

Macintosh PowerBook 145

Developer Note

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Developer Technical Publications
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Preface

About this note

This developer note provides technical information about the Apple Macintosh PowerBook 145 computer, emphasizing only those features that are new or different from those of the Macintosh PowerBook 140 computer.

This document is written for hardware and software developers who are already familiar with both the functionality and programming requirements of Macintosh computers. If you are unfamiliar with Macintosh computers or would simply like additional information, you may want to obtain copies of related technical manuals listed in the following section, "Supplemental Reference Documents."

This developer note does not constitute a manual and is not complete in its present form. While every attempt has been made to verify the accuracy of the information presented, it is subject to change without notice. This developer note may contain information or specifications that are still under consideration by Apple Computer. The primary reason for releasing preliminary product information is to provide the development community with essential product specifications, theory, and application information for the purpose of stimulating work on compatible third-party products.

Supplemental reference documents

Because the Macintosh PowerBook 145 computer shares many features of the Macintosh PowerBook 140 and Macintosh PowerBook 170, you should refer to the *Macintosh PowerBook 140 and Macintosh PowerBook 170 Developer Note* for information about features not described in detail here. The *Macintosh PowerBook 140 and Macintosh PowerBook 170 Developer Note* is available from APDA (Apple Programmers and Developers Association) as part of *Macintosh Classic II, Macintosh PowerBook Family, and Macintosh Quadra Family Developer Notes*, APDA part number R0143LL/A.

In addition, the following books provide helpful information for anyone interested in designing hardware or software for Macintosh computers. All are available through APDA.

- *Guide to the Macintosh Family Hardware*
- *Designing Cards and Drivers for the Macintosh Family*
- *Inside Macintosh*
- *MC68030 Enhanced 32-Bit Microprocessor Users Manual*

Membership in APDA allows you to purchase Apple technical documentation, programming tools, and utilities. For more information, contact

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Macintosh PowerBook 145

Introduction

The Macintosh PowerBook 145 computer is an enhanced version of the Macintosh PowerBook 140 computer. The Macintosh PowerBook 145 features a Motorola 68030 microprocessor running at 25 MHz, providing performance similar to that of the Macintosh PowerBook 170 at a substantially lower price.

Other than increased processing speed, the PowerBook 145 is identical to the PowerBook 140. Developers should refer to the *Macintosh PowerBook 140 and Macintosh PowerBook 170 Developer Note* for detailed technical information.

The following section describes the major features of the Macintosh PowerBook 145. Table 1 highlights the differences between the Macintosh PowerBook 145 and other members of the Macintosh PowerBook family.

- △ **Important** Only the major differences between the Macintosh PowerBook 145 and the Macintosh PowerBook 140 are described in detail here. For more information about features common to both models, refer to the *Macintosh PowerBook 140 and Macintosh PowerBook 170 Developer Note*. △

Features

The major features of the Macintosh PowerBook 145 are:

- Microprocessor: 68030 running at 25 MHz. Control panel software will provide selectable 16 MHz power saving mode.
- Read-only memory (ROM): 1 MB.
- Random-access memory (RAM): 2 MB of pseudostatic RAM (PSRAM) soldered to main logic board.
- RAM expansion: RAM expansion card allows RAM expansion of 2 MB, 4 MB, or 6 MB. The PowerBook 145 can address a maximum of 8 MB of RAM.
- Video display: Film SuperTwist Nematic (FSTN) LCD, 640 × 400 pixels, with adjustable backlighting.
- Floppy disk: one internal 1.4 MB Apple SuperDrive with Super Woz Integrated Machine (SWIM) interface.
- Hard disk: one internal 2.5-inch SCSI hard disk drive.
- I/O (input/output): one HDI-30 SCSI connector for external SCSI devices, one 4-pin mini-DIN Apple Desktop Bus (ADB) port, two 8-pin mini-DIN serial ports, and audio input and output jacks.
- Sound: monophonic sound input and output is provided by the enhanced Apple Sound Chip (ASC) audio circuitry. A speaker is built in, and an external microphone is provided.
- Keyboard: built-in 3.0-mm travel keyboard with integral 30-mm trackball.
- Modem: internal 20-pin fax/modem connector.
- Battery: 2.5 ampere-hour NiCad rechargeable battery. A 3 V lithium battery provides backup power to the real-time clock and parameter RAM when the main battery is removed.
- Power supply: an external wall-mounted recharger/power adapter is included.
- Weight: 6.8 pounds.
- Size: 11.3 inches wide, 9.3 inches long, and 2.25 inches high.

Table 1 Macintosh PowerBook family comparison

Model	CPU	FPU	Speed	Display	Sound	Floppy	Weight
PowerBook 100	68000	No	16 MHz	FSTN	Out	External	5.1 lb.
PowerBook 140	68030	No	16 MHz	FSTN	In/out	Internal	6.8 lb.
PowerBook 145	68030	No	25 MHz	FSTN	In/out	Internal	6.8 lb.
PowerBook 170	68030	68882	25 MHz	AM	In/out	Internal	6.8 lb.

Compatibility issues

The Macintosh PowerBook 145 computer is shipped with system software version 7.0.1, and is compatible with software and hardware designed for the Macintosh PowerBook 140 and Macintosh PowerBook 170 computers.

The correct method for software to identify the Macintosh model it is running on is by using the Gestalt Manager routines described in *Inside Macintosh*, Volume VI. Under system software version 7.0.1, the Macintosh PowerBook 145 returns a `gestaltMachineType` response value of 25, the same as the Macintosh PowerBook 140. The Macintosh PowerBook 145 also returns the same machine name string as the Macintosh PowerBook 140.

Under system software version 7.1, the Macintosh PowerBook 145 will return its own unique `gestaltMachineType` response value, 54, and the machine name string will correctly identify it as the Macintosh PowerBook 145.

The Battery desk accessory included with system software version 7.0.1 does not support the power saving 16 MHz mode of the Macintosh PowerBook 145. When system software version 7.1 is released, users will be able to select the power saving mode using the PowerBook control panel.

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