



Technical Information

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Specifications for Macintosh PowerBook 1400 series computers

Technical Information

General specifications

Processor

- PowerPC™ 603e at 117, 133, or 166 megahertz (MHz) clock frequency; 133 and 166 MHz configurations have 128 kilobyte (K) level two write-through cache memory on processor system bus

Memory

- 12 or 16 megabytes (MB) of low-power dynamic random-access memory (DRAM), up to a total of 64 MB
- 4 MB of read-only memory (ROM)

Disk drives

- 750 MB, 1.0 gigabyte (GB), 1.3 GB, or 2.0 GB 2.5" hard disk drive (Hard disk sizes may vary, depending on model.)
- Removable 1.44 MB floppy disk drive (in the expansion bay or packed separately if a CD-ROM drive is installed in the expansion bay) reads and writes Macintosh 1.4 MB floppy disks, as well as Windows, DOS, and OS/2 720K and 1.44 MB floppy disks; reads Macintosh 800K disks
- Removable 8x-speed (or faster) CD-ROM drive (in the expansion bay if included; optional on some models)

Video display

- *Macintosh PowerBook 1400cs*
11.3" diagonal, 800 x 600 dual-scan passive matrix (FSTN), thousands of colors
- *Macintosh PowerBook 1400c*
11.3" diagonal, 800 x 600 active matrix (CTFT), thousands of colors

Battery

- Rechargeable nickel-metal-hydride (NiMH) battery provides 2–4 hours of operation, depending on battery-saving features used and machine configuration. You may get more than 4 hours of work time from your battery if you use advanced power-management capabilities like a RAM disk.

Backup battery

- 50 milliamp-hour rechargeable lithium vanadium battery for calendar/clock maintenance. Also backs up the contents of RAM for a few minutes while you change batteries when your Macintosh PowerBook is in sleep mode.

WARNING If the clock begins to lose accuracy, see an Apple-authorized dealer or service provider for a battery replacement. Do not attempt to replace the clock battery yourself.

Sound/Microphone

- 16-bit stereo sound in and out supporting 44.1 kilohertz (kHz) (“CD quality” sound), 22 kHz, and 11 kHz sample rates
- Speaker housed in the PowerBook’s case
- Internal omnidirectional electret type microphone, housed in the PowerBook’s display

An external audio source may be used with these PowerBooks if it generates line level output. To input sound from audio equipment with line level output, you need the appropriate adapters, which are available from most electronics stores.

Note: The Apple Omnimicrophone and Apple PlainTalk microphones are not compatible with this computer.

Interfaces

- Two PC Card (PCMCIA card) slots support either two Type I or Type II cards, or one Type III card
- Expansion bay accepts a removable expansion bay module, including the 1.44 MB floppy disk drive, a CD-ROM drive (optional on some models), or other modules; an extra NiMH main battery can also be stored in the expansion bay
- Built-in infrared send and receive unit that supports AppleTalk protocols
- Apple Desktop Bus (ADB) port for keyboard, mouse or other input devices using a low-speed, synchronous serial bus
- Serial port for printers, modems, LocalTalk network, or other serial devices (RS-422)
- SCSI port (HDI-30 connector) for hard disk drives, CD-ROM drives, scanners, printers, and other devices; also supports PowerBook SCSI disk mode
- Sound output port for external audio amplifier/powered speakers, stereo mini-jack, 3-connector, standard 3.5-mm stereo miniplug
- Sound input port for stereo sound input (line level), stereo mini-jack, 3-connector, standard 3.5-mm stereo miniplug

Expansion slots

- Expansion slot for optional user-installable card that adds a connector to the PowerBook's back panel, which can provide a video port, an Ethernet network connection, or another device
- Single slot for user-installable RAM expansion cards. Up to two RAM expansion cards may be stacked in this slot.

Power adapter

- *Input:* AC 100–240 volts (V), 50/60 hertz (Hz)
- *Output:* DC 24 V, 1.875 amperes (A) nominally

Keyboard

- 30-mm travel keyboard
19-mm vertical pitch, 19-mm horizontal pitch

Trackpad

- Integrated, solid-state trackpad provides precise cursor movement

Weight

- *Macintosh PowerBook 1400c* with the floppy drive expansion bay module:
3.0 kg (6.6 lb.)
- *Macintosh PowerBook 1400cs* with the floppy drive expansion bay module:
3.0 kg (6.7 lb.)
- Replacing the floppy disk drive with the CD-ROM drive expansion bay module adds 0.17 kg (0.3 lb.) to the computer's weight.

Dimensions

- 292 mm x 229 mm x 54 mm (11.5 in. x 9.0 in. x 2.0 in.)

Apple Desktop Bus (ADB) power requirements

- Maximum current draw for all ADB devices is 200 mA

Note: The maximum number of ADB devices recommended in a daisy chain connected to the ADB port is three.

RAM configurations

All models ship with at least 12 MB of RAM on the main logic board (some models ship with more). Additional RAM may be installed by means of a RAM expansion card. Additional RAM cards are available from any Apple-authorized dealer.

RAM expansion cards must use RAM chips rated at 70-ns access time or faster, and must have TSOP low-profile RAM chips only. Installing a card with high-profile chips may damage your computer.

Environment

- *Operating temperature:* 5° C to 35° C (41° F to 95° F)

Storage temperature

- -25° C to 60° C (-13° F to 140° F)

Relative humidity

- 20% to 80% noncondensing



Altitude

- *Operating:* 3,048 m (10,000 ft.) maximum
- *Shipping (non-operating):* 4,572 m (15,000 ft.) maximum

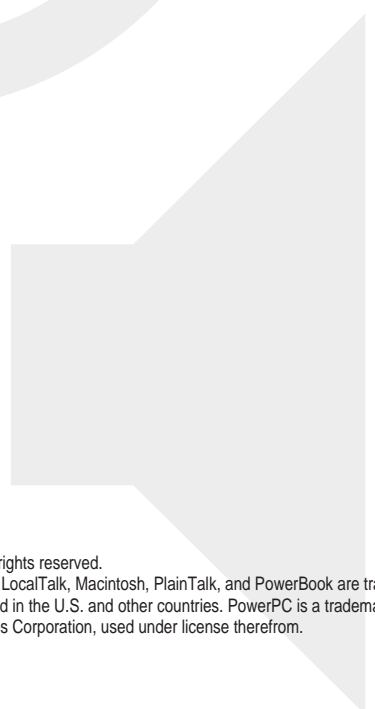
Laser (in optional CD-ROM drive)

- *Type:* Semiconductor laser GaAlAs
- *Wavelength:* 780 nanometers (nm)
- *Output power:* 0.6 milliwatts (mW)
- *Beam divergence:* $53.4^\circ \pm 1$

Options and accessories

The following are available as options and accessories for your Macintosh PowerBook computer:

Item	Part number
Macintosh PowerBook AC Adapter for Macintosh PowerBook 1400 series	M4895**/A
Macintosh PowerBook Rechargeable Battery for Macintosh PowerBook 1400 series	M4507LL/A
Macintosh PowerBook 8 MB Memory Expansion Card for Macintosh PowerBook 1400 series	M4506LL/B
Macintosh PowerBook 8-bit Color Video-out Upgrade Kit for Macintosh PowerBook 1400 series (includes video adapter cable)	M4509LL/A
Macintosh PowerBook 8x CD-ROM Expansion Module for Macintosh PowerBook 1400 series	M5789LL/A
Macintosh PowerBook Video Adapter Cable	M3927LL/A
Apple HDI-30 SCSI Disk Adapter for SCSI disk mode	M2539**/A
Apple SCSI Peripheral Interface Cable for SCSI to SCSI connection	M0207
Apple HDI-30 SCSI System Cable for PowerBook to SCSI connection	M2538**/A



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