

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

▶ 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™

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

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

▶ MultiFinder operating system software

▶ Software compatibility

▶ Apple stereo sound chip

▶ Choice of keyboards (sold separately):
—Apple Keyboard
—Apple Extended Keyboard

▶ 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.

▶ 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.

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

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

▶ 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.

▶ Runs virtually all Macintosh software, including applications designed to take advantage of floating-point coprocessors.

▶ Provides high-quality digital sound.
▶ Offers compatibility with all applications that use Macintosh sound.

▶ 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)

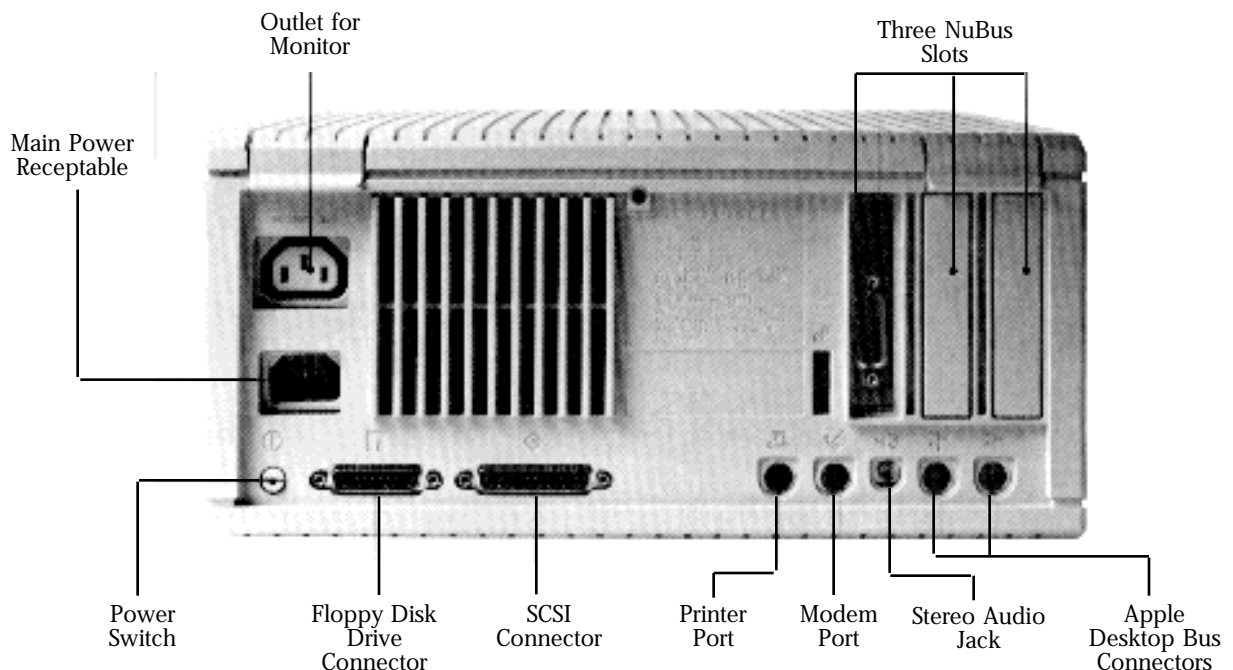
- ▶ SCSI is a high-performance interface for connecting the Macintosh IICX to hard disks and other peripherals, such as the LaserWriter IISC, Apple Scanner, AppleCD SC™ CD-ROM drive, and other devices. Up to seven SCSI peripherals (including an internal hard disk) can be connected.
- ▶ SCSI provides 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

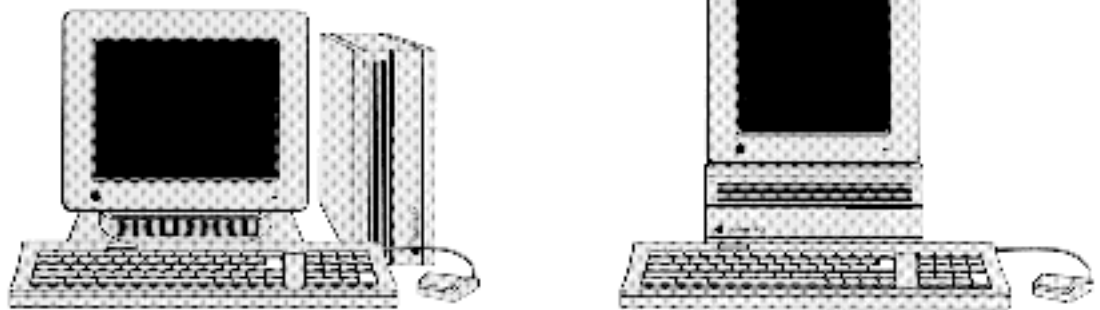
Main unit

- ▶ 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 IIx allows it to be used in either a vertical or horizontal orientation.



Macintosh IIcx

Ordering Information**Macintosh II cx 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 II cx 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 II cx 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 II cx 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

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Monitor and keyboard sold separately. Product specifications are subject to change without notice. Printed in U.S.A. September 1989.
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