

# Liberty

## INT-USB3-H & INT-USB3-C USB 3.2 Gen 1 Extender over HDBaseT



**User Manual**

# Thank you for purchasing this product

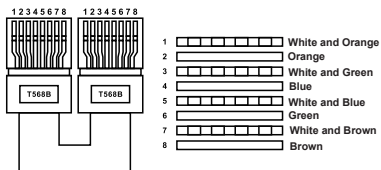
For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

## Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

## Connection

Please connect in direct interconnection method and do not cross connect.



Direct Interconnection Method

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# 1. Introduction

This USB 3.2 Extender based on HDBaseT VS6320, can extend USB signal to a distance up to 100m/328ft via a single CAT6a cable. Host/Local device features one USB 3.2 Type B host port, two USB 3.2 Type A client ports, one FSYSNC and RS-232 pass-through. Client/Remote device features one USB 3.2 Type C, and two USB 3.2 Type A client ports, one FSYSNC, and RS-232 pass-through. Bi-directional 24V PoC is also supported.

It can be widely used for long distance USB signal transmission between USB sources and devices like webcams, PTZ cameras, keyboards, mouse devices, USB microphones, flash sticks, printers, scanners, touch panel displays and other USB devices. Host & Client devices are sold separately, and are fully compatible with box and wall plate style INT-USB3 devices

## 2. Features

- ☆ Extension of USB 3.2 up to 100m/328ft over CAT6a cable
- ☆ USB 3.2 Gen 1 connectivity with data transfer rate up to 5Gbps
- ☆ Backwards compatible with USB 2.0 and 1.1
- ☆ Hardware acceleration for isochronous and bulk transfer
- ☆ Each USB-A or USB-C port supports power output up to 5V/1500mA
- ☆ Plug-and-play with no drivers, downloads, or software required
- ☆ Support RS-232 pass-through and FSYNC GPIO pass-through (for industry camera use)
- ☆ Support bi-directional 24V PoC (Power over Cable)

## 3. Package Contents

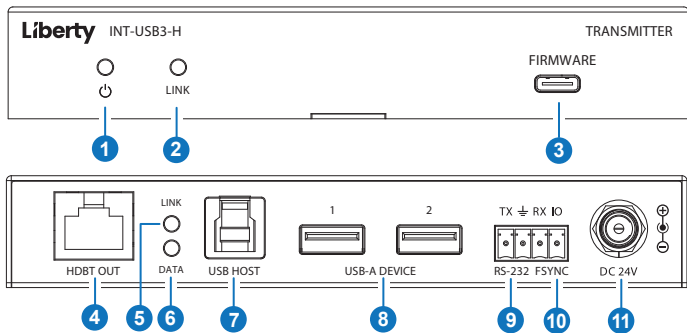
INT-USB3-H	Qty	INT-USB3-C	Qty
USB 3.2 Extender Box (Host)	1	USB 3.2 Extender Box (Client)	1
24V/2.7A Power Supply	2	AC Power Cord (1.5m)	2
USB-C to USB-B cable (2m)	1	USB-A to USB-A cable (2m)	1
USB-A to USB-B cable (2m)	1	USB-A to USB-C cable (2m)	1
Mounting Ear	4	Machine Screw (KM3*4)	8
4pin-3.5mm Phoenix Connector	2	User Manual	1

## 4. Specifications

Technical	
USB Protocol	USB 3.2 Gen 1
Transmission Rate	Up to 5Gbps
Transmission Distance	100m/328ft over CAT6a (F/FTP) cable
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connections	
Transmitter	Input: 1× USB HOST [USB Type B, 9-pin female] Output: 2× USB-A DEVICE [USB Type A, 9-pin female] 1× HDBT OUT [RJ45 connector, 24V PoC] Control: 1× RS-232 [3pin-3.5mm phoenix connector] 1× FSYNC [1pin-3.5mm phoenix connector] 1× FIRMWARE [USB-C, firmware update port]
Receiver	Input: 1× HDBT IN [RJ45 connector, 24V PoC] Output: 2× USB-A DEVICE [USB Type A, 9-pin female] 1× USB-C DEVICE [USB Type C, 24-pin female] Control: 1× RS-232 [3pin-3.5mm phoenix connector] 1× FSYNC [1pin-3.5mm phoenix connector] 1× FIRMWARE [USB-C, firmware update port]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	Transmitter / Receiver: 75mm [W] × 140mm [D] × 23mm [H]
Weight	Transmitter: 60g / Receiver: 50g
Power Supply	Input: AC 100~240V 50/60Hz Output: DC 24V/2.7A
Power Consumption	PoC Power Supply: 48W (Max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)
Country of Origin	Taiwan (TAA Compliant)

# 5. Operation Controls and Functions

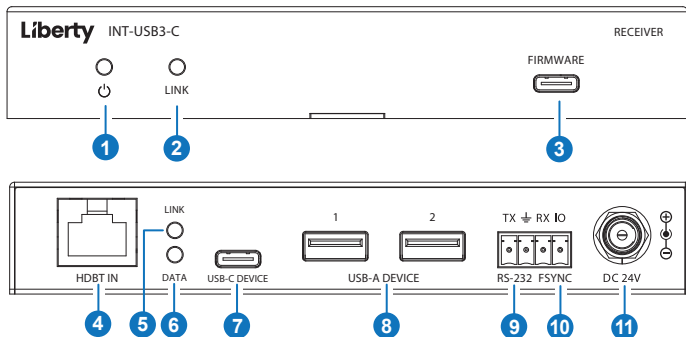
## 5.1 Transmitter Panel



No.	Name	Function Description
1	Power LED	The LED will be on when the transmitter is powered on.
2	LINK LED	Connection signal indicator. <ul style="list-style-type: none"><li>▪ <b>On:</b> Transmitter and Receiver are connected and linked.</li><li>▪ <b>Blinking:</b> Transmitter and Receiver link is off due to USB low power mode.</li><li>▪ <b>Off:</b> Transmitter and Receiver are not connected.</li></ul>
3	FIRMWARE	Firmware update port.
4	HDBT OUT	Connects to the HDBT IN port on Receiver with CAT cable.
5	LINK LED	Connection signal indicator. <ul style="list-style-type: none"><li>▪ <b>On:</b> Transmitter and Receiver are connected and linked.</li><li>▪ <b>Blinking:</b> Transmitter and Receiver link is off due to USB low power mode.</li><li>▪ <b>Off:</b> Transmitter and Receiver are not connected.</li></ul>
6	DATA LED	USB signal indicator. <ul style="list-style-type: none"><li>▪ <b>On:</b> When the USB HOST port establishes an USB 3.2 connection to an USB host.</li><li>▪ <b>Blinking:</b> When the USB HOST port establishes an USB 2.0 connection to an USB host.</li><li>▪ <b>Off:</b> The USB HOST port is not connected.</li></ul>

No.	Name	Function Description
7	USB HOST	Host port supporting USB 3.2 Gen1, connected to a PC or host.
8	USB-A DEVICE (1~2)	USB extended interface, connected to USB devices such as U disk, keyboard or mouse. And its output power is up to 5V/1.5A.
9	RS-232	3pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
10	FSYNC	FSYNC port, the level pass through from Transmitter to Receiver, to synchronize the external devices. Default level range is 0~5V.
11	DC 24V	DC 24V/2.7A power input port.

## 5.2 Receiver Panel

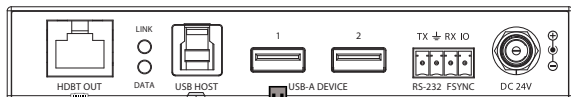
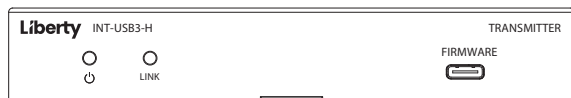


No.	Name	Function Description
1	Power LED	The LED will be on when the receiver is powered on.
2	LINK LED	Connection signal indicator. <ul style="list-style-type: none"> <li>• <b>On:</b> Transmitter and Receiver are connected and linked.</li> <li>• <b>Blinking:</b> Transmitter and Receiver link is off due to USB low power mode.</li> <li>• <b>Off:</b> Transmitter and Receiver are not connected.</li> </ul>

No.	Name	Function Description
3	FIRMWARE	Firmware update port.
4	HDBT IN	Connects to the HDBT OUT port on Transmitter with CAT cable.
5	LINK LED	<p>Connection signal indicator.</p> <ul style="list-style-type: none"> <li>▪ <b>On:</b> Transmitter and Receiver are connected and linked.</li> <li>▪ <b>Blinking:</b> Transmitter and Receiver link is off due to USB low power mode.</li> <li>▪ <b>Off:</b> Transmitter and Receiver are not connected.</li> </ul>
6	DATA LED	<p>USB signal indicator.</p> <ul style="list-style-type: none"> <li>▪ <b>On:</b> The USB HOST port establishes an USB 3.2 connection to an USB host, and the USB DEVICE port (USB-C or USB-A) establishes an USB 3.2 connection to an USB device.</li> <li>▪ <b>Blinking:</b> The USB HOST port establishes an USB 2.0 connection to an USB host, and the USB DEVICE port (USB-C or USB-A) establishes an USB 2.0 connection to an USB device</li> <li>▪ <b>Off:</b> The USB Device port is not connected.</li> </ul>
7	USB-C DEVICE	USB type C port supporting USB 3.2 Gen 1, connected to USB device. And its output power is up to 5V/1.5A.
	USB-A DEVICE (1~2)	USB type A port supporting USB 3.2 Gen 1, connected to USB device. And its output power is up to 5V/1.5A.
9	RS-232	3pin phoenix connector, connected to a PC or control system for RS-232 command pass-through.
10	FSYNC	FSYNC port. Outputs the level from Transmitter to synchronize the external devices. Default level range is 0~5V.
11	DC 24V	DC 24V/2.7A power input port.

## 6. Application Example

Transmitter



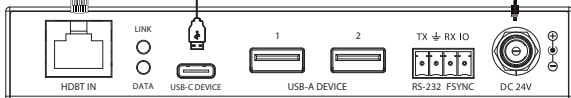
U Disk

PC

CAT6a

Power Supply

USB Camera



Receiver



Thank you for your purchase.

For Technical Support please call our toll free number at  
800-530-8998 or email us at [supportlibav@libav.com](mailto:supportlibav@libav.com)

[www.libav.com](http://www.libav.com)

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