

Overview

The Macintosh® IIfx is ideal for people who require maximum expandability, disk storage capacity, and the flexibility of a modular Macintosh personal computer system.

The performance of the Macintosh IIfx results primarily from its advanced 68030 microprocessor. And to accelerate the processing of complex math functions, the Macintosh IIfx comes standard with a 68882 coprocessor.

To meet the demands of the growing number of powerful Macintosh applications available today, the memory of the Macintosh IIfx can be expanded incrementally to 8 megabytes of RAM.

And virtually any type of Macintosh IIfx configuration can be created, because the system includes six internal NuBus™ expansion slots to add cards (such as additional network interfaces), as well as six external ports to accommodate peripherals (such as hard disks and printers) and LocalTalk™ network connections. The Macintosh IIfx also offers advanced color and gray-scale graphics capabilities, and can be used with a wide range of monitors.

For floppy disk storage, the Macintosh IIfx 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 Apple hard disk—with up to 160 megabytes of capacity—can also be installed, as well as a second SuperDrive.

The Macintosh IIfx 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.

- ▶ 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.

- ▶ Apple FDHD SuperDrive
— A second SuperDrive can be installed.

- ▶ 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 either 5.25- or 3.5-inch hard disk 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 IIx 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

- ▶ 1 megabyte of on-board RAM, expandable to 8 megabytes

- ▶ 256K of ROM on SIMM (Single In-line Memory Module), 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™

- ▶ 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

Benefits

- ▶ 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.
- ▶ Lets you open multiple applications concurrently under MultiFinder.

- ▶ The SIMM mounting makes it easy to remove and replace ROM for more convenient configuration and servicing.
- ▶ 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 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

- ▶ Five configurations are available:
 - The Macintosh IIx CPU includes the 68030 microprocessor, 68882 floating-point coprocessor, 1 megabyte of RAM, one 1.4-megabyte floppy disk drive, and mouse.
 - The Macintosh IIx 1/40 CPU includes all of the features of the Macintosh IIx CPU, plus a 40-megabyte internal hard disk drive.
 - The Macintosh IIx 4/80 CPU includes all of the features of the Macintosh IIx, except that it has 4 megabytes of RAM and an 80-megabyte hard disk drive.
 - The Macintosh IIx 4/160 CPU includes all of the features of the Macintosh IIx, except that it has 4 megabytes of RAM and a 160-megabyte hard disk drive.
 - The Macintosh IIx also comes preconfigured with A/UX 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 (such as Apple's A/UX).

68882 Floating-Point Math Coprocessor

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

RAM

- ▶ The Macintosh IIx 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 IIx can be upgraded to 32 megabytes of RAM.

SCSI (Small Computer Systems Interface)

- ▶ SCSI is a high-performance interface for connecting the Macintosh IIx to hard disks and other peripherals, such as the 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 IIx 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 IIx.

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)
- ▶ 15.667-megahertz clock speed

Interfaces

- ▶ Six 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)
- ▶ 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: 100 to 240 volts AC, automatically configured
- ▶ Frequency: 48 to 62 Hz
- ▶ Maximum power: 230 watts, not including monitor power

Size and weight

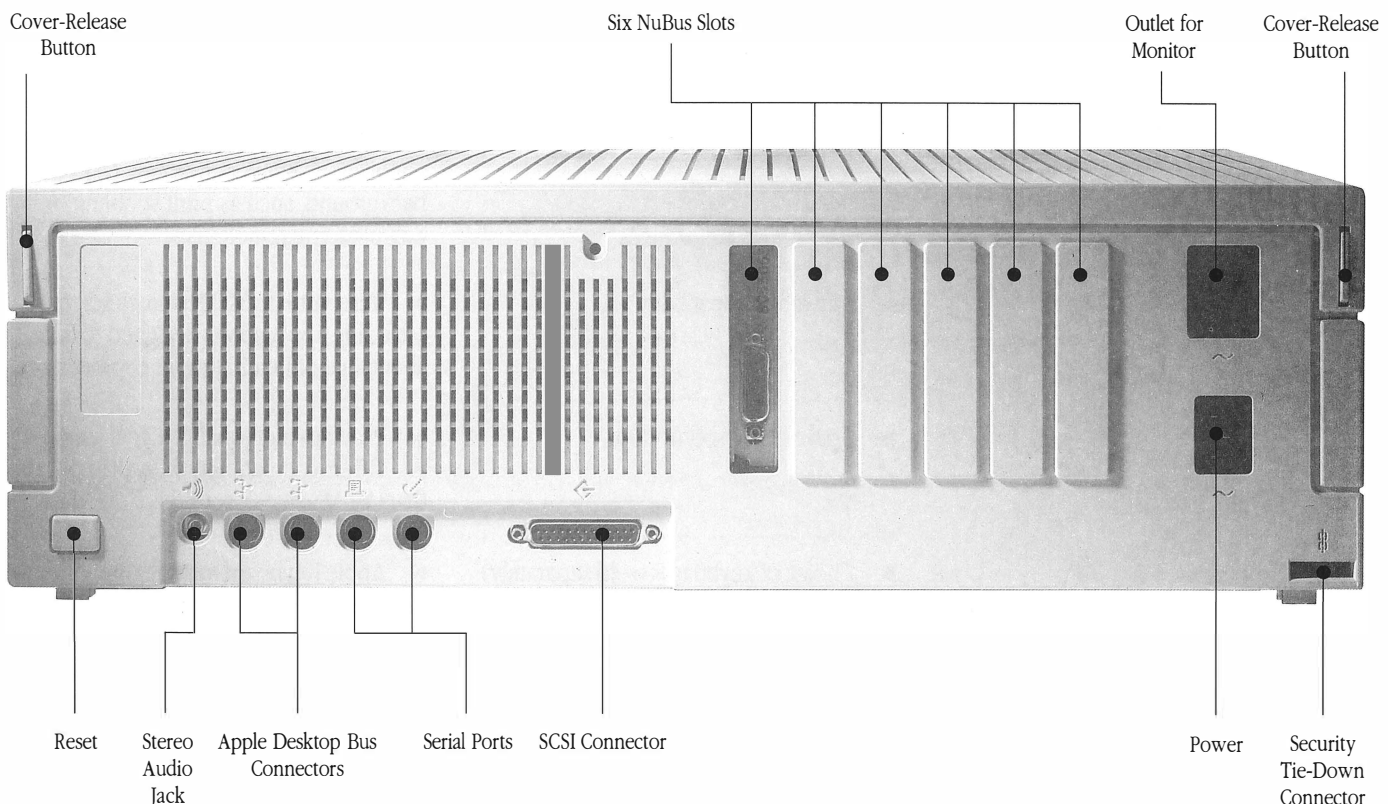
Main unit

- ▶ 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)





Macintosh IIx

Ordering Information

Macintosh IIx CPU Order No. M5790

With your order, you'll receive:

- ▶ Macintosh IIx 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 IIx 1/40 CPU Order No. M5810

With your order, you'll receive:

- ▶ Macintosh IIx 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 IIx 4/80 CPU Order No. M5830

With your order, you'll receive:

- ▶ Macintosh IIx 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 IIx 4/160 CPU Order No. M5860

With your order, you'll receive:

- ▶ Macintosh IIx personal computer with 4 megabytes of RAM, a built-in 1.4-megabyte floppy disk drive, and a 160-megabyte hard disk drive

- ▶ Mouse
- ▶ Owner's guide
- ▶ System software and HyperCard
- ▶ Training disks (2)
- ▶ Limited warranty statement

Macintosh IIx A/UX CPU Order No. B0002LL/A

With your order, you'll receive:

- ▶ Macintosh IIx 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