Macintosh II

Overview

The Macintosh® II personal computer is the high-performance, open-architecture member of the Macintosh family. It provides advanced color and graphics capabilities, with a palette of over 16 million colors.

The Macintosh II is designed for advanced applications in business, desktop publishing, science, and engineering. It comes standard with a full 32-bit 68020 microprocessor and a 68881 floating-point coprocessor.

For maximum flexibility, the Macintosh II makes room for more memory—up to 8 megabytes of on-onboard RAM—and includes six built-in ports and six expansion slots that let you create virtually any system configuration you need. Using hardware and software options from Apple and third parties, the Macintosh II can support other operating environments, including MS-DOS and AT&T UNIX®.

To go with the Macintosh II, you have a choice of monitors—including the AppleColor™ High-Resolution RGB Monitor—as well as keyboards and internal or external disk drives.

The Macintosh II is compatible with existing Macintosh software, and comes standard with 1 megabyte of RAM and a built-in 800-kilobyte floppy disk drive. It is available in two configurations: with or without an internal 40-megabyte hard disk drive.

Adding to the power and versatility of the Macintosh II is Apple's first-generation multitasking operating system, MultiFinder™. MultiFinder allows you to open multiple applications concurrently and perform background tasks—such as printing documents on laser printers—while you continue to work in an application.

In addition to the System software, the Macintosh II is packaged with Apple's exciting HyperCard® application. HyperCard is an information-management toolkit that lets you organize information on your computer the way you organize it in your mind—by association, and with unlimited cross-references.

Features	*Benefits*
▶ Full 32-bit 68020 microprocessor	▶ Offers processing speed, power, and performance.
▶ 68881 floating-point coprocessor	▶ Offers fast processing of complex mathematical functions.
▶ Six NuBus expansion slots	▶ Lets you configure your system to meet specific needs. ▶ Makes it easy to add a variety of cards. (Cards are self-configuring—they require no DIP switches, and can be placed in any slot.) ▶ Provides flexibility for expansion as your requirements change and new technology becomes available.
▶ Internal hard disk storage	▶ Accommodates either 5.25- or 3.5-inch drives (higher-capacity hard disk drives typically become available first in the 5.25-inch size).
▶ Choice of monitors (sold separately): —Apple High-Resolution Monochrome Monitor —AppleColor™ High-Resolution RGB Monitor —Apple Two-Page Monochrome Monitor —Apple Macintosh Portrait Display	▶ Lets you choose the monitor you need—from high-quality RGB monitors with vivid colors to monochrome monitors that offer the crispness and clarity traditionally associated with Macintosh.
▶ Six built-in ports: two serial, two Apple Desktop Bus,™ one SCSI, one sound	▶ Lets you expand your system with popular peripherals without using expansion slots. ▶ Provides access to LocalTalk™ cable-based networks, which allows you to connect your Macintosh II to other computers and to LaserWriter® printers through the AppleTalk® Network System. ▶ Provides connection for Apple Desktop Bus devices such as a keyboard, hand-controlled pointing device (such as a mouse or trackball), or graphics tablet. ▶ Supports up to seven SCSI peripherals.
▶ 1 megabyte of on-board RAM, expandable to 8 megabytes	▶ Provides the flexibility to grow as you need additional memory. ▶ Lets you work with large amounts of data, such as large spreadsheets, large scanned images, and sound files. ▶ Lets you run multiple applications concurrently under the MultiFinder operating system.

Features	*Benefits*
► 256K of ROM, including: —Hierarchical File System —Drivers for Macintosh hard disk drives, NuBus expansion slots, Apple Desktop Bus, 68881 floating-point coprocessor, SCSI, and AppleTalk network —Color QuickDraw™	► The Hierarchical File System organizes storage for documents and allows easy access to files. ► The SCSI interface supports high-performance peripherals. ► QuickDraw and Color QuickDraw enable Macintosh applications to offer a consistent interface throughout the Macintosh family.
► 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.
► MultiFinder operating system	► Allows multiple applications to be opened concurrently. ► Lets you easily integrate information from multiple applications by cutting and pasting between them. ► Allows you to continue working with applications while performing tasks in the background, such as print spooling or downloading remote files.
► Software compatibility	► Runs virtually all Macintosh software, including applications designed to take advantage of floating-point coprocessors.
► Apple Sound Chip	► Provides high-quality digital sound. ► Offers compatibility with all applications that use Macintosh sound.
► Choice of keyboards (sold separately): —Apple Keyboard —Apple Extended Keyboard	► Apple Keyboard includes 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.

Product Details

System configuration
▶ Two configurations are available:
—The Macintosh II CPU, which includes the CPU, 68881 floating-point coprocessor, 1 megabyte of RAM, one 800K 3.5-inch floppy disk drive, and mouse.
—The Macintosh II Hard Disk 40 CPU, which includes the Macintosh II CPU plus an internal 40-megabyte SCSI hard disk drive.
▶ Keyboard, monitors, and other peripheral devices are packaged and sold separately.

NuBus expansion slots
▶ NuBus provides a 32-bit single address bus and data bus on a 96-pin connector.
▶ NuBus is self-configuring. Cards can be plugged into any slot and the system will automatically identify and configure each card, without any DIP switches or jumper wires.

68020 processor
▶ The Macintosh II is equipped with the 32-bit 68020 processor running at 15.7 megahertz. Overall performance of the Macintosh II is at least four times faster than that of Apple's 68000-based systems.

▶ The 32-bit address bus provides a total addressable space of 4 gigabytes.

RAM
▶ RAM can be upgraded on the motherboard to 2 megabytes with the 1MB RAM Expansion Kit; it can be upgraded to 4, 5, or 8 megabytes with 2MB RAM Expansion Kits.

68881 floating-point math coprocessor
▶ Macintosh programs that utilize the Standard Apple Numerics Environment (SANE®) will have floating-point computations accelerated by 3 to 30 times.
▶ Programs that make direct use of the 68881 will have floating-point computations accelerated by up to 200 times.

Stereo sound
▶ The Apple Sound Chip supports stereo sound at a sampling rate of up to 44.1 kilohertz.

SCSI (Small Computer Systems Interface)
▶ SCSI is a high-performance interface for connecting the computer to hard disks and other mass-storage peripherals. Up to seven SCSI peripherals (including internal hard disk) can be connected to the Macintosh II.
▶ SCSI performace on the Macintosh II is rated at up to 1 megabyte per second (up to four faster times than on a Macintosh Plus).
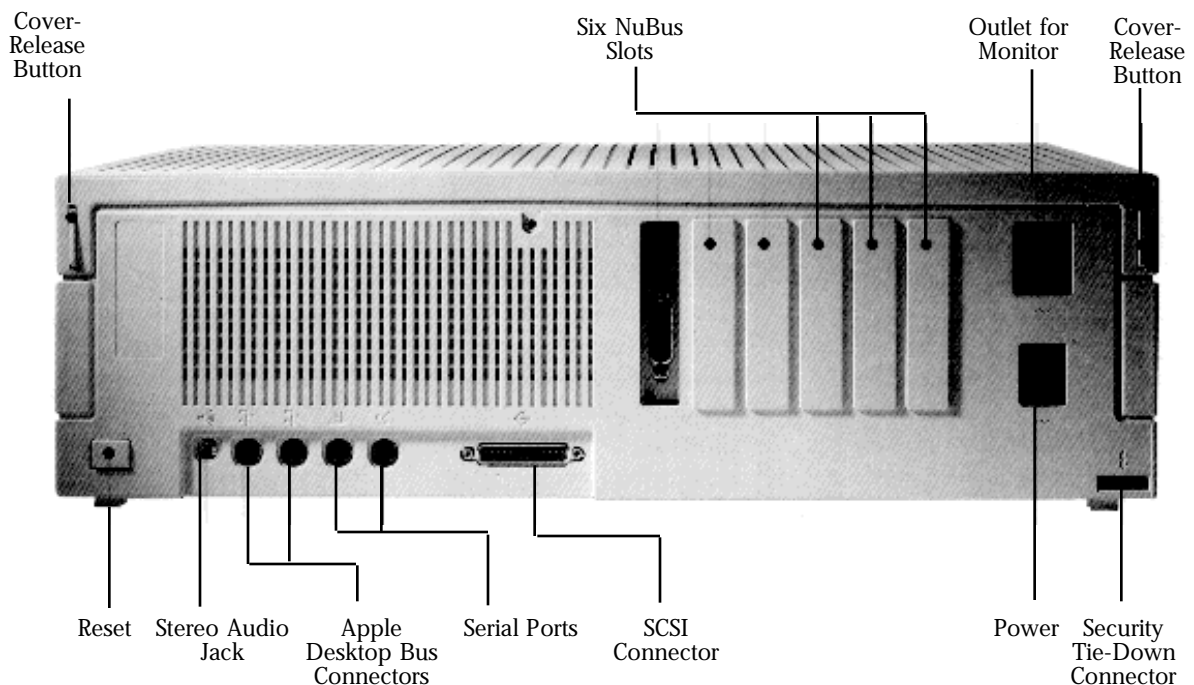
Network support
▶ The Macintosh II serial porta include full support for AppleTalk network connections.

Operating system software
▶ Macintosh System software includes:
—MultiFinder
—Utilities such as the Hard Disk Backup

HyperCard
▶ HyperCard software included.

Cover-Release Button · Six NuBus Slots · Outlet for Monitor · Cover-Release Button · Reset · Stereo Audio Jack · Apple Desktop Bus Connectors · Serial Ports · SCSI Connector · Power · Security Tie-Down Connector

Technical Specifications

Processor
► MC68020; 32-bit internal Harvard architecture
► 15.7-megahertz clock speed

Coprocessor
► 68881 floating-point coprocessor
► 15.7-megahertz clock speed

Optional 68851 Paged Memory Management Unit (PMMU)
► 15.7-megahertz clock speed
► Required for running A/UX

Interfaces
► Two mini-8 serial (RS-232/RS-422) ports
► SCSI interface: uses a 50-pin connector (internal) and a DB-25 connector (external)
► Two Apple Desktop Bus ports allow daisy-chaining of multiple peripheral devices
► Six NuBus internal slots support full 32-bit address and data buses
► Sound jack for stereo output

Mouse
► Mechanical tracking: optical shaft encoding at 3.94 ± 0.39 pulses per mm (100 ± 10 pulses per inch) of travel

Sound generator
► Apple's custom digital sound chip provides 8-bit stereo sampling at 44.1 kilohertz, and includes four-voice wave-table synthesis. Capable of driving stereo headphones or other stereo equipment through the sound jack.

Electrical requirements
► Line voltage: 90 to 140 volts AC, 170 to 270 volts AC, automatically configured
► Frequency: 48 to 62 Hz
► Maximum power: 230 watts, not including monitor power

Size and weight
Main unit
► Height: 5.5 in. (14.0 cm)
► Width: 18.7 in. (47.4 cm)
► Depth: 14.4 in. (36.5 cm)
► Weight: 24 lb. (10.9 kg)*
*Weight will be more if hard disk drive is installed.
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)

Ordering Information	**Macintosh II CPU**	Order No. M5333	With your order, you'll receive: ▶ Macintosh II personal computer with 1 megabyte of RAM and a built-in 800-kilobyte floppy disk drive ▶ Mouse ▶ Owner's guide ▶ System software and HyperCard ▶ Training disks (2) ▶ Limited warranty statement
	Macintosh II 1/40 CPU	Order No. M5430	With your order, you'll receive: ▶ Macintosh II personal computer with 1 megabyte of RAM, a built-in 800-kilobyte floppy disk drive, and a 40-megabyte hard disk drive ▶ Mouse ▶ Owner's guide ▶ System software and HyperCard ▶ Training disks (2) ▶ Limited warranty statement
	Macintosh II 4/40 CPU	Order No. M5410	With your order, you'll receive: ▶ Macintosh II personal computer with 4 megabytes of RAM, a built-in 800-kilobyte floppy disk drive, and an 40-megabyte hard disk drive ▶ Mouse ▶ Owner's guide ▶ System software and HyperCard ▶ Training disks (2) ▶ Limited warranty statement