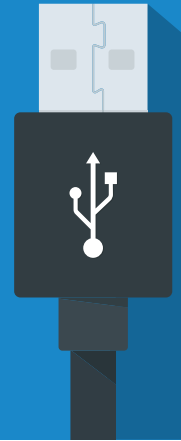


USB SALES / APPLICATION CHEAT SHEET



DID YOU KNOW? USB stands for 'Universal Serial Bus'

Common USB Transfer Speeds:

- USB 1.1/2.0 Full-Speed: 12 Mbps
- USB 2.0/Hi-Speed: 480 Mbps
- USB 3.2 Gen 1: 5 Gbps
- USB 3.2 Gen 2: 10 Gbps

USB Data Definitions:

- Enumeration – Host decides the data type based on negotiation
- Interrupt – Keyboard/mouse
- Bulk – Printer data, external hard drives
- Isochronous data – Timed and streamed like audio and video signals

Typical System Terms and Nomenclature:

HOST - Typically referred to as a host controller or "master" USB device, to which other "device" or "client" devices can be attached. Typically it is a computer

CLIENT - a device that communicates with the PC or host

Example - A printer connected to a PC - The PC is the HOST and the printer is the CLIENT or DEVICE



Liberty USB Cabling Skus:

Economy Molded USB Cables:

- USB 2.0 and 3.x formats up to 15 feet long depending on signal requirements
 - USB 2.0: E-USBAB-(length)
 - USB 3.0: E-USB3AB-(length)
 - USB 3.1: E-USB3.1CC-(length)
- All starts with "E-USB" for searching

AOC cables – DL-PLUSB3.1-[length]

- Available in the following formats:
 - A to A
 - A to A female
 - A to C
 - C to C format
- Plenum rated 10G Gen2
- Backwards compatible to USB 2 and 3.x Gen 1
- Occupies one tier

Common USB A/V Applications & Relative Liberty Products

USB 1.1 / 2.0 Full Speed (12Mbps) Signal Extension

A/V Applications:

- Keyboard & mouse (HID) extension to a PC
- Touch control on a whiteboard extended to a connected PC (whiteboard controls PC)

Products suggested for the above application:



Full-Speed USB Extender – CLIENT SKU: PMI-A9A / HOST: PMI-A9B

- Plate Mountable USB extender can be added to any PanelCrafters Plate
- PASSIVE baluns—not active components
- Product can be integrated into PanelCrafters wall plate products as extension for whiteboard / PC control
- A circuit made up of a host and client extender occupies one tier



Full-Speed USB Extender Dongle – CLIENT SKU: AVO-USB-C / HOST: AVO-USB-H

- PASSIVE baluns—not active components.
- A circuit made up of a host and client extender occupies one tier

USB 1.1 / 2.0 High Speed (480Mbps) Signal Extension

A/V Applications:

- Keyboard & mouse (HID) extension to a PC
- Touch control on a whiteboard extended to a connected PC (whiteboard controls PC)

Products suggested for the above application:



Standalone devices can be used with wall plate H/C:

USB 2.0 Hi-Speed Twisted Pair Extender – HOST: DL-USB2-H / CLIENT SKU: DL-USB2-C

- These are active / powered components
- A circuit made up of a host and client extender occupies one tier
- Does not support Isochronous data. Audio / Video applications such as Cameras should be thoroughly tested prior to deployment



Wall Plate devices can be used with standalone H/C:

USB 2.0 Hi-Speed Twisted Pair Extender WP – HOST: DL-USB2-WP-H / CLIENT SKU: DL-USB2- WP-C

- These are active / powered components
- A circuit made up of a host and client extender occupies one tier
- Does not support Isochronous data. Audio / Video applications such as Cameras should be thoroughly tested prior to deployment

USB 2.0 High Speed (480Mbps) Signal Extension

A/V Applications:

- Audio / Video and Camera Extension
- Touchscreen control extension
- USB audio & video extension for 2.0 high speed devices

Products suggested for the above application:



USB 2.0 High Speed High Performance Twisted Pair Extender Set – SKU: DIGI-USB2

- Supports Isochronous data for maximum compatibility with cameras and AV peripherals
- Sold as a SET; will include HOST & CLIENT devices
- Occupies one tier



USB 2.0 HighSpeed High Performance Extender Set w/ 4 Port USB Device Hub – SKU: DIGI-USB2-4P

- Supports Isochronous data for maximum compatibility with cameras and AV peripherals
- Sold as a SET; includes HOST and CLIENT devices
- CLIENT includes 4 USB A ports—multiple devices can use it as a hub
- Occupies one tier

USB 3.2 Gen1 (5Gbps) Signal Extension

A/V Applications:

- USB audio & video extension for 3.x high speed devices up to 5Gbps

Products suggested for the above application:



Digitalex 15m USB 3.0 Active Extension Cable – SKU: DL-USB3.0

- Active extender cable
- 3.x ONLY; NOT BACKWARDS COMPATIBLE WITH 1.1, 2.0 TRANSFER RATES
- Occupies one tier

USB 3.2 Gen1/2 (5Gbps) Signal Extension

A/V Applications:

- USB audio & video extension for UP TO 3.x high speed devices up to 5Gbps
- Simultaneous extension of multiple speed devices such as Camera, USB Storage device, and Control

Products suggested for the above application:



Intel USB 3.x Gen1/2 High Performance Extender Set with Built in 4 port USB 3.x Hub – SKU: INT-USB3.1CX

- Active extender set
- 4 USB ports on CLIENT side, BACKWARDS COMPATIBLE WITH 2.0. 1.1 devices!
- Occupies TWO tiers
- Supports Isochronous data for maximum compatibility with cameras and AV peripherals

HDMI / USB Combo Extension Devices, HDMI 1.4/2.0 + USB 2.0 High Speed (up to 190Mbps)

A/V Applications:

- HDMI and USB 2.0 extension for audio / video devices and control using and interactive touchscreen display
- USB 2.0 audio & video extension up to 190Mbps

Products suggested for the above application:



Digitalex HDMI and USB 2.0 HDBaseT Wall Plate Extension Set – # DL-1H1A1U-WPKT-W

- Single gang wall plate transmitter / HOST
- Receiver / CLIENT included
- Occupies one tier



Digitalex HDMI, USB 2.0 & USB-C HDBaseT Wall Plate Extension Set – # DL-1H1A1UC-WPKT-W

- Two gang wall plate transmitter / HOST with USB-C input
- Receiver / CLIENT included
- Occupies one tier
- USB-C input can support audio, video, USB 2.0 High Speed signals up to 190Mbps and power delivery up to 40 watts
- USB-B and USB-C can both act as a USB 2.0 High Speed host



Digitalex HDMI, VGA/A and USB 2.0 HDBaseT Wall Plate Extension Set – # DL-HDBT2-WP-KIT

- Two gang wall plate transmitter / HOST with 2 HDMI & 1 VGA input
- Receiver / CLIENT included
- Occupies one tier



Digitalex 3 HDMI w/Audio & USB 2.0 HDBaseT Wall Plate Extension Set – # DL-HDBT3H-WP-KIT

- Two gang wall plate transmitter / HOST with 3 HDMI input
- Receiver / CLIENT included
- Occupies one tier