User Manual

AVA-EX11-70TX
AVA-EX11-70RX
70m HDMI Extender



Version: V1.0.2

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Introduction

Overview

AVA-EX11-70TX (Transmitter for short) and AVA-EX11-70RX (Receiver for short) is a pair of slim HDMI extenders designed to extend HDMI signals up to 230 feet (70 meters) via a single CatX cable. The Transmitter and Receiver just need a single power supply to power both devices via its bi-directional PoE function. You can control the source from the display's location or control the display from source's location via IR pass-through function. The extenders are easy to install and space saving, offering solutions for homes, offices, digital entertainment centers, control centers, conference rooms, schools and corporate training environments.

Features

- Slim appearance and space saving
- Supports 4K signal transmission distance up to 131feet (40 meters), full HD 1080p signal transmission distance up to 230 feet(70 meters) via a single Cat X cable
- Supports bi-directional PoE
- Transfer bi-directional infrared control signal together with the HDMI signal
- HDMI 1.4 with 4K@30Hz
- HDCP compliant
- RS232 port supports firmware upgrade or signal control

Note:

The actual signal transmission distance can vary and depends on signal resolution, cable quality, graphics card, and display used in the system.

Package Contents

- 1 x Transmitter AVA-EX11-70TX
- 1 x Receiver AVA-EX11-70RX
- 1 x 18V 1A DC Power Supply
- 2 x Phoenix Male Connector (3.5 mm, 3 pin)
- 4 x Mounting Ear
- 2 x IR Emitter
- 2 x IR Receiver (30KHz-50KHz)
- 1 x User Manual

Specifications

Technical		
Maximum Distance	4K up to 40m/131ft 1080p up to 70m/230ft	
I/O Connections	**Transmitter** 1 x HDMI IN, 1 x HDBT OUT, 1 x IR IN, 1 x IR OUT	
	Receiver 1 x HDMI OUT, 1 X HDBT IN, 1 x IR IN, 1 x IR OUT	
Power Supply	DC 18V 1A	
Power Consumption	Transmitter powers Receiver	13W
	Receiver powers Transmitter	12.2W

Technical		
	Transmitter and Receiver are both connected to power	Transmitter:5.5W Receiver: 7.6W
Input Video Signal	0.5-1.2 volts p-p	
Input Resolution Support	4096 x 2160@30Hz, 3840x2160@30Hz, 1080p, 1080i, 720p, 576p, 480p, 576i, 480i	
Output Resolution Support	4096x2160@30Hz, 3840x2160@30Hz, 1080p, 1080i, 720p, 576p, 480p, 576i, 480i	
IR Wavelength &Frequency	Wavelength: 940nm IR Frequency: 38KHz	

Technical	
Video Impedance	100Ω
Maximum Pixel Clock	297MHz
ESD Protection	Human-body model: ● ±8 kV (Air-gap discharge) ● ±4 kV (Contact discharge)
Surge Protection	IEC 61000-4-4 (EFT) 40A (5/50ns); IEC 61000-4-5 (Lightning) 25A (8/20μs)
Operating Temperature	32°F ~ 113°F (0°C ~ 45°C) 10% ~ 90%, non-condensing
Storage Temperature	-4°F ~140°F (-20°C ~70°C) 10% ~ 90%, non-condensing

Cable Specifications

It's recommended that straight-through Ethernet cables of T568B be required.

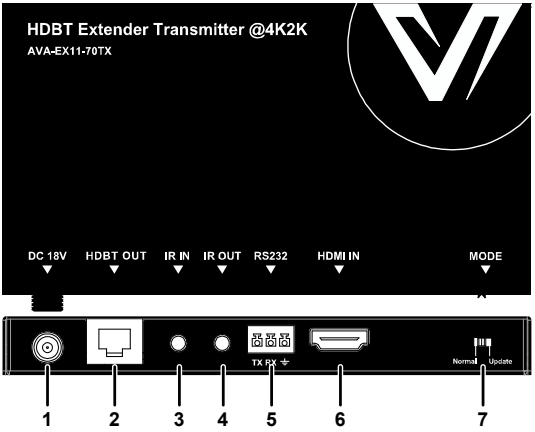
Cable Type	Range	Supported Video
CAT5e/CAT6	60 m	1080p, 60 Hz36 bpp
	35 m	1080p 60 Hz 48 bpp 1080p 60 Hz 3D 4K2K 30Hz
CAT6a/CAT7	70 m	1080p, 60 Hz36 bpp
	40 m	1080p 60 Hz 48 bpp 1080p 60 Hz 3D 4K2K 30Hz

General	
Product Dimension (W x H x D)	135 mm x 14 mm x 77 mm / 5.3" x 0.6" x 3.0" (each)
Weight	220g (Transmitter), 240g (Receiver)
Certification	CE, FCC, RoHS

Panel

Transmitter

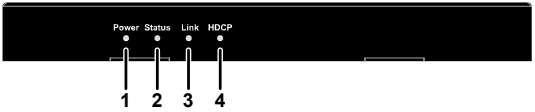
Front Panel



ID	Name	Description
1	Power	Connects to a power supply. If Transmitter is connected to a power, Receiver is adapter free.

ID	Name	Description
2	HDBT OUT	Connects to the Receiver via a CatX cable.
3	IR IN	Connects to the supplied IR receiver (30KHz-50KHz).
4	IR OUT	Connects to the IR emitter.
5	RS232	Update firmware or pass-through.
6	HDMI IN	Connects to HDMI source.
7	Mode	**Normal:** RS232 signals can be transmitted and Transmitter cannot be updated. **Update:** Transmitter can be updated and RS232 signals cannot be transmitted.

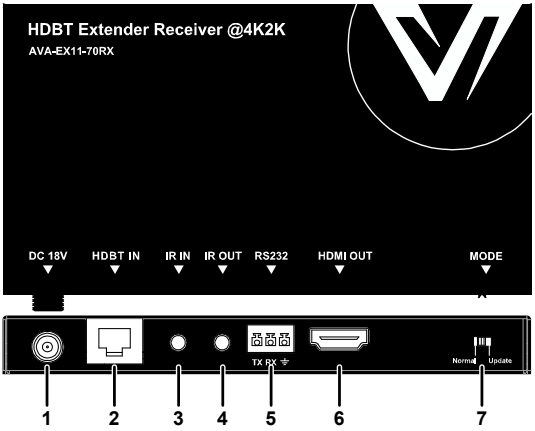
Rear Panel



ID	Name	Description
1	Power	**On:** It is powered on. **Off:** It is powered off.
2	Status	**Blinking:** It works properly. **Off:** It does not work properly.
3	Link	**On:** Linked to Receiver. **Blinking:** Connection exception. **Off:** No link.
4	HDCP	**On:** HDCP video is being transmitted. **Blinking:** Non-HDCP video is being transmitted. **Off:** No HDMI signal.

Receiver

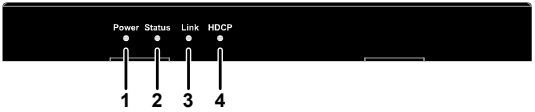
Front Panel



ID	Name	Description
1	Power	Connects to a power supply. If Receiver is connected to a power, Transmitter is adapter free.
2	HDBT IN	Connects to the Transmitter via a CatX cable.

ID	Name	Description
3	IR IN	Connects to the supplied IR receiver (30KHz-50KHz).
4	IR OUT	Connects to the supplied IR emitter.
5	RS232	Update firmware or pass-through.
6	HDMI OUT	Connects to HDMI display device.
7	Mode	**Normal:** RS232 signals can be transmitted and Receiver cannot be updated. **Update:** RS232 signals cannot be transmitted and Receiver can be updated.

Rear Panel



ID	Name	Description
1	Power	**On:** It is powered on. **Off:** It is powered off.
2	Status	**Blinking:** It works properly. **Off:** It does not work properly.
3	Link	**On:** Linked to Transmitter. **Blinking:** Connection exception. **Off:** No link.
4	HDCP	**On:** HDCP video is being transmitted. **Blinking:** Non-HDCP video is being transmitted. **Off:** No HDMI signal.

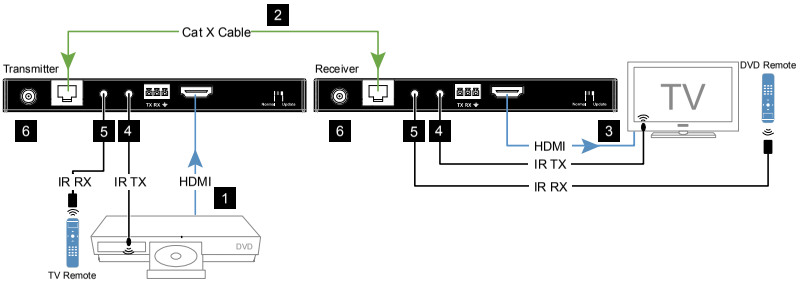
Hardware Installation

1. Connect an HDMI source (such as a Blu-Ray, games console, media server etc.) to Transmitter using quality HDMI cables.
2. Connect a good quality, well terminated Cat5e/6 cable of no more than 70m/230ft in length between the HDBT output of the Transmitter and HDBT input of Receiver.

Note: 70m/230ft is the maximum recommended transmission distance for this model and denotes perfect transmission conditions – including straight cable runs with no electrical interference. If any of the above is a factor in your installation, transmission range maybe affected.

3. Connect the HDMI display (LED/LCD display or projector) to the HDMI output of the Receiver

4. Connect IR emitters from the IR OUT ports of Transmitter and Receiver and firmly attach the IR emitter eye directly over the infrared receiving sensors of the source and display device to be controlled. Location of the emitter eye on each device may need to be adjusted later to achieve best IR performance.
5. Insert IR receivers into IR IN ports of Transmitter and Receiver. Position of the IR receiver eye on or near the display or source device, ensuring using a clear line of sight to remote handset used to control it.
6. Connect the power supply to the Transmitter or Receiver and power on all devices.


2
Cat X Cable
Transmitter
Receiver
DVD Remote
TV
6
5
4
6
5
4
3
HDMI
IR TX
IR RX
IR RX
IR TX
HDMI
1
TV Remote
DVD

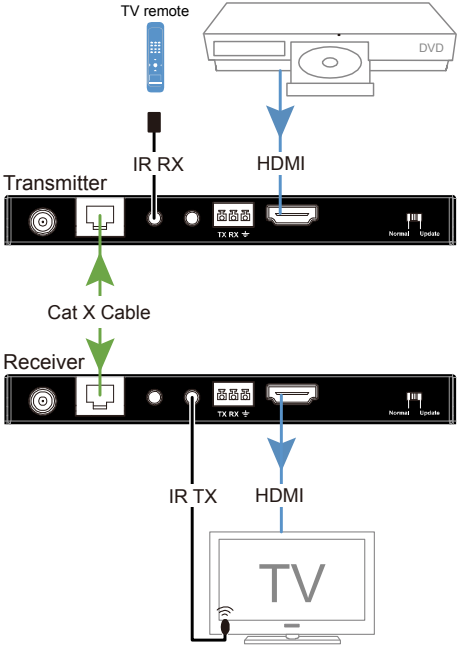
IR and RS232

IR Control

IR pass-through function allows you to control the source from the sink's location or control the sink from source's location.

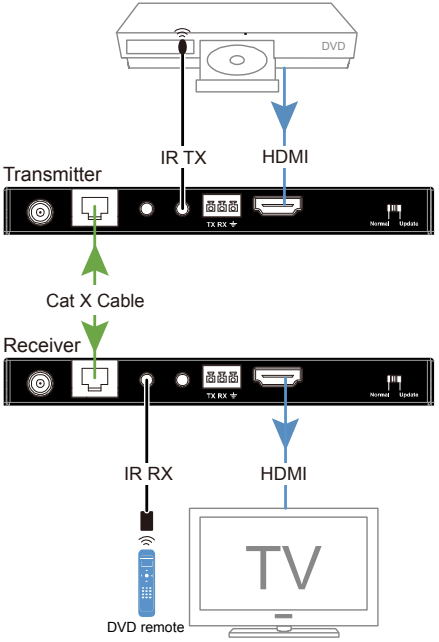
Scenario 1

In this case, you can control the TV on Transmitter side.


TV remote
DVD
IR RX
HDMI
Transmitter
TX RX
Normal
Update
Cat X Cable
Receiver
TX RX
Normal
Update
IR TX
HDMI
TV

Scenario 2

In this case, you can control the Blu-Ray on Receiver side.

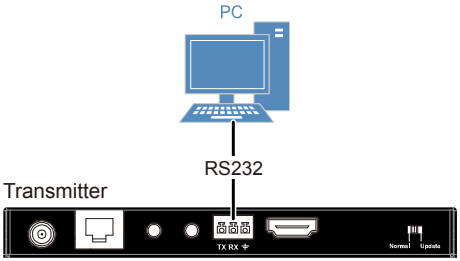


RS232 Control

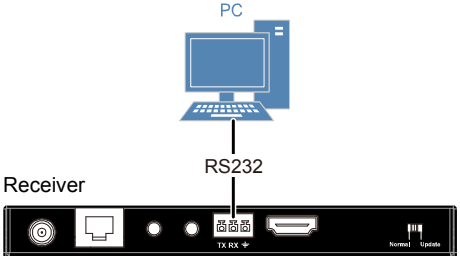
Connect RS232 port to a computer to update firmware or a RS232 device to communicate with another RS232 device on the other extender's side via a CAT5e/CAT6 cable.

Update

Update the Transmitter: switch "Mode" in the front panel to "Update".

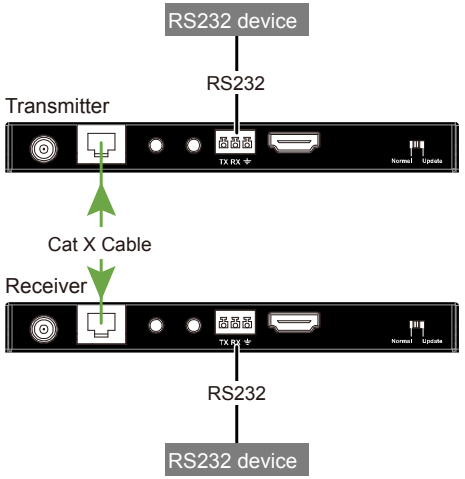


Update the receiver: switch "Mode" in the front panel to "Update".



Pass-through

Note: Please switch "Mode" in the front panel to "Normal" mode on both devices.



Troubleshooting

1. Why the display connected to the Receiver shows no picture?

- Check that all the devices are powered on and working properly.
- Check that all the cables are qualified and connected properly
- Check that the display works properly, and that the source device has normal signals output.
- Make sure that the display device supports HDCP.
- Check that the length of HDMI cable and CatX cable.
- Check that no compatibility issues exist between Receiver and the display. If so, replace the display with other models.

2. Why the display connected to Receiver displays snow or mosaic?

- Check that all the cables are qualified and connected properly.
- Check that the source input device has no problems, such as snow, mosaic or a damaged disc. If so, replace it with another normal input source.
- Check that no compatibility issues exist between Receiver and the display. If so, replace the display with other models.

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