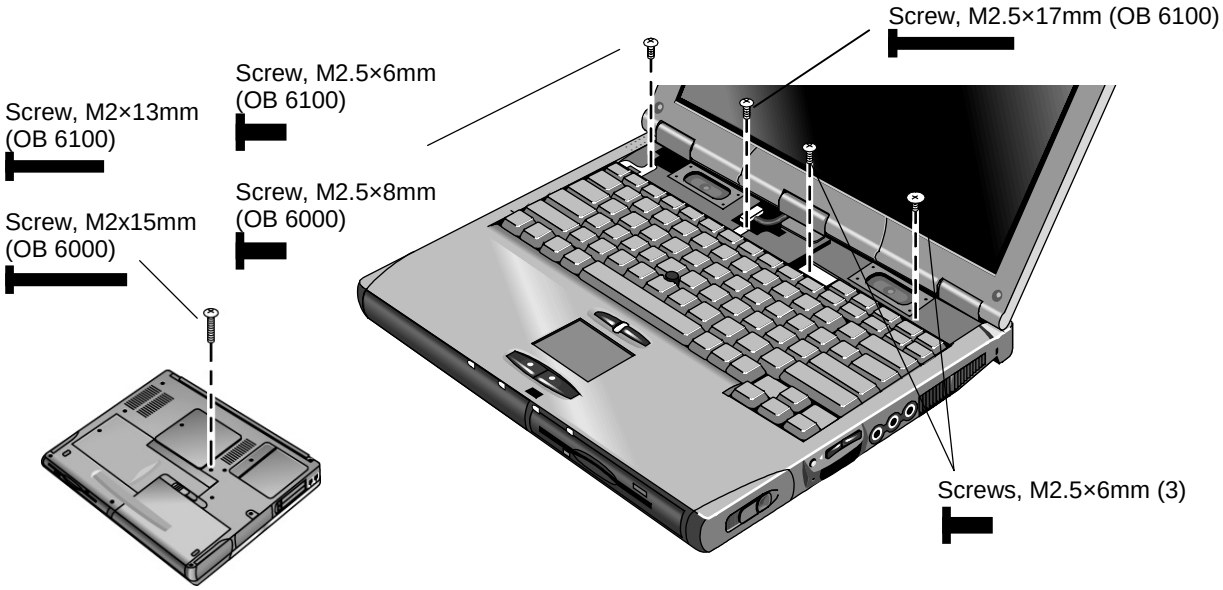


Figure 2-11. Removing the Keyboard

5. Raise the back end of the keyboard, then lift the keyboard out of the computer. Be careful not to pull on the cables connecting the keyboard to the computer.
6. Lay the keyboard face down on the top case, slightly forward of its normal position. Be careful not to pull on the cables.
7. Release the pointing stick flex cable (narrow) from the motherboard, and disconnect the keyboard flex cable (wide).

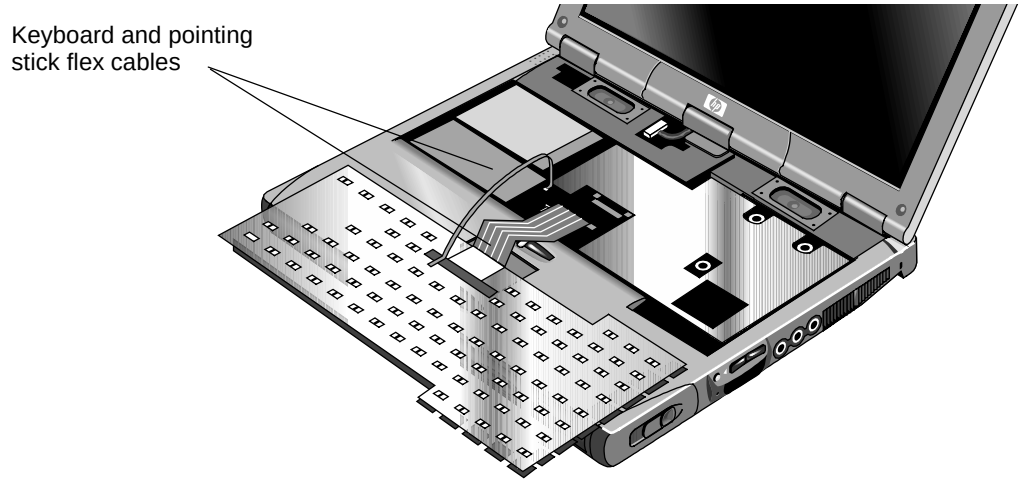


Figure 2-12. Unplugging the Keyboard Cables

Reassembly Notes

- Lay the keyboard face down on the top case slightly forward of its normal position, then reconnect the keyboard and pointing stick flex cables.
- Slip the metal tabs on the bottom of the keyboard into their slots in the top case, then lower the keyboard into place.

> **Caution**
> Do not excessively bend or fold the keyboard cables.

Removing the Heatsink (with Fan)

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove these additional assemblies:
   - Power button panel (page 2-11).
   - Keyboard (page 2-15).
3. Disconnect the fan cable through the opening in the heatsink.
4. Remove the five retaining screws.
5. Lift the heatsink out of the unit.

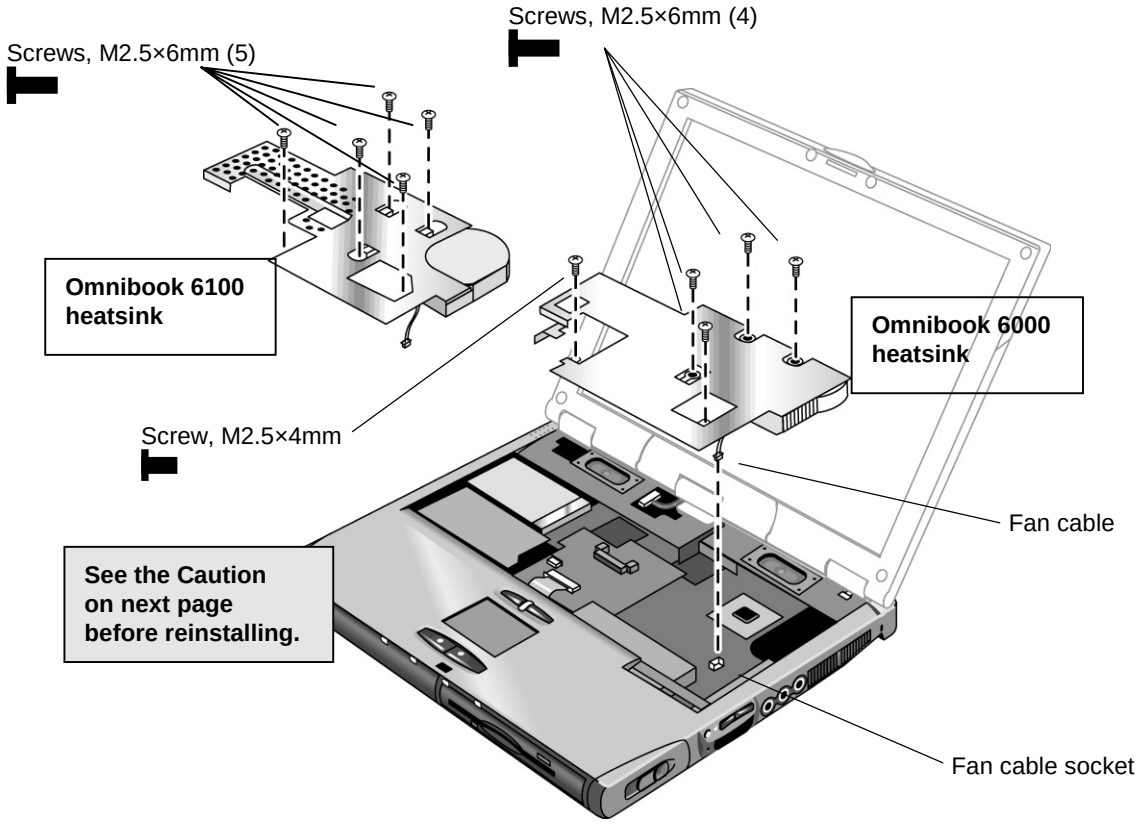


Figure 2-13. Removing the Heatsink

Reassembly Notes

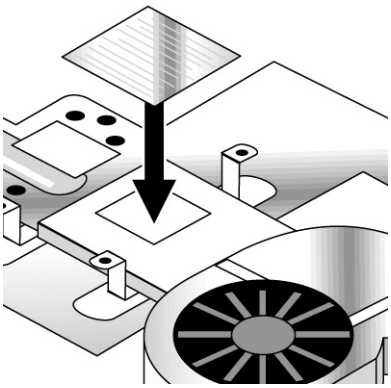
- Tighten screws around the CPU as denoted on the heatsink assembly.
- When installing a new heatsink, use the thin heatsink when the bottom case has a circular vent. Use the thick heatsink with all other bottom cases.
- If the power supply PCA has a metal cover on it, ensure that there is not a spacer pad in the same location on the heatsink. If both are present, remove the spacer pad.

Caution

Restore proper thermal contact when installing the heatsink. Otherwise, performance can be significantly degraded.

Carefully clean the heatsink and CPU surfaces and install a new thermal pad on the heatsink in these situations:

- **Required** whenever you install a new CPU for any model.
- **Required** whenever you remove the heatsink from an Omnibook 6000 with an 800-MHz or faster CPU.
- **Recommended** whenever you remove the heatsink from any other model.



Removing the CPU Module

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.
- Small flat-blade screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove these additional assemblies:
   - Power button panel (page 2-11).
   - Keyboard (page 2-15).
   - Heatsink (page 2-17).
3. Turn the lock screw one-half turn counterclockwise to release the CPU module, and remove the CPU module from the motherboard.

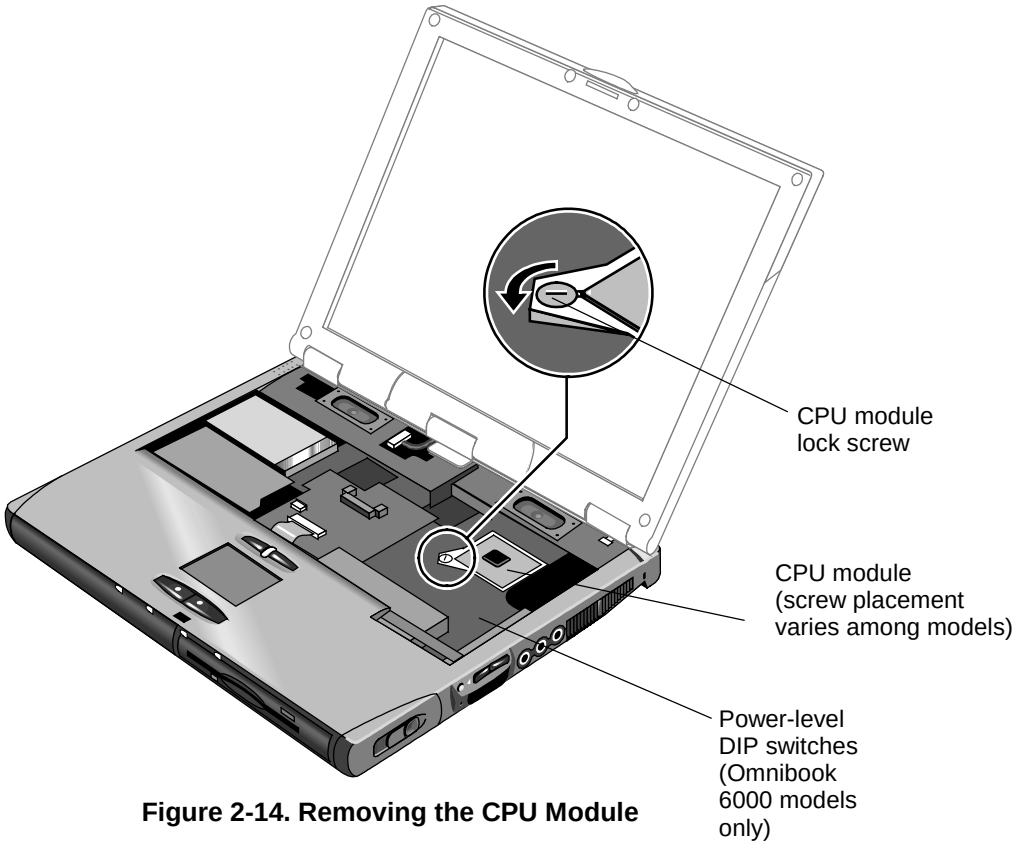


Figure 2-14. Removing the CPU Module

Reassembly Notes

- Carefully insert the CPU module into the motherboard, and turn the lock screw one-half turn clockwise to secure the CPU module.
- The CPU module is keyed for installation, and can only be inserted one way.

Omnibook 6000: Setting the SpeedStep Power Level DIP Switches

Whenever you install a new CPU, you must make sure the SpeedStep power level DIP switches are set correctly for that CPU. These switches are located on the motherboard next to the volume PCA. They control the power level to the CPU in the SpeedStep high-speed mode.

The settings to use depend on the speed of the CPU:

900–1000MHz CPUs	1: ON	2: OFF	3: OFF	4: ON	5: ON	6: not used
Other CPUs	1: ON	2: ON	3: ON	4: OFF	5: ON	6: not used

Caution

Restore proper thermal contact when installing the heatsink. Otherwise, performance can be significantly degraded.

Carefully clean the heatsink and CPU surfaces and install a new thermal pad on the heatsink in these situations:

- **Required** whenever you install a new CPU for any model.
- **Required** whenever you remove the heatsink from an Omnibook 6000 with an 800-MHz or faster CPU.
- **Recommended** whenever you remove the heatsink from any other model.

Removing the Top Case

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.

Removal Procedure

All Models

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove these additional assemblies:
   - Power button panel (page 2-9).
   - Keyboard (page 2-15).
   - Heatsink (page 2-17).
   - Display assembly (page 2-13).
   - Plug-in module (page 2-5).
   - Hard disk drive (page 2-7).
3. From the bottom of the computer, remove the screws holding the left and right corner covers, then remove the covers.

> **Hint**
> The right corner cover may come off more easily if you slide the plug-in module latch forward.

Omnibook 6100 Models Only

Perform steps 1 through 3 above.

1. Remove the six retaining screws from the bottom case.
2. Remove the two retaining screws located just inside the hard disk drive compartment.
3. Remove the single screw inside the battery compartment.
4. From the top of the computer, disconnect the touch pad flex cable.
5. **Wireless models only:** Remove the retaining screw and detach the rear antenna PCA. (The PCA will still be attached by cable to mini-PCI card #1. Unplug it only if you are replacing the PCA or removing the bottom case.)
6. Remove the three retaining screws: one to the right of the left speaker, and two to the left of the right speaker.
7. Raise the back of the top case, then lift it off the computer.

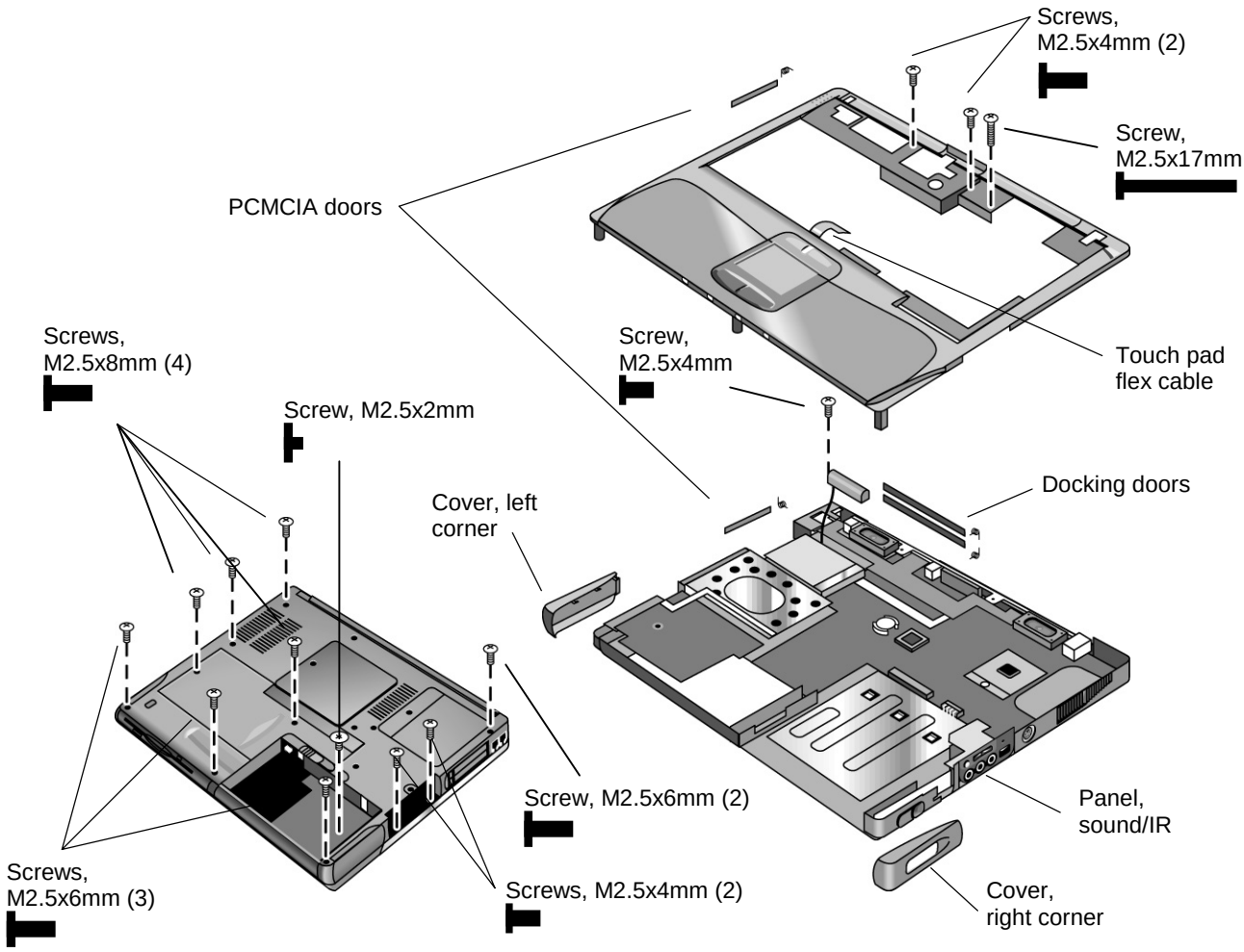


Figure 2-15. Removing the Top Case: Omnibook 6100 Models

Omnibook 6000 Models Only

Perform steps 1 through 3 at the beginning of this topic.

1. Remove the five retaining screws from the bottom case.
2. Remove the two retaining screws located just inside the hard disk drive compartment.
3. Remove the single screw inside the battery compartment.
4. From the top of the computer, disconnect the speaker wires and the touch pad flex cable.
5. Remove both retaining screws: one to the left of the right speaker, and one to the right of the touch pad flex cable.
6. Remove the screw from the tab near the upper click buttons.
7. Raise the back of the top case, then lift it off the computer.

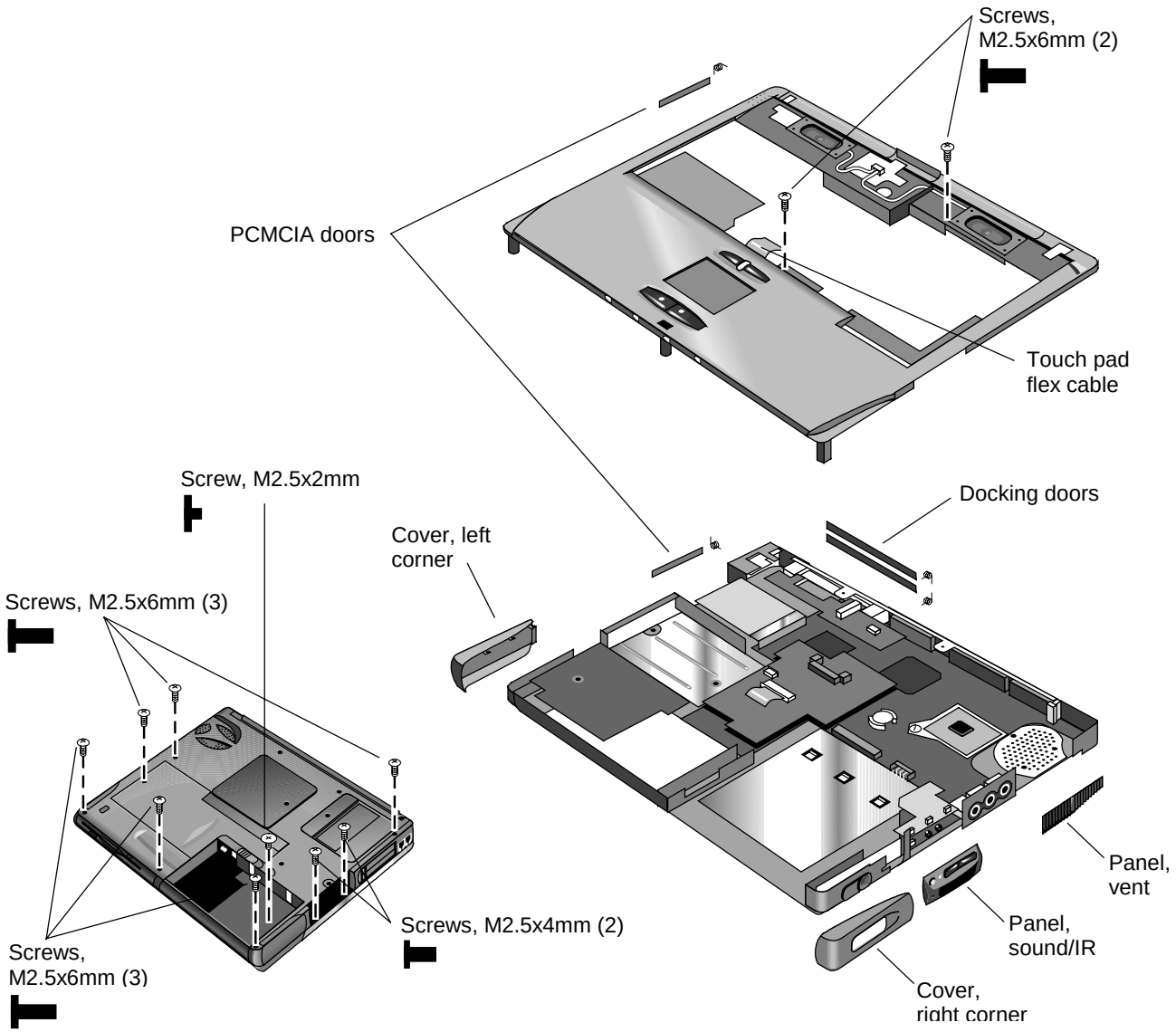


Figure 2-16. Removing the Top Case: Omnibook 6000 Models

Reassembly Notes: ***All Models***

- **Omnibook 6000 only:** If you need to reinstall the sound/IR panel, make sure the volume control is oriented properly (pins facing inward). Insert the tabs on the end of the panel into the slots in the bottom case.
- When reinstalling the right corner cover, first insert the tab at the back end of the cover into the case, then move the plug-in module latch forward and snap the cover over the latch and into place.
- **Wireless models only:** If you are replacing the rear antenna PCA, place the PCA in its position near the left hinge, replace the screw, then thread the cable through to the bottom of the computer and reconnect the cable to the mini-PCI card.

Caution: Omnibook 6000 Models

Be careful not to pinch the speaker wires when reinstalling the nearby retaining screws.

Removing the Motherboard or Bottom Case

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.
- Small flat-blade screwdriver.

Removal Procedure

All Models

> **Note: When Replacing the Motherboard**
>
> If the motherboard is able to boot with the service utility boot disk (see page 2-31), you need to transfer data by running the utility disk. Further information is located on the disk.

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove these additional assemblies:
   - Plug-in module (page 2-5).
   - Hard disk drive (page 2-7).
   - Power button panel (page 2-11).
   - Keyboard (page 2-15).
   - Heatsink (page 2-17).
   - Display assembly (page 2-13).
   - Top case (page 2-20).
   - SDRAM module (page 2-6)

Omnibook 6100 Models Only

Perform steps 1 and 2 above.

1. From the top of the computer, remove the five screws that attach the motherboard to the bottom case.
2. Remove the screw from the LAN/modem PCI panel and lift the panel out of the bottom case.
3. **Wireless models only:** Disconnect the front antenna PCA flex cable from the motherboard.
4. **Wireless models only:** Remove the mini-PCI cover and unplug the two antenna cables from mini-PCI card #1.

> **Caution**
>
> **Wireless models:** Be gentle when removing and attaching antenna cables from the mini-PCI card. Damage to cables or connectors can degrade performance.

5. Bend the casing that surrounds the audio connectors outward slightly to release the connectors.
6. Lift the motherboard off of the bottom case.

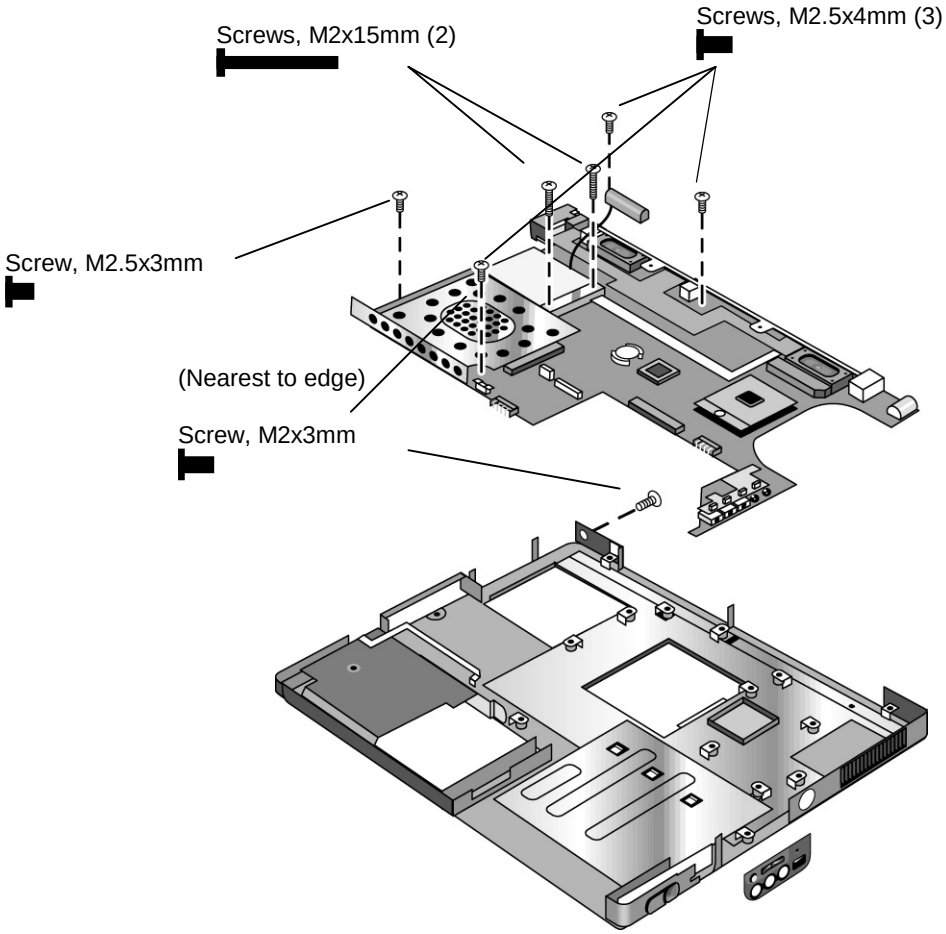


Figure 2-17. Removing the Motherboard: Omnibook 6100 Models

Omnibook 6000 Models Only

Perform steps 1 and 2 at the beginning of this topic.

1. From the bottom of the computer, remove the three screws from the bottom case.
2. From the top of the computer, remove the six screws that attach the motherboard to the bottom case.
3. Bend the casing that surrounds the audio connectors outward slightly to release the connectors.
4. Lift the motherboard off of the bottom case.

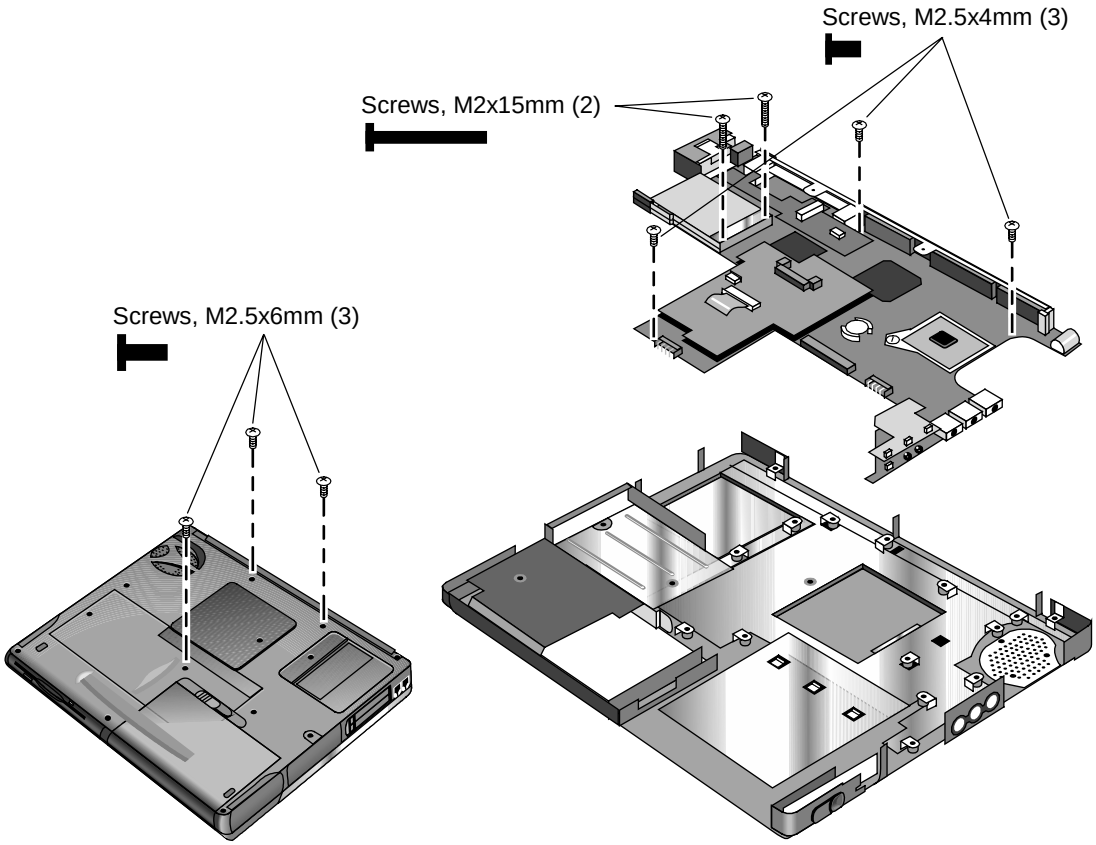


Figure 2-18. Removing the Motherboard: Omnibook 6000 Models

Reassembly Notes

All Models

- **Omnibook 6100 models only:** Replace the sound/IR panel before replacing the motherboard.
- Insert the audio connectors through their openings in the bottom case, then lower the motherboard into place.
- When reinstalling the sound/IR panel, make sure the volume control is oriented properly (pins facing inward). Insert the tabs on the end of the panel into the slots in the bottom case.
- **Omnibook 6000 models only:** When installing the vent panel, insert the pin on the back end of the panel under the bracket on the bottom case.
- **Wireless models only:** Before installing the motherboard, make sure the round coax cable from the front antenna PCA is held by the clips in the bottom case. Reconnect the front antenna PCA flex cable before reinstalling the top case. To reinstall the rear antenna PCA, place the PCA in its position near the left hinge, replace the screw, then thread the cable through to the bottom of the computer and reconnect the cable to mini-PCI card #1.

- If you need to install or replace the docking or PCMCIA doors, see the figures below.

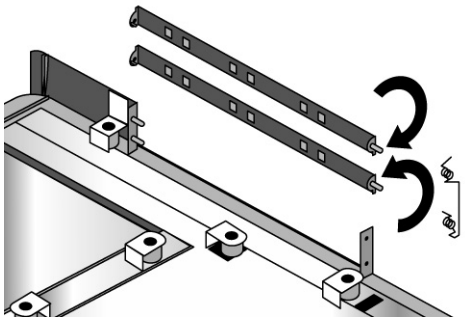


Figure 2-19. Installing Docking Doors

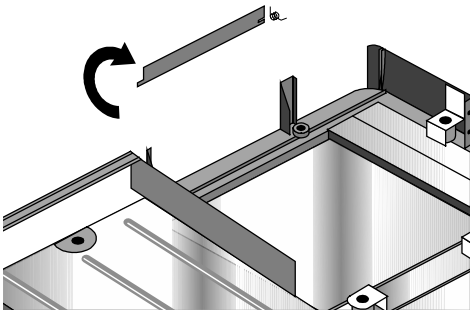


Figure 2-20. Installing the Lower PCMCIA Door

Replacing the Motherboard

> **Caution**
>
> Replace the motherboard only with one that is compatible with the Omnibook model, CPU module, and other PCAs—see the table below.

Table 2-5. Motherboard and PCA Compatibility

CPU	Motherboard PCA	Display interface PCA	Power Supply PCA	Volume PCA
Omnibook 6000				
600-700MHz Pentium	F2072-69013 (0007)	F2072-60915 (0004)	F2072-60911 (0008)	F2072-60912 (0001)
550MHz Celeron	F2072-69014 (0015)			
800-850MHz Pentium*	F2140-69004 (0023) or (0031)	**XGA:** F2140-60911 (0012)	F2140-60953 (0016)	F2140-60915 (0019)
800-1000MHz Pentium	F2140-69052 (0058)	**SXGA+:** F2140-60912 (0021)		
650MHz Celeron*	F2140-69005 (0040)			
650-750MHz Celeron	F2140-69064 (0066)			
Omnibook 6100				
933-1133MHz Pentium	F3257-69033	F3257-60934	(not applicable)	F3257-60932

Caution: If you replace a PCA, make sure the new PCA matches other PCAs listed in the same group across the table.
The (0000) number indicates the ending digits of the part number on the PCA sticker. Use this to identify the PCA.
* Obsolete part. Use the similar part listed below.

Disassembly Procedure

Omnibook 6100 Models Only

1. If a mini-PCI panel is attached, disconnect the LAN/modem cables from the mini-PCI card or motherboard and remove the mini-PCI panel.
2. If mini-PCI card #1 is present, remove it by releasing the two latches at the sides of the card so the free edge of the board pops up.
3. If mini-PCI card #2 is present, remove it by releasing the two latches at the sides of the card so the free edge of the board pops up.
4. Carefully lift the display interface PCA off its connector. Lift the PCA and the speaker assembly from the motherboard.
5. Carefully lift the volume PCA off of the connector underneath.
6. Turn the lock screw one-half turn counterclockwise to release the CPU module, and remove the CPU module from the motherboard.
7. From underneath the motherboard, remove the two retaining screws from the PC card socket and lift the socket off the connector.

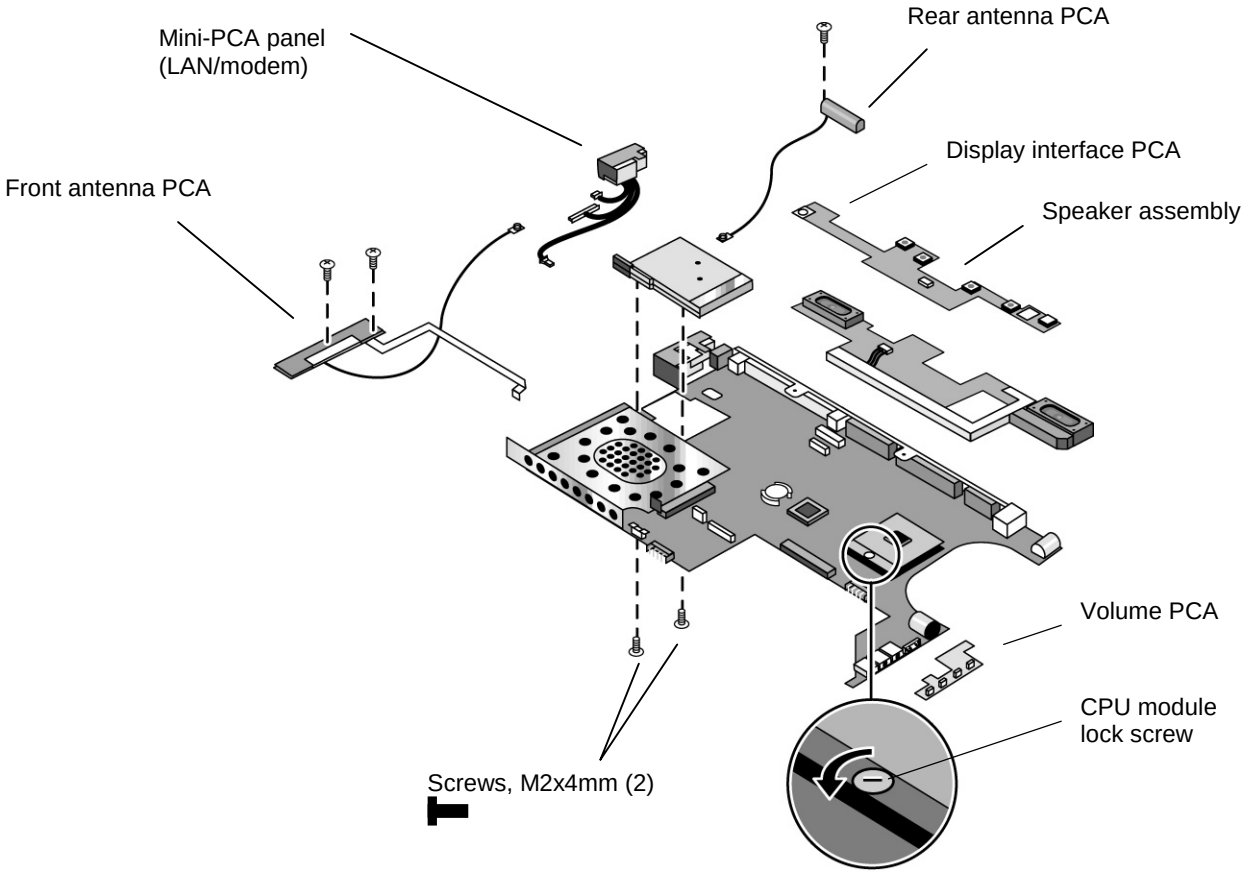


Figure 2-21. Replacing Motherboard Components: Omnibook 6100 Models

Omnibook 6000 Models Only

1. If present, remove the mini-PCI card and mini-PCI panel.
2. Remove the screw from the display interface PCA, and carefully lift the PCA off of the connector underneath.
3. Carefully lift the power supply PCA off of the connector underneath.
4. Remove the screw from the volume PCA, and carefully lift the PCA off of the connector underneath.
5. Turn the lock screw one-half turn counterclockwise to release the CPU module, and remove the CPU module from the motherboard.

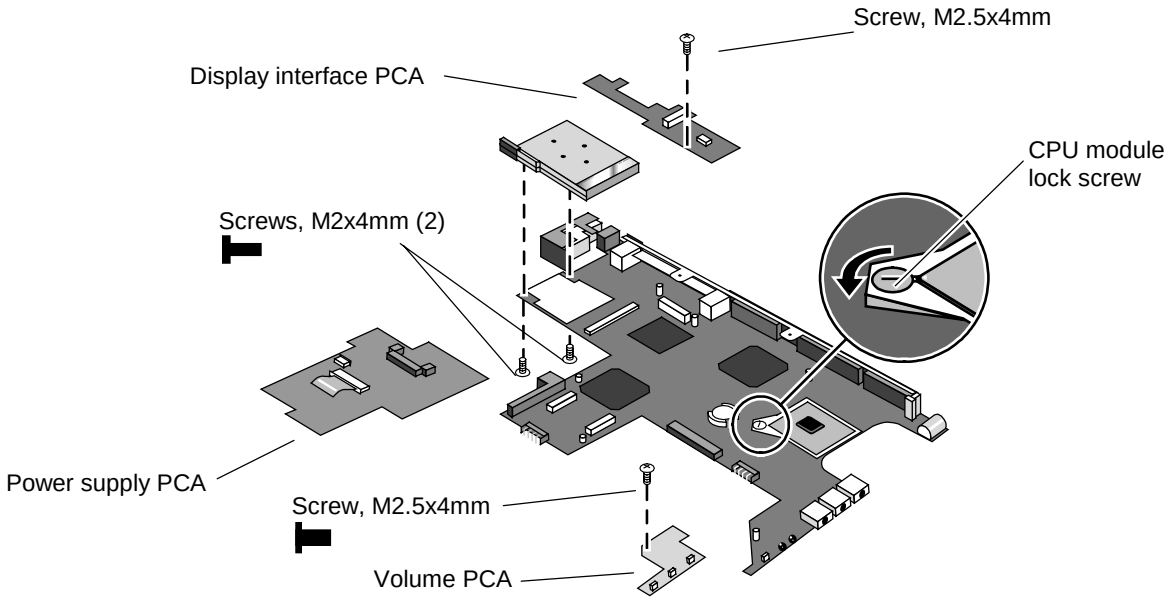


Figure 2-22. Replacing Motherboard Components: Omnibook 6000 Models

Reassembly Procedure

All Models

1. Install these components from the old motherboard on the new motherboard: display interface PCA, speaker assembly (Omnibook 6100 models only), volume PCA, power supply PCA (Omnibook 6000 models only), CPU module, PCMCIA socket, mini-PCI card #1 (if present), and mini-PCI card #2 (if present, Omnibook 6100 models only).

> **Omnibook 6100:** To reattach the display interface PCA to the motherboard, you must first disconnect the cable that attaches it to the speaker assembly, connect the PCA, then slide the speaker assembly underneath the PCA and reconnect the cable.

2. **Omnibook 6000 models only:** Make sure the SpeedStep power level DIP switches on the motherboard are set correctly for the CPU. See the note on page 2-20.
3. Follow the "Reassembly Notes" in the section entitled "Removing the Motherboard or Bottom Case."
4. Store the service ID, serial number, keyboard layout, and display information electronically in the new motherboard, and reprogram the EEPROM on the new motherboard with the proper settings for the display—see page 2-31. If the EEPROM is not programmed correctly, the display will not turn on.

Storing Unit Information Electronically

When replacing a motherboard PCA, you will need to download the Omnibook 6000/6100 service package from the Partnership Web site (see page vi). This package contains the following:

- Image for creating a bootable Service Utilities floppy disk.
- Readme file that explains how to create and use the above floppy disks.

On Omnibook 6000 models, the service utility disk is used to update the EEPROM. If the previous motherboard was able to boot with the service utility floppy disk, information can be stored onto the floppy disk so that it can be transferred to the new motherboard. If this information cannot be transferred, the floppy disk can be used to update the LCD and ESN information manually.

Electronic Serial Number (ESN)

New motherboards should arrive with a default value in the EEPROM for the ESN. This default value will trigger the unit to ask for the ESN upon the first boot. If the wrong ESN is stored in the new motherboard's EEPROM (if you see the wrong ESN on the boot screen or BIOS setup), you must enter the correct ESN manually by using the service utility disk. You will need to obtain a passcode from a call center agent to complete this process.

Service Identification Number (Service ID)

The Service ID is a number that corresponds to an encrypted date of purchase so that the warranty period can be easily determined. If possible, transfer this number from the old motherboard to the new motherboard using the service utility disk. If transfer is not possible, then no update is needed and the Service ID should remain "00000" so that a new date is not generated, which could cause confusion.

LCD Settings (Omnibook 6000 models only)

LCD settings int he EEPROM must match the display DIP switch settings on the display interface PCA. If the settings in these two locations do not match, the display will not work properly. The service utility disk can update the settings so they match.

Replacing the Bottom Case

Installation Procedure

1. Install a new Microsoft Product ID label.
2. Transfer the old serial number label and install a new overlay, or create a new serial number label using the steps below.
3. Follow the "Reassembly Notes" on page 2-26.

Installing a New Serial Number Label

Download the latest version of the serial number label template (Microsoft Word format) from the Partnership Web site (see page vi) under Support/Service in Technical Support Information. Store it with other Word templates on a PC connected to a laser printer. The latest version includes fields for warranty period and manufacturing location.

1. Open a new document based on the serial label template.
2. Enter the information from the old serial label, and print the new label on plain white paper. The new label does not have barcodes.
3. Carefully cut out the new serial label just inside the border and place it into the inner recess in the bottom case. The bottom of the label goes toward the front of the case.
4. Ensure that all regulatory labels that appeared on the old bottom case are present on the new bottom case. This may be accomplished by keeping the old covers, if necessary.
5. While holding the paper label in place, attach a serial label overlay into the outer recess. It covers and protects the serial label.

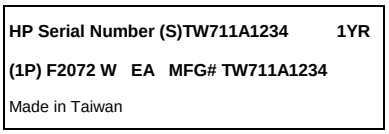


Figure 2-23. Example of Serial Number Label

Repairing the BIOS IC

(HP Authorized Service Providers Only)

The BIOS IC of the computer is not replaceable:

- If the BIOS IC is defective, you must replace the power supply PCA on Omnibook 6000 models or the motherboard on Omnibook 6100 models.
- However, if the BIOS IC might only be corrupted, you can attempt to repair it using a Crisis Recovery floppy—see the information below.

Note: Reprogramming the BIOS IC

A new BIOS IC contains only enough basic programming to boot the Omnibook. After installing a new power supply PCA, you must reprogram the BIOS IC, preferably with the latest BIOS. You can download the latest BIOS from the HP Notebook Web site (see page vi)—follow the directions provided.

If you do not have a BIOS Crisis Recovery floppy, download the package from the Partnership Web site (see page vi) under Product Support Information in the Service and Support Library. Follow the instructions for creating the floppy.

Caution

Make sure you are using the correct BIOS Crisis Recovery floppy for the Omnibook model you are repairing. The program does not verify the Omnibook model, so you could install the wrong BIOS image.

1. Insert the BIOS Crisis Recovery floppy in the floppy drive.
2. If the computer does not boot from the BIOS Crisis Recovery floppy, try plugging the boot-block jumper into the Omnibook parallel port, then go to the next step. See the wiring diagram below.

   (In many situations you can skip this step—especially if the computer previously displayed a BIOS checksum error.)
3. Turn on the computer and allow it to boot from the floppy disk.

   If the computer does not turn on at all, do the following steps to boot from the floppy disk:

   - Unplug the AC adapter.
   - Press and hold Fn+B.
   - Plug in the AC adapter.
   - Release Fn+B.
4. Wait while the BIOS is reprogrammed—the display is blank for a minute or more while this happens.

   If you plugged in a boot block jumper, unplug it before the computer automatically reboots.
5. After the BIOS is repaired and reprogrammed, check the BIOS version to see whether it is the latest version. If necessary, reprogram the BIOS IC—see the note at the beginning of this topic.

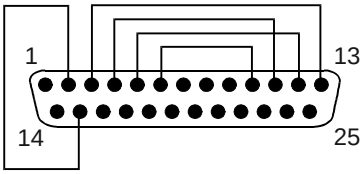


Figure 2-24. Boot-Block Jumper

Removing Other Components

(HP Authorized Service Providers Only)

Required Equipment

- Small Phillips screwdriver.
- Small flat-blade screwdriver.

Removal Procedure

1. Unplug the AC adapter, if present, and remove the battery. Remove the secondary battery if one is installed.
2. Remove the assemblies and follow the additional steps given in the table below.

Table 2-6. Removing Omnibook Components

Component	Removal Procedure	Additional Steps
Battery, CMOS	Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17).	**Reassembly Notes:** After replacing the CMOS battery, set the correct time and date using the BIOS Setup utility or Date/Time in the Control Panel.
Card, mini-PCI #2 (Omnibook 6100 only)	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20). Motherboard (page 2-24).	The card is attached to bottom side of the motherboard. Release the two latches at the sides of the card so the free edge of the board pops up.
Case, bottom	See page 2-22.	
Case, top	See page 2-20.	
Covers, hinge (left, right, or center)	Power button panel (page 2-11). Display assembly (page 2-13).	**Caution:** When removing the center hinge cover, be careful not to pull on or damage the display cable. **Reassembly Notes:** Make sure the center hinge cover fits over the tab in the bottom case.
CPU module	See page 2-19.	
Display assembly	See page 2-13.	

Component	Removal Procedure	Additional Steps
Doors, docking	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	See the figure on page 2-27.
Doors, PCMCIA	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	See the figure on page 2-27.
Heatsink (with fan)	See page 2-17.	
Keyboard	See page 2-15.	
Panel, sound/IR	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	**Reassembly Notes:** Make sure the volume control is oriented properly (pins facing inward). Insert the tabs on the ends of the panel into the slots in the bottom case.
Panel, mini-PCI	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	On the rear of the computer, remove the screw at the far left end (nearest the mini-PCI panel). **Omnibook 6000:** Detach the cables from mini-PCI card and motherboard. **Omnibook 6100:** Remove the motherboard (page 2-28), then detach the cables.
Panel, vent (Omnibook 6000 models only)	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	**Reassembly Notes:** Insert the pin on the back end of the panel under the bracket on the bottom case, and the tabs on the ends of the cover into the slots in the bottom case.

Component	Removal Procedure	Additional Steps
PCA, display interface	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	Remove the screw from the board (see the figure on page 2-30), and carefully lift the board off of the connector underneath. **Reassembly Notes:** Make sure the DIP switches on the new display interface PCA match the settings shown on the label on the display cable, or you risk damaging the display.
PCA, front antenna (Omnibook 6100 wireless models only)	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20). Motherboard (page 2-24).	Disconnect the cables from the mini-PCI card, disconnect the flex cable from the motherboard, and remove the motherboard. Gently release the cable from the retaining clips. Remove the two screws that hold the PCA in place.
PCA, power supply (Omnibook 6000 models only)	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	Carefully lift the board off of the connector underneath (see the figure on page 2-30). **Reassembly Note:** The BIOS IC on a new power supply PCA contains only enough basic programming to boot the Omnibook. After installing the new PCA, you must reprogram the BIOS IC, preferably with the latest BIOS. You can download the latest BIOS from the HP Notebook Web site (see page vi)—follow the directions provided.
PCA, motherboard	See page 2-22.	
PCA, rear antenna (Omnibook 6100 wireless models only)	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13).	Remove the screw attaching the PCA to the top case, remove the cover from mini-PCI card #1, disconnect the cable from the mini-PCI card, and gently pull the PCA out of the computer.
PCA, volume	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	Remove the screw from the board (Omnibook 6000 only), and carefully lift the board off of the connector underneath.

Component	Removal Procedure	Additional Steps
Socket, PCMCIA	Plug-in module (page 2-5). Hard disk drive (page 2-7). Power button panel (page 2-11). Keyboard (page 2-15). Heatsink (page 2-17). Display assembly (page 2-13). Top case (page 2-20).	1. On the bottom of the computer, loosen the screw holding the mini-PCI cover (the cover retains the screw), and remove the cover. 2. Remove both screws (M2x4mm) from inside the mini-PCI compartment. 3. Remove the two screws attaching the socket to the motherboard (see the figure on page 2-30). 4. Unplug the PCMCIA socket from the motherboard.

3

Troubleshooting and Diagnostics

This chapter includes troubleshooting and diagnostic information for testing the functionality of the Omnibook and identifying faulty modules:

- Troubleshooting information
  - Troubleshooting the problem (page 3-3).
  - Verifying the repair (page 3-4).
  - Suggestions for troubleshooting (page 3-5).
- Diagnostic tools
  - Omnibook e-Diagtools diagnostic program (older models include Diagtools) (page 3-17).
  - Power-on self-test (page 3-24).
  - Sycard PCCtest 450 PC Card (page 3-27).
  - Desktop Management Interface (page 3-28).
  - BIOS Setup utility (page 3-29).

Troubleshooting

The suggestions in this section can help isolate and repair the cause of a problem. To ensure quality repair, HP recommends that you follow the basic troubleshooting steps shown in the illustration below.

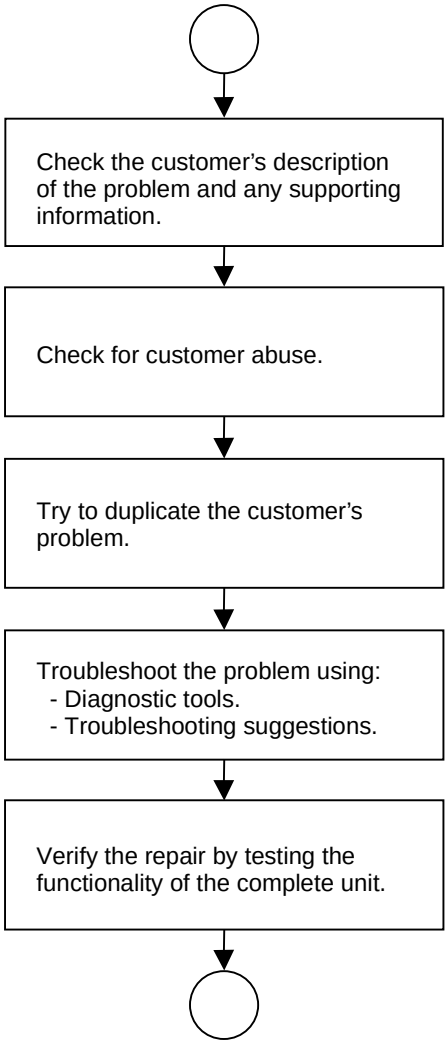


Figure 3-1. Basic Troubleshooting Steps

Checking for Customer Abuse

Some units may appear to have been damaged by customer abuse. Use these guidelines to help determine if this is the case:

- If the shipping box is seriously damaged, customer abuse *cannot* be declared.
- If the damage *could have* a cause other than customer abuse, customer abuse *cannot* be declared.
- If the unit shows any of the following, customer abuse is declared:
  - Missing parts.
  - Broken plastic parts.
  - Parts not original to the unit.
  - Damaged or missing keys on the keyboard.

Table 3-2 includes additional criteria for determining customer abuse to specific parts of the unit.

Important

Parts damaged by customer abuse are not covered by the warranty.

Troubleshooting the Problem

Record pertinent information about the unit:

- Model and serial number.
- Operating system and version.
- BIOS version.
- Accessories and peripherals used.

Analyze the problem:

- **Observe Symptoms.** Using the customer's information, try to duplicate the problem. Determine how the problem differs from proper behavior. Also, take note of the functions that *do* work properly.
- **Separate Problems.** If there is more than one symptom, separate them into distinct problems.
- **Consider Causes.** Keep in mind possible causes for each problem. Use the diagnostic tools and troubleshooting suggestions to help find possible causes.
  - The e-Diagtools diagnostic program tests most components of the Omnibook's components using automatic and interactive tests, and will be your primary troubleshooting tool. Other tools include the power-on self-test, DMI/Toptools (if installed), the BIOS Setup utility, and the Sycard PCCtest. The table on page 3-5 shows how you can use these tools to isolate the cause of the computer's problem.
  - The troubleshooting suggestions on page 3-6 include general suggestions for repairing units with specific failure symptoms.

Swapping modules that may be defective with others known to be good is generally an ideal way to find the module responsible for the problem. A failure symptom is rarely caused by more than one module, so you will not usually need to replace more than one module to correct a particular failure.

After you replace a module, the computer will normally be in a confused state and lock up when you apply power. If this happens, press the system-off switch: this resets the computer and starts it in a known state.

Verifying the Repair

Before returning the repaired unit to the customer, verify the repair by running the following tests:

- **Basic Diagnostic Test.** Run the basic test of the e-Diagtools diagnostic program (page 3-17).

  –and–

- **Function Tests.** Run tests that check the repaired function, such as in the e-Diagtools diagnostic program (page 3-17).

  –and–

- **Failed Tests.** Run any other tests that failed during troubleshooting.

Suggestions for Troubleshooting

Table 3-1. Scope of Diagnostic Tools

Function	e-Diagtools/ Diagtools‡	Power-On Self-Test	Sycard PCCtest 450	DMI/Toptools (if installed)	BIOS Setup
Bootup		Tests		Describes	Configures
Processor	Tests (System menu)	Tests		Describes	
Memory	Tests (Memory menu)	Tests		Describes	Describes
Batteries		Tests (CMOS battery only)		Describes (Win 98 only)	
Display	Tests (Video menu)			Describes	
Hard disk	Tests (IDE menu)	Tests		Describes	Configures
Floppy drive	Tests (FDD menu)	Tests		Describes	Describes
Keyboard	Tests (KBD menu)	Tests		Describes	
Pointer	Tests (Misc menu)			Describes	Configures
Audio	Tests (System, Misc menus)				
Serial	Tests* (Misc menu)			Describes	Configures
Parallel	Tests* (Misc menu)			Describes	Configures
LAN				Describes	
Modem	Tests** (User menu)				
Wireless					
Infrared				Describes	Configures
PS/2 port	Tests† (KBD, Misc menus)				
USB	Tests† (USB menu)			Describes	
Docking port	Tests (System menu, using docks)				
PCMCIA	Tests*† (Misc menu)		Tests	Describes	
AC adapter				Status	
Docking products	Tests ports and internal bus			Status	Configures
Plug-in modules				Describes	

‡ This table describes the scope of e-Diagtools tests. Diagtools tests may vary slightly.
* The diagnostic test is more thorough if you use a loop-back connector.
** The test checks only the internal hardware up to the mini-PCI card, and does not check the mini-PCI panel or any external cabling.
† Use an appropriate external device to exercise the port. See the help text for the tests in the menu.

If you cannot isolate the cause of a problem using the above diagnostic tools, use the suggestions in the following table to help find the problem.

Table 3-2. Troubleshooting Suggestions

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
To help determine likely causes, check to see what replaceable modules are involved in the system function and what roles they play. See the figure on page 1-14 and the table on page 1-15.			
Startup			
Does not boot on AC or battery.	Check the power source. Press the system-off switch to reset the computer. Press the blue sleep button to turn the computer on. Unplug the AC adapter and remove all batteries, then reconnect power. Remove all but one SDRAM modules and try again. Reinsert any other SDRAM modules and try again.	AC adapter. SDRAM module. CPU module. Power supply PCA. Display interface PCA. Motherboard. Display assembly. Hard drive.	Check AC adapter. Remove any SDRAM modules and retry. If power status light does not turn on, reprogram BIOS, replace power supply PCA, replace motherboard. If power status light turns on but display remains off, try external monitor. If monitor shows successful boot, replace display assembly. If monitor shows activity but BIOS does not complete, replace display assembly. If monitor is blank, replace display interface PCA, replace display interface, replace motherboard. If power status light and display turn on, BIOS completes, but OS does not start from hard disk or from floppy drive, replace CPU module, then motherboard. If OS starts from floppy drive, reload hard drive, replace hard drive.
Beeps once, spins hard disk, repeats, but does not boot.		SDRAM module.	Make sure at least one SDRAM module is installed.
Does not boot on battery, but boots on ac.	Check battery level on battery LEDs. Check battery contacts. If available, try another battery.	Battery or contacts. Motherboard.	
Does not boot from floppy drive.	Make sure the floppy disk is bootable. Make sure the floppy drive is installed or connected correctly. Use BIOS Setup to check the boot order and to make sure that floppy boot is enabled. Try using alternate connection (with or without floppy cable).	Floppy drive or contacts. Floppy cable. Motherboard.	

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Does not boot from a CD or DVD in the CD/DVD drive	Make sure the CD or DVD is bootable. Use BIOS Setup to check the boot order. Restart the computer. Test the DVD drive with the e-Diagtools diagnostics.	CD/DVD drive module. Motherboard.	
Error message such as “Invalid system disk” or “Auto IDE error”.	Check for a disk in floppy drive. Check boot order in BIOS Setup. Remove and reinsert hard drive.	Hard drive contacts. Hard drive.	If unit boots from floppy drive, check for corrupt files on hard drive, reload hard drive, replace hard drive.
Sluggish startup or shutdown.	Run ScanDisk and Disk Defragmenter to check and optimize the hard drive. Delete temporary and unneeded files.		Use the suggestions shown at left.
Password has been forgotten.	Verify proper ownership, then follow the removal procedure with the owner and log the appropriate data—see page 5-1.		The user must call Technical Support and provide proof of ownership. Password removal is restricted to certain sites. See page 5-1.
Power/Battery			
Short battery operating time.	Turn down display brightness. Check power management settings in BIOS Setup. Try the default settings. Shut down and restart. During boot at the F2 prompt, press F6. This starts a process that recalibrates the battery gauge, possibly improving operating time. When the discharge cycle ends, you may have to unplug and reconnect the AC adapter to begin recharging. Certain applications can cause excess power usage. (User can get the Intel Power Monitor from www.intel.com and monitor CPU load.) PCMCIA card use can affect battery life. Some PCMCIA cards draw power even while not in use. Heavy modem use can affect battery operating time.	Battery. Motherboard.	Battery capacity often decreases after a year or more.
Turns off immediately after turning on.	Battery may be extremely low. Plug in the AC adapter, insert a charged battery, or plug in a secondary battery.	Battery.	

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Does not run on battery; empty battery indication.	Check the battery and contacts. If one is available, try another battery.	Battery or contacts. Motherboard.	
Battery does not charge.	Check the power source. Check the battery contacts. If available, try another battery and AC adapter. Move the computer away from any nearby heat source. Unplug the AC adapter and allow the battery to cool down. Check for blocked air vents.	Battery or contacts. AC adapter. Motherboard. Heatsink.	Check battery and AC adapter. Check heatsink.
Secondary battery does not charge.	Check the power source. Make sure main battery is fully charged. If not, secondary battery will not charge. Check contacts on second battery.	Second battery or contacts. Motherboard.	
Battery indicator is inaccurate.	The Time Remaining is an estimate based on how quickly the computer is using power at the moment. It therefore depends on the current task, and assumes that power will be used at the same rate until the battery runs out. So, for example, if the computer is performing a task requiring a good deal of power (such as reading from a CD or DVD), the value will probably show too little time remaining.		
Display			
Dark display, no light.	Adjust display brightness. Press Fn+F5 several times. Try external monitor.	Display cable connection. Display assembly. Motherboard.	Set DIP switch on display interface PCA to match label on display cable. Reprogram EEPROM for display type—see page 2-31. Check the cable connection. Replace the display assembly. If an external monitor displays no image, replace the motherboard.
White display.	Adjust display brightness.	Display assembly. Display interface PCA.	
Erratic display.		Display cable connection. Display assembly.	
Bright or missing pixels or lines.	See quality statement on page 5-2.	Display cable connection. Display assembly.	See quality statement on page 5-2.

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Punctured display.			Declared to be caused by customer abuse.
Vertical crack near center of display.		Usually caused by closing display with pencil-sized object on keyboard.	Declared to be caused by customer abuse.
Scratched display glass.			Declared to be caused by customer abuse.
Local area of dark or light discoloration visible when display is on.		Caused by excessive pressure applied to an area on the screen.	Declared to be caused by customer abuse.
Hard disk			
Hard disk never spins.	Check the power source. Remove and reinsert the hard drive. Check the connector.	Hard drive or connector. Motherboard.	If the drive case is damaged, the drive may not operate properly.
Hard disk makes clunking or scratching noise.	Back up the drive immediately. Was the computer or drive dropped?	Hard drive.	Check the computer and drive for evidence of customer abuse.
Hard disk makes buzzing or whining noise.	Back up the drive immediately. Check for alternate noise sources, such as a PCMCIA drive or fan. If a keystroke causes the sound to change, it may be from the power supply PCA.	Depends on the source of the noise.	
Files are corrupted.	Run the VirusScan program. Check the disk surface by running Scandisk (Windows 95/98) or by using the Tools tab in the disk's Properties sheet (Windows 2000). Test the hard disk drive with the e-Diagtools diagnostics. Use the *Recovery CD* to restore original factory software.		Use the suggestions shown at left.
Drive capacity is less than normal.	Check the disk surface by running Scandisk (Windows 95/98) or by using the Tools tab in the disk's Properties sheet (Windows 2000). Check partitions using FDISK (Windows 95/98) or Control Panel, Administrative Tools, Computer Management under Storage (Windows 2000).	Hard drive.	Use the suggestions shown at left. Recreate the Hibernate partition, then partition and format the disk.

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Floppy drive			
General problems.	Make sure floppy drive module is installed or connected correctly. Try using alternate connection (with or without floppy cable). Check settings in BIOS Setup.	Floppy drive module or contacts. External floppy drive cable. Motherboard.	
Floppy drive does not work as 3-mode drive.	3-mode drive is not supported when the drive is connected to a dock.	External floppy drive cable. Floppy drive module.	
Keyboard			
Some or all keys do not work properly.	Check settings in BIOS Setup.	Keyboard. Power supply PCA. Motherboard.	Try reinserting the flex cable in the connector on the power supply PCA.
PS/2 keyboard and mouse with Y-adapter do not work.	Check devices separately.	Y-adapter. PS/2 device. Motherboard.	
Pointing stick			
General problems.	Slide and hold the power button four seconds to reset the computer. Check settings in Control Panel. Make sure pointing stick is enabled in Mouse Properties. Make sure the pointing stick is enabled in BIOS Setup.	Keyboard. Power supply PCA. Motherboard.	Try reinserting the flex cable in the connector on the power supply PCA or motherboard.
Special pointing stick features not working.	In Mouse Properties, select the Synaptics PS/2 TouchPad driver. (The driver is installed from the directory \hp\Drivers\Touchpad.)	Keyboard assembly. Power supply PCA. Motherboard.	
Touch pad			
General problems.	Slide and hold the power button four seconds to reset the computer. Check settings in Control Panel. Make sure touch pad is enabled in Mouse Properties. Make sure the touch pad is enabled in BIOS Setup. Check pointing stick settings in Control Panel.	Top case. Power supply PCA. Motherboard.	
Special touch pad features not working.	In Mouse Properties, select the Synaptics PS/2 TouchPad driver. (The driver is installed from the directory \hp\Drivers\Touchpad.)	Top case. Motherboard.	
Click button does not work.		Top case. Motherboard.	

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Audio			
No sound is audible.	Increase sound volume (Fn+UP and software controls). Check settings in BIOS Setup. Check whether sound is enabled (audio-off button and software controls). Check for sound resource conflicts in Device Manager.	Top case. Volume PCA Motherboard.	Check operation using headphones or external speakers (volume PCA).
Sound does not record.	Check settings in BIOS Setup. Check software controls. Test audio with e-Diagtools diagnostics.	Display interface PCA. Volume PCA. Motherboard.	Check operation using external microphone (volume PCA).
Serial/Parallel/USB			
General problems.	Check connections. Check settings in BIOS Setup. Check settings in Control Panel. Test ports with e-Diagtools diagnostics. For USB: check for latest versions of drivers.	Motherboard.	Use loop-back connector when testing serial or parallel port—see page 3-19.
Modem			
General problems.	In Control Panel, open Modems (Windows 95 or 98) or Phone And Modem Options (Windows 2000). Make sure the parity, speed, word length, and stop bits match on sending and receiving modems. Open the hardware Device Manager. If the modem is disabled, try to enable it. If it has a conflict, try disabling another device. Use an analog telephone line (2, 3, or 4 wires), not a PBX or digital line. In a hotel, ask for a data line. Try disabling error correction and data compression.	Mini-PCI card #1 (OB 6000). Mini-PCI card #2 (OB 6100) Mini-PCI panel. Motherboard.	

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
LAN/Network			
General problems.	Check connections. Try connecting a different computer to the cable. Check settings in BIOS Setup. Check settings in Control Panel. Make sure the LAN cable is Category 3, 4, or 5 for 10Base-T operation, or Category 5 for 100Base-TX operation. Maximum cable length is 100 meters (330 feet). Run the e-Diagtools LAN test.	Mini-PCI card #1 (OB 6000). Mini-PCI panel. Motherboard.	
Infrared			
General problems.	Infrared is disabled and no drivers installed as shipped. (Drivers are included.) Check settings in BIOS Setup. Remove any PC Cards from the computer (possible IRQ conflict). For fast-IrDA, check for DMA conflict with ECP parallel port.	Motherboard.	

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Wireless			
General problems.	Check TCP/IP setup in Control Panel. For Windows 98: try disabling DNS in TCP/IP setup. Check SSID, channel, and encryption settings: click wireless link icon in taskbar and select Advanced Configuration.	Mini-PCI card #1. Rear antenna PCA. Front antenna PCA. Motherboard.	Make sure all cables are properly connected to mini-PCI card #1 and the motherboard. Check for damaged coaxial cables and connectors.
PCMCIA			
General problems.	Restart the computer. Try the card in the other slot or in another computer. If the card requires an IRQ, make sure one is available. Check for conflicts or refresh the device list in Device Manager. Zoomed Video is supported only in the lower slot. Check the HP Notebook Web site for installation instructions (page vi). When using a PC card in a docking system, insert or remove the card while the system is turned on. Download current drivers from the card manufacturer's web site.	PCMCIA socket. Motherboard.	Using a flashlight, look for bent pins inside the PCMCIA socket. If both slots have problems, replace the motherboard. If only one slot has a problem, try replacing the PCMCIA socket.
AC adapter			
Does not power the Omnibook	Try another AC adapter, if available.	AC adapter. Power supply PCA. Motherboard.	The AC adapter cannot be repaired, and must be replaced.
Motherboard			
Evidence of spilled liquid.			Declared to be caused by customer abuse.
Bent or broken connectors, or burnt component.			Declared to be caused by customer abuse.
Motherboard cracked.			Declared to be caused by customer abuse.
Miscellaneous			
Clock loses time	Plug in AC adapter for 24 hours to charge CMOS battery.	CMOS battery. Motherboard.	Charge CMOS battery.

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Computer gets abnormally hot	Always set the computer on a flat surface, so that air can flow freely around and underneath it Make sure the air vents are clear. Games and other programs that drive CPU usage toward 100% can contribute.	Heatsink.	Check the heatsink for proper fan operation or heatsink damage. Check the thermal contact between the CPU and heatsink.
Computer pauses or runs sluggishly	May be normal Windows behavior (background processing can affect response time). Certain background operations (such as VirusScan) can affect performance. Press CTRL+ALT+DEL to see if an application is not responding. Restart the computer. If the hard disk has spun down to conserve power, it can take several seconds to spin up (you can hear this). You can use the BIOS Setup utility to change the hard disk time-out to match the Standby time-out. Some file browsers respond slowly while processing graphics or waiting for broken network connections to time out. Check for overheating—see the previous symptom. If the computer's hard disk drive frequently runs (as indicated by the hard drive light on the front of the computer) while the computer appears to be paused or running slowly, consider installing additional SDRAM. Check the amount of available free disk space. Delete temporary and unneeded files. Run the BIOS Setup utility and set the Power Management Mode to Max. Performance. Run the BIOS Setup utility and turn off Intel SpeedStep Mode.	CPU module. Motherboard.	If computer slows after a period of continuous activity, check heatsink—see the previous symptom.

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Computer is still on but stops responding.	Press CTRL+ALT+DEL and end any application that is not responding. Slide and hold the power button four seconds to turn off and reset the computer. Press the blue sleep button to turn the computer back on. If the above fails, insert a straightened paper clip into the system-off switch. Then press the blue sleep button to turn the computer back on.		
Does not suspend to Standby mode as expected.	The computer won't suspend if it has an active connection to another computer. If the computer is busy, it normally waits to finish the current operation before suspending.		
Does not automatically enter Hibernate mode as expected.	For Windows 2000, make sure hibernate support is enabled in Power in Control Panel. Also, make sure the Hibernate timeouts (Power Schemes tab) for AC and battery power are not set to Never. For Windows 98, check the Hibernate timeout in BIOS Setup. If the computer has more than 512 MB (OB 6000) or 768 MB (OB 6100) of SDRAM, the Utility partition on the hard disk must be expanded.		
Standby option missing from Shut Down window.	Do not allow Windows 98 to disable APM. If it prompts you to do so, answer No. In System in Control Panel, expand System Devices (System Manager tab), and remove Advanced Power Management. Restart the computer, then use Add New Hardware in Control Panel to install support for APM. Restart the computer.		
Plug-in Modules			
General problems.	Make sure module is installed properly. Reset computer.	Plug-in module or contacts. Motherboard.	Plug-in modules cannot be repaired, and must be exchanged.

Symptom	Call Center: Suggestions	Repair Center: Likely Causes	Repair Center: Comments
Accessories			
Docking product I/O problems	Make sure AC power is connected to the dock. Make sure computer is fully inserted in dock. Check computer's power supply. Check settings in BIOS Setup. Try using the corresponding port on the computer while undocked.	Docking product. Motherboard.	Test the corresponding Omnibook ports while undocked. The port replicator and mini dock are not repairable—they must be exchanged. The docking system is repairable—see its service manual.
General plug-in module problems	Check module contacts. Push system-off button.	Plug-in module or contacts. Motherboard.	Plug-in modules cannot be repaired, and must be exchanged.

Diagnostic Tools

This section describes the following diagnostic tools you can use for troubleshooting and repairing the Omnibook:

- Omnibook e-Diagtools or Diagtools (below).
- Power-on self-test (page 3-24).
- Sycard PCCtest 450 PC Card (page 3-27).
- Desktop Management Interface (page 3-28).
- BIOS Setup utility (page 3-29).

Overview of Diagnostic Tools

The hardware diagnostic programs provide two levels of testing:

- User-level testing using a basic hardware test.
- Advanced testing using individual hardware tests.

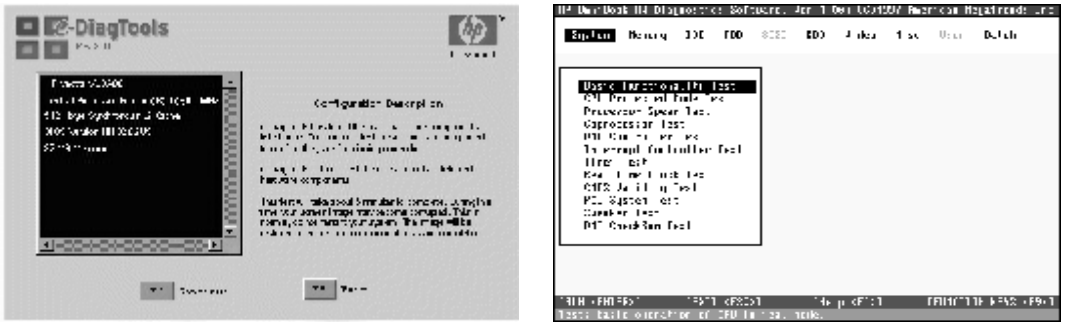


Figure 3-2. Diagnostic Screens — Basic and Advanced

The tests are designed to run after the system reboots, so that the computer will be in a predictable state during the tests. The tests are non-destructive, and are intended to preserve the state of the computer. The computer reboots when you exit the program so drivers can be loaded.

Updating e-Diagtools

You can download the latest version of e-Diagtools from the HP Notebook Web site (see page vi), then follow the included instructions.

Running e-Diagtools

The following steps describe e-Diagtools. Diagtools steps may differ slightly.

1. Restart the computer.
2. When the HP logo appears, press F10 to start the diagnostic test.
3. When the menu appears, press ENTER to run e-DiagTools.
4. The first time you run the program, you are prompted to select the language for the program.
5. Press F2 to proceed with the basic tests.

   You can also proceed directly to the advanced tests from this point by pressing CTRL-F9 (in which case skip to step 10, below).
6. When the Configuration Description appears, check the list of detected hardware.

> **Note**
>
> If a device is not detected or fails its test, it might be configured incorrectly in BIOS Setup. You can confirm this by running BIOS Setup and checking the settings—see "BIOS Setup Utility" on page 3-29.

7. **Run the basic test.** Press F2 to start the basic hardware test.
8. To exit without running the advanced tests, press F4 to view the Support Ticket. Press F3 to exit.
9. **Optional: Run the advanced tests**. Press F2 to open the advanced test screen.
10. Select and run the appropriate tests. Note that individual tests do not appear if the hardware they test is not detected. Press the following keys to run tests:

ENTER	Runs the highlighted test.
F5 or SPACE	Marks/unmarks the highlighted test.
F6	Marks/unmarks all tests in the current menu.
F7	Marks/unmarks all tests in all menus.
F10	Runs all marked tests.

    If a test fails, the error code and description are logged, and the error code is displayed temporarily. If several errors occur, look for patterns that might indicate a common cause. See the table on page 3-20 for repair suggestions. Consider these suggestions in combination with other troubleshooting information.
11. **Save the Support Ticket.** Press T to update and display a Support Ticket containing system and test information.
12. When you are finished running tests, press ESC to exit the advanced tests.
13. **Optional:** To save the Support Ticket to a floppy disk, press F7 then ALT+C.
14. **Exit.** Press F3 and then any key to exit and reboot.
15. **Optional for e-Diagtools only: Open the Support Ticket.** In Windows, click Start, Programs, HP e-DiagTools, e-DiagTools for Windows.
16. Click View to display the Support Ticket.
17. To add information about the problem, click Comments and type the information, then click OK.

    To save or print the Support Ticket, click Save As or Print.

For Diagtools, to view or edit the support ticket, run c:\Dmi\Hputils\Hpsuppt.exe.

Note that the serial and parallel port tests are more thorough if you connect a loop-back connector to the port before running the test for that port. See the wiring diagrams below.

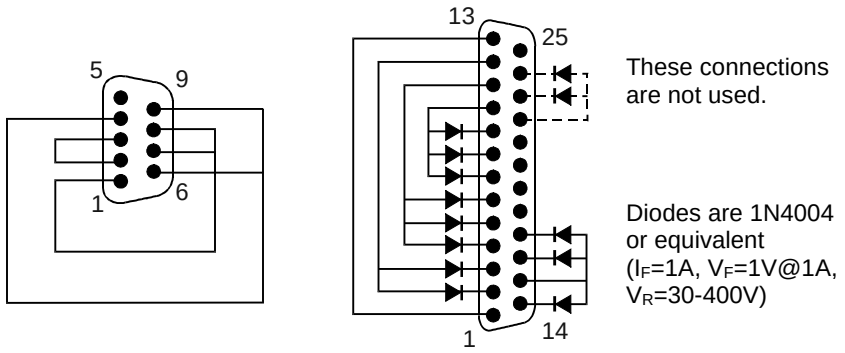


Figure 3-3. Serial and Parallel Loopback Connectors

Interpreting the Results

The following table lists test groups, error codes, and suggestions for follow-up actions. Consider these suggestions in combination with other troubleshooting information.

Table 3-3. Omnibook Diagnostic Error Codes

Code	Suggestions
Note: If the BIOS IC appears to be corrupted, you can try to repair it (see page 2-33).	
System Tests	
0001h – 0008h	Reseat or replace the CPU module.
0009h	**OB 6000:** Replace the power supply PCA. **All models:** Replace the CPU module. Replace the motherboard.
0010h – 0016h	Reseat or replace the CPU module.
001Eh	Reseat or replace the CPU module.
0020h – 002Fh	Reseat or replace the CPU module.
0030h – 0040h	Replace the motherboard.
0041h	Run BIOS Setup and check IRQ assignments for all devices.
0050h – 0063h	Replace the motherboard.
0070h	Replace the CMOS battery.
0071h – 0076h	Reset the system, then run BIOS Setup and check settings. Replace the CMOS battery. Replace the motherboard.
0077h	Replace the motherboard.
0078h	Reset the system, then run BIOS Setup and check settings. Replace the CMOS battery. Replace the motherboard.
0079h	Replace the CMOS battery. Replace the motherboard.
0080h-0082h	No repair. (EISA not supported.)
0083h – 008Ah	Reprogram the BIOS IC. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
00C0h – 00CCh	Replace the CPU module.
Memory Tests	
The addresses below are absolute (32-bit) addresses, and are not in the segment:offset format.	
0100h – 0101h	Replace the motherboard.
0102h	Reprogram the BIOS IC. **OB 6000:** Replace the power supply PCA. **OB 6100:** Replace the motherboard.
0120h	Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
0130h	Test with cache off. Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
0131h – 0150h	Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
0160h	Remove all but one SDRAM module and repeat the test. Check the CPU module for shorts. Replace the CPU module. Replace the motherboard.
0170h – 0172h	Replace the motherboard.
0180h	Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
0181h	Enable external cache memory through BIOS Setup. Replace the CPU module.
0182h	Unload HIMEM.SYS or any programs using the extended memory allocated by HIMEM.SYS.
0183h	Check installation of the SDRAM module. Replace the SDRAM module. Replace the motherboard.
0184h	Check installation of the SDRAM module. Replace the SDRAM module. Replace the CPU module. Replace the motherboard.
0190h – 01A0h	Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
01A1h – 01A4h	Replace the CPU module.
01A5h	Make sure cache is enabled.
01B0h	Test with cache off. Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
01B1h – 01B2h	Replace the SDRAM module (each 01000000h represents 16 MB). Replace the motherboard.
01B3h	Replace motherboard.
Hard Disk Tests	
0201h	Replace the hard disk. Replace the motherboard.
0202h – 0204h	Repeat the test (check test parameters). Replace the hard disk.
0205h	Replace the motherboard.
0207h	Run BIOS Setup and check the hard disk type. Check hard disk connectors and motherboard connector. Replace the hard disk. Replace the motherboard.
0208h – 0209h	Transient DMA error. Repeat the test.
020Ah – 0211h	Repeat the test. Run SCANDISK or equivalent.
0220h	Replace the motherboard.
0240h	Replace the hard disk. Replace the motherboard.
0252h – 0254h	Repeat the test (check test parameters). Replace the hard disk.
025Ah – 0260h	Repeat the test. Run SCANDISK or equivalent, Replace the hard disk.
0265h	Check hard disk connectors and motherboard connector. Replace the hard disk. Replace the motherboard.
0275h	Replace the hard disk.

Code	Suggestions
0280h	Check hard disk connectors and motherboard connector. Replace the hard disk. Replace the motherboard.
0281h	Replace the hard disk.
0290h	Repeat the test. Replace the hard disk.
0293h – 0296h	Replace the hard disk.
02AAh	Check hard disk connectors and motherboard connector. Replace the hard disk. Replace the motherboard.
02CCh	Run BIOS Setup and check the hard disk type. Replace the hard disk. Replace the motherboard.
02EEh	Run BIOS Setup and temporarily select a drive type that has more than 200 cylinders, then repeat the test.
02F1h	Use a Recovery CD to restore the original factory configuration.
02F3h – 02F5h	Run SCANDISK or an equivalent. Use a Recovery CD to restore the original factory configuration.
02FFh	Check the hard disk connectors and motherboard connector. Replace the hard disk. Replace the motherboard.
9602h – 964C	(See Hard Disk Tests at end of table.)
Floppy Disk Tests	
0301h – 0304h	Replace the floppy drive. Replace the motherboard.
0305h	Run Floppy Disk Controller test. Make sure the floppy diskette is fully inserted in the drive. Check that the drive is properly installed in or connected to the notebook. Replace the diskette. Replace floppy drive. Replace the motherboard.
0306h	Replace the floppy drive.
0307h – 030Bh	Run Floppy Disk Controller test. Make sure the floppy diskette is fully inserted in the drive. Check that the drive is properly installed in or connected to the computer. Replace the diskette. Replace floppy drive. Replace the motherboard.
030Ch	Replace the floppy drive.
Keyboard Tests	
0400h – 0401h	**OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
0410h – 0414h	Check the keyboard flex cable connection. Replace the keyboard. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
0415h	Replace the keyboard. Replace the display interface PCA. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
0416h – 0418h	Replace the keyboard. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.

Code	Suggestions
Serial Port Tests	
0601h	For the external loopback test, make sure the loopback connector is installed and constructed properly. For the external or internal loopback test, replace the motherboard.
0602h	Replace the motherboard.
0603h	For the external loopback test, make sure the loopback connector is installed and constructed properly. For the external or internal loopback test, replace the motherboard.
0604h – 0605h	Replace the motherboard.
0606h	For the external loopback test, make sure the loopback connector is installed and constructed properly. For the external or internal loopback test, replace the motherboard.
0607h	Make sure the loopback connector is installed and constructed properly. Replace the motherboard.
0608h – 0617h	Replace the motherboard.
0618h- 0619h	Make sure the computers are positioned properly. If the problem persists, replace the motherboard.
Parallel Port Tests	
0701h	For the external loopback test, make sure the loopback connector is installed and constructed properly. For the external or internal loopback test, replace the motherboard.
0702h – 0706h	Replace the motherboard.
0707h	Connect the loopback connector.
0708h- 0709h	Replace the motherboard.
Audio Tests	
0801h- 0810h	If this error does not occur for an external headphone, check internal speaker connection. **OB 6000:** Replace the top case. **OB 6100:** Replace the speaker assembly. If this error also occurs for an external headphone, replace the motherboard. If it occurs only for an external headphone, replace the volume PCA.
08C0h – 08C2h	If this error does not occur for an external headphone, check internal speaker connection. **OB 6000:** Replace the top case. **OB 6100:** Replace the speaker assembly. If this error also occurs for an external headphone, replace the motherboard. If it occurs only for an external headphone, replace the volume PCA.
08D0h – 08F3h	Replace the volume PCA. Replace the motherboard.
Video Tests	
0900h – 0905h	Replace the motherboard.
0911h	If this test fails on the internal display, replace the motherboard.
0912h – 0933h	Replace the motherboard.

Code	Suggestions
2100h – 2102h	Replace the display assembly. **OB 6000:** Replace the display interface PCA. **All models:** Replace the motherboard. If error also occurs with external monitor, replace the motherboard.
2110h – 2120h	**OB 6000:** Replace the display interface PCA. **All models:** Replace the motherboard. Replace the display assembly.
2130h	Replace the display assembly. **OB 6000:** Replace the display interface PCA. **All models:** Replace the motherboard. If error also occurs with external monitor, replace the motherboard.
2140h – 2141h	**OB 6000:** Replace the display interface PCA. **All models:** Replace the motherboard. Replace the display assembly.
2150h	Replace the display assembly. **OB 6000:** Replace the display interface PCA. **All models:** Replace the motherboard. If error also occurs with external monitor, replace the motherboard.
9016h	Reset the computer. Reprogram the BIOS IC. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
9017h	See chapter 5 for cosmetic guidelines. If warranted, replace the display assembly.
CD-ROM Tests	
0A00h	Insert a CD in the drive.
0A01h	Repeat the test. Replace the CD-ROM drive.
0A02h	No repair. (Automatic close not supported.)
0A03h	Insert a different CD in the drive and repeat the test. Check the connectors on the CD-ROM drive and motherboard. Replace the CD-ROM drive. Replace the motherboard.
0A04h	Insert a data CD in the drive and repeat the test.
0A05h	Insert a different CD in the drive and repeat the test. Check the connectors on the CD-ROM drive and motherboard. Replace the CD-ROM drive. Replace the motherboard.
0A06h	Insert a data CD in the drive and repeat the test. Replace the drive.
0A07h	Repeat the test. Replace the drive.
0A08h	Insert an audio CD and repeat the test. Replace the drive.
0A09h	Repeat the test. Replace the drive.
0A10h – 0A11h	Insert an audio CD and repeat the test. Replace the drive.
0A12h	Insert a different multisession CD and repeat the test. Replace the drive.
USB Device Tests	
0B00h	Replace the USB mouse.
0B10h	Check the USB device connector.
0B20h	Make sure the USB mouse is connected.
0B30h, 0B40h	Replace the USB keyboard.
0B50h	Check the keyboard connector and replace if necessary.
0B60h	Make sure the USB keyboard is connected.
0B70h	Replace the USB hub.
0B80h	Check the port configuration.
0B90h	Make sure the hub is connected.
SMBUS Tests	
0E00h – 0E20h	Replace the motherboard.
ATAPI Removable Tests (LS-120)	
0F01h	Connect the LS-120 drive and repeat the test.
0F02h – 0F03h	Insert a different disk in the LS-120 drive and repeat the test. Check the connectors on the LS-120 drive and motherboard. Replace the LS-120 drive.
0F04h	Replace the LS-120 drive.
0F05h	Repeat the test. Replace the LS-120 drive.
0F06h	Insert a different disk in the LS-120 drive and repeat the test. Check the connectors on the LS-120 drive and motherboard. Replace the LS-120 drive.
0F07h	Replace the LS-120 drive.
0F08h	Insert a different disk in the LS-120 drive and repeat the test. Check the connectors on the LS-120 drive and motherboard. Replace the LS-120 drive.
0F09h	Replace the LS-120 drive.
TI CardBus Tests	
1201h	Remove any attached ISA or PCI cards and repeat the test.
1202h – 1203h	Replace the motherboard.
1205h – 1206h	Insert a different PC Card and repeat the test. Replace the PCMCIA socket. Replace the motherboard.
1207h	Reset the computer. Replace the motherboard.
USB Tests	
1301h	Reprogram the BIOS IC. **OB 6000:** Replace the power supply PCA. **All models:** Replace the motherboard.
1302h – 1316h	Replace the motherboard.
9006h	(See USB Port Test below.)
DVD Tests	
1900h – 1902h	Insert a different DVD in the drive and repeat the test. Replace the DVD drive.
1904h	Insert a different DVD in the drive and repeat the test. Replace the DVD drive.
1905h	Make sure the DVD Drive region and DVD Media region match. If the region is not set for the drive, use an unencrypted DVD.
LAN/Modem Tests (OB 6000 only)	
8000h	Note: the test checks only the internal hardware up to the mini-PCI card, and does not check the mini-PCI panel or any external cabling. Repeat the test with the LAN cable/phone line unplugged. Replace the cable/phone line. Check the connections. Replace the mini-PCI card. Replace the mini-PCI panel. Replace the motherboard.

Code	Suggestions
Fan Tests	
9001h	If the fan is already running, you will not hear a change. Check the fan connection. Check thermal contact between heatsink and CPU. Replace the heatsink. Replace the motherboard.
9002h	Reset the computer. Replace the motherboard.
USB Port Test	
9006h	Make sure a USB device is connected to the port you are testing. Select the correct speed for the device. Try another USB device. Replace the motherboard (or dock component, if applicable).
IR Tests (FIR enabled, undocked)	
9002h	Reset the computer. Replace the motherboard.
9007h – 9008h	Reset the computer. Run BIOS Setup and restore default settings. **OB 6000:** Replace the power supply PCA. **OB 6100:** Replace the motherboard.
9009h	Do not run this test in Windows. For the one-unit test, replace the motherboard. For the two-unit test, make sure the IR ports on the reflector and test computers are lined up, replace the motherboard.
900Ah	Repeat the test. For the two-unit test, make sure the IR ports on the reflector and test computers are lined up. Replace the motherboard.
900Ch	Repeat the test. Make sure the IR ports on the reflector and test computers are lined up. Restart the reflector unit. Replace the motherboard.
Dock Tests	
9071h, 9073h	Update BIOS in computer. Replace electronics PCA in dock.
9075h – 907Ah	Replace electronics PCA in dock.
907Bh	Replace LED/button assembly in dock.
9082h	Rerun test with known good computer. Replace electronics PCA in dock.
9088h	Replace electronics PCA in dock.
Hard Disk Tests	
9602h	Failure may occur soon. Back up data and replace the hard disk.
9603h	Repeat the hard disk test. If other errors occur, follow the instructions for those errors.
9604h	Back up data if possible. Use a Recovery CD to restore the original factory configuration.
9605h – 9606h	Run full HDD test. Use a Recovery CD to restore the original factory configuration.
9607h	Back up data, then reformat the hard disk. Replace the hard disk.
9640h	Back up data, then replace the hard disk.
9641h	Back up data if possible, and replace the hard disk.
9642h	Perform the IDE disk test (in the Advanced section). If other errors occur, follow the instructions for those errors.
9643h	Back up data, then replace the hard disk.
9644h	Back up data if possible, and replace the hard disk.
9645h-9646h	Back up data if possible. Use a Recovery CD to restore the original factory configuration.
964Ah-9648h	The hard disk is password-protected, and so can't be tested.
964Bh, 964Ch	Replace the hard disk.

Power-On Self-Test

> **Note**
>
> If Quiet Boot is enabled in BIOS Setup (the default setting), press ESC during boot to see POST messages.

The POST (Power-On Self-Test) is a series of initialization routines and diagnostic tests that the system BIOS runs when the computer boots. The system BIOS will not boot the operating system if system memory, the CPU, DMA, or the interrupt controller fails the POST diagnostic tests. POST progress is indicated by a sequence of codes, and error messages are displayed if possible.

You should not necessarily interpret the failure of one or more POST tests as a hardware, software, or firmware failure. First, confirm the failure by performing a "clean" boot:

- Remove all accessories, including SDRAM modules, floppy drive, port replicator, PC Cards, printer, external monitor, pointing device, and keyboard.
- Provide "clean" AC power—no auto adapter or unusual AC adapter configuration.
- Press the system-off switch to start the computer from a known state.

If the computer fails to boot with a clean boot, it requires repair. If an error message appears, *confirm the problem using other diagnostic tools.* Not all POST messages indicate a hardware, software, or firmware failure—some messages are for information only.

If the BIOS detects a terminal error condition, it halts POST after issuing a terminal error beep code (see the following table). The beep code indicates the POST routine in which the terminal error occurred.

Table 3-4. POST Terminal-Error Beep Codes

Beep Codes*	POST Description
1	One short beep before boot.
1-2	Search for option ROMs.
1-2-2-3	BIOS ROM checksum.
1-3-1-1	Test DRAM refresh.
1-3-1-3	Test 8742 Keyboard Controller (part of power supply PCA).
1-3-4-1	RAM failure on address line xxxx.
1-3-4-3	RAM failure on data bits xxxx of low byte of memory bus.
1-4-1-1	RAM failure on data bits xxxx of high byte of memory bus.
2-1-2-3	Check ROM copyright notice.
2-2-3-1	Test for unexpected interrupts.
1 long-2 short	Improper video configuration (check display DIP switches, replace display interface PCA) or external ROM checksum failure.
1 long-5 short	Display DIP switches and EEPROM settings do not match (check DIP switch settings, reprogram EEPROM) (Omnibook 6000 only).
* Up to four groups of short beeps, except as noted.	

The following table lists POST messages and explanations for reported problems. If the system fails after you make changes in BIOS Setup, reset the computer, enter BIOS Setup, and install the defaults or correct the error.

Table 3-5. POST Messages

Message	Description
0200 Failure Fixed Disk	Fixed disk is not working or not configured properly. Make sure the fixed disk is attached properly. Run Setup. Find out if the fixed-disk type is correctly identified.
0210 Stuck key	Stuck key on keyboard.
0211 Keyboard error	Keyboard not working.
0212 Keyboard Controller Failed	Keyboard controller failed test. May require replacing power supply PCA (contains keyboard controller).
0213 Keyboard locked – Unlock key switch	Unlock the system to proceed.
0220 Monitor type does not match CMOS – Run SETUP	Monitor type not correctly identified in Setup
0230 Shadow RAM Failed at offset: *nnnn*	Shadow RAM failed at offset *nnnn* of the 64k block at which the error was detected.
0231 System RAM Failed at offset: *nnnn*	System RAM failed at offset *nnnn* of in the 64k block at which the error was detected.
0232 Extended RAM Failed at offset: *nnnn*	Extended memory not working or not configured properly at offset *nnnn*. Update to the latest BIOS version.
0250 System battery is dead – Replace and run SETUP	The CMOS clock battery indicator shows the battery is dead. Connect the AC adapter for at least 24 hours; replace the motherboard.
0251 System CMOS checksum bad – Default configuration used	System CMOS has been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS. The BIOS installed Default Setup Values. If you do not want these values, enter Setup and enter your own values. If the error persists, check the system battery. Connect the AC adapter for at least 24 hours; replace the motherboard.
0260 System timer error	The timer test failed. Requires replacement of motherboard.
0270 Real time clock error	Real-time clock fails BIOS test. May require replacement of motherboard.
0280 Previous boot incomplete – Default configuration used	Previous POST did not complete successfully. POST loads default values and offers to run Setup. If the failure was caused by incorrect values and they are not corrected, the next boot will likely fail. This error is cleared the next time the system is booted.
0281 Memory Size found by POST differed from CMOS	Memory size found by POST differed from CMOS.
02B0 Diskette drive A error **02B1 Diskette drive B error**	Drive A: or B: is present but fails the BIOS POST diskette tests. Make sure the drive is defined with the proper diskette type in Setup and that the diskette drive is attached correctly.
02B2 Incorrect Drive A type – run SETUP	Type of floppy drive A: not correctly identified in Setup.
02B3 Incorrect Drive B type – run SETUP	Type of floppy drive B: not correctly identified in Setup.
02D0 System cache error – Cache disabled	RAM cache failed and BIOS disabled the cache. May require replacement of motherboard. A disabled cache slows system performance considerably.
02F0: CPU ID:	CPU socket number for Multi-Processor error.
02F4: EISA CMOS not writeable	ServerBIOS2 test error: Cannot write to EISA CMOS.

Message	Description
02F5: DMA Test Failed	ServerBIOS2 test error: Cannot write to extended DMA (Direct Memory Access) registers.
02F6: Software NMI Failed	ServerBIOS2 test error: Cannot generate software NMI (Non-Maskable Interrupt).
02F7: Fail-Safe Timer NMI Failed	ServerBIOS2 test error: Fail-Safe Timer takes too long.
***device* Address Conflict**	Address conflict for specified device.
Allocation Error for: *device*	Run ISA or EISA Configuration Utility to resolve resource conflict for the specified device.
CD ROM Drive	CD ROM Drive identified.
Entering SETUP ...	Starting Setup program
Failing Bits: *nnnn*	The hex number nnnn is a map of the bits at the RAM address which failed the memory test. Each 1 (one) in the map indicates a failed bit. See errors 230, 231, or 232 above for offset address of the failure in System, Extended, or Shadow memory.
Fixed Disk *n*	Fixed disk *n* (0–3) identified.
Invalid System Configuration Data	Problem with NVRAM (CMOS) data.
I/O device IRQ conflict	I/O device IRQ conflict error.
PS/2 Mouse Boot Summary Screen:	PS/2 Mouse installed.
***nnnn* kB Extended RAM Passed**	Where *nnnn* is the amount of RAM in kilobytes successfully tested.
***nnnn* Cache SRAM Passed**	Where *nnnn* is the amount of system cache in kilobytes successfully tested.
***nnnn* kB Shadow RAM Passed**	Where *nnnn* is the amount of shadow RAM in kilobytes successfully tested.
***nnnn* kB System RAM Passed**	Where *nnnn* is the amount of system RAM in kilobytes successfully tested.
Operating system not found	Operating system cannot be located on either drive A: or drive C:. Enter Setup and see if fixed disk and drive A: are properly identified.
Parity Check 1 *nnnn*	Parity error found in the system bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????. Parity is a method for checking errors in binary data. A parity error indicates that some data has been corrupted.
Parity Check 2 *nnnn*	Parity error found in the I/O bus. BIOS attempts to locate the address and display it on the screen. If it cannot locate the address, it displays ????.
Press <F1> to resume, <F2> to Setup, <F3> for previous	Displayed after any recoverable error message. Press <F1> to start the boot process or <F2> to enter Setup and change the settings. Press <F3> to display the previous screen (usually an initialization error of an Option ROM, such as an add-on card). Write down and follow the information shown on the screen.
Press <F2> to enter Setup	Optional message displayed during POST.
PS/2 Mouse:	PS/2 mouse identified.
System BIOS shadowed	System BIOS copied to shadow RAM.
UMB upper limit segment address: *nnnn*	Displays the address *nnnn* of the upper limit of Upper Memory Blocks, indicating released segments of the BIOS which can be reclaimed by a virtual memory manager.
Video BIOS shadowed	Video BIOS copied to shadow RAM.

Sycard PCCtest 450 CardBus Card (Optional)

The PCCtest 450 CardBus Card (version 1.05) available from Sycard Technology is the only recommended diagnostic tool that tests the functionality of the PCMCIA slots using a PCMCIA card. It is a Type II CardBus Card that works with compatible test software to exercise PCMCIA functions. (For details, see the Sycard Technology Web site: http://www.sycard.com.) The PCCtest 450 product contains these components:

- PCCtest 450 CardBus Card, version 1.05.
- PCCtest 450 software disk. (Software updates are available at the Sycard Technology Web site: http://www.sycard.com.)
- Configuration headers (PC Card/16-bit and CardBus/32-bit) that attach to the card.

In addition, you will need this:

- CardBus extender card (such as the Sycard PCCextend 70) to avoid wear on the Sycard PCMCIA connector.

The Sycard PCCtest 450 provides the following tests. See the Sycard documentation for details about running the tests.

Table 3-6. Sycard PCCtest Commands

	Slot	**PCMCIA PC Card (16-bit) test** (PC Card configuration header)	**CardBus (32-bit) test** (CardBus configuration header)
Omnibook 6000/6100 (PCI1420)	Upper	PCT450 -1 -v -b75	TESTCB -1 -v -b75 -jsD000:0
	Lower	PCT450 -0 -v -b75	TESTCB -0 -v -b75 -jsD000:0

Desktop Management Interface (DMI)

The Desktop Management Interface (Windows 98) and Windows Management Instrumentation (Windows 2000) are basically sets of rules for accessing information about a computer. DMI/WMI allows an application to determine, for example, the operating system being used, which hardware and software components are in the computer, and possibly whether any of the components need replacing. A local or remote application can use the DMI/WMI interface to check which hardware and software components are installed on your computer, and may be able to tell how well they are working or if they need replacement.

Installing the DMI Package

The DMI package is either preinstalled on the computer's hard disk or can be downloaded from http://www.hp.com/toptools (the contents are the same in both cases). The package must be properly installed before it can be used.

To install the DMI/WMI preloaded on the hard disk:

1. Start Windows, if it is not already running.
2. Click Start, Programs, HP Toptools, Setup.

Using DMI/WMI

For a complete description of how to use DMI/WMI, see the following documentation provided with the computer:

- A README.TXT file: click Start, Programs, HP Toptools, Read me.
- A Windows online help file describing Hewlett-Packard's implementation of DMI/WMI (group and attribute definitions): click Start, Programs, HP Toptools, HP Toptools Help.

Uninstalling the DMI/WMI Package

1. Click Start, Programs, HP Toptools, Uninstall HP Toptools (Windows 98) or Uninstall WMI (Windows 2000).
2. Restart the computer.

BIOS Setup Utility

The BIOS Setup utility provides access to basic configuration settings. It is independent of the operating system.

Running the BIOS Setup Utility

1. Close all applications, then click Start, Shut Down, Reboot. (If necessary, you can press CTRL+ALT+DEL to reboot.)
2. When the HP logo appears, press F2 to enter the BIOS Setup utility.
3. The pointing devices are not active in BIOS Setup, so you will need to use the keyboard to navigate:
   - Press the LEFT and RIGHT arrow keys to move among menus.
   - Press the UP and DOWN arrow keys to move among parameters in a menu.
   - Press F5 or F6 to move through values for the current parameter, or press ENTER to change a setting.
4. After you select the options you want, press F10 or use the Exit menu to exit BIOS Setup.

   If the settings cause a conflict between devices during reboot, the system prompts you to run BIOS Setup, and marks the conflicting settings.

Table 3-7. BIOS Setup Menus and Parameters

This table provides BIOS setup menus and parameters for OB 6100 models. Specifications vary for Omnibook 6000 models.

Omnibook 6100: Introduced with BIOS version EB.M1.00 (Summer 2001).
Omnibook 6000: Introduced with BIOS version EA.M1.00 (Spring 2000).

Main Menu		Default
BIOS Revision	Shows the current BIOS version.	Detected automatically.
System Time	Sets the date using dd/mm/yy format (except English, which uses mm/dd/yy format).	
System Date	Sets the date using mm/dd/yy (English) or dd/mm/yy format.	
Internal Hard Disk	Sets the hard disk drive type and various parameters.	Detected automatically.
Quiet Boot	When enabled, hides summary of power-on self-test and messages during boot.	Enabled
Video Display Device	Sets whether the built-in display automatically switches to an external display, if one is detected.	Auto
Video Expansion	When enabled, the video image covers the entire display in lower resolution modes. When disabled, the video image is centered in the display.	Disabled
Primary Video Adapter	Sets whether the computer automatically switches to an external video adapter connected to the docking system, if one is detected.	Auto
Television Type	Controls the signal format (NTSC or PAL) output by the S-video port when Windows is not running.	NTSC
System Memory	Shows the system memory size.	640 KB
Extended Memory	Shows the extended memory size.	Detected automatically.

Unique Dock ID	Sets whether the computer creates a unique hardware profile for each dock (Enabled) or uses a common profile for all docks (Disabled).	Enabled
UUID	Displays the value of the 16-byte UUID (Universally Unique ID) as 32 hex characters.	Detected automatically
System Devices Menu		**Default**
PS/2 Pointing Devices	Disables the internal pointing devices when an external PS/2 mouse is connected.	Auto
External Fn Key	Sets whether left CTRL+left ALT on an external keyboard is interpreted as the Fn key.	Enabled
FDD Controller	Enables the floppy drive.	Enabled
Legacy USB Support	Enables BIOS support for USB mouse, keyboard, and floppy disk drive.	Enabled
Internal LAN	Enables the internal (wired) LAN.	Enabled
Mini PCI Slot 1	Enables the PCI slot normally used for a wireless LAN.	Enabled
Mini PCI Slot 2	Enables the PCI slot normally used for a modem, which is located under the cover on the bottom of unit. (Does not affect Ambit modem.)	Enabled
Serial port	Enables the serial port.	Enabled
Base I/O address	Sets the I/O address.	3F8h
Interrupt	Sets the interrupt.	IRQ4
Infrared port	Enables the infrared port.	Disabled
Mode	Sets the hardware to support FIR (Fast IR) or SIR (Standard IR) infrared communications.	FIR
Base I/O address	Sets the I/O address.	2F8h
Interrupt	Sets the interrupt.	IRQ3
DMA channel	Sets the DMA channel for Fast IR (FIR) mode.	DMA0
Parallel Port	Enables the parallel port.	Enabled
Mode	Sets the port to output only, bi-directional, EPP, or ECP.	ECP
Base I/O address	Sets the I/O address.	378h
Interrupt	Sets the interrupt.	IRQ7
DMA channel	Sets the DMA channel for ECP mode.	DMA1
Security Menu		**Default**
User Password is	Shows if a user password is set.	Clear
Administrator Password is	Shows if an administrator password is set.	Clear
Set User Password	Press ENTER to set, change, or clear the user password. The password can have no more than 8 characters (0-9, A-Z), and cannot include special or accented characters.	Enter
Set Administrator Password	Press ENTER to set, change, or clear the administrator password, which protects BIOS Setup settings. The password can have no more than 8 characters (0-9, A-Z), and cannot include special or accented characters.	Enter
Boot	Sets whether a user password is required when the computer boots. Requires the administrator password for changes.	Enabled
Resume*	Sets whether a user password is required when resuming from Standby or Hibernate mode. Requires the administrator password for changes. (Windows 98 only.)	Enabled

Undock*	Sets whether a user password is required when undocking the computer. Requires the administrator password for changes. (Windows 98 only.)	Disabled
Internal hard disk drive lock*	Encodes the current user password (or administrator password if that is the only password set) on the hard disk drive.	Disabled
Removable Device Boot	Sets whether the computer will attempt to boot from a floppy drive or other removable device.	Enabled
* Resume, Undock, and Internal hard disk drive lock options are available only if the Boot option is enabled.		
Power Menu		**Default**
Windows 2000 uses only the settings marked with *. Windows 98 uses only the settings marked with * or **. All other settings in the Power menu are ignored.		
Power Management Mode	Disables time-outs, selects a combination of time-outs, or allows customized time-outs.	Max. Power Savings
Suspend Time-out	Sets the period of inactivity after which the computer goes from Display-off to Standby power mode.	4 minutes
Hibernate Time-out**	Sets whether the computer goes from Standby to Hibernate power mode after the indicated period of inactivity. (Skips Standby mode if the suspend time-out is disabled.)	4 hours
Hard Disk Time-out	Sets the period of hard disk inactivity after which the internal hard disk (and any hard disk drive in the plug-in module bay) stops spinning.	2 minutes
Time-out on AC	Sets whether power management time-outs occur while the AC adapter is connected.	Disabled
Lid Switch Mode	Sets the action that occurs if the computer's lid is closed.	Turn off LCD
Resume On Serial Ring	Sets whether the system resumes if it received a ring signal.	Disabled
Resume On Time of Day	Sets whether the system resumes at a defined time of day.	Disabled
Resume Time	Sets the 24-hour time when the system resumes from if Resume On Time of Day is enabled.	
Auto Low-Battery Hibernate**	Sets whether the computer goes to Hibernate mode or continues running when the battery drains to its critically low level.	Enabled
Graphics Mode*	Sets the graphics system for maximum 3D performance or to save power.	Max. Performance
Backlight Mode*	When switching to battery power, sets whether the display brightness reverts to the previous battery-power brightness (Auto Restore) or to a very low brightness to save power (Auto Dim).	Auto Restore
Auto Suspend on Undock*	Sets whether the computer suspends to Standby power mode after undocking.	When Lid Closed
Auto Turn-On on Dock*	Sets whether the computer turns on after docking.	Enabled
* Windows 98 and 2000 use these settings. ** Windows 98 uses these additional settings.		
Boot Menu		**Default**
+Hard Disk +Removable Device CD-ROM/DVD Drive Intel Boot Agent	Shows the order of boot devices, with "+" indicating a device category. Move the entries to change the order. If the computer has more than one device in a category, you can select the one scanned. Intel Boot Agent provides diskless boot from a network server.	1. Hard Disk 2. Removable Device 3. CD-ROM/DVD drive 4. Intel Boot Agent

Exit Menu	
Save Changes and Exit	Saves Setup changes, then exits and reboots.
Discard Changes and Exit	Discards any Setup changes made since last save, then exits and reboots. Does not affect password, date, or time changes.
Get Default Values	Restores default settings, and remains in Setup. Does not affect password, date, or time changes.
Load Previous Values	Discards any Setup changes made since last save, and remains in Setup. Does not affect password, date, or time changes.
Save Changes	Saves Setup changes, and remains in Setup. Security settings are saved when changed.

4

Replaceable Parts

This chapter contains an exploded view of the Omnibook and the following lists of parts:

- Omnibook replaceable parts (page 4-3).
- Accessory replacement parts (page 4-8).
- Part number reference (page 4-9).

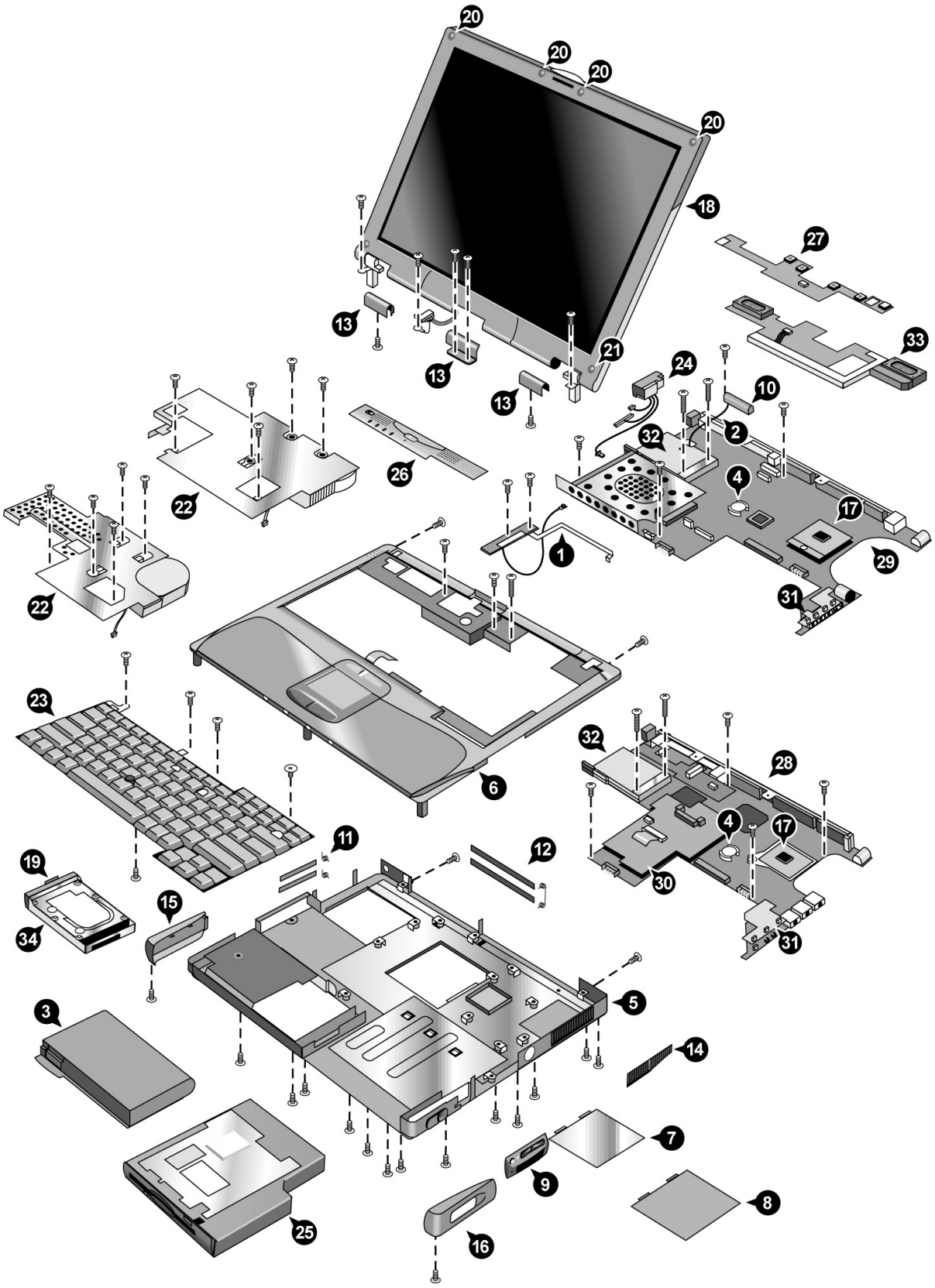


Figure 4-1. Exploded View

Table 4-1. Omnibook Replaceable Parts

	Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User-Repl.
	Antennas, kit	F3257-60952		•		
1	Front antenna PCA	(see above kit)		•		
2	Rear antenna PCA	(see above kit)		•		
15	Cover, left corner (14” and 15” displays)	(see above kit)		•		
3	Battery, main (14.8 V)	F2072-60906		•	•	Yes
4	Battery, CMOS (rechargeable 3 V)	Maxell ML1220 or equivalent		•	•	
	Card, mini-PCI (LAN/modem, 3Com)	F2072-60902			•	Yes
	Card, mini-PCI (SW modem, Ambit)	F2072-60903			•	Yes
	Card, mini-PCI (802.11 wireless)	F3257-60925		•		Yes
	Card, mini-PCI (HW modem)	F3257-60927		•		Yes
	Card, mini-PCI (LAN/modem w/regulatory)	F2072-60994			•	Yes
5	Case, bottom	F2140-60950			•	
5	Case, bottom	F3257-60935		•		
6	Case, top	F2072-60905			•	
6	Case, top	F3257-60928		•		
7	Cover, mini-PCI (US Robotics)	F3257-60940		•		Yes
7	Cover, mini-PCI (modem)	F3257-60942		•		Yes
7	Cover, mini-PCI (Ambit card)	F2140-60961			•	Yes
7	Cover, mini-PCI (3Com card)	F2140-60962			•	Yes
8	Cover, SDRAM (Actiontec)	F3257-60943		•		Yes
8	Cover, SDRAM (wireless)	F3257-60944		•		Yes
	Covers, corners, kit	F3257-60951		•		Yes
16	Right corner cover, 15.0” display	(see above kit)		•	•	Yes
16	Right corner cover, 14.1” display	(see above kit)		•	•	
17	Left corner cover, 15.0” display, with wireless button	(see above kit)		•		
17	Left corner cover, 14.1” display, with wireless button	(see above kit)		•		
17	Left corner cover, 15.0” display	(see above kit)		•	•	Yes
17	Left corner cover, 14.1” display	(see above kit)		•	•	Yes
	Covers, service kit	F3257-60948		•		Yes
9	Panel, sound/IR	(see above kit)		•		Yes
10	Cover, rear antenna	(see above kit)		•		Yes
11	Doors, PCMCIA (with springs)	(see above kit)		•		Yes
12	Doors, docking (with springs)	(see above kit)		•		Yes
13	Covers, display hinges	(see above kit)		•		Yes
	Covers, service kit	F2072-60999			•	
9	Panel, sound/IR	(see above kit)			•	
14	Panel, vent	(see above kit)			•	
11	Doors, PCMCIA (with springs)	(see above kit)			•	
12	Doors, docking (with springs)	(see above kit)			•	
13	Covers, hinge	(see above kit)			•	

	Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User-Repl.
	Covers, user kit	F2140-60914			•	Yes
7	Cover, mini-PCI (no modem)	(see above kit)			•	Yes
8	Cover, SDRAM	(see above kit)			•	Yes
15	Cover, left corner (14” and 15” displays)	(see above kit)			•	Yes
16	Cover, right corner (14” and 15” displays)	(see above kit)			•	Yes
17	CPU module, 600 MHz, Pentium III	1821-5688	F1979-69101		•	
17	CPU module, 650 MHz, Pentium III	1821-5689	F1980-69101		•	
17	CPU module, 650 MHz, Celeron	1821-5867	F2111-69102		•	
17	CPU module, 700 MHz, Pentium III	1821-5690	F2072-69102		•	
17	CPU module, 750 MHz, Celeron	1821-8826	F2140-69104		•	
17	CPU,Module, 800 MHz, Pentium III	1821-8570	F2140-69102		•	
17	CPU,Module, 850 MHz, Pentium III	1821-8571	F2140-69103		•	
17	CPU,Module, 900 MHz, Pentium III	1822-0098	F2140-69105		•	
17	CPU,Module, 933 MHz, Pentium III-M Tualatin	1822-0400	F3257-69004	•		
17	CPU,Module, 1 GHz, Pentium III	1822-0099	F2140-69106		•	
17	CPU Module, 1 GHz, Pentium III-M Tualatin	1822-0395	F3257-69005	•		
17	CPU,Module, 1.133 GHz, Pentium III-M Tualatin	1822-0392	F3257-69006	•		
18	Display assembly, 14.1” XGA	F2072-60917	F2072-60917		•	
18	Display assembly, 14.1" XGA	F3257-60937	F3257-69037	•		
18	Display assembly, 15.0” XGA	F2072-60918	F2072-60918		•	
18	Display assembly, 15.0" SXGA+	F3257-60939	F3257-69039	•		
18	Display assembly, 15.0" SXGA+	F2140-60949	F2140-69049		•	
19	Drive, hard disk (5 GB, 9.5 mm, Fujitsu)	0950-3905	F2072-69106		•	Yes
19	Drive, hard disk (5 GB, 9.5 mm, IBM)	0950-3933	F1660-69111		•	Yes
19	Drive, hard disk (5 GB, 9.5 mm, Hitachi)	0950-3963	F2072-69114		•	Yes
19	Drive, hard disk (6 GB, 9.5 mm, Fujitsu)	0950-3731			•	Yes
19	Drive, hard disk (6 GB, 9.5 mm, Hitachi)	0950-3732	F1660-69108		•	Yes
19	Drive, hard disk (6 GB, 9.5 mm, Toshiba)	0950-4010	F2072-69112		•	Yes
19	Drive, hard disk (6 GB, 9.5 mm, Hitachi)	0950-4032	F1629-69056		•	Yes
19	Drive, hard disk (7.5 GB, 9.5 mm, IBM)	0950-4030	F2112-69003		•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, Hitachi)	0950-3903	F2072-69108		•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, IBM)	0950-3934	F1660-69112		•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, Hitachi)	0950-3964	F1664-69002		•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, Toshiba)	0950-3985	F2072-69109		•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, IBM Diablo)	0950-4166	F3257-69100	•	•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, Toshiba)	0950-4178	F3257-69101	•	•	Yes
19	Drive, hard disk (10 GB, 9.5 mm, Hitachi)	0950-4213	F3257-69104	•	•	Yes
19	Drive, hard disk (12 GB, 9.5 mm, Toshiba)	0950-3725	F1660-69110		•	Yes
19	Drive, hard disk (20 GB 9.5 mm, Hitachi)	0950-3965	F2072-69113		•	Yes
19	Drive, hard disk (20 GB, 9.5 mm, Toshiba)	0950-3986	F2072-69111		•	Yes
19	Drive, hard disk (20 GB, 9.5 mm, IBM Diablo)	0950-4163	F2072-69114	•	•	Yes
19	Drive, hard disk (20 GB, 9.5 mm, Toshiba)	0950-4171	F3257-69102	•	•	Yes
19	Drive, hard disk (20 GB, 9.5 mm, Hitachi)	0950-4193	F3257-69105	•	•	Yes
19	Drive, hard disk (30 GB, 12.5 mm, IBM)	0950-3936	F2072-69110		•	Yes
19	Drive, hard disk (30 GB, 9.5 mm, IBM Diablo)	0950-4162	F2072-69115	•	•	Yes
19	Drive, hard disk (30 GB, 9.5 mm, Hitachi)	0950-4168	F3257-69106	•	•	Yes

	Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User-Repl.
19	Drive, hard disk (30 GB, 9.5 mm, Toshiba)	0950-4176	F3257-69103	•	•	Yes
19	Feet/bumpers, kit	F2072-60926			•	Yes
20	Bumpers, display (16 in kit)	(see above kit)			•	Yes
21	Covers, display screw (16 in kit)	(see above kit)			•	Yes
	Feet, rubber (16 in kit)	(see above kit)			•	Yes
	Feet/bumpers, kit	F3257-60950		•		Yes
20	Bumpers, display (16 in kit)	(see above kit)		•		Yes
21	Covers, display screw (16 in kit)	(see above kit)		•		Yes
	Feet, rubber (16 in kit)	(see above kit)		•		Yes
22	Heatsink (thick, with fan)	F2140-60909			•	
22	Heatsink (thin, with fan)	F2140-60951			•	
22	Heatsink (with fan)	F3257-60930		•		
23	Keyboard, Arabic English	F2072-60949			•	
23	Keyboard, Arabic/English	F3257-60924		•		
23	Keyboard, Belgian	F2072-60944			•	
23	Keyboard, Belgian	F3257-60902		•		
23	Keyboard, Czech	F2072-60943			•	
23	Keyboard, Czech	F3257-60903		•		
23	Keyboard, Danish	F2072-60941			•	
23	Keyboard, Danish	F3257-60904		•		
23	Keyboard, French	F2072-60936			•	
23	Keyboard, French	F3257-60905		•		
23	Keyboard, French Canadian	F2072-60933			•	
23	Keyboard, French Canadian	F3257-60906		•		
23	Keyboard, German	F2072-60934			•	
23	Keyboard, German	F3257-60907		•		
23	Keyboard, Greek	F2072-60930			•	
23	Keyboard, Greek	F3257-60908		•		
23	Keyboard, Hebrew	F2072-60945			•	
23	Keyboard, Hebrew	F3257-60920		•		
23	Keyboard, Hungarian	F2072-60946			•	
23	Keyboard, Hungarian	F3257-60922		•		
23	Keyboard, Icelandic	F3257-60921		•		
23	Keyboard, International English	F2072-60929			•	
23	Keyboard, International English	F3257-60909		•		
23	Keyboard, Italian	F2072-60942			•	
23	Keyboard, Italian	F3257-60910		•		
23	Keyboard, Japanese	F2072-60937			•	
23	Keyboard, Japanese	F3257-60911		•		
23	Keyboard, Norwegian	F2072-60938			•	
23	Keyboard, Norwegian	F3257-60912		•		
23	Keyboard, Portuguese	F2072-60948			•	
23	Keyboard, Portuguese	F3257-60913		•		
23	Keyboard, Russian	F2072-60947			•	
23	Keyboard, Russian	F3257-60923		•		
23	Keyboard, Spanish	F2072-60935			•	
23	Keyboard, Spanish	F3257-60914		•		
23	Keyboard, Swedish/Finnish	F2072-60940			•	

	Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User-Repl.
23	Keyboard, Swedish/Finnish	F3257-60915		•		
23	Keyboard, Swiss	F2072-60939			•	
23	Keyboard, Swiss	F3257-60916		•		
23	Keyboard, Traditional Chinese	F2072-60950			•	
23	Keyboard, Traditional Chinese	F3257-60919		•		
23	Keyboard, Turkish	F2072-60931			•	
23	Keyboard, Turkish	F3257-60917		•		
23	Keyboard, UK English	F2072-60932			•	
23	Keyboard, UK English	F3257-60918		•		
23	Keyboard, US English	F2072-60928			•	
23	Keyboard, US English	F3257-60901		•		
	Label, MS W2K OS COA	5184-2085		•	•	Yes
	Label, MS W98 OS COA	5184-2097		•	•	Yes
	Label, serial overlay,	7121-7525			•	
	Mini-PCI panels, kit	F3257-60949		•		
24	Panel, mini-PCI, LAN/modem	(see above kit)		•		
24	Panel, mini-PCI, LAN	(see above kit)		•		
	Mini-PCI panels, kit	F2072-60925			•	
24	Panel, mini-PCI (LAN/modem, 3Com)	(see above kit)			•	
24	Panel, mini-PCI (modem)	(see above kit)			•	
24	Panel, mini-PCI (blank)	(see above kit)			•	
25	Module, floppy disk drive	F2013-60901		•	•	Yes
	Pad, thermal (for heatsink)	F3257-60956		•	•	
26	Panel, power button	F2072-60995			•	Yes
26	Panel, power button	F3257-60929		•		
27	PCA, display interface*	F2072-60915			•	
27	PCA, display interface (XGA)*	F2140-60911			•	
27	PCA, display interface (SXGA+)*	F2140-60912			•	
27	PCA, display interface	F3257-60934		•		
28	PCA, motherboard (Pentium)*	F2072-60913	F2072-69013		•	
28	PCA, motherboard (Celeron)*	F2072-60914	F2072-69014		•	
28	PCA, motherboard (Pentium)*	F2140-60952	F2140-69052		•	
28	PCA, motherboard (Celeron)*	F2140-60964	F2140-69064		•	
28	PCA, motherboard (with Intel SpeedStep)	F3257-60933	F3257-69033	•		
30	PCA, power supply*	F2072-60911			•	
30	PCA, power supply *	F2140-60910			•	
30	PCA, power supply*	F2140-60953			•	
31	PCA, volume*	F2072-60912			•	
31	PCA, volume *	F2140-60915			•	
31	PCA, volume	F3257-60932		•		
	Screws, kit	F2072-60923			•	Yes
	Screw, M2x4mm	(see above kit)			•	Yes
	Screw, M2x15mm	(see above kit)			•	Yes
	Screw, M2.5x2mm (wide-head)	(see above kit)			•	Yes
	Screw, M2.5x4mm	(see above kit)			•	Yes
	Screw, M2.5x6mm	(see above kit)			•	Yes
	Screw, M2.5x8mm	(see above kit)			•	Yes
	Screw, M3x2mm	(see above kit)			•	Yes

	Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User-Repl.
	Screws, kit	F3257-60947		•		Yes
	Screw, M2x4mm	(see above kit)		•		Yes
	Screw, M2x13mm	(see above kit)		•		Yes
	Screw, M2x15mm	(see above kit)		•		Yes
	Screw, M2.5x2mm (wide-head)	(see above kit)		•		Yes
	Screw, M2x3mm	(see above kit)		•		Yes
	Screw, M2.5x4mm	(see above kit)		•		Yes
	Screw, M2.5x5mm	(see above kit)		•		Yes
	Screw, M2.5x6mm	(see above kit)		•		Yes
	Screw, M2.5x8mm	(see above kit)		•		Yes
	Screw, M2.5x17mm	(see above kit)		•		Yes
	Screw, M3x3mm	(see above kit)		•		Yes
	Screw, M3x6mm	(see above kit)		•		Yes
	SDRAM module, 32 MB, SODIMM (100 MHz)	1818-7950			•	Yes
	SDRAM module, 64 MB, SODIMM (100 MHz)	1818-7951	F1660-69103		•	Yes
	SDRAM module, 128 MB, SODIMM (100 MHz)	1818-7952	F1660-69104		•	Yes
	SDRAM module, 256 MB, SODIMM (100 MHz)	1818-7953	F1654-69101		•	Yes
	SDRAM module, 64 MB, SODIMM (133 MHz)	1818-8505			•	Yes
	SDRAM module, 64 MB, SODIMM (133 MHz)	1818-8510		•	•	Yes
	SDRAM module, 128 MB, SODIMM (133 MHz)	1818-8503			•	Yes
	SDRAM module, 128 MB, SODIMM (133 MHz)	1818-8504			•	Yes
	SDRAM module, 256 MB, SODIMM (133 MHz)	1818-8534			•	Yes
	SDRAM module, 256 MB, SODIMM (133 MHz)	1818-8635	F3257-69003	•		Yes
	SDRAM module, 512 MB, SODIMM (133 MHz)	1818-8604	F2298-69001	•		Yes
32	Socket, PCMCIA	F2072-60919		•	•	
33	Speaker assembly	F3257-60936		•		
	Tray, business card	F2072-60921		•	•	Yes
	Tray, docking E	F2012-60901		•	•	Yes
34	Tray, hard disk drive	F2072-60909			•	Yes
34	Tray, hard disk drive	F3257-60931		•		Yes

* See “Table 2-5. Motherboard and PCA Compatibility” on page 2-28.

Table 4-2. Accessory Replaceable Parts

Description	Part Number	Exchange Part Number	Omnibook 6100	Omnibook 6000	User Repl.
Adapter, AC (60 watt)	0950-3634			•	Yes
Adapter, AC (60 watt ultraslim, 19 V output)	0950-3988		•	•	Yes
Adapter, auto/air (75 watt)	F1455-80003		•	•	Yes
Adapter, docking module bay	F2010-60901		•	•	Yes
Adapter, PS/2 “Y”	F1469-80001		•	•	Yes
Battery, main (14.8 V)	F2072-60906			•	Yes
Battery, secondary module	F2014-60901		•	•	Yes
Battery, 8-cell lithium ion 4000 maH	F2019-60901		•	•	Yes
Cable, floppy disk drive (external)	F2008-60901		•	•	Yes
Charger, battery (external)	F2011-60901		•	•	Yes
Cord, power, Argentina (2w)	8120-8367		•	•	Yes
Cord, power, Australia #ABG (2w)	8120-6312		•	•	Yes
Cord, power, Chile (2w)	8120-8452		•	•	Yes
Cord, power, China #AB2 (2w)	8120-8373		•	•	Yes
Cord, power, Europe #ABB (2w)	8120-6314		•	•	Yes
Cord, power, India (2w)	8121-0702		•	•	Yes
Cord, power, Japan #ABJ (2w)	8120-6316		•	•	Yes
Cord, power, S. Korea (2w)	8120-8441		•	•	Yes
Cord, power, S. Africa #ACQ (2w)	8120-6317		•	•	Yes
Cord, power, UK (EPSR) for Hong Kong/ Singapore (2w)	8120-8699		•	•	Yes
Cord, power, U.S #ABA (2w)	8120-6313		•	•	Yes
Cover, Trackpoint, (Bag of 3, Raspberry Red)	5182-5138		•	•	Yes
Mini-dock (A) version	F1452-60901		•	•	Yes
Mini-dock (B) version	F1452-60902		•	•	Yes
Module, floppy disk drive	F2013-60901		•	•	Yes
Module, DVD drive	F2015-60902		•	•	Yes
Module, CD-ROM drive	F2017-60901		•	•	Yes
Module, LS-120 drive	F2022-60901		•	•	Yes
Module, CD-RW drive	F2026-60902	F2026-69002	•	•	Yes
Module, second hard disk drive housing	F2072-60910		•	•	Yes
Module, weight saving	F2072-60922		•	•	Yes
Monitor stand (short)	F1453-60901		•	•	Yes
Plug, adapter, auto/air	5182-5131		•	•	Yes
Port replicator	F1451-60901		•	•	Yes
Port replicator (B) version	F1451-60902		•	•	Yes
SDRAM module, 32 MB, SODIMM (100 MHz)	1818-7950			•	Yes
SDRAM module, 64 MB, SODIMM (100 MHz)	1818-7951	F1660-69103		•	Yes
SDRAM module, 128 MB, SODIMM (100 MHz)	1818-7952	F1660-69104		•	Yes
SDRAM module, 256 MB, SODIMM (100 MHz)	1818-7953	F1654-69101		•	Yes
SDRAM module, 128 MB, SODIMM (133 MHz)	1818-8503			•	Yes
SDRAM module, 128 MB, SODIMM (133 MHz)	1818-8504	F3257-69002	•		Yes
SDRAM module, 64 MB, SODIMM (133 MHz)	1818-8510	F3257-69001	•	•	Yes
SDRAM module, 256 MB, SODIMM (133 MHz)	1818-8534			•	Yes
SDRAM module, 512 MB, SODIMM (133 MHz)	1818-8604	F3257-690010	•		Yes
SDRAM module, 256MB, SODIMM (133 MHz)	1818-8635	F3257-69003	•		Yes
Tray, docking E	F2012-60901		•	•	Yes

Table 4-3. Part Number Reference

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
0950-3634		Adapter, AC (60 watt)	•	•	Yes
0950-3725	F1660-69110	Drive, hard disk (12 GB, 9.5 mm,Toshiba)		•	Yes
0950-3731		Drive, hard disk (6 GB, 9.5 mm, Fujitsu)		•	Yes
0950-3732	F1660-69108	Drive, hard disk (6 GB, 9.5 mm, Hitachi)		•	Yes
0950-3903	F2072-69108	Drive, hard disk (10 GB, 9.5 mm, Hitachi)		•	Yes
0950-3905	F2072-69106	Drive, hard disk (5 GB, 9.5 mm, Fujitsu)		•	Yes
0950-3933	F1660-69111	Drive, hard disk (5 GB, 9.5 mm, IBM)		•	Yes
0950-3934	F1660-69112	Drive, hard disk (10 GB, 9.5 mm, IBM)		•	Yes
0950-3936	F2072-69110	Drive, hard disk (30 GB, 12.5 mm, IBM)		•	Yes
0950-3963	F2072-69114	Drive, hard disk (5 GB, 9.5 mm, Hitachi)		•	Yes
0950-3964	F1664-69002	Drive, hard disk (10 GB, 9.5 mm, Hitachi)		•	Yes
0950-3965	F2072-69113	Drive, hard disk (20 GB 9.5 mm, Hitachi)		•	Yes
0950-3985	F2072-69109	Drive, hard disk (10 GB, 9.5 mm, Toshiba)		•	Yes
0950-3986	F2072-69111	Drive, hard disk (20 GB, 9.5 mm, Toshiba)		•	Yes
0950-3988		Adapter, AC (60W ultraslim, 19V output)	•	•	Yes
0950-4010	F2072-69112	Drive, hard disk (6 GB, 9.5 mm, Toshiba)		•	Yes
0950-4030	F2112-69003	Drive, hard disk (7.5 GB, 9.5 mm, IBM)		•	Yes
0950-4032	F1629-69056	Drive, hard disk (6 GB, 9.5 mm, Hitachi)		•	Yes
0950-4162	F2072-69115	Drive, hard disk (30 GB, 9.5 mm, IBM ATA100)	•	•	Yes
0950-4163	F1660-69114	Drive, hard disk (20 GB, 9.5 mm, IBM ATA100)	•	•	Yes
1818-7950		SDRAM module, 32 MB, SODIMM (100 MHz)		•	Yes
1818-7951	F1660-69103	SDRAM module, 64 MB, SODIMM (100 MHz)		•	Yes
1818-7952	F1660-69104	SDRAM module, 128 MB, SODIMM (100 MHz)		•	Yes
1818-7953	F1654-69101	SDRAM module, 256 MB, SODIMM (100 MHz)		•	Yes
1818-8503		SDRAM module, 128 MB, SODIMM (133 MHz)		•	Yes
1818-8504		SDRAM module, 128 MB, SODIMM (133 MHz)	•		Yes
1818-8505		SDRAM module, 64 MB, SODIMM (133 MHz)		•	Yes
1818-8510		SDRAM module, 64 MB, SODIMM (133 MHz)	•	•	Yes
1818-8534		SDRAM module, 256 MB, SODIMM (133 MHz)		•	Yes
1818-8604	F2298-69001	SDRAM module, 512 MB, SODIMM (133 MHz)	•		Yes
1818-8635	F3257-69003	SDRAM module, 256 MB, SODIMM (133 MHz)	•		Yes
1821-5688	F1979-69101	CPU module, 600 MHz, Pentium III		•	
1821-5689	F1980-69101	CPU module, 650 MHz, Pentium III		•	
1821-5690	F2072-69102	CPU module, 700 MHz, Pentium III		•	
1821-5867	F2111-69102	CPU,Module, 650 MHz, Celeron		•	
1821-8570	F2140-69102	CPU,Module, 800 MHz, Pentium III		•	
1821-8571	F2140-69103	CPU,Module, 850 MHz, Pentium III		•	
1821-8826	F2140-69104	CPU,Module, 750 MHz, Celeron		•	
1822-0098	F2140-69105	CPU,Module, 900 MHz, Pentium III		•	
1822-0099	F2140-69106	CPU,Module, 1 GHz, Pentium III		•	
1822-0392	F3257-69006	CPU,Module, 1.133 GHz, Pentium III-M Tualatin	•		
1822-0395	F3257-69005	CPU Module, 1 GHz, Pentium III-M Tualatin	•		
1822-0400	F3257-69004	CPU,Module, 933 MHz, Pentim III-M Tualatin	•		
5182-5131		Plug, adapter, auto/air	•	•	Yes
5182-5138		Cover, Trackpoint (bag of 3, raspberry red)	•	•	Yes

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
5184-2085		MS W2K OS COA	•	•	Yes
5184-2097		MS W98 OS COA	•	•	Yes
7121-7525		Label, serial overlay	•	•	
8120-6312		Cord, power, Australia #ABG (2w)	•	•	Yes
8120-6313		Cord, power, U.S #ABA (2w)	•	•	Yes
8120-6314		Cord, power, Europe #ABB (2w)	•	•	Yes
8120-6316		Cord, power, Japan #ABJ (2w)	•	•	Yes
8120-6317		Cord, power, S. Africa #ACQ (2w)	•	•	Yes
8120-8367		Cord, power, Argentina (2w)	•	•	Yes
8120-8373		Cord, power, China #AB2 (2w)	•	•	Yes
8120-8441		Cord, power, S. Korea (2w)	•	•	Yes
8120-8452		Cord, power, Chile (2w)	•	•	Yes
8120-8699		Cord, power, UK (EPSR) for Hong Kong/ Singapore (2w)	•	•	Yes
8121-0702		Cord, power, India (2w)	•	•	Yes
F1451-60901		Port replicator	•	•	Yes
F1451-60902		Port replicator (B) version	•	•	Yes
F1452-60901		Mini-dock (A) version	•	•	Yes
F1452-60902		Mini-dock (B) version (w/LAN pass-through)	•	•	Yes
F1453-60901		Monitor stand (short)	•	•	Yes
F1455-80003		Adapter, auto/air (75 watt)	•	•	Yes
F1469-80001		Adapter, PS/2 “Y”	•	•	Yes
F1660-69114		Drive, hard disk (20 GB, 9.5 mm, IBM Diablo)	•	•	Yes
F2008-60901		Cable, floppy disk drive (external)	•	•	Yes
F2009-60902		Module, Zip drive	•	•	Yes
F2010-60901		Adapter, docking module bay	•	•	Yes
F2011-60901		Charger, battery (external)	•	•	Yes
F2012-60901		Tray, docking E	•	•	Yes
F2013-60901		Module, floppy disk drive	•	•	Yes
F2014-60901		Battery, secondary module	•	•	Yes
F2015-12002		CD-DVD Player Software MediaMatics ver.5039.x		•	Yes
F2015-12003		CD-DVD Player Software InterVideo ver.	•		Yes
F2015-60902		Module, DVD drive	•	•	Yes
F2017-60901		Module, CD-ROM drive	•	•	Yes
F2019-60901		Battery, 8-cell lithium ion 4000 maH	•	•	Yes
F2022-60901		Module, LS-120 drive	•	•	Yes
F2026-12003		CD-RW Software Adaptec ver. 4.03	•	•	Yes
F2026-60902	F2026-69002	Module, CD-RW drive	•	•	Yes
F2072-12039		CD, Training		•	Yes
F2072-60902		Card, mini-PCI (LAN/modem, 3Com)		•	Yes
F2072-60903		Card, mini-PCI (SW modem, Ambit)		•	Yes
F2072-60905		Case, top		•	
F2072-60906		Battery, main (14.8 V)	•	•	Yes
F2072-60909		Tray, hard disk drive		•	Yes
F2072-60910		Module, second hard disk drive housing	•	•	Yes
F2072-60911		PCA, power supply		•	
F2072-60912		PCA, volume		•	

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
F2072-60913	F2072-69013	PCA, motherboard (Pentium)		•	
F2072-60914	F2072-69014	PCA, motherboard (Celeron)		•	
F2072-60915		PCA, display interface		•	
F2072-60917	F2072-60917	Display assembly, 14.1” XGA		•	
F2072-60918	F2072-60918	Display assembly, 15.0” XGA		•	
F2072-60919		Socket, PCMCIA	•	•	
F2072-60921		Tray, business card	•	•	Yes
F2072-60922		Module, weight-saving		•	Yes
F2072-60923		Screws, kit		•	Yes
F2072-60925		Mini-PCI panels, kit		•	
F2072-60926		Feet/bumpers, kit		•	Yes
F2072-60928		Keyboard, US English		•	
F2072-60929		Keyboard, International English		•	
F2072-60930		Keyboard, Greek		•	
F2072-60931		Keyboard, Turkish		•	
F2072-60932		Keyboard, UK English		•	
F2072-60933		Keyboard, French Canadian		•	
F2072-60934		Keyboard, German		•	
F2072-60935		Keyboard, Spanish		•	
F2072-60936		Keyboard, French		•	
F2072-60937		Keyboard, Japanese		•	
F2072-60938		Keyboard, Norwegian		•	
F2072-60939		Keyboard, Swiss		•	
F2072-60940		Keyboard, Swedish/Finnish		•	
F2072-60941		Keyboard, Danish		•	
F2072-60942		Keyboard, Italian		•	
F2072-60943		Keyboard, Czech		•	
F2072-60944		Keyboard, Belgian		•	
F2072-60945		Keyboard, Hebrew		•	
F2072-60946		Keyboard, Hungarian		•	
F2072-60947		Keyboard, Russian		•	
F2072-60948		Keyboard, Portuguese		•	
F2072-60949		Keyboard, Arabic English		•	
F2072-60950		Keyboard, Traditional Chinese		•	
F2072-60987		Training set, Series 00-A	•	•	
F2072-60994		Card, mini-PCI (LAN/modem w/regulatory)		•	Yes
F2072-60995		Panel, power button		•	Yes
F2072-60999		Covers, service kit		•	
F2072-69115		Drive, hard disk (30 GB, 9.5 mm, IBM Diablo)	•	•	Yes
F2073-60948		Recovery CD, Norwegian, W98 (Mfg. P/N F2072-12048)		•	
F2073-60949		Recovery CD, Finnish, W98 (Mfg. P/N F2072-12049)		•	
F2073-60950		Recovery CD, Danish, W98 (Mfg. P/N F2072-12050)		•	
F2073-60952		Recovery CD, German, Dutch, W98 (Mfg. P/N F2072-12052)		•	
F2073-60954		Recovery CD, English, NT4 (Mfg. P/N F2072-12054)		•	

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
F2073-60955		Recovery CD, German, NT4 (Mfg. P/N F2072-12055)		•	
F2073-60956		Recovery CD, Spanish, NT4 (Mfg. P/N F2072-12056)		•	
F2073-60957		Recovery CD, French, NT4 (Mfg. P/N F2072-12057)		•	
F2073-60958		Recovery CD, Norwegian, NT4 (Mfg. P/N F2072-12058)		•	
F2073-60959		Recovery CD, Finnish, NT4 (Mfg. P/N F2072-12059)		•	
F2073-60960		Recovery CD, Danish, NT4 (Mfg. P/N F2072-12060)		•	
F2073-60961		Recovery CD, Italian, NT4 (Mfg. P/N F2072-12061)		•	
F2073-60963		Recovery CD, Japanese, NT4 (Mfg. P/N F2072-12063)		•	
F2073-60965		Recovery CD, Swedish, W98 (Mfg. P/N F2072-12065)		•	
F2073-60966		Recovery CD, Swedish, NT4 (Mfg. P/N F2072-12066)		•	
F2073-60969		Recovery CD, Greek, W98 (Mfg. P/N F2072-12069)		•	
F2140-60902		Recovery CD, Greek/English, W98 (Mfg. P/N F2140-12002)		•	
F2140-60903		Recovery CD, Turkish, W98 (Mfg. P/N F2140-12003)		•	
F2140-60906		Recovery CD, Japanese, W98 (Mfg. P/N F2140-12009)		•	
F2140-60907		Recovery CD, Hebrew, W98 (Mfg. P/N F2140-12012)		•	
F2140-60908		Recovery CD, Arabic, W98 (Mfg. P/N F2140-12013)		•	
F2140-60909		Heatsink (thick, with fan)		•	
F2140-60910		PCA, power supply		•	
F2140-60911		PCA, display interface (XGA)		•	
F2140-60912		PCA, display interface (SXGA+)		•	
F2140-60914		Covers, user kit		•	Yes
F2140-60915		PCA, volume		•	
F2140-60917		Recovery CD, Czech, W98 (Mfg. P/N F2140-12017)		•	
F2140-60918		Recovery CD, Hungarian, W98 (Mfg. P/N F2140-12018)		•	
F2140-60919		Recovery CD, Polish, W98 (Mfg. P/N F2140-12019)		•	
F2140-60920		Recovery CD, Russian, W98 (Mfg. P/N F2140-12020)		•	
F2140-60921		Recovery CD, Traditional Chinese, W98 (Mfg. P/N F2140-12021)		•	
F2140-60923		Recovery CD, North American English, W98 (Mfg. P/N F2140-12023)		•	
F2140-60924		Recovery CD, International English, W98 (Mfg. P/N F2140-12024)		•	

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
F2140-60925		Recovery CD, German, W98 (Mfg. P/N F2140-12025)		•	
F2140-60926		Recovery CD, Spanish, W98 (Mfg. P/N F2140-12026)		•	
F2140-60927		Recovery CD, French, W98 (Mfg. P/N F2140-12027)		•	
F2140-60929		Recovery CD, Swedish/English, W98 (Mfg. P/N F2140-12029)		•	
F2140-60930		Recovery CD, Finnish/English, W98 (Mfg. P/N F2140-12030)		•	
F2140-60931		Recovery CD, Danish/English, W98 (Mfg. P/N F2140-12031)		•	
F2140-60932		Recovery CD, Italian, W98 (Mfg. P/N F2140-12032)		•	
F2140-60933		Recovery CD, Dutch/English, W98 (Mfg. P/N F2140-12033)		•	
F2140-60934		Recovery CD, North American English, W2K (Mfg. P/N F2140-12034)		•	
F2140-60935		Recovery CD, International English, W2K (Mfg. P/N F2140-12035)		•	
F2140-60936		Recovery CD, German, W2K (Mfg. P/N F2140-12036)		•	
F2140-60937		Recovery CD, Spanish, W2K (Mfg. P/N F2140-12037)		•	
F2140-60938		Recovery CD, French, W2K (Mfg. P/N F2140-12038)		•	
F2140-60939		Recovery CD, Japanese, W2K (Mfg. P/N F2140-12039)		•	
F2140-60940		Recovery CD, Norwegian, W2K (Mfg. P/N F2140-12040)		•	
F2140-60941		Recovery CD, Swedish, W2K (Mfg. P/N F2140-12041)		•	
F2140-60942		Recovery CD, Finnish, W2K (Mfg. P/N F2140-12042)		•	
F2140-60943		Recovery CD, Danish, W2K (Mfg. P/N F2140-12043)		•	
F2140-60944		Recovery CD, Italian, W2K (Mfg. P/N F2140-12044)		•	
F2140-60948		Recovery CD, Norwegian/English, W98 (Mfg. P/N F2140-12048)		•	
F2140-60949	F2140-69049	Display assembly, 15.0" SXGA+		•	
F2140-60950		Case, bottom		•	
F2140-60951		Heatsink (thin, with fan)		•	
F2140-60952	F2140-69052	PCA, motherboard (Pentium)		•	
F2140-60953		PCA, power supply		•	
F2140-60956		Recovery CD, Simplified Chinese, W98 (Mfg. P/N F2140-12056)		•	
F2140-60957		Recovery CD, Dutch, W2K (Mfg. P/N F2140-12057)		•	
F2140-60959		Recovery CD, Taiwanese Chinese, W98 (Mfg. P/N F2140-12059)		•	
F2140-60960		Recovery CD, German/French W98 (Mfg. P/N F2140-12060)		•	

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
F2140-60961		Cover, mini-PCI (Ambit card)		•	Yes
F2140-60962		Cover, mini-PCI (3Com card)		•	Yes
F2140-60964	F2140-69064	PCA, motherboard (Celeron)		•	
F2196-80001		Card, PC (3Com Bluetooth)		•	Yes
F3257-60901		Keyboard, US English	•		
F3257-60902		Keyboard, Belgian	•		
F3257-60903		Keyboard, Czech	•		
F3257-60904		Keyboard, Danish	•		
F3257-60905		Keyboard, French	•		
F3257-60906		Keyboard, French Canadian	•		
F3257-60907		Keyboard, German	•		
F3257-60908		Keyboard, Greek	•		
F3257-60909		Keyboard, International English	•		
F3257-60910		Keyboard, Italian	•		
F3257-60911		Keyboard, Japanese	•		
F3257-60912		Keyboard, Norwegian	•		
F3257-60913		Keyboard, Portuguese	•		
F3257-60914		Keyboard, Spanish	•		
F3257-60915		Keyboard, Swedish/Finnish	•		
F3257-60916		Keyboard, Swiss	•		
F3257-60917		Keyboard, Turkish	•		
F3257-60918		Keyboard, UK English	•		
F3257-60919		Keyboard, Traditional Chinese	•		
F3257-60920		Keyboard, Hebrew	•		
F3257-60921		Keyboard, Icelandic	•		
F3257-60922		Keyboard, Hungarian	•		
F3257-60923		Keyboard, Russian	•		
F3257-60924		Keyboard, Arabic/English	•		
F3257-60925		Card, mini-PCI (802.11 wireless)	•		Yes
F3257-60927		Card, mini-PCI (HW modem)	•		Yes
F3257-60928		Case, top	•		
F3257-60929		Panel, power button	•		
F3257-60930		Heatsink (with fan)	•		
F3257-60931		Tray, hard disk drive	•		Yes
F3257-60932		PCA, volume	•		
F3257-60933	F3257-69033	PCA, motherboard (with Intel Speedstep)	•		
F3257-60934		PCA, display interface	•		
F3257-60935		Case, bottom	•		
F3257-60936		Speaker assembly	•		
F3257-60937	F3257-69037	Display assembly, 14.1" XGA	•		
F3257-60939	F3257-69039	Display assembly, 15.0" SXGA+	•		
F3257-60940		Cover, mini-PCI (US Robotics)	•		Yes
F3257-60942		Cover, mini-PCI (no label)	•		Yes
F3257-60943		Cover, SDRAM (Actiontech)	•		Yes
F3257-60944		Cover, SDRAM (no label)	•		Yes
F3257-60947		Screws, kit	•		Yes
F3257-60948		Covers, service kit	•		Yes
F3257-60949		Mini-PCI panels, kit	•		

Part Number	Exchange Part Number	Description	Omnibook 6100	Omnibook 6000	User-Repl.
F3257-60950		Feet/bumpers, kit	•		Yes
F3257-60951		Corner covers, kit	•		Yes
F3257-60952		Antennas, kit	•		
F3257-60956		Pad, thermal	•	•	
F3257-60999		CD, Training	•		
F3257-69100		Drive, hard disk (10 GB, 9.5 mm, IBM Diablo)	•	•	Yes
F3257-69101		Drive, hard disk (10 GB, 9.5 mm, Toshiba)	•	•	Yes
F3257-69102		Drive, hard disk (20 GB, 9.5 mm, Toshiba)	•	•	Yes
F3257-69103		Drive, hard disk (30 GB, 9.5 mm, Toshiba)	•	•	Yes
F3257-69104		Drive, hard disk (10 GB, 9.5 mm, Hitachi)	•	•	Yes
F3257-69105		Drive, hard disk (20 GB, 9.5 mm, Hitachi)	•	•	Yes
F3257-69106		Drive, hard disk (30 GB, 9.5 mm, Hitachi)	•	•	Yes

5

Reference Information

This chapter includes the following reference information:

- Password removal policy.
- Display quality statement.

Password Removal Policy

If the user forgets the system password, the user calls Technical Support to determine the proper removal procedure. The user must provide proof of ownership, and the Omnibook must be operated during the procedure.

The password removal procedure is protected as HP Company Private information. There are a restricted number of locations that can perform password removal. It may not be disclosed or distributed outside those locations.

Password removal is strictly controlled. Hewlett-Packard and authorized support providers must ensure with written evidence that the Omnibook being “cleansed” is actually in the possession of the unit’s actual and current owner. This requires a sales receipt showing the unit serial number and owner’s name, or a written statement from the owner attesting that he or she is the owner of the unit. The statement can be a fax copy of the document. The fact that the unit is in the hands of an HP representative on behalf of the customer is not evidence of ownership. In addition, HP will not remove the password of a unit for any non-owner, even if it is requested by law enforcement agencies. If you receive such a request, you should notify management and HP Corporate Legal immediately. (These requests may require a court order prior to our participation.)

Further, the entity removing the password must log the name, serial number and date of the removal, and file the written backup with the log. The log and backup are subject to standard record retention process and review.

The final issue relating to removal of passwords is that HP cannot provide information to users that would assist them in improperly removing a password and opening a unit.

Hewlett-Packard Display Quality Statement

TFT display manufacturing is a highly precise but imperfect technology, and manufacturers cannot produce large displays that are cosmetically perfect. Most, if not all, TFT displays exhibit some level of cosmetic imperfection. These cosmetic imperfections may be visible to the customer under varying display conditions, and can appear as bright, dim, or dark spots. *This issue is common across all vendors supplying TFT displays in their products and is not specific to the HP Omnibook display.*

HP Omnibook TFT displays meet or exceed all HP standards for cosmetic quality of TFT displays. HP does not warrant that the displays will be free of cosmetic imperfections. *TFT displays can have a small number of cosmetic imperfections and still conform to HP's cosmetic quality specifications.*

Here are some guidelines for determining what action to take on customers' complaints of cosmetic imperfections in their TFT displays:

1. View the unit under the customer's normal operating conditions.

   This means that if the customer uses the unit predominately in DOS, in Windows, or in some other application or combination of applications, you should make the determination under those same applications. Self test is not a normal operating condition and is not a sufficient tool for interpreting display quality.

2. Use the table below to determine whether the display should be considered for replacement. These are the only conditions in this guideline that may call for a replacement due to a defect in material or workmanship based on the HP Limited Warranty Statement.

3. If a display is considered for replacement, make sure the customer understands that cosmetic variations may also exist on the replacement display, and may require the customer to use a work-around to obscure the cosmetic imperfection.

4. Customers with cosmetic-based complaints that do not conform to the above conditions and tests will not normally be considered for display replacement. The HP-responsible person working with the customer should identify work-arounds that are reasonable and appropriate for the individual customer. Customers who must have a more perfect display solution should consider switching to an Omnibook with a DSTN display.

We expect that over time the industry will continue to produce displays with fewer inherent cosmetic imperfections, and we will adjust our HP guidelines as these improvements are implemented.

Table 5-1. Omnibook 6000/6100 LCD Guidelines

Type of Imperfection	Imperfections Not Allowed
Electrical Imperfections: Bright dots [a] Dark dots [a]	• 7 or more single bright dots. • 7 or more single dark dots. • 9 or more total (bright and dark combined) defective dots. • Any occurrence of multiple defective dots within 15 mm.
Mechanical Imperfections: Discoloration Polarizer bubbles, dents [b]	• Any polarizer bubble, discoloration, or dent that is visible from at least 36 cm (14 in).
Definitions of imperfections: a Bright or dark dot: a subpixel (red, green, or blue dot) that is stuck on or off. b Polarizer dent or bubble: a light spot with a darker border that appears on a lighted display and does not change size. (In contrast, a polarizer scratch is a light line that is visible on a darker background and does not change size.)	

Service Notes and Obsolete Parts

Service notes containing important repair information for the HP Omnibook 6000/6100 will be issued periodically as needed. These notes are available online at the Partnership Web site—see page vi.

Service notes often describe new repair parts that replace obsolete parts. The following table summarizes obsolete repair parts.

Table 5-2. Obsolete Repair Parts

Obsolete Part Number	New Part Number	Description	Service Notes/Comments
0950-3710		Hard disk drive, 6.0GB 9.5mm, IBM	See Table 4-1 on page 4-3.
0950-3712		Hard disk drive, 18GB 12.7mm, IBM	See Table 4-1 on page 4-3.
0950-3765	0950-3988	Adapter, AC Ultraslim	
0950-3825		Hard disk drive, 5GB 9.5mm, HIT	See Table 4-1 on page 4-3.
0950-3831		Hard disk drive, 10GB 9.5mm, IBM	See Table 4-1 on page 4-3.
0950-3832		Hard disk drive, 5GB 9.5mm, IBM	See Table 4-1 on page 4-3.
0950-3906		Hard disk drive, 10.5GB 9.5mm, FUJ	See Table 4-1 on page 4-3.
0950-3935		Hard disk drive, 20GB 9.5mm, IBM DJSA-220	See Table 4-1 on page 4-3.
0950-3967		Hard disk drive, 18.0GB 9.5mm, IBM	See Table 4-1 on page 4-3.
F1320-60971	5182-5138	Trackpoint Cap (Bag of 5)	
F2009-60901	F2009-60902	Module, Zip drive	
F2015-60901	F2015-60902	Module, DVD drive	
F2026-60901	F2026-60902	Module, CD-RW drive	
F2072-60907	F2072-60995	Panel, power button	
F2072-60908	F2140-60909	Heatsink (thick, with fan)	
F2072-60916	F2140-60950	Case, bottom	
F2072-60920	7121-7525	Overlay, serial label	
F2072-60924	F2072-60999	Set, covers (service)	
F2072-60986	5184-2085	Label, MS Prod ID, W2K/NT4	
F2140-60904	F2140-60952	PCA, motherboard (Pentium)	
F2140-60905	F2140-60964	PCA, motherboard (Celeron)	
F2140-60910	F2140-60953	PCA, power supply	
F2140-60913	F2140-60950	Case, bottom	

Part Number
F3257-90025

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