



**AC-EXO-X-KIT**  
**USER MANUAL**

**8K FIBER OPTIC EXTENDER KIT**

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# IMPORTANT SAFETY INSTRUCTIONS



Before installing, configuring, and operating the devices and other vendor equipment, AVPro Edge strongly recommends that each dealer, integrator, installer, and all other necessary personnel access and read all the required technical documentation, which can be located by visiting [AVProEdge.com](http://AVProEdge.com).

Read and understand all safety instructions, cautions, and warnings in this document and the labels on the equipment.


## SAFETY CLASSIFICATIONS IN THIS DOCUMENT

 <b>NOTE:</b>	Provides special information for installing, configuring, and operating the devices and equipment.
 <b>TIP:</b>	Provides suggestions and considerations for installing, configuring, and operating the devices and equipment.
 <b>IMPORTANT:</b>	Provides special information that is critical for installing, configuring, and operating the devices and equipment.
 <b>CAUTION:</b>	Provides special information for avoiding situations that may cause damage to the devices and equipment.
 <b>WARNING:</b>	Provides special information for avoiding situations that may cause physical danger to the installer, end user, etc.

## ELECTRICAL SHOCK PREVENTION

 <b>ELECTRIC SHOCK:</b>	Provides special information that is critical for installing, configuring, and operating the devices and equipment.
 <b>ELECTRICAL DISCONNECT:</b>	Provides special information for avoiding situations that may cause damage to the devices and equipment.

## WEIGHT INJURY PREVENTION

 <b>WEIGHT INJURY:</b>	Installing some of the devices and equipment requires two installers to ensure safe handling during installation. Failure to use two installers may result in injury.
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## SAFETY STATEMENTS

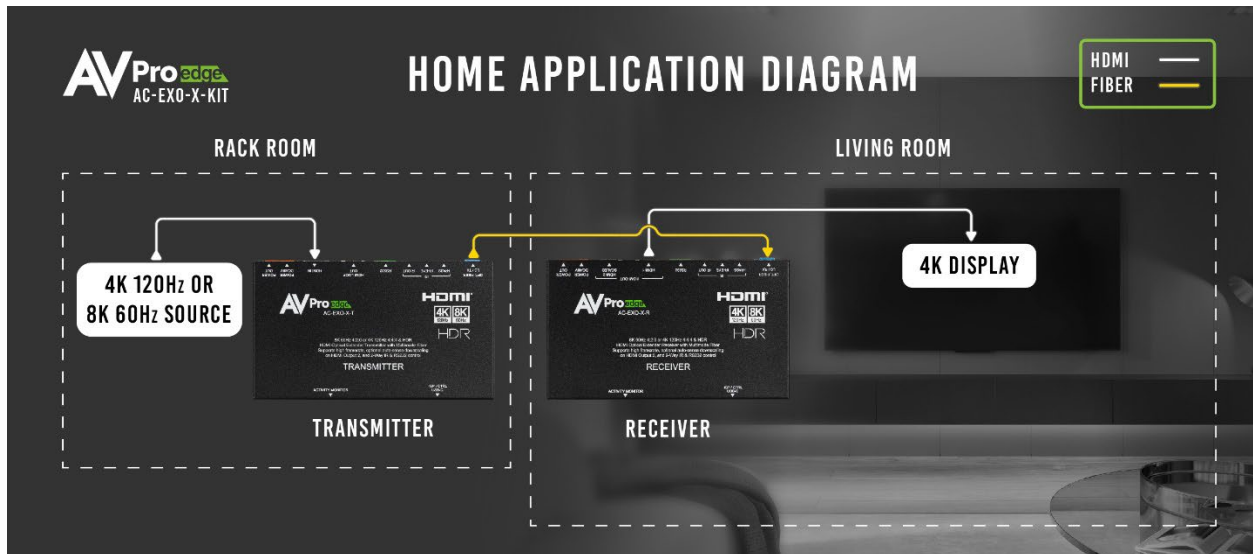
Follow all of the safety instructions listed below and apply them accordingly. Additional safety information will be included where applicable.

- 1 Read and keep these instructions.
- 2 Heed and follow all warnings.
- 3 Clean devices and equipment only with a dry cloth.
- 4 Do not use the devices near water or expose them to rain and moisture.
- 5 Do not block any ventilation openings.
- 6 The devices and their accessories should never be exposed to open flames or excessive heat.
- 7 Only use attachments and accessories specified by the manufacturer.
- 8 Install in accordance with the manufacturer's instructions.
- 9 Do not install near any heat sources, such as radiators, heat registers, stoves, or other apparatus that produce heat.
- 10 Do not defeat the safety purpose of the polarized / grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade, or third prong, are provided for your safety.
- 11 Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the devices.
- 12 Unplug the devices during lightning storms or when unused for long periods of time.
- 13 To reduce the risk of electrical shock or damage to the devices and their operators, never handle or touch the devices and power cord with damp or wet hands.
- 14 To reduce the risk of injury, some of the devices and equipment may require two installers to ensure safe handling during installation. Failure to use two installers may result in injury.
- 15 Refer all servicing to qualified service personnel. Servicing is required when the devices have been damaged in any way, such as the power cord or plug is damaged, liquid has been spilled, objects have fallen into the devices, the devices have been exposed to rain or moisture, do not operate normally, or have been dropped.

# INTRODUCTION

The AC-EXO-X-KIT is a pair of 40Gbps transmitter and receiver modules that extend HDMI 2.1 video and audio signals over a single multimode fiber optic cable. The maximum supported video resolutions are up to 8K 60Hz 4:2:0 or 4K 120Hz 4:4:4 with 7.1 audio. Supported HDMI 2.1 features include Auto Low Latency and Variable Refresh Rate, along with 16 EDID presets, auto-sense scaling on both secondary HDMI outputs, and a built-in test pattern that can be enabled using the dials on the transmitter.

The diagram below shows the basic application of the AC-EXO-X-KIT.



## FEATURES

- Multimode fiber grade OM2/3/4 compatible
- 8K 40Gbps bandwidth (8K/60 4:2:0) / High Frame Rate 4K/120fps
- HDMI 2.1 support for Auto Low Latency and Variable Refresh Rate
- Comprehensive EDID management for mixed-resolution Next-gen systems
- RS-232 and IR Bidirectional Passthrough
- Supports HDR formats, including Dolby Vision, HDR10 & HDR10+, and HLG
- Receiver features dual HDMI outputs with an always-scaled secondary output
- AVPro Edge's custom algorithm monitors Fixed Rate Link status and restrains Link Training bandwidth reductions
- Fiber delivers a pristine image down to the last molecule of detail, an essential requirement for transporting content to 8K displays

# PRODUCT OVERVIEW

## BOX CONTENTS

- (1x) Fiber Optic Transmitter Module AC-EXO-X-T
- (1x) Fiber Optic Receiver Module AC-EXO-X-R
- (1x) 48V Power Supply
- (1x) Stereo IR Eye
- (1x) Mono IR Emitter
- (1x) USB Type A to USB Type C Cable
- (2x) 2-Pin Terminal Block Connector
- (2x) 3-Pin Terminal Block Connector
- (4x) Mounting Brackets
- (8x) Mounting Bracket Screws



## TECHNICAL SPECIFICATIONS

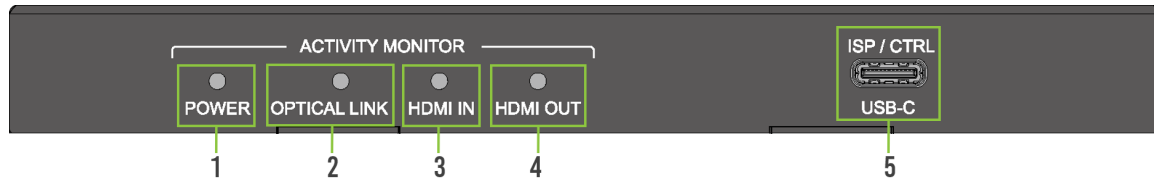
VIDEO	
Video Resolutions	Up to 8K 60Hz 4:2:0 / 8K 30Hz 4:4:4 / 4K 120Hz
HDR Formats/Resolutions	4:2:0, 4:2:2, 4:4:4 (10- and 12-bit deep color) HDR10, HDR10+, Dolby Vision, HLG
Color Space	YUV (Component), RGB (CSC: REC.601, REC.709, BT2020, DCI, P3 D6500)
Chroma Subsampling	4:4:4, 4:2:2, 4:2:0 Supported
Deep Color	Up to 16-bit (1080p) Up to 12-bit (4K)
Scaling	Tx HDMI Loop Out: always 4k or 1080p downscaling Rx HDMI Output 2: always 1080p downscaling
AUDIO	
Audio Formats Supported HDMI	PCM 2.0 CH, LPCM 5.1 & 7.1, Dolby Digital, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos
FIBER	
Type	Multimode Fiber
Connector	LC (Lucent Connector)
Recommended Fiber	OM3 Clearline SFF™ Fiber
DISTANCE	
OM2	Up to 40M
OM3	Up to 200M
OM4	Up to 300M
HDMI In/Out (40Gbps)	Up to 4M (using Bullet Train© 48Gbps HDMI cable)
HDMI In/Out with Bullet Train© AOC cable (40Gbps)	Up to 100M (using Bullet Train© 48Gbps HDMI AOC cable)
OTHER	
Bandwidth	40Gbps (FRL5)
HDCP	HDCP 2.3 and earlier
PORTS	
HDMI (Tx and Rx)	Type A
IR Transmit (Tx and Rx)	3.5mm Mono (TS) Jack
IR Receive (Tx and Rx)	3.5mm Stereo (TRS) Jack
RS-232 Control (Tx and Rx)	3-pin Terminal Block

Power (Tx and Rx)	2-pin Terminal Block, USB-C
<b>ENVIRONMENTAL</b>	
Operating Temperature	23° to 125°F (-5° to 51°C)
Storage Temperature	-4° to 140°F (-20° to 60°C)
Humidity Range	5-90% RH (no condensation)
<b>POWER</b>	
Total Power Consumption	2.5 Watts maximum
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 5V 1A
<b>DIMENSIONS</b>	
Height x Width x Depth (Standalone Unit, Tx and Rx are same)	Millimeters: 64.88 x 100.1 x 16.1 Inches: 2.55 x 3.94 x 0.63
Height x Width x Depth (Packaged Unit, Kit)	Millimeters: 136.5 x 155.5 x 88.9 Inches: 5.375 x 6.125 x 3.5
Weight (Standalone Unit, Tx or Rx each alone)	0.32 lbs (0.15 kg)
Weight (Packaged Unit)	0.73 lbs (0.33 kg)
*Specifications are subject to change without notice. Mass and dimensions are approximate.	

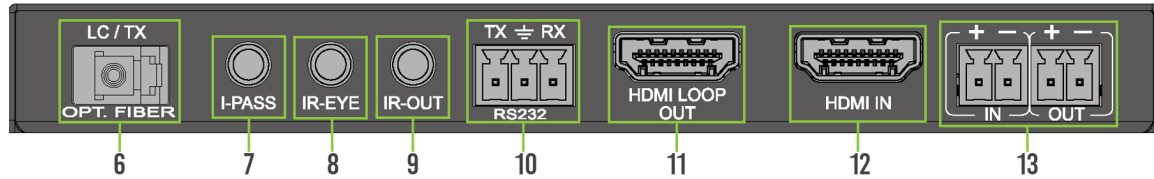


# TRANSMITTER FRONT AND REAR PANEL OVERVIEW

AC-EXO-X-T Front Panel



AC-EXO-X-T Rear Panel



1	Power Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates power is present on the transmitter</li> </ul>
2	Optical Link Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light, has 3 states:                             <ul style="list-style-type: none"> <li>Off: There is no data connection or link established</li> <li>Flashing: Data connection and link are established, but no video</li> <li>Solid On: Data connection and link are established, video is present</li> </ul> </li> </ul>
3	HDMI In Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates an active signal is present on the HDMI In port</li> </ul>
4	HDMI Out Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates an active signal is present on the HDMI Loop Out port</li> </ul>
5	ISP / CTRL USB-C	<ul style="list-style-type: none"> <li>USB Type C female connector port</li> <li>Secondary power input to power the transmitter</li> <li>Servicing port for AVPro Edge Technical Support</li> </ul>
6	LC / TX Opt. Fiber	<ul style="list-style-type: none"> <li>LC Simplex multimode fiber connector port</li> <li>Connects to LC / RX port on the receiver (AC-EXO-X-R)</li> </ul>
7	I-PASS	<ul style="list-style-type: none"> <li>3.5mm stereo jack (TRS) IR receiver port</li> <li>Sends IR signals via a direct connection from a control system processor to the IR output of the desired endpoint(s)</li> </ul>
8	IR-EYE	<ul style="list-style-type: none"> <li>3.5mm stereo jack (TRS) IR receiver port</li> <li>Supports an IR eye connection to capture IR signals from a control system processor or third-party remote to send IR signals to the IR output of the desired endpoint(s)</li> </ul>
9	IR-Out	<ul style="list-style-type: none"> <li>3.5mm mono jack (TS) IR transmitter port</li> <li>Sends IR signals upstream to the output of the desired endpoint(s)</li> </ul>

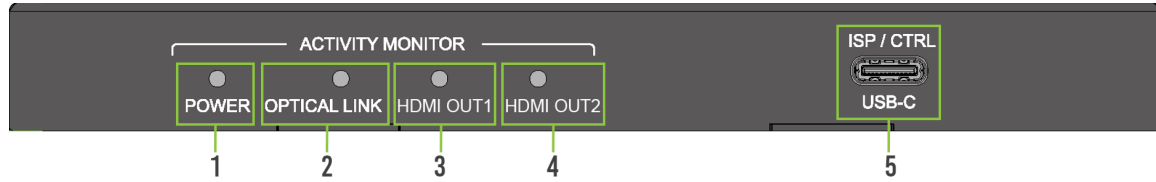
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10	RS-232	<ul style="list-style-type: none"><li>• 3-pin terminal block connector port</li><li>• Serial RS-232 control port</li></ul>
11	HDMI Loop Out	<ul style="list-style-type: none"><li>• 19-pin HDMI Type A female connector port</li><li>• Downscales 4K video signals to 1080p by default, but can be set to 4K passthrough, see <a href="#">Scaler Settings</a></li></ul>
12	HDMI In	<ul style="list-style-type: none"><li>• 19-pin HDMI Type A female connector port</li><li>• Source input with HDMI connection</li></ul>
13	Power In and Out	<ul style="list-style-type: none"><li>• Power DC/48V In port supports local power to the transmitter</li><li>• Power Out port supports power coming in from receiver's Power In port</li></ul>

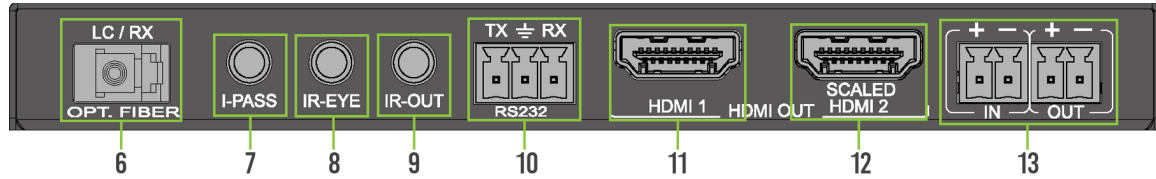
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# RECEIVER FRONT AND REAR PANEL OVERVIEW

## AC-EXO-X-R Front Panel



## AC-EXO-X-R Rear Panel



1	Power Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates power is present on the receiver</li> </ul>
2	Optical Link Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light, has 3 states:                             <ul style="list-style-type: none"> <li>Off: There is no data connection or link established</li> <li>Flashing: Data connection and link are established, but no video</li> <li>Solid On: Data connection and link are established, video is present</li> </ul> </li> </ul>
3	HDMI Out1 Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates an active signal is present on the HDMI 1 port</li> </ul>
4	HDMI Out2 Light	<ul style="list-style-type: none"> <li>Blue LED status indicator light</li> <li>Solid blue indicates an active signal is present on the Scaled HDMI 2 port</li> </ul>
5	ISP / CTRL USB-C	<ul style="list-style-type: none"> <li>USB Type C female connector port</li> <li>Secondary power input to power the receiver</li> <li>Servicing port for AVPro Edge Technical Support</li> </ul>
6	LC / RX Opt. Fiber	<ul style="list-style-type: none"> <li>LC Simplex multimode fiber connector port</li> <li>Connects to LC / TX port on the transmitter (AC-EXO-X-T)</li> </ul>
7	I-PASS	<ul style="list-style-type: none"> <li>3.5mm stereo jack (TRS) IR receiver port</li> <li>Sends IR signals via a direct connection from a control system processor to the IR output of the desired endpoint(s)</li> </ul>
8	IR-EYE	<ul style="list-style-type: none"> <li>3.5mm stereo jack (TRS) IR receiver port</li> <li>Supports an IR eye connection to capture IR signals from a control system processor or third-party remote to send IR signals to the IR output of the desired endpoint(s)</li> </ul>
9	IR-Out	<ul style="list-style-type: none"> <li>3.5mm mono jack (TS) IR transmitter port</li> <li>Sends IR signals upstream to the output of the desired endpoint(s)</li> </ul>

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10	RS-232	<ul style="list-style-type: none"><li>• 3-pin terminal block connector port</li><li>• Serial RS-232 control port</li></ul>
11	HDMI Out 1	<ul style="list-style-type: none"><li>• 19-pin HDMI Type A female connector port</li><li>• Connects to HDMI output device</li></ul>
12	HDMI Out 2 SCALED	<ul style="list-style-type: none"><li>• 19-pin HDMI Type A female connector port</li><li>• Downscales 4K video signals to 1080p by default</li><li>• Mirrored HDMI output port with HDMI Out 1</li></ul>
13	Power In and Out	<ul style="list-style-type: none"><li>• Power DC/48V In port supports local power to the receiver</li><li>• Power Out port supports power coming in from receiver's Power In port</li></ul>

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# WIRING AND CONNECTIONS

## HDMI CABLES

The AC-EXO-X-KIT uses the standard 19-pin HDMI female connector ports for the inputs and outputs.



### NOTE:

Ensure all HDMI cables and devices can support the signal being sent. For maximum performance, an Ultra-High Speed HDMI cable rated for 48Gbps will be more than sufficient to satisfy signal transport if every device in the system can handle the signal.

### TIP:

Ensure your HDMI cable is the correct length. The current HDMI specification calls for cables to be between 2 to 10 meters (6.6 to 33 feet). Smaller wire cables may be unable to transmit higher bandwidth signals like 4K60 over distances of even 5 meters (16 feet).

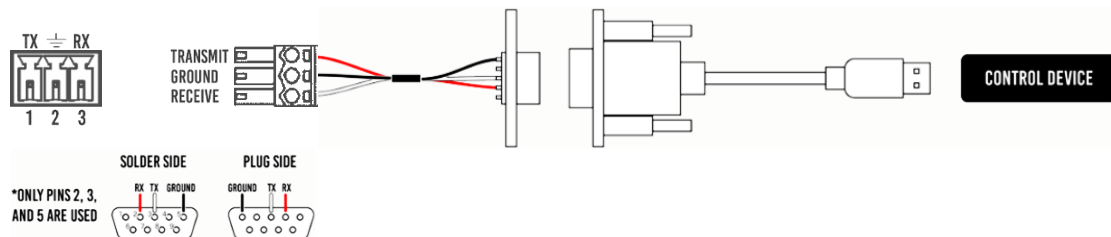
## USB PORTS

Both the transmitter and receiver each have one USB Type C port that functions as both a secondary power input as well as a servicing port for AVPro Edge technical assistance in the event of testing and troubleshooting.



## RS-232 WIRING

Serial control connections are made using the provided 3-pin terminal block connector. The wire slips into the hole and locks with a screw located at the top of the connector.



Wiring for this port uses a 3-pin terminal block connector to DB9, where only pins 2, 3, and 5 are used. If the control devices do not have a DB9 port, a USB to DB9 adapter may be required.

For RS-232 control, use a null modem serial cable adapter and set the serial communications to: Baud: 57600, no parity, 8 data bits, 1 stop bit, no handshaking. Add a carriage return (Enter key) after each command when using direct commands. The unified ASCII command list can be located [here](#).

## IR WIRING

IR connections are made using the provided 3.5mm IR Emitter and IR Eye (receiver).



IR can be used in three ways:

- 1 **FROM RACK (CONTROL SYSTEM DIRECT):** Connect a 3.5mm mono jack (TS) cable into an emitter port of any control system directly into the *I-PASS* port on the transmitter to pass IR signals directly to the remote end.
- 2 **FROM RACK (USING IR-EYE):** Connect the provided IR receiver eye cable into the *IR-EYE* port of the transmitter to pass infrared signals generated from a device or IR remote.
- 3 **FROM REMOTE END:** Connect the provided IR receiver eye cable into the *IR OUT* port on the receiver in order to send IR signals back to the rack and out of the transmitter's *IR OUT* port with an emitter.

## POWER CONNECTIONS

Fiber optic cables do not carry an electrical current and cannot supply power from one unit to another. Here are some recommended solutions to power both units.

First, power one unit with the provided 48V power supply. Next, power the other unit using one of the following options listed below:

- 1 USB charger brick to USB-C input
- 2 Power output to power input with 18-2 cable\*
- 3 Sink (TV or AVR) USB-A port to USB-C input



*\*18 AWG 2 conductors cable is not supplied*

**NOTE:** The AC-EXO-X-KIT must be powered from both units in order for complete operation.

## FIBER OPTIC CABLES

Single mode fiber is typically used for “long hauls”, or long distance buried cabling i.e., used by telecommunication companies for country-wide distribution. Single mode fiber should be used in applications over 1000 feet (300 meters).

Multimode fiber is commonly seen in the professional/custom electronics sector, with shorter runs of up to 1000 feet (300 meters). Multimode fiber is used in both residential and commercial applications for on-premise infrastructure.

### TYPES OF FIBER

<b>Simplex</b>	A single strand of fiber optic cable, comes in a single jacket.
<b>Duplex</b>	Two strands of fiber optic cable, comes in a dual, fused jacket.
<b>6-Strain</b>	Six strands of fiber, comes in a single jacket, individual strands are color coded.
<b>12-Strain</b>	12 strands of fiber, comes in a single jacket, individual strands are color coded.

### OM GRADES

OM (Optical Multimode) grades only apply to multimode fiber. The grade is determined by the clarity of the glass.

<b>OM1</b>	200Mhz, typically comes in an orange jacket. Legacy grade of fiber.
<b>OM2</b>	500Mhz, typically comes in an orange jacket.
<b>OM3</b>	2000Mhz, typically comes in an aqua blue jacket. Most common grade of fiber.
<b>OM4</b>	4700Mhz, typically comes in a violet or aqua blue jacket.

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**NOTE:** For maximum performance, AVPro Edge recommends using OM3 Cleerline SFF™ fiber.

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### CONNECTOR TYPES

#### LC (Lucent Connector)

Universal connector, most commonly seen in networking. Can be terminated in the field, with some connectors able to support more than one strand.

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**NOTE:** Ensure the fiber is terminated with LC connectors.

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#### SC (Square Connector)

Universal connector, can be terminated in the field. Single strand of fiber only.

#### MPO (Multi-fiber Push-on)

Mechanically terminated, for large clusters of fiber. More difficult to terminate in the field.

#### Other Types

Many other “custom” styles exist, due to this inconsistency, most are not effective in the field and are typically intended for single use only.

### SFP MODULES

SFP (small form-factor pluggable) transceivers are compact, hot-pluggable modules that act as an interface between media equipment and interconnecting cabling (copper or fiber). The main benefit of using fiber is it allows modifications to the connector type or quantity, maximum distance, and even the type of fiber used. This increases the lifespan of the devices since the capabilities can be modified in the field as needed.

# INSTALLATION

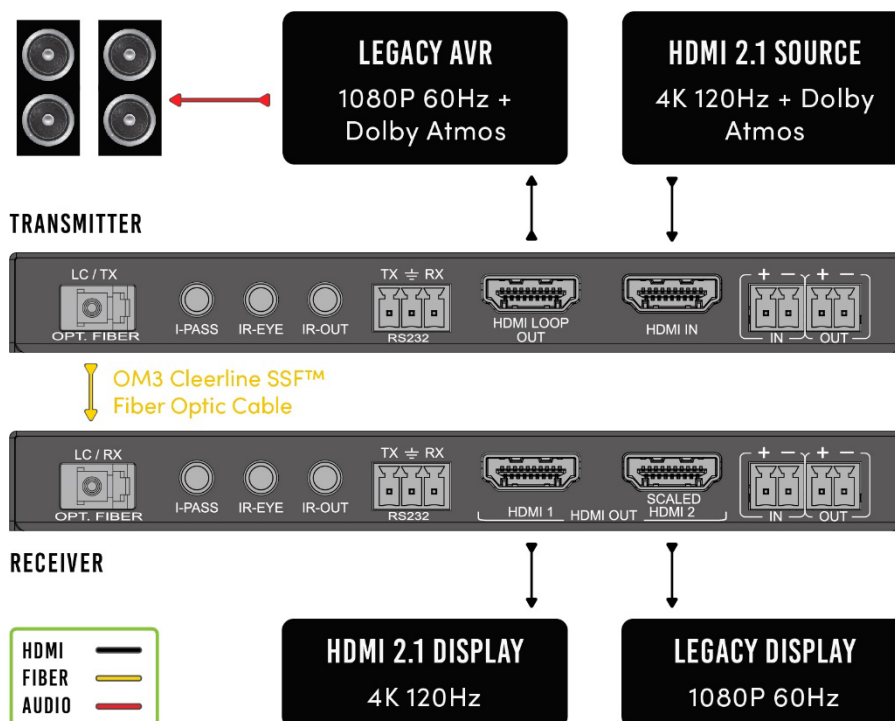
## GENERAL APPLICATION

- 1 Connect the 48V power supply to *Power In* port on either the transmitter or receiver, then power the other using one of the options listed in the [Power Connections](#) section.
- 
- NOTE:** The AC-EXO-X-KIT must be powered from both units in order for complete operation.
- 
- 2 Connect the transmitter's *Opt. Fiber LC / Tx* port to the receiver's *Opt. Fiber LC / Rx* port with a simplex multimode fiber optic cable terminated with LC connectors.
  - 3 Connect the HDMI source device to the *HDMI In* port on the transmitter with an HDMI cable.
  - 4 Connect the HDMI output device to the *HDMI Out 1* port on the receiver with an HDMI cable.

## DOWNSCALED OUTPUTS

Both the *HDMI Loop Out* port on the transmitter and the *HDMI Out 2* port on the receiver automatically downscale 4K video signals to 1080p. This allows legacy devices, such as an AVR or 1080p display, to play the same source content without having to downgrade the entire system's capabilities.

The diagram below illustrates an example of utilizing both downscaled outputs with a 1080p legacy display on the *Scaled HDMI Out 2* port on the receiver.



This setup is ideal for installations with an HDMI 2.1 display and up to 2 legacy devices.

Connect all the devices in the system using the previous steps outlined above. Ensure the HDMI 2.1 display is connected to the receiver's *HDMI Out 1* port.



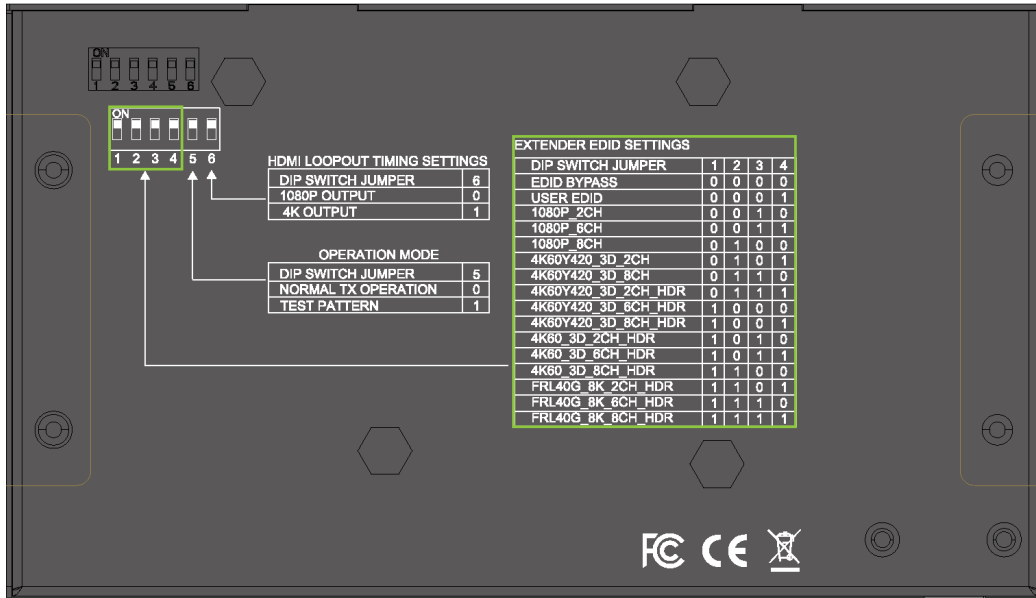
# SETTINGS AND FUNCTIONALITIES

## EDID MANAGEMENT (TRANSMITTER)

The transmitter (AC-EXO-X-T) comes equipped with dipswitches located underneath the device for selecting an EDID.

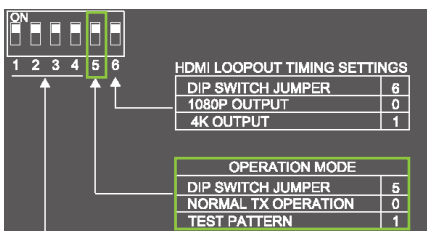
Dipswitches 1, 2, 3, and 4 correspond to the EDID jumper settings. Flip the dipswitches up (“on” or “1”) or down (“off” or “0”) to select the corresponding EDID setting.

AC-EXO-X-T Bottom Panel



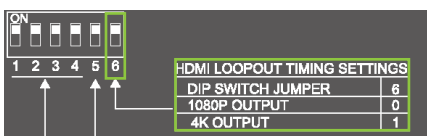
## TEST PATTERN

The transmitter can generate a color bar test pattern using dipswitch 5. Flip the dipswitch up (“on” or “1”) to generate a color bar test pattern.



## SCALER SETTINGS

By default, the HDMI Loop Out port on the transmitter and the HDMI Out 2 port on the receiver both automatically downscale 8K video signals to 4K or 1080p. The HDMI Loop Out port on the transmitter can be set to 4K passthrough by flipping dipswitch 6 up to the “on” or “1” position.



# COMMAND LIST


For RS-232 control, use a null modem serial cable adapter and set the serial communications to:  
Baud: 57600, no parity, 8 data bits, 1 stop bit, no handshaking. Add a carriage return (Enter key) after each command when using direct commands. All commands start with the System Address prefix A00.

COMMAND:	ACTION:
H	Help
STA	Show global system status
SET RST	Reset to factory defaults
SET RBT	System reset to reboot
SET ADDR xx	Set System Address to xx {xx=[00-99](00=single)}
SET POE MODE x	Set POE Mode x {x=[0~1](0=AUTO,1=FORCE)}
GET ADDR	Get System Address
GET POE MODE	Get POE Mode
GET STA	Get System Status
GET LINK1 SIG STA	Get Link1 Signal Status
<b>OUTPUT SETUP COMMANDS: OUTPUT NUM[0~2](0=ALL,1=OPT.FIBER,2=LOOP OUT)</b>	
SET OUT2 VIDEOy	Set Output VIDEO Mode {y=[2,6](2=4K/8K->2K,6=8K->4K)}
SET OUTx HA MUTE ON/OFF	Set HDMI Output x Audio Mute ON/OFF{x=[0~2](0=ALL)}
SET OUTx SGM EN/DIS	Set HDMI Output x Signal Generator Enable/Disable{x=[0~2](0=ALL)}
GET OUT2 VIDEO	Get Output2 Video Status
GET OUT2 EDID DATA	Get Output2 EDID DATA
GET RX OUTx EDID DATA	Get RX Outputx EDID DATA{x=[1~2](1=RX OUT1,2=RX OUT2)}
GET OUTx HPD	Get HDMI Output x Hotplug Status{x=[0~2](0=ALL)}
GET RX OUTx HPD	Get RX HDMI Output x Hotplug Status{x=[0~2](0=ALL,1=RX OUT1,2=RX OUT2)}
GET OUTx HA MUTE	Get HDMI Output x Audio Mute Status{x=[0~2](0=ALL)}
GET OUTx SGM	Get HDMI Output x Signal Generator Enable/Disable Status{x=[0~2](0=ALL)}
<b>INPUT SETUP COMMANDS:</b>	
SET IN1 EDID y	Set Input1 EDID{y=[0~15]} 0:EDID_BYPASS 1:User_EDID 2:1080P_2CH 3:1080P_6CH 4:1080P_8CH 5:4K60HzY420_3D_2CH 6:4K60HzY420_3D_8CH 7:4K60HzY420_3D_2CH_HDR 8:4K60HzY420_3D_6CH_HDR 9:4K60HzY420_3D_8CH_HDR 10:4K60Hz_3D_2CH_HDR 11:4K60Hz_3D_6CH_HDR 12:4K60Hz_3D_8CH_HDR 13:FRL40G_8K_2CH_HDR 14:FRL40G_8K_6CH_HDR 15:FRL40G_8K_8CH_HDR
SET IN1 EDID CY OUT2	Copy Output2 EDID To Input1(USER1 BUF)
SET IN1 EDID CY RX OUTy	Copy RX Output y EDID To Input1(USER1 BUF){y=[1~2]}
SET IN1 EDID U1 DATAz	Write EDID To User1 Buffer of Input1{z=[EDID Data]}
SET EDID OUTx A OUTy V MIX IN1	Set EDID OUTx Audio OUTy Video Mix Input1 {x=[1~3],y=[1~3](x!=y)(1=RX OUT1,2=RX OUT2,3=TX LOOP OUT)}
GET IN1 EDID	Get Input1 EDID Index
GET IN1 EDID y DATA	Get Input1 EDID y Data{y=[0~15]}
GET LINK1 VID FMT INF	Get Input1 Video Signal information
GET LINK1 AUD FMT INF	Get Input1 Audio Signal information

## TROUBLESHOOTING

- Verify Power – Check the POWER light is solid blue on the front panel of **both** the transmitter and receiver. This indicates there is power connected and present on the devices.


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 **NOTE:** The AC-EXO-X-KIT must be powered from both units for complete operation. See *Power Connections*

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- Verify Connections – Check that all cables are properly connected and can support 48Gbps. Check the LINK light is solid blue on the front panel of **both** the transmitter and receiver.
- Issues with One Output – Swap HDMI outputs to see if issue follows. Try copying EDID from the display. See *EDID Management*
- Issues with Legacy HDMI Device when Scaling – Ensure the legacy device supports the input source's frame rate. Ensure Variable Refresh Rate is disabled and supports meta-data.
- Not Passing Video – Use the built-in test pattern on the transmitter.
- IR Issues – Verify correct connections and settings.

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 **NOTE:** Use the provided IR cables included with the device. Visible flashing IR emitters or other third-party IR cable functionality is not guaranteed.

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## MAINTENANCE

To ensure reliable operation of these devices as well as protecting the safety of any person using or handling these devices while powered, please observe the following instructions:

- Use the power supplies provided by the manufacturer. If an alternate power supply is required, check the voltage and polarity for sufficient power to supply the device it is connected to.
- Do not operate the devices outside of the specified temperature and humidity range given in the technical specifications.
- Ensure there is adequate ventilation to allow the devices to operate efficiently.
- Repair of the devices and other equipment should only be carried out by qualified professionals as these devices contain sensitive components that may be damaged by any mistreatment.
- Only use the devices in a dry environment. Do not allow any liquids or harmful chemicals to come into contact with these devices.
- Clean the devices with only a soft, dry cloth. Never use alcohol, paint thinner, or benzene.

## DAMAGE REQUIRING SERVICE

The devices should be serviced by qualified service personnel if:

- The DC power supply cord or AC adapter has been damaged
- Objects or liquids have gotten into the devices
- The devices do not operate normally as intended or exhibit a marked change in performance
- The devices have been dropped the housing has been damaged

## SUPPORT

Should you experience any problems while using the devices, first refer to the Troubleshooting section of this user manual before contacting AVPro Edge Technical Support. When calling, the following information should be provided:

- Device name and model number
- Device serial number
- Details of the issue and any conditions under which the issue is occurring

## WARRANTY

### THE BASICS

AVPro Edge warrants its products that are purchased from all authorized AVPro Edge resellers or direct purchases. Products are guaranteed to be free from manufacturing defects and are of sound physical and electronic condition.

AVPro Edge has developed a warranty that anyone can get behind. We really wanted to take all the “red tape” out of a warranty and just make it simple. Our 10 Year No BS Warranty hinges on 3 elements:

- If you are having trouble, call us. We will attempt to troubleshoot your issue over the phone.
- If it’s broken, we will replace it in advance on our dime and we’ll also cover the return shipping. Repair is an option too, but it’s YOUR call.
- We know you know what you are doing. We will not make you go through unnecessary steps to troubleshoot an extender...

### COVERAGE DETAILS

AVPro Edge will replace or repair (at customer choice) the defective product. If the product is out of stock or on backorder it can either be replaced with a comparable product of equal value/feature set (if available) or repaired.

Your warranty begins at receipt of product (as confirmed by shipping firm tracking). If tracking information is unavailable for any reason, the warranty will commence 30 days ARO (After Receipt of Order). The warranty coverage continues for 10 years.

### RED TAPE

AVPro Edge is not responsible for untraceable purchases or those that were made out side of an authorized channel.

If we conclude that a product or serial number has been tampered with as identified by warranty seal or physical examination, the warranty will be void. Additionally, excessive physical damage (beyond normal wear & tear) the warranty may be voided or prorated based on the extent of the damage as examined by an AVPro Edge representative.

Damage caused by “acts of God” are not covered. They can include natural disasters, power surges, storms, earthquakes, tornadoes, sink holes, typhoons, tidal waves, hurricanes, or any other uncontrollable event related to nature.

Damage caused by incorrect installation will not be covered. Incorrect power supply, inadequate cooling, improper cabling, inadequate protection, and static discharge are examples of this.

Products installed or sold by a third party to AVPro Edge will be serviced by the authorized AVPro Edge reseller. Accessories (IR cables, RS-232, power supplies, etc.) are not included in the warranty. We will make acceptable efforts to source and supply replacements for defective accessories at a discounted rate as needed.

## OBTAINING AN RMA

Dealers, resellers, and installers can request an RMA from an AVPro Edge Technical Support Representative or their Sales Engineer. You may also email [support@avproedge.com](mailto:support@avproedge.com) or fill out the general contact form at [avproedge.com/contact](http://avproedge.com/contact). End users may not request an RMA directly from AVPro Edge and will be referred back to their dealer, reseller, or installer.

## SHIPPING

For USA (not including Alaska and Hawaii), shipping is covered on advanced replacements for FedEx Ground (some expressed exceptions may apply). Defective product return shipping is covered by AVPro Edge using an emailed return label. Items must be returned within 30 days of receipt of the replacement product, after 30 days, the customer will be billed. Other return shipping methods will not be covered.

For international (including Alaska and Hawaii), return shipping costs will be the responsibility of the returnee. Once the unit is scanned for return shipping, AVPro Edge will ship the new unit for replacement.

## LIMITATION ON LIABILITY

The maximum liability of AVPro Global Holdings LLC under this limited warranty shall not exceed the actual purchase price paid for the product. AVPro Global Holdings LLC is not responsible for direct, special, incidental, or consequential damages resulting from any breach of warranty or condition, or under any other legal theory to the maximum extent permitted by law. Taxes, Duties, VAT, and freight forwarding service charges are not covered or paid for by this warranty.

Obsolescence or incompatibility with newly invented technologies (after manufacture of product) is not covered by this warranty. Obsolescence is defined as:

“Peripherals are rendered obsolete when current technology does not support product repair or re-manufacture. Obsolete products cannot be re-manufactured because advanced technologies supersede original product manufacturer capabilities. Because of performance, price and functionality issues, product redevelopment is not an option.”

Discontinued or out-of-production items will be credited at fair market value towards a current product of equal or comparable capabilities and cost. Fair market value is determined by AVPro Edge.

## EXCLUSIVE REMEDY

To the maximum extent permitted by law, this limited warranty and the remedies set forth above are exclusive and in lieu of all other warranties, remedies, and conditions, whether oral or written, express or implied. To the maximum extent permitted by law, AVPro Global Holdings LLC specifically disclaims any and all implied warranties, including, without limitation, warranties of merchantability and fitness for a particular purpose. If AVPro Global Holdings LLC cannot lawfully disclaim or exclude implied warranties under applicable law, then all implied warranties covering this product, including warranties of merchantability and fitness for a particular purpose, shall apply to this product as provided under applicable law.

**This warranty supersedes all other warranties, remedies, and conditions, whether oral or written, express or implied.**