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

- 32-bit 68030 microprocessor (operating at 16 megahertz) with instruction and data caches, and built-in Paged Memory Management Unit (PMMU)
- 68882 floating-point coprocessor (operating at 16 megahertz)
- Macintosh user interface: mouse, icons, windows, and pull-down menus
- Compact design with high-resolution 9-inch screen
- Apple FDHD Internal Drive
- MultiFinder™ operating system
- Macintosh software compatibility
- 030 Direct Slot

### Benefits

- Executes applications at up to four times the speed of the 68000-based Macintosh SE.
- Provides hardware support for advanced, multitasking operating systems.
- Provides fast processing of complex mathematical functions (such as logarithmic or trigonometric calculations) often used in spreadsheets and high-end graphics and statistics applications.
- Makes most applications intuitive and easy to learn.
- Provides a consistent interface across applications.
- Reduces training and support costs.
- Offers an affordable, compact system that requires little desk space and is easy to set up and transport.
- 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.
- 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.
- Runs virtually all current versions of Macintosh SE and Macintosh II software, including applications designed to take advantage of the 68882 floating-point coprocessor.
- Allows you to customize your system with high-performance expansion cards, including video cards for external color and grayscale monitors, special memory cards, communications cards, and digital signal processing cards.
<table>
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<tr>
<th>Features</th>
<th>Benefits</th>
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<tr>
<td>030 Direct Slot access port</td>
<td>Provides an easy way to connect external devices to 030 Direct Slot cards.</td>
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<tr>
<td>1 or 4 megabytes of RAM, expandable to 8 megabytes</td>
<td>Lets you run multiple applications concurrently under Apple’s MultiFinder operating system.</td>
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<tr>
<td>Apple Sound Chip</td>
<td>Provides high-quality, four-voice stereo sound.</td>
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<td>256K of ROM on a SIMM (Single In-line Memory Module), including: — Hierarchical File System — Driven for Macintosh hard disks, Apple Desktop Bus™, 68882 floating-point coprocessor, SCSI, and AppleTalk® network — Macintosh Toolbox — QuickDraw™ and Color QuickDraw</td>
<td>The SIMM mounting makes it easy to remove and replace ROMs for more convenient servicing.</td>
</tr>
<tr>
<td>Seven built-in ports (one SCSI, one disk drive, two serial, two Apple Desktop Bus, one stereo sound)</td>
<td>Makes it easy to expand your system with additional peripherals. 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.</td>
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<td>Choice of keyboards (sold separately): — Apple Keyboard — Apple Extended Keyboard</td>
<td>Apple Keyboard includes a numeric keypad and cursor keys for efficient operation. Apple Extended Keyboard also includes 15 function keys, letting you work effectively with alternate operating systems, terminal-emulation programs, and other data communications applications.</td>
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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 6 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 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 head-phones or other stereo equipment
- Mixed stereo mono-phonic 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)

**General connectors**
- 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  
|                      | Mouse                                   |                | Owner’s guide  
|                      | Mouse                                   |                | System software and HyperCard software  
|                      | Mouse                                   |                | Guided Tour disk  
|                      | Mouse                                   |                | 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  
| Mouse                                               |                | Owner’s guide  
| Mouse                                               |                | System software and HyperCard software  
| Mouse                                               |                | Guided Tour disk  
| Mouse                                               |                | 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  
| Mouse                                               |                | Owner’s guide  
| Mouse                                               |                | System software and HyperCard software  
| Mouse                                               |                | Guided Tour disk  
| Mouse                                               |                | Limited warranty statement |

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