The Facts of USB and USB Cables

The Universal Serial Bus (USB) has been around for a number of years, and its creation has solved the problem of a lack of or incompatible connections available to link computer peripherals to a computer. Before USB was available, most devices were required to connect to a computer by using parallel and serial ports. These two ports have been around for 2 decades, serving effectively in linking computer peripherals to a computer. Unfortunately there was a problem: a standard computer has only 1 or 2 serial ports and one parallel port. This severely limited the number of computer peripherals that could be attached to a single computer. Thus, if a user wanted to connect a joystick, printer, and scanner, they might require the use of every port installed on their computer. Since these ports also require the computer to be powered off before any connections can be made or broken, switching peripherals was inconvenient. Even more problematic was that the data transmission rate between these devices and the computer was prohibitively slow for any but the oldest devices.

The first USB version released is called USB 1.1, and transmits data at the rate of 12 Mbps. Later USB 2.0 was released, a product of the joint effort of leading computer and electronic companies like Microsoft, Intel, Hewlett-Packard, Apple Computer, and Lucent. It allows data transfer speeds of up to 480 Mbps, 40 times faster its predecessor, while maintaining backward compatibility with USB 1.1 devices. This has generated significantly increased efficiency in terms of data uploading and downloading.

Modern computer peripherals use USB connectivity as the industry standard. Nearly every newer device is built for USB 2.0, though devices with 1.1 USB are still widely in use. Rather than increase the complexity of connecting devices to a computer, both versions utilize the same type of USB cable. When a consumer buys a regular USB device the USB cable is normally included. The USB cable is the tool that links the device to the computer in order for it to function.

A regular USB cable has different plugs on each end, known as the A plug and the B plug. It is easy to differentiate between these plugs: the A plug is flat overall, and rectangular in shape, while the B plug is normally square shaped. The A plug is the end that is inserted to the USB port of the computer, while the B plug is the end reserved to connect to the various devices. There are some devices which use and require specialized B plugs, usually due to size constraints that prevent them from accommodating the larger standard plug. Plugging in a USB cable is simple, as the plugs will not fit in the wrong slots.

USB cable receives and transmits data, which requires the conduction of electricity. Since many devices rely upon this cable for their power source as well, two additional wires are included to supply this power. There are 2 wires (twisted) inside the USB cable for data lines, and 2 more wires (untwisted) for power. The first wire (red) carries 5 volts, while the other wire (black) is for the ground.

It is also possible buy an individual USB cable. While they can be used to connect two computers, a special adapter is required to do this in order to prevent damage from occurring. The USB standard prohibits using A/A USB cable since if it is used to connect two computers both machines will attempt to supply the 5

volt power, causing an array of problems within their power supplies.

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USB and USB cable work hand in hand to make modern devices fact and functional. Every computer user should take the necessary steps to ensure this system is properly safeguarded and maintained so that it will provide a long life of convenience and speed.