

# USB SALES / APPLICATION CHEAT SHEET

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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 - a "Host" controller USB device to which other "Devices" or "Client" devices can be attached, typically 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-foot 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
- 3, 5, 8, 10, 15, 23, 30, and 40-meter lengths
- A - AF only up to 15m



#### USB 2.0

- E-USBAB-(length)
- Available up to 3, 6, 10, or 15ft lengths



#### USB 3.0

- E-USB3AB-(length)
- Available up to 3, 6, 10, or 15ft lengths



#### USB 3.1

- E-USB3.1CC-(length)
- Available in 1m length



# Common USB AV Applications & Relative Liberty Products

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

### AV 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

### AV 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. AV 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. AV applications such as cameras should be thoroughly tested prior to deployment

## USB 2.0 High-Speed (480Mbps) Signal Extension

### AV Applications:

- AV 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 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 High-Speed High-Performance Extender Set w/ 4 Port USB Device Hub 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.x Series Extenders

The Intelix USB 3.2 Extenders are the only high-performance USB 3 extension solutions capable of extending all USB 3.2, 2.0 and 1.1 devices simultaneously up to 100 meters over CAT 6a/7.



#### Intelix USB 3.2 High-Performance / Backward-Compatible Extender Set (INT-USB3.1CX)

The Intelix USB 3.2 Backward-Compatible Extender Set (INT-USB3.1CX) extends USB 3.1 up to 100m over Cat6A / 7, and is backward-compatible to 3.x, 2.0, 1.1 transfer speeds with a 4-port hub for multiple connected peripherals.



#### Coming Soon, Isochronous-Compatible USB 3.x Extension

The new Intelix USB 3.2 Backward-Compatible Extender Set "Plus" (INT-USB3.1CX-PLUS) will offer all the same features as the standard model INT-USB3.1CX, plus additional compatibility for applications and devices that involve extending USB 3.2. As compared to the INT-USB3.1CX the Plus version will support extension of high-quality USB 3.2 4K cameras and other USB peripherals such as USB to Video converters and high-quality HDMI capture devices.

## USB 3.2 Gen1 (5Gbps) Signal Extension

### AV Applications:

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

### Products suggested for the above application:



#### DigitaLinx 15m USB 3.0 Active Extension Cable 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

### AV Applications:

- USB audio & video extension for UP TO 3.x high-speed devices up to 10Gbps
- Simultaneous extension of multiple speed devices such as camera, USB storage device, and control

### Products suggested for the above application:



#### Intelix USB 3.x Gen1/2 High-Performance Extender Set with Built in 4-port USB 3.x Hub 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



#### DigitaLinx USB 3.x/2.0/1.1 A-A Active Optical Plenum Cable DL-PL-USB3.1AA-(length)

- Active Optical USB 3.2 Gen 2 up to 10Gbps data rates
- Backwards-compatible to USB 3.0/2.0/1.1
- Powered by the USB BUS of the associated Host
- Available in 3, 5, 8, 10, 15, 23, 30, and 40-meter lengths



#### DigitaLinx USB 3.x/2.0/1.1 A-AF Active Optical Plenum Cable DL-PLUSB3.1AAF-(length)

- Active Optical USB 3.2 Gen 2 up to 10Gbps data rates
- Backwards-compatible to USB 3.0/2.0/1.1
- Powered by the USB BUS of the associated Host
- Available in 3, 5, 8, 10, and 15m lengths



#### DigitaLinx USB 3.x/2.0/1.1 A-C Active Optical Plenum Cable DL-PLUSB3.1AC-(length)

- Active Optical USB 3.2 Gen 2 up to 10Gbps data rates
- Backwards-compatible to USB 3.0/2.0/1.1
- Powered by the USB BUS of the associated Host
- Available in 3, 5, 8, 10, 15, 23, 30, and 40-meter lengths



#### DigitaLinx USB 3.x/2.0/1.1 C-C Active Optical Plenum Cable DL-PLUSB3.1CC-(length)

- Active Optical USB 3.2 Gen 2 up to 10Gbps data rates
- Backwards-compatible to USB 3.0/2.0/1.1
- Powered by the USB BUS of the associated Host
- Available in 3, 5, 8, 10, 15, 23, 30, and 40-meter lengths

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

### AV 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:



#### **DigitaLinx 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



#### **DigitaLinx 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



#### **DigitaLinx 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



#### **DigitaLinx 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



#### **DigitaLinx "ARK" Series Three-Piece HDMI & USB Room Kit** DL-ARK-4HC

- System Includes input plate, system control plate, receiver/processor, power supply, mounting tabs for RX, white and black cover & face plates, button labels
- Input plate offers 3 HDMI, USB-B, and separate pass-through audio. (Input 4 is on RX) HDBaseT output up to 70m to receive unit. HDCP2.2 compliant



#### **DigitaLinx "ARK" Series Three-Piece HDMI, VGA, & USB Room Kit** DL-ARK-3H1VC

- System Includes input plate, system control plate, receiver/processor, power supply, mounting tabs for RX, white and black cover & face plates, button labels
- Input plate offers 2 HDMI, VGA w/audio, USB-B, and separate pass-through audio. (Input 4 is on RX) HDBaseT output up to 70m to receive unit. HDCP2.2 compliant

# USB Cameras

## YOUR Field of View Matters

Liberty's DigitalInx USB webcams are available in two different options with varying FOV: 90° standard-view angle or 120° ultra-wide view. Both camera options share the same features which include 1080p/30fps image sensor, tripod mount, security cap and built-in microphone. Designed to capture video & audio for conferencing and other applications such as streaming, webinars, distance learning, lecture capture, or personal chatting.



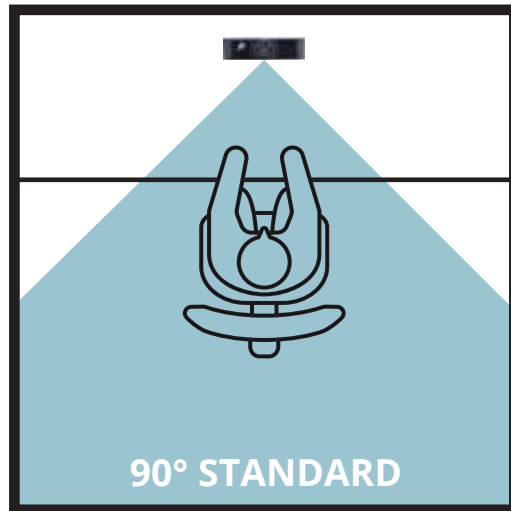
**DigitalInx USB Webcam with 90° Field of View**  
(DL-WFH-CAM90)



A 90-degree FOV lens gives you 2 feet for every 1 foot of distance from the camera. Most professional-grade video conferencing webcams operate within this standard field of view.

**Ideal for:**

- Individual use
- Small Conference Rooms
- Classrooms (Teacher/Presenter)



**DigitalInx USB Webcam with 120° Ultra Wide-Angle View**  
DL-WHF-CAM120 (Wide Angle)



A 120-degree FOV lens provides 3.4 feet for every 1-foot distance from the camera. Most huddle room cameras will fall into the wide-angle category.

**Ideal for:**

- Larger spaces
- Classrooms
- House of Worship
- Medium to Large Conference Rooms
- Classrooms (Students or Teacher)

