🔦 Tip | *What is USB?*

■ What is USB?

Universal Serial Bus is a high speed connectivity standard enabling simple plug and play connections to devices such as printers, digital cameras, camcorders, keyboards and mice. The standard is supported by many leading suppliers of computers and peripherals. An attractive advantage of USB is that the devices are hot pluggable meaning a live connection/disconnection without data loss or interruption. Currently there are two relevant revisions of USB, 2.0 and 3.0. USB 3.0 is an emerging standard that allows large amounts of data or video to be transferred up to 10 times faster than USB 2.0. However, USB 2.0 is still much more common in the marketplace and is expected to remain relevant for applications that do not require large amounts of data to be moved. It is important to note that in order to take advantage of the increased bandwidth USB 3.0 provides all components must be 3.0 compliant – host, cables and peripherals. Otherwise the bandwidth will perform to the lowest rated component.

■ Applications

Initially USB products were used mainly to link computers and their associated peripherals. Today USB is used in nearly every market including communications, entertainment, medical and automotive.

USB Connectors

The USB specification requires a host system to be equipped with an A type jack. The B/mini B type jack is typically found on peripheral devices requiring detachable cables. Therefore, detachable USB cables are configured as an A to B/mini B male combination which prevents improper bus configurations and topology miswiring.

For a complete listing of USB Connectors, see the Connector Chart on the inside back cover of this catalog or online at L-com.com/ConnectorChart
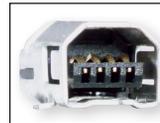
2.0 Type A Jack

2.0 Type B Jack

3.0 Type A Jack

3.0 Type B Jack

2.0 Mini Type B Jack
(4 position)

2.0 Mini Type B Jack
(5 position)

2.0 Micro Type B Jack

3.0 Micro Type B Jack

USB 2.0 Cable Construction

Braid

Foil

Drain wire

(2) Power conductors, range from 20 to 28 AWG

(1) Twisted pair, 28 AWG data lines

USB 3.0 Cable Construction

Braid

Foil

Drain wire

(2) Power conductors, range from 20 to 28 AWG

(1) Unshielded Twisted pair, data lines, range from 28 to 34 AWG

(2) Shielded Twisted Pairs, data lines, range from 26 to 34 AWG

USB 3.0 adds two shielded data pairs to the USB 2.0 cable specifications. This addition allows for the faster performance in downloading data or video. Similar concept to changing a 2 lane highway to a 6 lane highway - much more traffic can pass through!