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Macintosh Portable: Specifications (Discontinued)

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TOPIC ------------------------------------------


This article gives specifications for the Apple Macintosh Portable
computer.


DISCUSSION -----------------------------------
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The Apple Macintosh Portable computer offers complete Macintosh
functionality in a portable design. It runs virtually all current
versions of Macintosh software and provides full compatibility with other
Macintosh hardware. There are two versions of the Macintosh Portable. The
new Macintosh Portable features a backlight for added display visibility
in low-light conditions.

The Apple Macintosh Portable computer is the one Macintosh for the
workplace, home, and any destination. With built-in networking and the
ability to run virtually all current versions of Macintosh software twice
as fast as the Macintosh Classic, the Macintosh Portable gives you all the
capabilities you need for your primary computer.

You also can take the Macintosh Portable with you and use it at meetings,
at a client's office, or at home because everything you need--central
processing unit (CPU), screen, standard size keyboard, pointing device,
battery, and disk storage--is integrated into a single, easy-to-carry
package.

The Macintosh Portable delivers the superior graphics that people have
come to associate with the Macintosh. Its backlight, active-matrix liquid
crystal display (LCD) lets you see the full page width for easy editing of
word-processing and other documents. This screen also has such a fast
response time that the Macintosh interface looks and feels just like any
other Macintosh computer. And the display's backlighting can be adjusted
for a wide range of lighting situations, so you can see the screen as

easily in bright light as you can in a dimly lit room.

The Macintosh Portable has been designed to conserve power and extend battery life, so you can use it for 3 to 6 hours (6 to 12 on non-backlighted units) before the battery needs recharging. A battery desk accessory monitors and warns you when the battery is getting low.

Like other Macintosh computers, the Macintosh Portable comes with the 1.4 MB SuperDrive, which allows you to work easily in different computing environments because it can read from and write to 3.5-inch Macintosh disks as well as MS-DOS, OS/2, and ProDOS disks. In addition, an internal 40MB hard disk drive accommodates large files and applications. You'll also find plenty of opportunities to extend the Macintosh Portable's capabilities. You can use eight built-in ports to expand the system with popular peripheral equipment, such as scanners and printers.

Four internal expansion slots let you customize the Macintosh Portable to your specific needs. Your system can accommodate up to 8 MB of memory if you use third-party memory cards in the processor-direct slot. You also can use the processor-direct slot to add high-performance expansion cards for video, networking, and communications.

Specifications:

CENTRAL PROCESSING UNIT (CPU)
- Microprocessor: 16MHz CMOS 68000
- Address Bus: 24-bit
- Registers (32-bit): 17
- Addressing Modes: 14

COPROCESSOR
- Power Manager Processor, Mitsubishi M50753 microcomputer chip

MEMORY
- Original Macintosh Portable: 1 MB of static RAM, expandable to 2 MB through the installation of a memory card in the RAM slot, and up to 9 MB when higher-density chips become available; 1 Wait state to access SRAM
- New Macintosh Portable: 1, 2, or 4 MB of pseudostatic RAM, 2 and 4 MB through the installation of a memory card in the RAM slot, and up to 8 MB through the PDS slot (Apple Memory Card must be removed when you install a PDS memory card)*; 0 wait states to access PSRAM; PSRAM has a refresh cycle to refresh the chips every 15.6 µseconds.
- 256K bytes of ROM (Read-Only Memory)
- 128 bytes of settable parameter memory with built-in battery backup
- 32K bytes of RAM for the video display

SCREEN
- Active-Matrix Liquid Crystal
- Full-page width
- 640x400 pixels
- New Macintosh Portable features a CCFL backlight for up to 55 nits of brightness

KEYBOARD
- Built-in 63-key keyboard
- Optional 18-key numeric keypad (as trackball alternative)
- Keyboard on New Macintosh Portable uses quiet keyswitches

TRACKBALL
- Low-power Apple Desktop Bus Trackball, 1.3-inch diameter trackball as
  pointing device
- Left- or right-hand placement
- Replaceable by numeric keypad

MOUSE
- Low-power Apple Desktop Bus Mouse (ADB), mechanical tracking, optical
  shaft encoding at 3.54 pulses per mm (90 pulses per inch) of travel

DISK DRIVE
- One 1.4 MB high-density SuperDrive (internal); two internal floppy drives
  when hard drive is not installed
- External connector for 800K or 1.4 MB external floppy

HARD DISK DRIVE
- A low-power, ruggedized internal 3.5-inch 40MB drive
- 40MB hard drive is standard on the new Macintosh Portable

INTERFACES
- One Apple Desktop Bus (ADB) connector for keyboard, mouse, and low-speed
  input devices
- Two RS-232/RS-422 serial ports, 230.4K baud maximum (up to 0.920 Mbit
  per second if clocked externally)
- SCSI interface
- Stereo sound port for external audio amplifier
- External drive port
- External video port

SOUND GENERATION
- Apple Sound Chip (ASC) including 4-voice, wave-table synthesis and
  stereo sampling generator capable of driving stereo mini-phono-jack
  headphones or stereo equipment
- Mixed stereo monophonic sound output through internal speaker

ELECTRICAL REQUIRMENTS
- Line voltage: 70 to 270Vac
- Line frequency: 48 to 62Hz
- Maximum power consumption: 15 watts

ENVIRONMENTAL REQUIREMENTS
- Operating temperature: 50 to 104F (10 to 40C) degrees
- Storage temperature: -40 to 140F (-25 to 60C) for a period not to
  exceed 3 days; storage for longer periods must be within operating
  temperature range
- Relative humidity: 5% to 95%
- Altitude: 0 to 10,000 feet (0 to 3048m)

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SIZE AND WEIGHT
- Height
  - Rear panel:  4.05 inches (102.87mm)
  - Front panel:  2.1 inches (53.34mm)
  - Base to highest point with display open:  11.0 inches (279.4mm)
- Width:  15.25 inches (387.35mm)
- Depth:  14.83 inches (365.25mm)
- Weight (including battery):  13.75 lbs. (6.25kg)
- Weight (including battery and hard drive):  15.75 lbs. (7.16kg)
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Here is a list of changes to the Macintosh Portable.

Original Macintosh Portable	Backlight Macintosh Portable Model
• 640x400 Active-Matrix Display	• 640x400 Backlight Active-Matrix Display
• 1MB SRAM on logic board, 1 wait state	• 1MB CMOS Pseudostatic RAM, 0 wait states
• Screen brightness-controlled contrast	• CDEV controls backlight
• 1MB Memory Card	• 1MB and 3MB Memory Cards Pseudostatic
• System Software 6.0.4	• System Software 6.0.7 and new CDEV disk
• Backlight upgrade available	• Backlight standard
• Standard keyswitches	• Quiet keyswitches
• Hybrid chip	• Custom resistor packs
• Custom Macintosh Portable manuals	• Standard manual suite with Macintosh Portable handbook
• Steel plate in keyboard	• Aluminum plate for keyboard
• 6- to 12-hour battery life	• 3- to 6-hour battery life
• Apple Memory Card and third-party PDS card memory supported	• Third-party PDS card memory cannot be used when Apple Memory Card is installed*

*A problem with the memory decode chip on the Apple Memory Cards (1 MB and
 3 MB) prevents third-party memory cards in the PDS slot from correctly
 addressing memory.

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