

Overview

The Macintosh® IIcx personal computer is designed for people who want the performance, functionality, and flexibility of the modular Macintosh product line in a system with a small footprint. Its versatile design allows it to be used in either a vertical or horizontal orientation—which means the Macintosh IIcx can be placed upright next to a monitor, underneath it, or on a shelf or other support nearby.

In terms of performance, the advanced 68030 microprocessor used in the Macintosh IIcx offers high-speed program execution. And to accelerate the processing of complex math functions, the Macintosh IIcx comes standard with a 68882 coprocessor.

To meet the growing demands of the advanced Macintosh applications available today, the memory of the Macintosh IIcx can be expanded incrementally to 8 megabytes of RAM. And virtually any type of Macintosh IIcx configuration can be created, because the system includes three internal NuBus™ expansion slots to add cards (such as additional network interfaces), as well as seven external ports to accommodate peripherals (such as hard disks and printers) and LocalTalk™ network connections. The Macintosh IIcx also offers advanced color and gray-scale graphics capabilities, and can be used with a range of monitors.

For floppy disk storage, the Macintosh IIcx uses the unique 1.4-megabyte Apple® FDHD™ SuperDrive™, which allows it to read from and write to not only 3.5-inch Macintosh floppy disks, but also the 3.5-inch disks used in many other types of personal computers. An internal hard disk can also be installed, and a second floppy disk drive can be connected externally.

The Macintosh IIcx is compatible with virtually all Macintosh applications, and comes standard with Apple's MultiFinder™ operating system and HyperCard®, a tool for custom software solutions.

Features

Benefits

▶ Full 32-bit 68030 microprocessor with built-in Paged Memory Management Unit (PMMU)

▶ Offers power, performance, and high-speed processing.
▶ Supports multitasking operating systems (such as Apple's A/UX®) that require memory management capabilities in order to run.

▶ 68882 floating-point coprocessor

▶ Offers fast processing of complex mathematical functions, such as logarithmic and trigonometric series.

▶ Three 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.

▶ Unique industrial design

—Small footprint
—Locking power switch

▶ Can be used in either horizontal or vertical orientation.
▶ Takes up little desktop space.
▶ Allows system to restart automatically in the event of a power failure; for example, when used as a file server.

▶ Apple FDHD SuperDrive

▶ Provides 75 percent more storage capacity than 800K disk drives.
▶ Allows you to conveniently transfer data files between Macintosh, OS/2, MS-DOS, and Apple II systems on the same 3.5-inch disk, using the Apple File Exchange utility.

▶ Internal hard disk storage

▶ Accommodates a 3.5-inch hard disk drive (several capacities are available).

▶ 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.

▶ Seven built-in ports: two serial, two Apple Desktop Bus,™ one SCSI, one DB-19 serial (for external floppy disk drive), one sound

▶ Allows you to expand your system with popular peripherals without using expansion slots.
▶ Provides access to LocalTalk cable-based networks, which allows you to connect a Macintosh IIcx 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.

Features

Benefits

▶ 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 editing files.
- ▶ Enables you to open multiple applications concurrently under MultiFinder.

▶ 256K of ROM, including:
—Hierarchical File System
—Drivers for Macintosh hard disk drives, NuBus expansion slots, Apple Desktop Bus, 68882 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 and enable color systems to display 256 colors or shades of gray simultaneously.

▶ Socket for ROMs on SIMM (Single In-Line Memory Module)

- ▶ Makes it easy to install SIMM-mounted ROM when upgrading or servicing.

▶ 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 software

- ▶ 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 stereo 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

- ▶ Four configurations are available:
 - The Macintosh IIcx CPU includes the 68030 microprocessor, 68882 floating-point coprocessor, 1 megabyte of RAM, one 1.4-megabyte floppy disk drive, and mouse.
 - The Macintosh IIcx 1/40 CPU includes all of the features of the Macintosh IIcx, plus a 40-megabyte hard disk drive.
 - The Macintosh IIcx 4/80 CPU includes all of the features of the Macintosh IIcx, except that it has 4 megabytes of RAM and an 80-megabyte hard disk drive.
 - The Macintosh IIcx also comes with A/UX preconfigured on a system that has 4 megabytes of RAM and an 80-megabyte hard disk.
- ▶ The keyboard, monitor, and other peripheral devices are packaged and sold separately.

NuBus Expansion Slots

- ▶ NuBus provides a multiplexed 32-bit address bus and data bus on a single 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.
- ▶ The NuBus architecture supports data transfer rates of up to 37.5 megabytes per second.

68030 Processor

- ▶ The 32-bit 68030 processor runs at 15.667 megahertz.
- ▶ The 32-bit address bus provides a total addressable space of 4 gigabytes.
- ▶ Separate instruction and data caches provide significantly faster processing.
- ▶ Built-in PMMU supports virtual, shared, and protected memory in operating systems that have been designed for it.

68882 Floating-Point Math Coprocessor

- ▶ The 68882 performs complex mathematical calculations, such as logarithmic and trigonometric functions.

RAM

- ▶ The Macintosh IIcx can be upgraded incrementally to 8 megabytes of RAM through the addition of 1-megabyte or 4-megabyte memory expansion kits.
- ▶ When denser chips become available, the Macintosh IIcx can be upgraded to 32 megabytes of RAM.

SCSI (Small Computer Systems Interface)

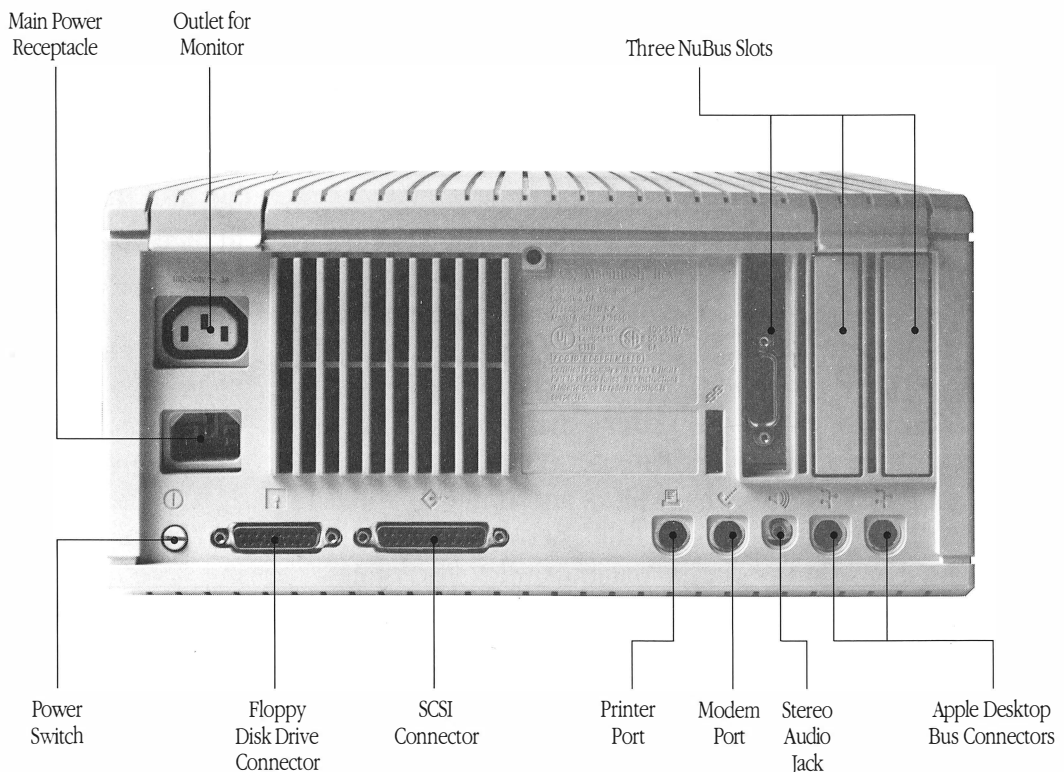
- ▶ SCSI is a high-performance interface for connecting the Macintosh IIcx to hard disks and other peripherals, such as the LaserWriter IIsc, Apple Scanner, AppleCD SC™ CD-ROM drive, and other devices. Up to seven SCSI peripherals (including an internal hard disk) can be connected.
- ▶ SCSI provides data transfer rates of up to 1 megabyte per second.

Network Support

- ▶ The Macintosh IIcx provides full ROM support for all AppleTalk protocols, and has serial ports for LocalTalk network connections.

Operating System Software

- ▶ Macintosh system software includes:
 - System Tools Version 6.0.3 or greater (the Macintosh operating system)
 - Printer disk (the printer drivers for all Apple printers)
 - Utility disks, which include utilities such as Apple File Exchange, HD SC Setup, CloseView, Disk First Aid™, and the Font/DA Mover
- ▶ HyperCard is included.
- ▶ A/UX Version 1.1 (or greater) is compatible with the Macintosh IIcx.



Technical Specifications

Processor

- ▶ 68030; 32-bit internal Harvard architecture
- ▶ 15.667-megahertz clock speed
- ▶ 256-byte instruction and data caches

Coprocessor

- ▶ 68882 floating-point coprocessor (IEEE standard—80 bits precision)

Interfaces

- ▶ Three NuBus internal slots support full 32-bit address and data buses
- ▶ Two mini-8 serial (RS-232/RS-422) ports
- ▶ Two Apple Desktop Bus ports allow daisy-chaining of multiple peripheral devices
- ▶ SCSI interface: uses a 50-pin connector (internal) and a DB-25 connector (external)
- ▶ One DB-19 serial port for connecting external floppy disk drives
- ▶ Sound jack

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: 100 to 240 volts AC, automatically configured
- ▶ Frequency: 50 to 60 Hz, single phase
- ▶ Maximum power: 90 watts, not including monitor power

Size and weight

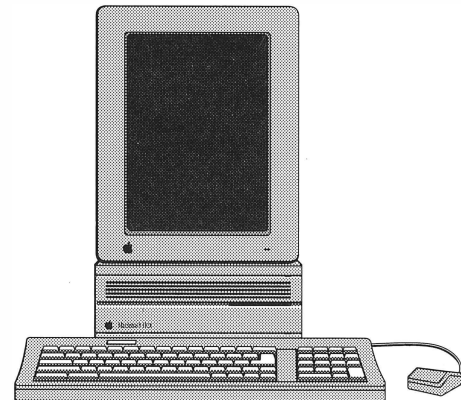
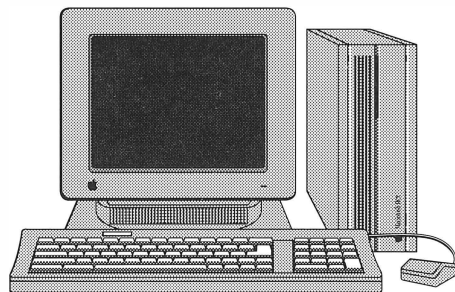
Main unit

- ▶ Height: 5.5 in. (14.0 cm)
- ▶ Width: 11.9 in. (30.2 cm)
- ▶ Depth: 14.4 in. (36.5 cm)
- ▶ Weight: 14 lb. (6.4 kg)*

*Weight will be less if no 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)



The versatile design of the Macintosh IIcx allows it to be used in either a vertical or horizontal orientation.



Macintosh IIcx

Ordering Information

Macintosh IIcx CPU

Order No. M5660

With your order, you'll receive:

- ▶ Macintosh IIcx personal computer with 1 megabyte of RAM and a built-in 1.4-megabyte floppy disk drive
 - ▶ Mouse
 - ▶ Owner's guide
 - ▶ System software and HyperCard
 - ▶ Training disks (2)
 - ▶ Limited warranty statement
-

Macintosh IIcx 1/40 CPU

Order No. M5610

With your order, you'll receive:

- ▶ Macintosh IIcx personal computer with 1 megabyte of RAM, a built-in 1.4-megabyte 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 IIcx 4/80 CPU

Order No. M5680

With your order, you'll receive:

- ▶ Macintosh IIcx personal computer with 4 megabytes of RAM, a built-in 1.4-megabyte floppy disk drive, and an 80-megabyte hard disk drive
 - ▶ Mouse
 - ▶ Owner's guide
 - ▶ System software and HyperCard
 - ▶ Training disks (2)
 - ▶ Limited warranty statement
-

Macintosh IIcx A/UX CPU

Order No. M5690

With your order, you'll receive:

- ▶ Macintosh IIcx personal computer with 4 megabytes of RAM, a built-in 1.4-megabyte floppy disk drive, and an 80-megabyte hard disk drive with A/UX installed
- ▶ Mouse
- ▶ Owner's guide
- ▶ System software and HyperCard
- ▶ Training disks (2)
- ▶ 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, A/UX, HyperCard, LaserWriter, and Macintosh are registered trademarks of Apple Computer, Inc. AppleCD SC, AppleColor, Apple Desktop Bus, Disk First Aid, FDHD, LocalTalk, MultiFinder, QuickDraw, and SuperDrive are trademarks of Apple Computer, Inc. MS-DOS is a registered trademark of Microsoft Corporation. NuBus is a trademark of Texas Instruments. OS/2 is a trademark of International Business Machines Corporation. Monitor and keyboard sold separately. Product specifications are subject to change without notice. Printed in U.S.A. September 1989.
M0066L1/B