

# BDV-USB-X

USB Extender  
High Speed USB Switching  
Supports POE  
Integrates with Fiber and Ethernet

## USB Extension

The USB-X is a four port USB extension solution that facilitates USB mouse, keyboard, and touch panel (HID) connection over a distance of up to 100 meters over CAT5 point-to-point, and, depending on configuration, from 550 meters to over 100 kilometers over fiber point-to-point. Connect USB-X modules to a network switch for USB extension over LAN connection over a virtually unlimited distance.

## USB Matrix Switching

With the addition of a network switch and an external network-based control system, the USB-X can perform quick and seamless USB matrix switching. With the USB-X, control an unlimited number of computers or servers from one workstation. Route keyboard, mouse and touch panel control independently with a single USB-X unit per workstation. Hot key assignment allows fast switching via user-defined keyboard strokes.

## Simplified Integration

The USB-X integrates seamlessly into pre-existing fiber and Ethernet infrastructures. The USB-X is also compatible with computers that have multiple layers of USB hubs, and can be powered over Ethernet.



BDV-USB-X-All (front)



BDV-USB-X-All (rear)

Rev 1.00

## Markets

Command and Control  
Audio Visual  
Security  
Large Venue

Simulation and Training  
Education  
Medical Imaging  
Military



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## BDV-USB-X Models



BDV-USB-X-ALL



BDV-USB-X-PC



BDV-USB-X-HID

### Models

#### BDV-USB-X-ALL

The BDV-USB-X-All can be used as an upstream (PC) or downstream (HID) extender. BDV-USB-X-All includes GPIO and RS-232 extension. The BDV-USB-X-All supports Power over Ethernet.

#### Connectors include:

- One (1) USB Type B connectors
- Four (4) USB Type A connector
- One (1) gigabit Ethernet port
- One (1) RJ14 port
- One (1) 3.5mm GPIO input port
- One (1) 3.5mm GPIO output port
- One (1) SFP module port for fiber connection
- One (1) mini USB port for debugging use only
- Power port (for 5V adapter)

#### BDV-USB-X-PC

The BDV-USB-X-PC can be used as an extender for upstream devices only (PC).

#### Connectors include:

- One (1) USB Type B connector
- One (1) gigabit Ethernet port
- One (1) SFP module port for fiber connection
- One (1) mini USB port for debugging use only
- Power port (for 5V adapter)

#### BDV-USB-X-HID

The BDV-USB-X-HID can be used as an extender for downstream devices (HIDs) only, including touch panels, keyboards and mice.

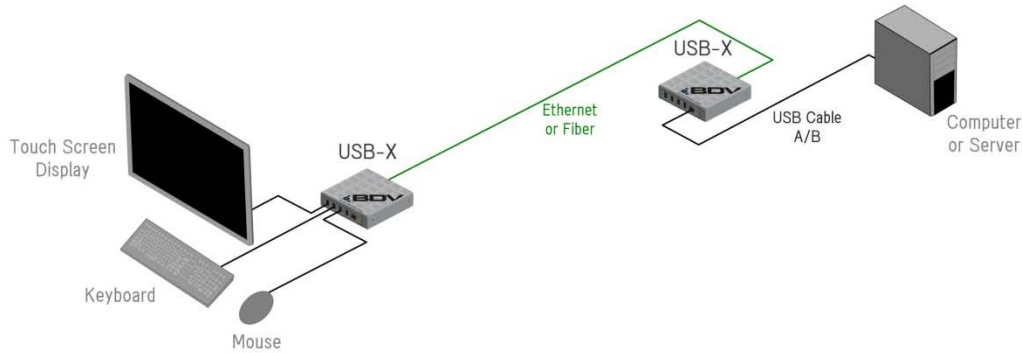
#### Connectors include:

- Four (4) USB Type A connectors
- One (1) gigabit Ethernet port
- One (1) SFP module port for fiber connection
- One (1) mini USB port for debugging use only
- Power port (for 5V adapter)

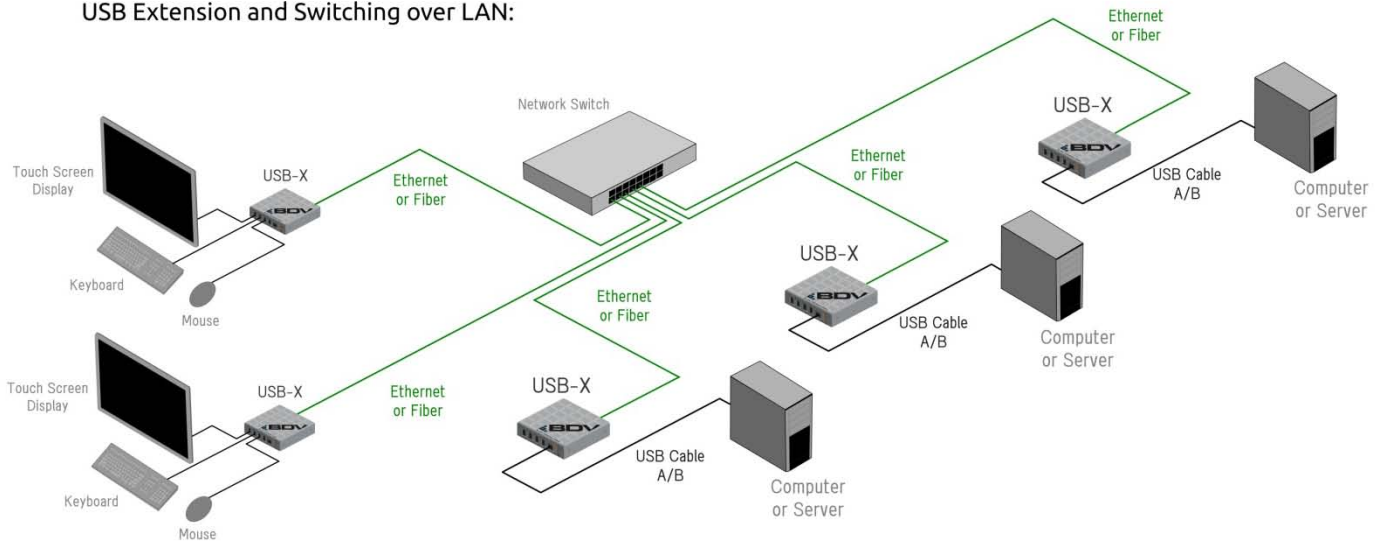
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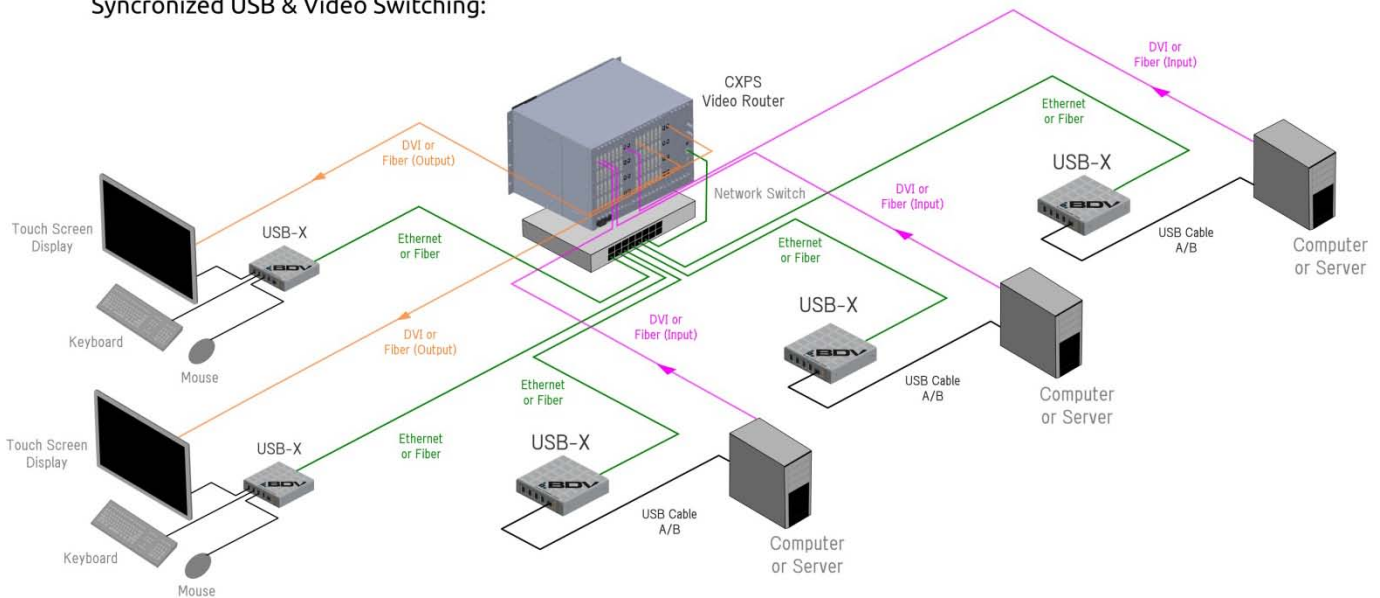
## Point to Point Extension:



## USB Extension and Switching over LAN:



## Synchronized USB & Video Switching:



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## Specifications

Feature	Description	Usage (if applicable)
USB Upstream Connector	One (1) USB Type B (models USB-X-All and USB-X-PC))	The USB upstream connector is used for connecting the computer to control (PC, server, etc.).
USB Downstream Connector	Four (4) USB Type A (models USB-X-All and USB-X-HID)	USB downstream connectors are used for connecting keyboards, mice and touch panels (HIDs).
Ethernet Port	One (1) gigabit Ethernet port	This port can accept CAT5/6 cabling to connect to a network or point-to-point.
SFP Port	One (1) Small Form-factor Pluggable module port for fiber connection	This port accepts Small Form-factor Pluggable modules for optical communication over fiber.
Debug Port	One (1) mini USB port for debugging use only	This port is for BDV use for debugging purposes.
GPIO Port	One (1) 3.5mm GPIO input port and one (1) 3.5mm GPIO output port (model USB-X-All)	GPIO Ports are used for integration with contact closure triggers.
RJ14 Port	One (1) RJ14 (model USB-X-All)	This port is used for RS-232 extension.
Power Port	Connects to 5V power adapter	This port connects to a 5V power adapter.
Indicator LEDs	LED lights indicate mode, activity, link and power.	These LED lights illuminate to indicate mode, activity, link and power.
Output Power	500mA maximum supply current from each socket	---
USB Speed Settings	High, full, low.	---
Ethernet Range	100m point-to-point. Over LAN, range is limited only by the network's capabilities.	---
Fiber Range	550m to over 100km point-to-point, depending on configuration.	---
Power Supply	DC/AC 5V 2.5A wall supply: 2.1mm ID barrel, tip positive.	---
Power Over Ethernet	36V to 57V (model USB-X-All)	Power over Ethernet requires either the use of a power injector unit or a network switch supporting PoE.
Dimensions	4"W x 3"D x 1.25"H	---
Weight	Approximately 12 oz.	---

## Models

Model	Usage
BDV-USB-X-All	Can be used as an upstream (PC) or downstream (HID) extender. BDV-USB-X-All includes GPIO and RS-232 extension. Supports Power over Ethernet.
BDV-USB-X-PC	Can be used as an extender for upstream devices only (PC).
BDV-USB-X-HID	Can be used as an extender for downstream devices only (HIDs).

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