



EXT-USB3

USB 3.0 CAT Extender
up to 100 meters

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1. Introduction

Aberman EXT-USB3 – is a USB 3.0 Extender can extend USB signal to a distance up to 100m/328ft via a single CAT6a cable. Transmitter features with one USB 3.0 Type B input, one FSYSNC GPIO input and one RS-232 pass-through. Receiver features with four USB 3.0 Type A outputs, one FSYSNC GPIO output and one RS-232 pass-through. Bi-directional 24V PoC is also supported. The product can be widely used for long distance signal transmission between a PC and USB devices.

Features

- USB3.0 Compliant
- USB 3.0 connectivity with data transfer rate up to 5Gbps
- Backwards compatible with USB 2.0 and 1.1
- USB-A port 1 and 2 support 5V/1.5A, port 3 and 4 support 5V/1A on the Receiver
- 100 meters extension over single CAT6a cable
- Support RS-232 pass-through and FSYNC GPIO pass-through (for industry camera use)
- Support bi-directional 24V PoC

2. Package Contents

1× EXT-USB3-TX Transmitter Unit
1× EXT-USB3-RX Receiver Unit
1× USB cable (A-B)
1× Power Supply 24V, 2A
4× Mounting Ear
1× User Manual

4. Warranty Information

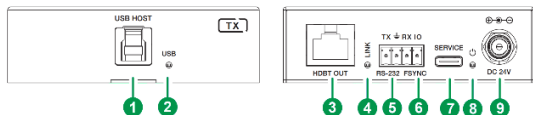
Aberman warrants all units to be free from defects in workmanship and materials, under normal use and service, for a period of one (1) year from the date of purchasing from authorized reseller.

If a product does not work as it warranted during this period, Aberman will repair or replace the defective product or its part. Replacement products may be new or reconditioned.

Warranty ends if the product has been damaged due to abuse, misuse, neglect, accident, unusual physical or electrical stress, unauthorized modifications, tampering, alterations, or servicing other than by Aberman or its authorized centers, causes other than from ordinary use or failure to properly use the Product in the application for which said Product is intended.

5. Unit's interfaces

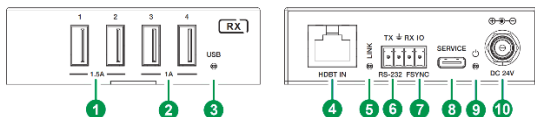
5.1 Transmitter Unit



N°	Name	Function Description
1	USB HOST	Host port, supporting USB 3.0. Connects to a PC or host.
2	USB LED	USB signal indicator. ▪ On: USB signal is detected. ▪ Off: USB signal is not detected.
3	HDBT OUT	Connects to the HDBT IN port on Receiver with CAT cable.
4	LINK LED	Connection signal indicator. ▪ On: Transmitter and Receiver are connected and linked. ▪ Flashing: Transmitter and Receiver link is off due to USB low power mode. ▪ Off: Transmitter and Receiver are not connected.
5	RS-232	3pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
6	FSYNC	FSYNC port, used for level pass-through to the Receiver, and synchronizing the external devices. The default level is 3.3V.
7	SERVICE	Firmware update port.
8	POWER LED	The LED will be on when the Transmitter is powered on.
9	DC 24V	DC 24V/2A power input port.

5.2

Receiver Unit



Nº	Name	Function Description
1	USB 1/2	Connect to USB devices, and max output power is up to 5V/1.5A.
2	USB 3/4	Connect to USB devices, and max output power is up to 5V/1A.
3	USB LED	USB signal indicator. ▪ On: USB signal is detected. ▪ Off: USB signal is not detected.
4	HDBT IN	Connects to the HDBT OUT port on Transmitter with CAT cable.
5	LINK LED	Connection signal indicator. ▪ On: Transmitter and Receiver are connected and linked. ▪ Flashing: Transmitter and Receiver link is off due to USB low power mode. ▪ Off: Transmitter and Receiver are not connected.
6	RS-232	3pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
7	FSYNC	FSYNC port, receiving level pass-through from the Transmitter, and synchronizing the external devices. Default level is 3.3V.
8	SERVICE	Firmware update port.
9	POWER LED	The LED will be on when the Receiver is powered on.
10	DC 24V	DC 24V/2A power input port.

5.3

Link Interface

The system built on HDBT Series Chipset which is ideal for infotainment systems and extension of USB peripherals up to 100 m.

The PoC technology enables powering over CAT cable feature. This means that only one external power supply has to be connected to Transmitter or Receiver Unit, while other unit will be powered over the CAT cable. We recommend

connecting the power supply to Receiver unit when using USB peripheral device with heavy power demands like a hard drives and etc. Do not connect any PoC incompatible units to RJ45 ports - it can seriously damage equipment.

6. Best Practice

Aberman engineers design products at the highest quality standards. To get the best results from our products, please read this manual carefully. We recommend using the best quality connectors, cables, and adapters. Consider the points below when you choose accessories and position equipment.

For best results with HDMI/DVI, use good quality cables up to 5 meters long for 4K and up to 15 meters for 1080p, or shorter if you are using any connection adapters. If you need to place your equipment more than 15 meters apart, we recommend using a signal extender. See Aberman Smart Extension product line of signal extenders to find correct one. Use only graded Speed HDMI cables.

In industrial environments, use shielded CAT cables (STP, FTP, F/UTP or S/FTP) with digital extenders. To achieve best performance and maximum distance use appropriate fiber optical types (Multi or Single Mode) and grades for optical extenders.

7. Safety Instructions

WARNING: To reduce the risk of fire or electric shock, do not expose this device to rain or moisture. Do not use this device near water. Clean only with a dry cloth.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the device. This unit must be connected to an earthed mains socket outlet with the supplied cable. The AC wall outlet should be installed near to the unit and be easily accessible.

If using extenders which run a long distance, the protective earth circuit of the socket should be verified by a skilled person to ensure equipotential earth bonding. Do not use unit on objects or installations where power lines have grounding and/or different phase issues.

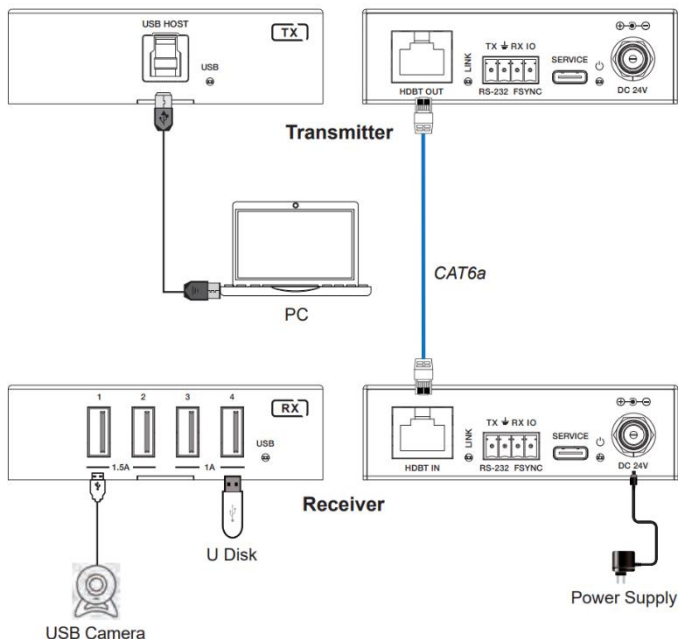
Unplug units during lightning storms or when unused for long periods of time.

Do not install unit near any heat sources such as radiators, heat registers, stoves, or devices (including amplifiers) that produce heat. Do not block any ventilation openings. This unit uses active cooling with fans. Do not install unit in dusty and/or dirty places. Use professional equipment racks with air condition and filters.

8. Specifications

SKU	EXT-USB3
Type	USB over CAT Extender
USB Compliance	USB 3.0
Link Bandwidth	Up to 5Gbps
Network Bandwidth	10G
Transmission Distance	up to 100 meters over CAT6a
ESD Protection	±8kV air-gap, ±4kV contact (human body model discharge)
Enclosure material	Metal
Finished colour	Black
Dimension	85x100x25.5mm
Weight (each unit)	0,260 kg
Power Consumption	PoC Power Supply: 40W (Max)
Operating Temperature	0°C ~ 40°C
Storage Temperature	-20°C ~ 60°C
Relative Humidity	20% ~ 90% (non-condensing)
Transmitter	EXT-USB3-TX
USB Port	1x USB 3.0 host, USB B Socket
Extension Link Output	1x RJ45
Power Supply	AC 110-240V, 50-60Hz / DC 24V,2A
Receiver	EXT-USB3-RX
USB Port	4x USB 3.0 peripheral, USB A Socket
Extension Link Input	1x RJ45
Power Supply	AC 110-240V, 50-60Hz / DC 24V,2A

9. Connection Scheme Example



Note: to achieve maximum distance and signal resolution support it is recommended to use direct connection with shielded CAT6a cables for Valens Link connection, for short distances the CAT5e with patch panels and adapters can be used also, but actual distance and bandwidth might be lower.