PURPOSE

INSTRUCTION MANUAL

MODEL: PAV-EX40-HDR-ARC-AE

100% PERFORMANCE GUARANTEE

DAILY IN-STOCK PROMISE

SEAMLESS SUPPORT

3 YEAR WARRANTY

GIVES BACK TO CHARITY

www.purposeav.ca • support@purposeav.ca • (888) 470.2211

OVERVIEW

- The PAV-EX40-HDR-ARC-AE-KIT is a premium HDMI extender featuring HDBaseT technology, allowing for the extension of 4K HDR HDMI signals up to 40 Meters with Audio Return allowing for audio from a display or separate playback device to be return to the rack. Additionally, the PAV-EX40-HDR-ARC-AE-KIT is equipped with Bi-directional POC, IR, RS232, and comprehensive EDID management the PAV-EX40-HDR-KIT creating the ultimate integrator tool for any installation.

MODEL NUMBERS

- PAV-EX40-HDR-ARC-AE-T – HDBaseT Transmitter w/ IR, RS232, and Audio Return
- PAV-EX40-HDR-ARC-AE-R – HDBaseT Receiver w/ IR, RS232, and Audio Return

FEATURES

- HDMI 2.0b
- Max Resolution 4K60 4:4:4
- HDCP 1.X/2.2 Support
- CEC Pass-Through
- Audio Return Channel (ARC)
- Multichannel Extracted Audio
- Up to 40M (Cat6a) at 4K
- Up to 70M (Cat6a) at 1080p
- Bi-Directional POC
- 3-20V IR Support with Direct Control System Support
- Bi-Directional RS232 Transport
- Supports audio formats up to uncompressed LPCM 7.1, Dolby TrueHD (including Atmos), and DTS (up to DTS:X)

PACKAGE CONTENTS

- Power Supply
- X2 Mini TOS to TOS Adaptor
- X2 IR Target (Eye/Receiver)
- X2 IR Blaster (Emitter)
- X2 Velcro Strip
- Mounting Brackets
- X2 3.5MM TRS (Stereo) to Open Cable

SPECIFICATIONS

VIDEO

Video Resolutions	Up to 4K60 4:4:4
VESA Resolutions	Up to 4096X2160 (DCI 4K)
Chroma Supported	4:4:4, 4:2:2, 4:2:0, RGB (Limited and Full)
Deep Color	Up to 16 Bit (1080p) Up to 12 Bit (4K)
HDR Support	HDR10, HDR10+, HLG, Dolby Vision

AUDIO

LPCM (Up to 192KHz 24 bit)	2.0, 5.1, 7.1
Dolby	Dolby Digital, Dolby Digital Plus, Dolby TrueHD, Dolby Atmos
DTS	DTS 6.1 ES, DTS HRA, DTS Master Audio, DTS:X
HDMI Audio Return Channel (ARC)	Up to Dolby Digital

HDBASET DISTANCE (CAT 6A)

4K Resolutions	40 Meters (131 Feet)
1080p Resolutions	70 Meters (230 Feet)

TRANSMITTER

INDICATOR LIGHTS (FRONT OF UNIT)

Power LED – Indicates that power is connected to the unit.

1. Light is On = Power Supply/POC Connected and Unit is operating
2. Light is Off = Power Supply is not connected, or no power is present

HDMI Sync LED – Indicates that an HDMI Source is connected to the Transmitter.

1. Light is On = HDMI Source is Active on the HDMI Input
2. Light is Off = HDMI Input sense no active HDMI Source

HDBaseT Link LED – Indicates that the HDBaseT Transmitter is linked with an HDBaseT Receiver.

1. Light is On = Unit has linked with an HDBaseT Receiver and is sending Data
2. Light is Off = Unit has not linked with an HDBaseT Receiver

ARC LED – Indicates the State of the Audio Return Channel.

1. Light is On = Audio is being sent back from the HDBaseT Receiver. Extracted Audio is outputting the audio sent back from the HDBaseT Receiver
2. Light is Off = Audio is being sent downstream to the Display. Extracted Audio is outputting the audio from the source device

DIP SWITCH TABLE

EDID		**IR**		**Audio Selection**	
DipSwitch 1-4	EDID	Dipswitch 5	IR Input Selection	Dipswitch 6	Audio Selection
0000	EDID Bypass	0	IR Target (Eye)	0	Audio sent downstream. Extracted Audio Plays from Source
0001	1080p 444 2CH	1	IR from Control System	1	Audio Return from Receiver. Extracted Audio Plays ARC Audio.
0010	1080p 444 6CH				
0011	1080p 444 8CH				
0100	4K30 444 2CH				
0101	4K30 444 6CH				
0110	4K30 444 8CH				
0111	4K30 HDR 2CH				
1000	4K30 HDR 6CH				

TRANSMITTER

DIP SWITCH TABLE CONTINUED

EDID		IR		Audio Selection	
1001	4K30 HDR 8CH				
1010	4k60 444 2CH				
1011	4k60 444 6CH				
1100	4k60 444 8CH				
1101	4k60 HDR 2CH				
1110	4k60 HDR 6CH				
1111	EDID Copy				

RECEIVER

INDICATOR LIGHTS (FRONT OF UNIT)

Power LED – Indicates that power is connected to the unit.

1. Light is On = Power Supply/POC Connected and Unit is operating
2. Light is Off = Power Supply is not connected, or no power is present

HDMI Sync LED – Indicates that an HDMI Source is connected to the Transmitter.

1. Light is On = HDMI Output is connected to an active HDMI Input
2. Light is Off = HDMI Output does not sense an active HDMI Input

HDBaseT Link LED – Indicates that the HDBaseT Transmitter is linked with an HDBaseT Receiver.

1. Light is On = Unit has linked with an HDBaseT Transmitter and is receiving Data
2. Light is Off = Unit has not linked with an HDBaseT Transmitter

ARC LED – Indicates the State of the Audio Return Channel.

1. Light is On = Audio is being sent back to the HDBaseT Transmitter
2. Light is Off = Audio is being sent downstream to the Display

Audio Selection Dipswitch – When Audio Return is Active; Determines the Audio Input Port.

1. TV = Returns Audio coming from a Displays HDMI ARC Port.
2. EXT = Returns Audio from the Mini Tos + Analog Combination Port

RS232 CONFIGURATION

- RS232 can be used to pass control signals bi-directionally between any two RS232 compatible devices. Commonly used in extending control from a control system.
- The RS232 ports on the PAV-EX40-HDR-ARC-AE-KIT are pinned null modem:

Control System	**RS232 Port**	**3.5MM TRS PIN**
Receive	Transmit	Tip
Ground	Ground	Ring
Transmit	Receive	Sleeve

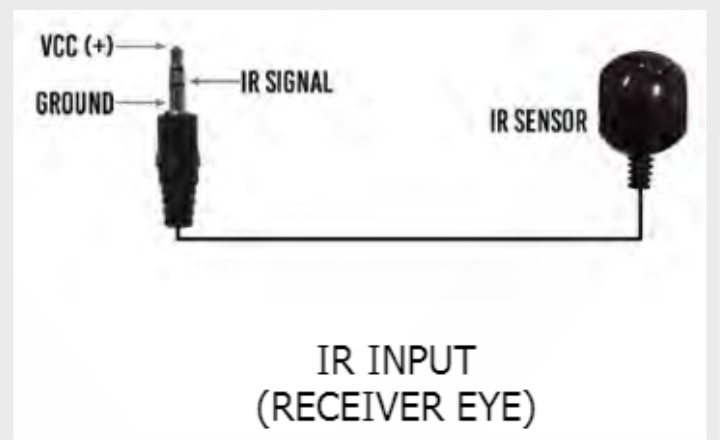
IR CONFIGURATION

IR COMMUNICATION CAN BE SENT TWO WAYS

1. Downstream (From transmitter)
   - Plug an IR Receiving Eye or Control System IR output direct into the IR Sensor port of the PAV-EX40-HDR-ARC-AE-T to pass infrared signals to the IR Out port on the Receiver
   - Set IR Dipswitch according to input signal device
   - Connect the IR Out Port of the Receiver to an IR Emitter or Direct IR Input

2. Upstream (From Receiver)
   - Plug an IR Receiving Eye into the IR Sensor port of the PAV-EX40-HDR-ARC-AE-R to pass infrared signals to the IR Out port on the Transmitter
   - Connect the IR Out Port of the Transmitter to an IR Emitter or Direct IR Input

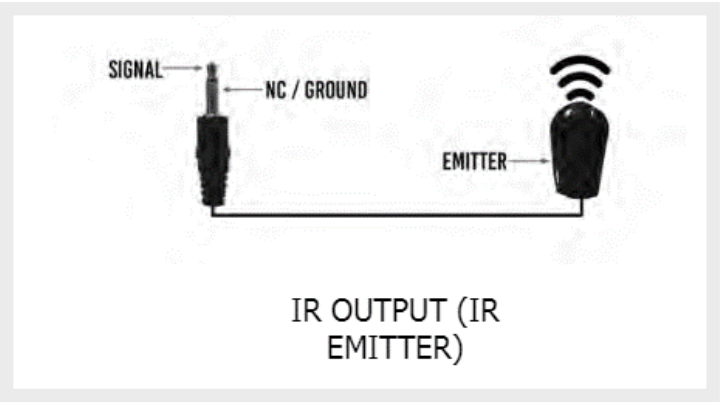
- IR Input (Receiving Eye) (Dipswitch 5 = 0)



IR INPUT
(RECEIVER EYE)

- IR Direct Input from Control System (Transmitter Only) (Mono Tip to Tip/ Sleeve to Sleeve) (Dipswitch 5 = 1)

- IR Output to Emitter



IR OUTPUT (IR EMITTER)

TROUBLESHOOTING

TRANSMITTER

No Power LED

1. Ensure PSU is sending proper voltage
2. If using POC, ensure that the unit sending POC is connected to power
3. If using POC, try powering the unit direct to ensure unit operates stand alone

No HDMI LED

1. Plug Source direct into display to ensure operability
2. Change the resolution of the source device to 1080p or 4K30 (No HDR)
3. Set a canned EDID. Source may require power cycle
4. Swap HDMI cable between Transmitter and Source. HDMI Handshakes with cables under 2 Meters may not sync properly

TROUBLESHOOTING

TRANSMITTER CONTINUED

No HDBT Link

1. Check cable Length. Max Distances are 40M at 4K or 70M at 1080p. HDBaseT Recommends Cat 6A; Cat 6 and Cat 5e may experience a 5-20% loss of distance
2. Remove Excess Service Loops and Bundles of Cable. HDBaseT Recommends up to 6 runs of Cat in a single bundle
3. Bypass all patch-panels and punch down blocks
4. Re-terminate connectors. IP Continuity testers may indicate correct pinouts; However, HDBaseT Signals are transmitted differently than Ethernet Signals

RECEIVER

No Power LED

1. Ensure PSU is sending proper voltage
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TROUBLESHOOTING

RS232 TRANSMISSION

- Ensure correct pinout between both the transmitter and receiver side. A null modem adaptor may be used for quick pinout changing

IR TRANSMISSION

- If sending downstream, ensure dipswitch is in the correct position for Input device type
- The Visible IR Emitters can be used to ensure signal is being sent from one point to the other

ARC AUDIO

- When using HDMI ARC, ensure that both the AVR and Display have ARC and CEC Enabled. If issue continues, try copying the Displays EDID
- Ensure that the correct dipswitch configuration has been selected
- If using Analog audio, ensure that the audio being sent is PCM and not encoded