



Overview

The Macintosh® SE/30 personal computer was designed for people who want maximum performance from a compact computer system. It provides up to four times the computational speed of the Macintosh SE, while continuing to offer the benefits that characterize all Macintosh computers: a consistent user interface and intuitive design that make Macintosh easy to learn and use. The Macintosh SE/30 runs virtually all current versions of Macintosh software. And, like the Macintosh SE, it features a small footprint, easy setup, and transportability.

The performance increase of the Macintosh SE/30 derives

from the full 32-bit 68030 microprocessor. The 68030 runs at twice the clock speed of the 68000 microprocessor used in the Macintosh SE. And twice as much data can be moved at a time because its external data bus is twice as wide as that of the 68000. The Macintosh SE/30 also includes a 68882 floating-point coprocessor for faster processing of complex math functions—up to 100 times faster than the Macintosh SE.

The Macintosh SE/30 uses the new Apple® FDHD™ drive, a high-capacity 3.5-inch floppy disk drive capable of reading 400K, 800K, and 1.4-megabyte Macintosh disks. In addition,

the FDHD lets users read from and write to MS-DOS, OS/2, and ProDOS® formatted disks through the Apple File Exchange utility. This combination of capabilities makes the Macintosh SE/30 an excellent choice for use in multivendor environments.

Expansion options for the Macintosh SE/30 can be accommodated through the 030 Direct Slot. Via the 030 Direct Slot, the Macintosh SE/30 can accept communications cards, such as Ethernet and Token Ring cards, as well as high-performance video cards that support large gray-scale and color monitors.

Features

Benefits

▶ 32-bit 68030 microprocessor (operating at 16 megahertz) with instruction and data caches, and built-in Paged Memory Management Unit (PMMU)

▶ Executes applications at up to four times the speed of the 68000-based Macintosh SE.
▶ Provides hardware support for advanced, multitasking operating systems.

▶ 68882 floating-point coprocessor (operating at 16 megahertz)

▶ Provides fast processing of complex mathematical functions (such as logarithmic or trigonometric calculations) often used in spreadsheets and high-end graphics and statistics applications.

▶ Macintosh user interface: mouse, icons, windows, and pull-down menus

▶ Makes most applications intuitive and easy to learn.
▶ Provides a consistent interface across applications.
▶ Reduces training and support costs.

▶ Compact design with high-resolution 9-inch screen

▶ Offers an affordable, compact system that requires little desk space and is easy to set up and transport.

▶ Apple FDHD Internal Drive

▶ Provides almost twice the storage capacity of existing 800K disks (1.4 megabytes).
▶ Allows you to conveniently transfer data files between Macintosh, MS-DOS, OS/2, and Apple II systems using the Apple File Exchange software.
▶ Offers compatibility with existing 800K and 400K Macintosh disks.

▶ MultiFinder™ operating system

▶ Lets you easily integrate information from multiple applications by cutting and pasting.
▶ Lets you move quickly and easily between applications.
▶ Allows you to continue working with applications while performing some tasks in the background, such as print spooling to an Apple LaserWriter® printer or downloading remote files.

▶ Macintosh software compatibility

▶ Runs virtually all current versions of Macintosh SE and Macintosh II software, including applications designed to take advantage of the 68882 floating-point coprocessor.

▶ 030 Direct Slot

▶ Allows you to customize your system with high-performance expansion cards, including video cards for external color and gray-scale monitors, special memory cards, communications cards, and digital signal processing cards.

Features

Benefits

-
- | | |
|---|--|
| <ul style="list-style-type: none">▶ 030 Direct Slot access port <p>.....</p> <ul style="list-style-type: none">▶ 1 or 4 megabytes of RAM, expandable to 8 megabytes <p>.....</p> <ul style="list-style-type: none">▶ Apple Sound Chip <p>.....</p> <ul style="list-style-type: none">▶ 256K of ROM on a SIMM (Single In-line Memory Module), including:<ul style="list-style-type: none">—Hierarchical File System—Drivers for Macintosh hard disks, Apple Desktop Bus™, 68882 floating-point coprocessor, SCSI, and AppleTalk® network—Macintosh Toolbox—QuickDraw™ and Color QuickDraw <p>.....</p> <ul style="list-style-type: none">▶ Seven built-in ports (one SCSI, one disk drive, two serial, two Apple Desktop Bus, one stereo sound) <p>.....</p> <ul style="list-style-type: none">▶ Choice of keyboards (sold separately):<ul style="list-style-type: none">—Apple Keyboard—Apple Extended Keyboard | <ul style="list-style-type: none">▶ Provides an easy way to connect external devices to 030 Direct Slot cards. <p>.....</p> <ul style="list-style-type: none">▶ Lets you run multiple applications concurrently under Apple's MultiFinder operating system.<ul style="list-style-type: none">▶ Lets you work with large amounts of data, such as large spreadsheets, scanned images, and sound files.▶ Provides the flexibility to grow as you need additional memory. <p>.....</p> <ul style="list-style-type: none">▶ Provides high-quality, four-voice stereo sound.<ul style="list-style-type: none">▶ Offers compatibility with all applications that use Macintosh sound. <p>.....</p> <ul style="list-style-type: none">▶ The SIMM mounting makes it easy to remove and replace ROMs for more convenient servicing.<ul style="list-style-type: none">▶ The Hierarchical File System organizes storage for documents and allows easy access to files.▶ The SCSI interface supports high-performance peripherals.▶ QuickDraw provides the consistent interface throughout the Macintosh family.▶ Color QuickDraw provides a consistent interface for both black-and-white and color applications. <p>.....</p> <ul style="list-style-type: none">▶ Makes it easy to expand your system with additional peripherals.<ul style="list-style-type: none">▶ Provides access to LocalTalk™ cable-based networks, allowing you to connect the Macintosh SE/30 to other computers and to LaserWriter printers through the AppleTalk Network System.▶ Supports up to seven high-speed SCSI peripherals.▶ Provides connections for Apple Desktop Bus devices, such as a keyboard, hand-controlled pointing device (such as a mouse or trackball), or graphics tablet. <p>.....</p> <ul style="list-style-type: none">▶ Apple Keyboard includes a numeric keypad and cursor keys for efficient operation.<ul style="list-style-type: none">▶ Apple Extended Keyboard also includes 15 function keys, letting you work effectively with alternate operating systems, terminal-emulation programs, and other data communications applications. |
|---|--|

Product Details

System Configuration

- ▶ Three configurations are available:
 - The Macintosh SE/30 CPU includes the main unit, 1 megabyte of RAM, one 1.4-megabyte FDHD floppy disk drive, and mouse.
 - The Macintosh SE/30 Hard Disk 40 CPU includes the main unit, 1 megabyte of RAM, an internal 40-megabyte hard disk, one 1.4-megabyte FDHD floppy disk drive, and mouse.
 - The Macintosh SE/30 Hard Disk 80 CPU includes the main unit, 4 megabytes of RAM, an internal 80-megabyte hard disk, one 1.4-megabyte FDHD floppy disk drive, and mouse.
- The keyboard and other peripheral devices are packaged and sold separately.

030 Direct Slot

- ▶ The 030 Direct Slot provides a 32-bit slot directly connected to the microprocessor bus that will support one high-performance expansion card. (Note: The slot is not compatible with SE-Bus expansion cards or Macintosh II expansion cards.)

RAM

- ▶ The Macintosh SE/30 CPU and the Macintosh SE/30 Hard Disk 40 CPU with 1 megabyte of RAM can be upgraded to 2 megabytes of RAM with a 1-megabyte Memory Expansion Kit, 5 megabytes of RAM with two 2-megabyte Memory Expansion Kits, or 8 megabytes of RAM with four 2-megabyte Memory Expansion Kits.
- ▶ The Macintosh SE/30 Hard Disk 80 CPU with 4 megabytes of RAM can be upgraded to 8 megabytes of RAM with two 2-megabyte Memory Expansion Kits.

Stereo Sound

- ▶ The Apple Sound Chip provides four-voice, wave-table synthesis and a stereo sampling generator capable of mixing left and right channels for the internal speaker or providing full stereo sound output through a miniature stereo phone plug.

SCSI (Small Computer Systems Interface)

- ▶ Up to seven SCSI peripherals (including an internal hard disk) can be connected to the Macintosh SE/30.
- ▶ SCSI provides data transfer rates of up to 1 megabyte per second.

Network Support

- ▶ The Macintosh SE/30 serial ports provide full support for LocalTalk network connections.
- ▶ The Macintosh SE/30 provides full ROM support for all AppleTalk protocols.

Operating System Software

- ▶ Macintosh System software includes:
 - System Tools 6.0.3 or higher (the Macintosh operating system) and Finder 6.1 or higher
 - Printer disk (the printer drivers for

all Apple printers)

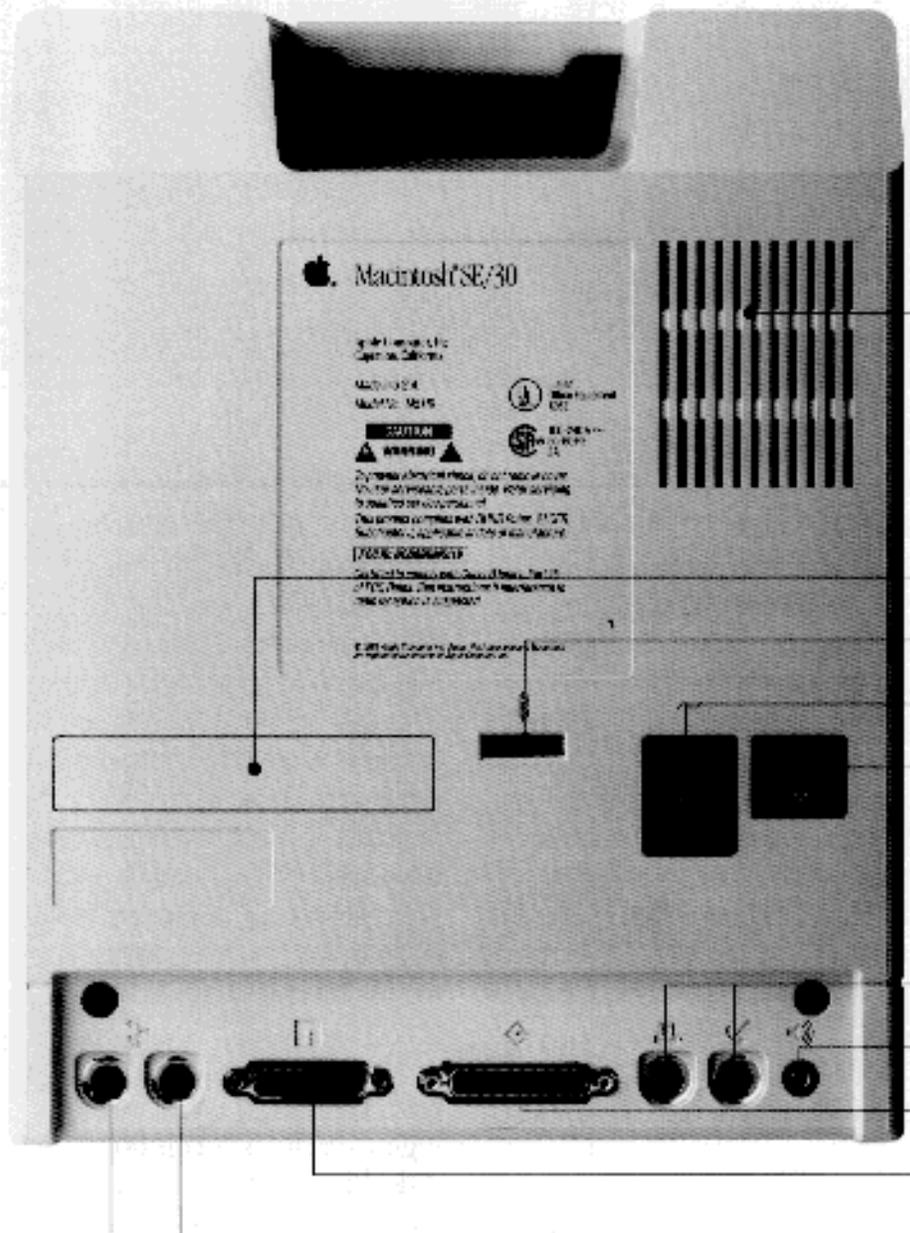
- Utility disks, which include utilities such as Apple File Exchange, HD SC Setup, Disk First Aid™, and Font/DA Mover

HyperCard

- ▶ Apple's HyperCard® software (version 1.2 or higher) and manual are included.

Upgrade Path for Current Macintosh SE Computer Owners

- ▶ An upgrade is available for the standard 68000-based Macintosh SE.



Technical Specifications

Processor

- ▶ MC68030 32-bit internal Harvard architecture
- ▶ 15.667-megahertz clock frequency
- ▶ Built-in Paged Memory Management Unit (PMMU)
- ▶ 256-byte instruction and data caches

Coprocessor

- ▶ MC68882 floating-point unit (follows IEEE standards)

Memory

- ▶ 1 or 4 megabytes of RAM, expandable to 8 megabytes (expandable to 128 megabytes when SIMMs with higher-density DRAM chips become available; additionally expandable through 030 Direct Slot)
- ▶ 256K of ROM
- ▶ 256 bytes of user-settable parameter memory

Disk storage

- ▶ 1.4-megabyte high-density floppy disk drive (external floppy disk drive optional)
- ▶ Optional internal 40- or 80-megabyte Apple SCSI hard disk (external SCSI hard disks optional)

Video display

- ▶ Built-in 9-inch diagonal, high-resolution, 512- by 342-pixel bit-mapped display
- ▶ Color QuickDraw in ROM provides support for gray-scale and color video cards installed in the 030 Direct Slot

Interfaces

- ▶ Two Apple Desktop Bus connectors for communication with keyboard, mouse, and other input devices over low-speed, synchronous serial bus
- ▶ 030 Direct Slot supporting full 32-bit address and data lines through 120-pin Euro-DIN connector
- ▶ Two RS-232/RS-422 serial ports, 230.4 kilobaud maximum (up to 0.920 megabit per second if clocked externally)
- ▶ SCSI interface
- ▶ Stereo sound port for external audio amplifier

Sound generator

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

Clock/Calendar

- ▶ CMOS custom chip with long-life lithium battery

Keyboards (not included)

- ▶ Apple Keyboard
- ▶ Apple Extended Keyboard

Mouse

- ▶ Apple Desktop Bus mouse with mechanical tracking; optical shaft or contact encoding at 3.94 ± 0.39 pulse per mm (100 ± 10 pulses per inch) of travel

Fan

- ▶ 10 CFM radial

Electrical requirements

- ▶ Line voltage: 120 to 240 volts AC, RMS automatically configured
- ▶ Frequency: 48 to 62 Hz, single phase
- ▶ Maximum power: 75 watts

Size and weight

Main Unit

- ▶ Height: 13.6 in. (34.5 cm)
- ▶ Width: 9.6 in. (24.4 cm)
- ▶ Depth: 10.9 in. (27.6 cm)
- ▶ Weight: 21.5 lb. (9.75 kg)

Mouse

- ▶ Height: 1.1 in. (2.8 cm)
- ▶ Width: 2.1 in. (5.3 cm)
- ▶ Depth: 3.8 in. (9.7 cm)
- ▶ Weight: 6 oz. (.17 kg)

- ▶ Fan Outlet
- ▶ Accessory Access Port
- ▶ Security Connector
- ▶ Power
- ▶ On/Off Switch
- ▶ Serial Ports
- ▶ Audio Jack
- ▶ SCSI Connector
- ▶ External Drive Port
- ▶ Apple Desktop Bus Connectors



Macintosh SE/30

Ordering Information

Macintosh SE/30 CPU
(1 megabyte of RAM)

Order No. M5392

With your order, you'll receive:

- ▶ Macintosh SE/30 personal computer with 1 megabyte of RAM and a built-in 1.4-megabyte FDHD drive
- ▶ Mouse
- ▶ Owner's guide
- ▶ System software and HyperCard software
- ▶ Guided Tour disk
- ▶ Limited warranty statement

**Macintosh SE/30
Hard Disk 40 CPU**
(1 megabyte of RAM)

Order No. M5390

With your order, you'll receive:

- ▶ Macintosh SE/30 personal computer with 1 megabyte of RAM, a built-in 1.4-megabyte FDHD drive, and an internal 40-megabyte SCSI hard disk drive
- ▶ Mouse
- ▶ Owner's guide
- ▶ System software and HyperCard software
- ▶ Guided Tour disk
- ▶ Limited warranty statement

**Macintosh SE/30
Hard Disk 80 CPU**
(4 megabytes of RAM)

Order No. M5361

With your order, you'll receive:

- ▶ Macintosh SE/30 personal computer with 4 megabytes of RAM, a built-in 1.4-megabyte FDHD drive, and an internal 80-megabyte SCSI hard disk drive
- ▶ Mouse
- ▶ Owner's guide
- ▶ System software and HyperCard software
- ▶ Guided Tour disk
- ▶ Limited warranty statement

Apple Computer, Inc.

20525 Mariani Avenue
Cupertino, CA 95014
(408) 996-1010
TLX: 171-576

© 1989 Apple Computer, Inc. Apple, the Apple logo, AppleTalk, HyperCard, LaserWriter, Macintosh, and ProDOS are registered trademarks of Apple Computer, Inc. Apple Desktop Bus, EtherTalk, FDHD, LocalTalk, MultiFinder, Disk First Aid, and QuickDraw are trademarks of Apple Computer, Inc. MS-DOS is a registered trademark of Microsoft Corporation. OS/2 is a trademark of International Business Machines Corporation.
January 1989. Product specifications are subject to change without notice.
M0032LL/B