USB FAQ

Q. What is USB?

A. USB stands for Universal Serial Bus, an industry-standard specification for attaching peripherals to a computer. It delivers high performance, the ability to plug in and unplug devices while the computer is running, great expandability, and a wide variety of solutions.

Q. Who developed USB?

A. USB was developed by the personal computing and telecommunications industries, including such companies as Compaq, DEC, IBM, Intel, Microsoft, NEC, and NorTel (Northern Telecom).

Q. Why is Apple adopting USB?

A. USB complements and enhances the traditional ease of use and plug-and-play capabilities associated with Macintosh computers. USB provides Apple customers with many significant advantages and enables them to take advantage of the huge number of USB peripherals expected to appear in the market over the next few years. Several hundred companies are committed to delivering solutions based on the USB standard.

Q. Is Apple's implementation of USB proprietary or does it follow the USB standard?

A. Apple's implementation of USB follows the industry-standard USB specification. The USB specification is available from the USB Implementers Forum web site at www.usb.org/developers.

Q. How does USB work?

A. Every USB device requires a small piece of software, called a driver, to activate it. On Macintosh, drivers appear as extensions in the System Folder. After the user installs a driver, the USB device is ready to use as soon as it's plugged in. USB is unique in that devices can be plugged in or unplugged even while the computer is running. This is a radical new concept that means customers can more easily take advantage of a wider variety of devices as they need them, easily share the same devices with other Macintosh users (and even PC users with USB), and never run out of ports because they can plug in and unplug devices as necessary, all without ever having to stop their work or shut down their computer.

Q. What are some of the advantages of USB?

A. USB provides up to 12-megabit-per-second data transfer; supports up to 127 external devices; features "hot-plug" and "hot-unplug" capabilities and automatic driver loading; and supports a wide variety of devices.

Q. How fast is 12 megabits per second?

A. 12 megabits per second is more than 1,000 times faster than the speed of Apple Desktop Bus (ADB) and over 50 times faster than the speed of traditional serial ports.

Q. What kinds of USB peripherals will I be able to attach to my Macintosh?

A. Numerous devices currently take advantage of USB, including color inkjet printers, laser printers, flatbed scanners, digital still cameras, desktop video cameras, video capture devices, modems, keyboards, mice, joysticks, game pads, hard disk drives, removable storage devices, digital speakers, digital microphones, and more.

Q. Where can I find Macintosh-compatible USB products?

A. Apple maintains a list of all compatible products for Macintosh, known as the Macintosh Products Guide. It's available on the World Wide Web at www.apple.com/guide. To view USB products, search using the keyword "USB."

Q. How can I identify USB products that are Macintosh compatible?

A. USB products compatible with Macintosh display both the Mac logo and the USB logo on their packaging. If the product displays a USB logo but not a Mac logo, it may still be compatible with Macintosh. Many developers provide Macintosh software drivers for new products on their web site until they are able to include the drivers in the product package. If in doubt about a particular product, visit the manufacturer's web site or call them to inquire about the Macintosh compatibility of a particular product.

Q. Does Apple include any USB drivers with the Mac OS?

A. Apple includes drivers for USB keyboards, USB mice (and other pointing devices), and USB hubs with every Macintosh that ships with USB and includes drivers for other popular products as well, including many game controllers, USB Zip drives, and SuperDisk drives. Other drivers for popular devices are often provided for convenience on the CD-ROMs included with Macintosh computers.

Q. What is required to make USB game controllers work?

A. Apple uses a technology named Game Sprockets to allow numerous game controllers to interoperate with a variety of games, even when the game developer doesn't know about the game controller. Apple's Game Sprockets software is either preinstalled or available on a CD included with USB-based Macintosh computers. Updates are available at no charge through Apple's Software Updates web site at www.swupdates.info.apple.com. A complete list of compatible devices is provided in the ReadMe file included with the Sprockets software. Supported USB game devices will work correctly in any game that supports Sprockets technology.

Q. Is iMac the only Apple product with USB?

A. No. Apple recently introduced a new Power Macintosh G3 that includes two USB ports and ships with a USB keyboard that has a two-port hub. Apple also recently introduced a new 21-inch (19.8-inch viewable) Apple Studio Display that uses USB and provides a built-in, four-port, self-powered USB hub. Apple expects to introduce many new products in the future that include USB.

Q. Are USB ports being added to Macintosh computers or are they replacing existing ports?

A. Apple's products are designed to uniquely satisfy the needs of its customers. Based on price, performance, and value, Apple will provide ports that are best suited to each product. However, Apple's intention is to replace ADB and serial ports with USB ports.

Q. Can USB ports be added to an existing Macintosh?

A. Yes. Several vendors offer inexpensive (less than $60) PCI USB host controller adapter cards and Apple USB software extensions that enable existing Macintosh computers to take advantage of USB. Only licensed vendors are allowed to provide Apple's USB extensions with their cards, and these extensions are available only from licensed vendors.

Q. How does USB compare with FireWire?

A. FireWire is another exciting standard for attaching peripherals to computers. Like USB, FireWire devices can be plugged in or unplugged without interrupting your work, they're multiplatform and can be easily shared, and FireWire is highly expandable. FireWire differs from USB in terms of speed: It provides up to 400-megabit-per-second throughput compared with 12 megabits per second for USB. USB devices can be attached to only one computer at a time, whereas with FireWire, it's possible to interconnect multiple computers and devices on the same bus.

Q. Will FireWire ultimately replace USB?

A. No. The two technologies are complementary and uniquely suited to different types of peripheral devices.

For More Information

For more information about USB, visit Apple's USB web page at www.apple.com/usb.

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