

Technical Note

TITLE: USB (Universal Serial Bus) General Information

DATE: 11/19/96

PRODUCT FIELDS: Other / Other
Features

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INFORMATION:

SUBJECT: USB GENERAL INFORMATION

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1. What is USB?

USB is peripheral bus standard developed by PC and telecom industry leaders -- Compaq, DEC, IBM, Intel, Microsoft, NEC and Northern Telecom -- that will bring plug and play of computer peripherals outside the box, eliminating the need install cards into dedicated computer slots and reconfigure the system. Personal computers equipped with USB will allow computer peripherals to be automatically configured as soon as they are physically attached - without the need to reboot or run setup. USB will also allow multiple devices -- up to 127 -- to run simultaneously on a computer, with peripherals such as monitors and keyboards acting as additional plug-in sites, or hubs.

USB will allow users to connect up to 127 different peripherals all at once, using a single standard connector type. There will be no more guesswork about which serial or parallel port to choose, and nontechnical PC users will be able to say good-bye to DIP switches, jumpers, IRQ settings, DMA channels and I/O addresses. USB features hot insertion and removal, so users will be able to attach and detach peripherals anytime, without powering down their system.

In fact, USB hardware solutions from Intel are so flexible, they will make it easy to connect with the fast-growing world of new and existing digital peripherals, computer telephony integration (CTI) applications and popular multi-user games. In addition, USB enjoys widespread support from the industry's leading suppliers of PCs, peripherals and software. Intel supports USB with PCI chipsets and the industry's first single-chip USB peripheral USB Controller. For those developing and marketing products for PCs, it's time to make your own connection with USB now.

USB is an open and royalty-free specification with broad industry support.

Developed by Compaq, Digital Equipment, IBM, Intel, Microsoft,

NEC and Northern Telecom.

The USB Implementers Forum consists of more than 250 semiconductor, computer, peripheral and software companies, providing marketing and technical support to help accelerate USB product development.

2. What kind of peripherals will USB allow me to hook up to my PC?

computer-telephony integration is expected to be a big growth area for PCs, USB will provide a low-cost drives, scanners and printers. USB's 12 megabit/s data rate will also accommodate a whole new generation of interface for Integrated Services Digital Network (ISDN) and digital PBXs peripherals, including MPEG-2 video-based products, data gloves and digitizers. Also, since You name it: telephones, modems, keyboards, mice, 4x and 6x CD ROM drives, joysticks, tape and floppy

3. How does it work?

Drawing its intelligence from the host PC, USB will detect when devices are added and removed. The bus automatically determines what host resource, including driver software and bus bandwidth, each peripheral needs and makes those resources available without user intervention. Users with a USB-equipped PC will be able to switch out compatible peripherals as needed easily as they would plug in a lamp.

4. Will I need to purchase special software to run USB peripherals?

Future versions of the Windows 95 operating system will come already equipped with the feature (called "drivers") that allow your PC to recognize USB peripherals. You will not need to purchase or install additional software for each new peripheral.

5. When I purchase a new USB peripheral, like a keyboard, for example, what will I get?

No software or installation manuals! You also don't have to figure out what "serial port" means and if you have one available. You'll receive the keyboard with a USB-style connector and probably some product information. You just plug the keyboard into your PC box or other hub, such as the monitor or keyboard.

6. Will USB peripherals cost more?

USB peripherals will be competitively priced with the peripherals available on the market today.

9. How does USB compare with Sony's FireWire/IEEE 1394 standard?

They differ most in terms of application focus, availability and price. The USB feature is available now and will address more traditional PC connections, like printers, scanners, CD ROM drives, etc. However, USB's data rate (12 Mb/s) is more than adequate for many consumer applications including more-advanced computer

game devices, high-fidelity audio and MPEG-2 video. Most importantly, the USB feature will add nothing to system cost.

FireWire will only be available in limited configurations until late 1997. FireWire will target high-bandwidth consumer electronics connections to the PC -- like digital camcorders, cameras and digital video disc players.

10. When it is available, will FireWire replace USB?

No,. The two technologies target different peripheral connections and will therefore be complementary. When FireWire appears in two- to- three years, it will be up to individual consumers what features they want on their new PCs. It seems likely that, in the future, PCs will have both USB and FireWire connection ports.

Keywords:

usb universal serial bus firewire