



## Introduction

The Atlona **AT-USB-EX350-KIT** is a data only USB 3.2 extender kit. It supports simultaneous extension of 5 Gbps USB 3.2 Gen 1 data and 480 Mbps USB 2.0 data up to 330 feet (100 meters) using a single, cost-effective Category 6A U/FTP cable.

The USB-EX350-KIT is ideal for video conferencing or remote instruction applications where high data rate USB components including laptops, computers, cameras, microphones, and speakers are in different areas of the room.

The USB-EX350-KIT is comprised of two endpoints. The host endpoint includes a USB-C port for connection to hosts such as laptops, computers, or other AV equipment that supports USB connectivity including many Omega™ Series products. The device endpoint includes three USB-A ports and one USB-C port for connection to 4K cameras, conferencing bars, microphones, speakers, and other peripherals. Bidirectional remote power allows the kit to be powered by the included power supply connected to either the host or device endpoint.

An Ethernet connection on the host endpoint provides access to advanced integration capabilities including:

- Monitor system and port status for validation and troubleshooting.
- Configure VBUS modes.
- IP to RS-232 translation supporting bi-directional serial control through the device endpoint.

The USB-EX350-KIT is a great solution for routing USB 3.2 Gen 1 data up to 5 Gbps between components at distances greater than is possible with traditional cabling.

## Applications

### • Education

Ideal for remote instruction applications where higher data rate USB peripherals such as 4K cameras are located at distances of up to 330 feet (100 meters) from a classroom computer or teacher laptop.

### • Commercial

Provides access to higher data rate USB peripherals such as 4K cameras that are located at distances of up to 330 feet (100 meters) from video conferencing software running on a meeting/conference room computer or laptop.

## Features

- Point-to-point USB extender kit for devices such as cameras, speakers, microphones and other peripherals.
- Extends USB data up to 330 feet (100 meters) using a single Category 6A U/FTP cable.
- Supports USB 3.2 Gen 1 data rates up to 5 Gbps.
- Supports USB 2.0 data rates up to 480 Mbps.
- 1 x USB-C interface for host connection.
- 3 x USB Type A and 1 x USB-C for peripheral connections.
- Bidirectional remote power allows the kit to be powered by either the host or device processor.
- Ethernet port for monitoring, management, and configuration.
- Individual VBUS control of the USB ports on the device processor.
- IP to RS-232 translation for bi-directional RS-232 communications through the device processor.
- Compact enclosures can be mounted in furniture, behind a display, or above a projector.
- Kit includes host processor, device processor, power supply, and mounting brackets.

## Specifications

USB Capabilities	
Protocol Support	USB 2.0, USB 3.2 Gen 1 (5 Gbps)
USB 2.0 Capabilities <sup>(1)</sup>	Maximum hubs: 9 Maximum hub tiers: 5 (including the one in the AT-USB-EX350-KIT) Maximum devices: 7 Maximum endpoints: 14 (IN), 15 (OUT)
USB 3.2 Gen 1 Capabilities <sup>(1)</sup>	Maximum hub tiers: 5 (including the one in the AT-USB-EX350-KIT) Maximum endpoints: 126
USB Transfer Types	Control, Bulk, Interrupt, Isochronous
Internal Hubs	USB 2.0: 1 Hub USB 3.2 Gen 1: 1 Hub
USB Power	Host: No Power Device: max 1.5A per port, 3.2A total across all device ports
USB Device VBUS Control	Per-port settings: Follow USB Host, Always High, Always Low
Bandwidth <sup>(2)</sup>	USB 2.0: 480 Mbps USB 3.2 Gen 1: 5 Gbps

Ethernet	
Port	1 x RJ45 on Host Endpoint
Standards and Protocols	HTTP, HTTPS, Telnet, SSH, JSON over WebSockets, TCP Proxy for RS-232, NTP
Speeds	10/100 Mbps
Addressing	DHCP, Static – selectable through built-in web server and API commands
802.1x Support	PEAP-MSCHAPv2, EAP-TLS

RS-232	
Port	1 x 3-pin captive screw on Device Endpoint
Use	External device control via TCP Proxy
Baud Rates	9600, 19200, 38400, 57600, 115200
Data Flow	Bidirectional

Distance	Feet	Meters
CAT 6a U/FTP - straight run	330	100
CAT 6a U/FTP - through patch panel/coupler	295	90
CAT 6a UTP - either straight run or through patch panel/coupler	230	70
CAT 5e UTP - either straight run or through patch panel/coupler	164	50

Indicators	
<b>Host Endpoint</b>	
PWR	1 x LED, green
LINK	1 x LED, green
FW <sup>(3)</sup>	1 x LED, amber
<b>Device Endpoint</b>	
PWR	1 x LED, green
LINK	1 x LED, green
FW <sup>(3)</sup>	1 x LED, amber

## Specifications (continued)

Connectors (Host Endpoint)	
USB HOST (5G)	1 x USB-C, locking
MGMT	1 x USB-C
LAN	1 x RJ45
HDBT-USB3	1 x RJ45
48V - 1.36A <sup>(4)</sup>	1 x 2-pin captive screw

Connectors (Device Endpoint)	
USB DEVICES (5G)	3 x USB-A 1 x USB-C, locking
DEBUG	1 x USB-C
RS-232	1 x 3-pin captive screw
HDBT-USB3	1 x RJ45
48V - 1.36A <sup>(4)</sup>	1 x 2-pin captive screw

Environmental	Fahrenheit	Celsius
Operating Temperature	+32 to +104	0 to +40
Storage Temperature	-4 to +158	-20 to +70
Operating Humidity (RH)	20% to 90%, non-condensing	

Power	Powered from	Total System Power	Host Endpoint	Device Endpoint
Consumption (system under full USB device load)	Host Endpoint	33 W (max.)	25.4 BTU/h	21 BTU/h
	Device Endpoint	29 W (max.)	11.1 BTU/h	25 BTU/h
External Power Supply	Input: 100 - 240 V AC, 50/60 Hz Output: 48 V DC / 1.36 A			

Dimensions (H x W x D)	Inches	Millimeters
Host Endpoint	0.91 x 5.31 x 3.94	23 x 135 x 100
Device Endpoint	0.91 x 5.31 x 3.94	23 x 135 x 100

Weight	Pounds	Kilograms
Host Endpoint	0.68	0.31
Device Endpoint	0.71	0.32

Certification	
Extender Kit	CE, FCC, UKCA, RCM
Power Supply	CE, FCC, UKCA, RCM, UL

Compliance	
NDA-889	Yes

Warranty	
Device	To view the product warranty, use the following link: <a href="https://atlon.com/warranty">https://atlon.com/warranty</a>

Refer to footnotes on the next page.

## Footnotes

- (1) A USB device can have multiple In and Out endpoints. An In endpoint sends data to a USB Host, while an Out endpoint receives data from a USB Host.
- (2) Specified bandwidth is the total available bandwidth. Actual bandwidth available for payload data will be reduced by USB and transport overhead. Practical payload data rates will be approximately 320 Mbps for USB 2.0 and 3.8 Gbps for USB 3.0.
- (3) Kit can be powered from either end.
- (4) Used to indicate the state of the HDBT-USB3 firmware.

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