

# Guides & Resources

## FireWire or USB 2.0?

By Melissa Winter

Hooking up that new computer peripheral is now easier and faster than ever, thanks to the new USB 2.0 and FireWire connectors. Each lets you connect numerous peripherals and experience amazingly fast data transfer rates, but which do you choose? It's competition in the fastest sense. Read on to find out how both are finding their niche in the computer world.

### USB 2.0: what a speedy way to go

USB (Universal Serial Bus) 1.1 began to appear on PCs in 1997 as the cross-platform industry standard that replaced older parallel and serial ports. Designed to connect peripherals (mice, keyboards, monitors and more) to PCs, it could also be used for fancier PC gadgets, like CD burners and MP3 players.

Enter USB 2.0. It puts the old USB 1.1 to shame with a dramatic data transfer rate of 480 Mbps. That's 40 times faster than USB 1.1's maximum rate of 12 Mbps and nearly 100 times faster than the first serial port. Even with multiple high-speed peripherals connected (it supports up to 127 devices), USB 2.0 races along with no bandwidth bottlenecks.

### Reasons to go 2.0:

- **Blazing speed.** USB 2.0 clocks in at a blazing-fast 480 Mbps. That's 40 times faster than USB's 1.1 maximum rate of 12 Mbps.
- **Backward compatible.** Use your old peripherals. Any device you used with USB 1.1 will also work with 2.0, at USB 1.1's 12 Mbps rate.
- **Hot-swappable.** Connects up to 127 devices. Add and remove devices without rebooting your PC or running set-up programs. Sharing monitors, printers and keyboards is easy.
- **Easy plug-and-play convenience.** USB installs outside the box. Just plug a device into the USB port and the computer automatically configures it. No add-on cards are needed.

### FireWire: a multimedia lover's dream

FireWire is a high-speed serial bus that can move large amounts of data between computers and peripherals at a whopping transfer rate of 400 Mbps. This cross-platformed standard, also known as IEEE 1394 and marketed by Sony as i.LINK, boasts 30 times more bandwidth than USB 1.1 and can connect up to 63 peripheral devices.

Originally developed by Apple Computer and introduced in their Power Macs, FireWire has a heavy multimedia emphasis so it's ideal for connecting digital camcorders and digital cameras. It's also being used to connect everything from hard drives to CD-RW drives, allowing you to burn a disc lickety-split. IEEE 1394 has been accepted as the standard digital interface by the Digital VCR Conference. And it's Mac and PC compatible. On the horizon: the new FireWire, IEEE 1394b, with transfer rates of up to 800, 1600 and 3100 Mbps.

### Reasons to hire FireWire:

- **Operates at 400Mbps.** And the upcoming 1394b can deliver data at up to 3100 Mbps.
- **Peer-to-peer interface.** Transfer that memorable vacation video directly from one camcorder to another without a computer. It also allows multiple computers to share a given peripheral without any special support in the peripheral or the computer. So one camcorder works with two PCs without any fuss.
- **It's a multimedia mecca.** Why have multimedia device manufacturers adopted FireWire technology? Because it speeds up the movement of multimedia data and large files, and easily connects digital camcorders, digital video tapes, digital video

discs and music systems directly to a computer. Downloading images to a PC or Mac for editing is a snap.

- Hot-swappable. Connect up to 63 devices without restarting your computer.
- Easy plug-and-play convenience. Just plug in your FireWire-compatible peripheral and you're set to go. No complex cabling, terminators, complicated setups or headaches.

### **The dirt on the differences**

Okay, so they're both quick and easy. How do you choose which is right for you? Just keep in mind these important differences.

#### Need backward compatibility?

USB 2.0 is backward compatible. This means any device used with USB 1.1 can still be used with USB 2.0, at the existing 12 Mbps rate. There's no need to upgrade or buy new peripherals. USB 2.0 devices will run at the faster 480 Mbps rate.

#### Connecting devices without a PC?

FireWire can transfer data directly from one device to another. USB requires the computer to serve as a go-between. Say you want to transfer those incredibly sharp digital photos from your digital camera to a digital VCR? If they're FireWire compatible, the deed is done.

#### How much bandwidth?

FireWire was made for peripherals that need maximum bandwidth, like digital camcorders, while USB was originally intended for peripherals that need medium bandwidth like monitors and keyboards.