Binary 760 Series 4K HDR Fiber Optic Extender with IR & RS-232

B-760-EXT-444-300

BINARY

INSTALLATION MANUAL

IMPORTANT SAFETY INSTRUCTIONS

To reduce the risk of fire or electric shock, read and follow all instructions and warnings in this manual. Keep this manual for future reference.

1. Do not expose this apparatus to rain or moisture. Do not expose this equipment to dripping or splashing, and ensure that no objects filled with liquids, such as vases, are placed on the equipment. Do not use this apparatus near water.
2. Do not remove cover. No user serviceable parts inside.
3. Clean only with a dry cloth.
4. Do not block any ventilation openings. Install according to manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat
6. Do not override the safety purpose of the polarized or grounding plug. A polarized plug has two blades, one of which is wider than the other. A grounding plug has two matching blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
7. Protect the power cord from being walked on or pinched, particularly at the plug end and where the power cord is attached to the apparatus.
8. Only use attachments and accessories specified by the manufacturer.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power supply cord or plug is damaged, liquid has been spilled on or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, the apparatus does not operate normally, or it has been dropped.
10. To completely disconnect this equipment from power, disconnect the power supply cord from the power outlet.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

FCC WARNINGS

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CONTENTS

1. PRODUCT OVERVIEW

B-760-EXT-444-300 is a fiber optic extender set with HDCP 2.2 compatibility, extending HDMI signal up to 300m/1000ft over a duplex OM3 multi-mode fiber optic cable

It supports bi-directional IR or RS232 pass-through via Control switch settings so that either infrared devices or RS232-enabled devices between transmitter end and receiver end can be controlled with ease. It is ideal for applications such as homes, offices, digital entertainment centers, conference rooms and schools, where HDMI signal extension over long distances is needed.

2. FEATURES

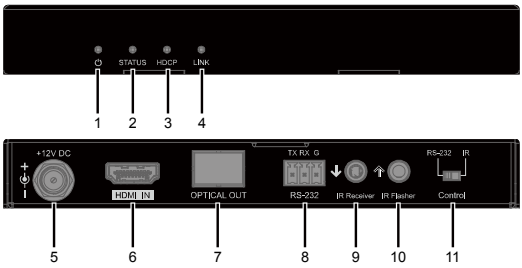
- Supports input and output resolutions up to 4K@60Hz 4:4:4 8bit.
- Supports HDCP 2.2.
- Supports HDR (High Dynamic Range), including HDR 10, HDR 10+, HLG and Dolby Vision (HDR10+, HLG and Dolby Vision only up to 4K@30Hz).
- Transmits 4K@60 4:4:4 signal up to 300m/1000ft via a duplex OM3 multi-mode fiber optic cable.
- Supports bi-directional IR or RS232 pass-through via Control switch settings
- Supports multichannel audio up to PCM 7.1, DTS Master HD and Dolby True HD.

3. PACKAGE CONTENT

- 1 x B-760-EXT-444-300 Extender Set
- 2 x 10Gbps 850nm MM SFP+ Modules
- 2 x DC 12V Power Adapters with US Pins
- 2 x Phoenix Male Connectors (3.5mm, 3 Pins)
- 4 x Mounting Brackets (with Screws)
- 4 x Drywall Screws
- 8 x Rubber Feet
- 2 x Power Cord Labels
- 1 x Installation Manual

4. DEVICE LAYOUT

4.1. B-760-EXT-444-300 Transmitter



1. **Power LED**

   On/Off: The device is powered on/off.

2. **Status LED**

   On: The device is working properly.

   Off: The device is not working properly.

3. **HDCP LED**

   On: HDCP protected content is being transmitted.

   Blinking: Non-HDCP protected content is being transmitted.

   Off: No content is being transmitted.

4. **Link LED**

   On: HDBT link is normal.

   Blinking/Off: No HDBT link or link error.

5. **+12V DC**

   Connect the power adapter provided.

6. **HDMI IN**

   Connect to an HDMI source device.

7. **Optical Out**

   Connect to the Optical In of the receiver via a duplex OM3 multimode optical fiber cable

8. **RS232**

   For RS232 pass-through.

9. **IR Receiver**

   Connect to an IR receiver.

10. **IR Flasher**

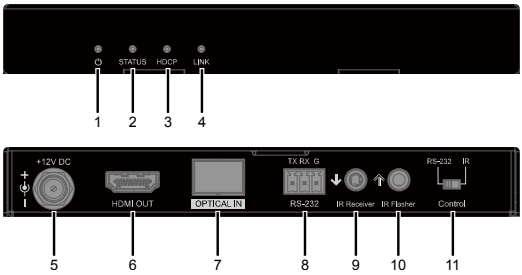
    Connect to an IR emitter.

11. **Control**

RS-232: For RS232 pass-through.

IR: For IR pass-through.

4.2. B-760-EXT-444-300 Receiver



1. **Power LED**

   On/Off: The device is powered on/off.

2. **Status LED**

   On: The device is working properly.

   Off: The device is not working properly.

3. **HDCP LED**

   On: HDCP protected content is being transmitted.

   Blinking: Non-HDCP protected content is being transmitted.

   Off: No content is being transmitted.

4. **Link LED**

   On: HDBT link is normal.

   Blinking/Off: No HDBT link or link error.

5. **+12V DC**

   Connect the power adapter provided.

6. **HDMI Out**

   Connect to an HDMI display device.

7. **Optical In**

   Connect to the Optical Out of the transmitter via a duplex OM3 multimode optical fiber cable.

8. **RS232**

   For RS232 pass-through.

9. **IR Receiver**

   Connect to an IR receiver.

10. **IR Flasher**

    Connect to an IR emitter.

11. **Control**

    RS-232: For RS232 pass-through.

    IR: For IR pass-through.

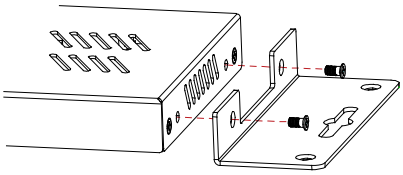
5. INSTALLATION AND WIRING

5.1. Installation

Note: Before installation, please ensure the device is disconnected from the power source.

Steps to install the device in a suitable location:

1. Attach the installation bracket to the transmitter's enclosure using the screws provided in the package separately. The bracket is attached to the enclosure as shown.



2. Repeat step 1 for the other side of the transmitter.
3. Repeat step 1-2 for the receiver.
4. Attach the brackets to the surface you want to hold the unit against using the screws (provided by others).

5.2. Wiring

Warnings:

- Before wiring, disconnect the power from all devices.
- During wiring, connect and disconnect the cables gently

Steps for device wiring:

1. Connect an HDMI source (such as Blu-ray, games console, satellite/cable TV, media server etc.) to HDMI In port of the transmitter.
2. Connect the Optical Out port of the transmitter to the Optical In port of the receiver with a duplex OM3 multimode optical fiber cable
3. Connect an HDMI display device (such as LED/LCD display or projector) to HDMI Out of the receiver.
4. Connect for additional control options:

- IR: For bi-directional IR control of connected sources and displays from either location, connect IR emitters to the IR Flasher ports of the transmitter and receiver, and connect IR receivers to the IR Receiver ports of the transmitter and receiver.
- RS232: Connect RS232-enabled devices to RS-232 ports of the transmitter and receiver respectively to control RS232 devices.

5. Connect the DC 12V power adapters provided to the transmitter and receiver.

6. IR PASS-THROUGH

IR pass-through function allows you to control the source from the display location or control the display from source location.

To control the source from the display location:

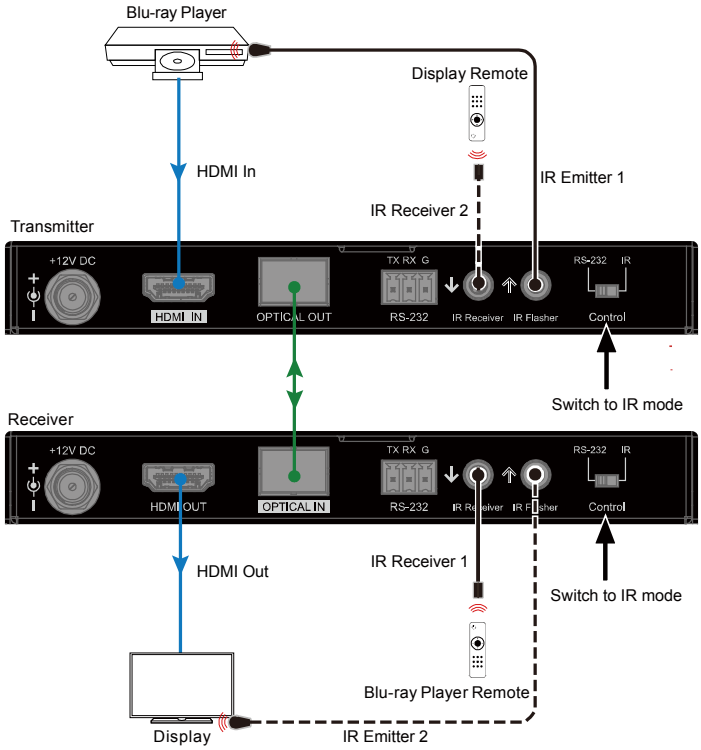
1. Set the Control switches of both transmitter and receiver to **IR** mode.
2. Connect the IR emitter to IR Flasher port of transmitter and the broadband IR receiver to IR Receiver port of receiver.

When all is set, the source can be controlled at the display location through a source device remote.

To control the display from the source location:

1. Set the Control switches of both transmitter and receiver to **IR** mode.
2. Connect the IR emitter to IR Flasher port of receiver and the broadband IR receiver to IR Receiver port of transmitter.

When all is set, the display can be controlled at the source location through a display device remote.



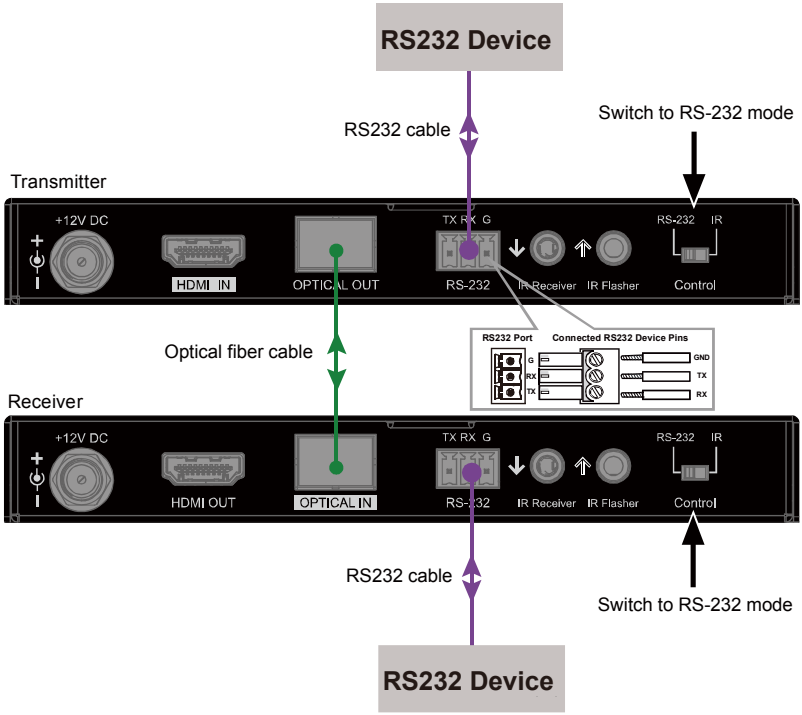
Application Example: IR Pass-through

7. RS232 PASS-THROUGH

RS-232 ports can be used for bi-directional RS232 signal pass-through between the transmitter and receiver.

To start RS232 signal pass-through between transmitter and receiver:

1. Set the Control switches of both transmitter and receiver to **RS232** mode.
2. Connect a RS232 Master (or Slave) device to RS-232 port of transmitter using a RS232 cable.
3. Connect a RS232 Slave (or Master) device to RS-232 port of receiver using a RS232 cable.



Application Example: RS-232 Pass-through

8. SPECIFICATIONS

Technical	
Input	1 x Optical In (10 Gbit/s MM SFP+ module)
Input Connector Type	Dual LC
Fiber Type	Multi-mode duplex 850nm OM3 fibe
Input/Output Resolution	800x600[8], 1024x768[8], 1280x768[8], 1280x800[8], 1280x960[8], 1280x1024[8], 1360x768[8], 1366x768[8], 1440x900[8], 1600x900[8], 1600x1200[8], 1680x1050[8], 1920x1080[8], 1920x1200[8], 3840x2160p[2,3,5,6,8], 4096x2160p[2,3,5,6,8] 1 = at 23.98 Hz, 2 = at 24 Hz, 3 = at 25 Hz, 4 = at 29.97 Hz, 5 = at 30 Hz, 6 = at 50 Hz, 7 = at 59.94 Hz, 8 = 60 Hz
Maximum Data Rate	18Gbps
Input Video Level	0.5-1.2 V p-p
Input DDC Signal	5V p-p
Maximum Pixel Clock	600MHz
Output	1 x HDMI Out
Output Signal Type	HDMI, HDCP 2.2
Video Impedance	100 Ω

General	
Operating Temperature	-10℃ to 50℃/263°F to 323°F (Indoor) -20℃ to 60℃/253°F to 333°F (Outdoor)
Storage Temperature	-20℃ to 70℃ (-4°F to 158°F)
Humidity	10% to 90%, non-condensing
ESD Protection	Human-body Model: ±15kV (Air-gap discharge)
Power Supply	DC 12V 2A
Power Consumption (Max)	3.5 W
Device Dimension (W x H x D)	150 mm × 20 mm × 74.4 mm/5.9” x 0.79” x 2.93” each for TX/RX
Product Weight	0.3kg/0.66lb each for TX/RX

8.1. Transmission Distance

Note: T568B straight-through Category cable is recommended.

Cable Type	Range	Supported Video
Optical Fiber	300m/1000ft	4K@60Hz 4:4:4 8bit
HDMI	Input/Output: 15m/49ft	1080P@60Hz
	Input/Output: 10m/33ft	4K@30Hz
	Input: 3m/10ft Output: 5m/16ft	4K@60Hz 4:4:4 8bit

9. WARRANTY

Find details of the product's Limited Warranty and other safety, patent, and legal resources at **snapone.com/legal** or request a paper copy from Customer Service at **866.424.4489**

10. SUPPORT

For chat and telephone, visit **tech.control4.com/s/contactsupport**
● Email: **TechSupport@SnapOne.com** ● Visit **tech.control4.com for discussions,** instructional videos, news, and more.

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