AC-CXWP-150-BKT

User manual

150 m 1080p (100 m 4K) HDBaseT Single Gang Wall plate Extender w/ 4K60 support. Bi-Directional PoE, IR, and RS232.

Contents

Important Safety Instructions 3
Safety Classifications in this Document 3
Electrical Shock Prevention 3
Weight Injury Prevention 3
Safety Statements 4
Introduction 5
Features 5
Product Overview – AC-CXWP-150-BKT 6
Box Contents 6
Technical Specifications – 6
Front and Rear Panel Overview – 7
EDID Dial 8
HDCP DIP Switch 8
Installation 9
Powering the Wall Plate 9
Wiring and Connections 10
HDMI Cables 10
HDBaseT Link Wiring 10
USB Ports 10
RS-232 Control 11
Command List 12
Maintenance 13
Damage Requiring Service 13
Support 13
Warranty 14
The Basics 14
Coverage Details 14
Red Tape 14
Obtaining an RMA 15
Shipping 15
Limitation on Liability 15
Exclusive Remedy 15

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.

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

Safety Classifications in this Document

Note:	Provides special information for installing, configuring, and operating the devices and equipment.
Tip:	Provides suggestions and considerations for installing, configuring, and operating the devices and equipment.
Important:	Provides special information that is critical for installing, configuring, and operating the devices and equipment.
Caution:	Provides special information for avoiding situations that may cause damage to the devices and equipment.
Warning:	Provides special information for avoiding situations that may cause physical danger to the installer, end user, etc.

Electrical Shock Prevention

Electric Shock:	Provides special information that is critical for installing, configuring, and operating the devices and equipment.
Electrical Disconnect:	Provides special information for avoiding situations that may cause damage to the devices and equipment.

Weight Injury Prevention

Weight Injury:	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.

Safety Statements

Follow all 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.

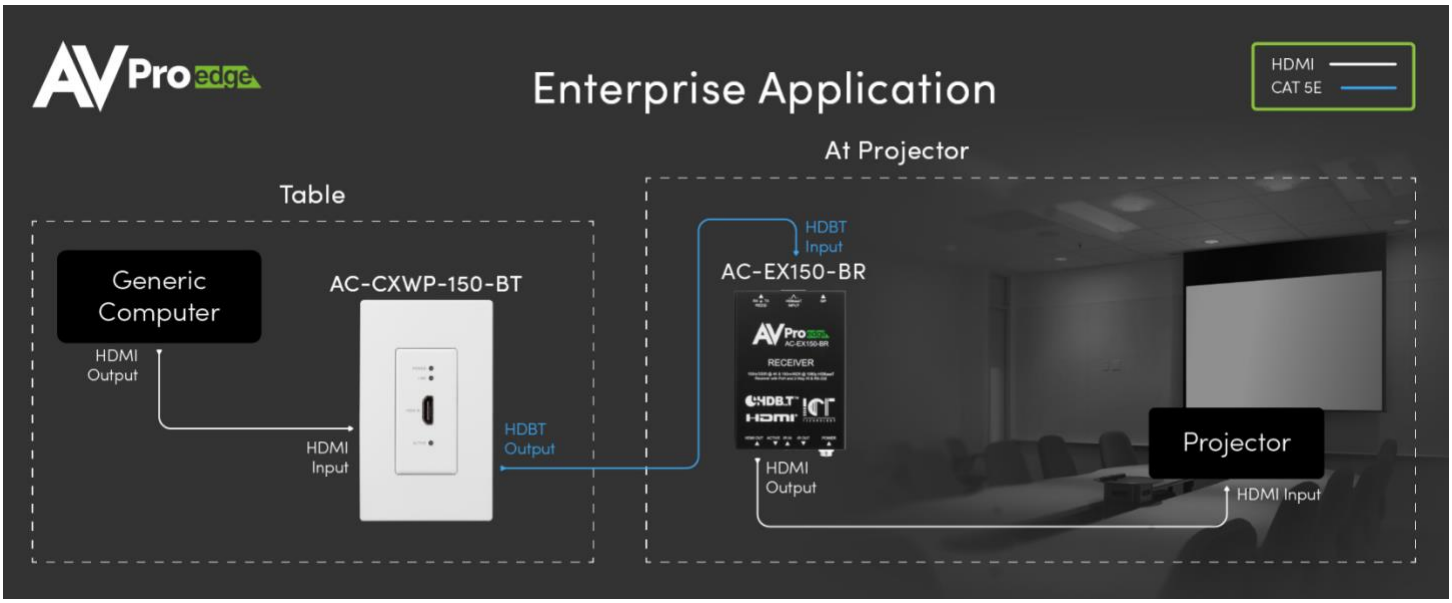
14 To reduce the risk of injury, some of the devices and equipment may require two installers to ensure safe handling during installation. Failure to use two installers may result in injury.

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

This single gang, HDBaseT wall plate kit is a part of ConferX's line of professional audio video products. Installing this sleek transmitter is a breeze as it's built to fit in any standard single gang mug ring, but it's sleek design is only the beginning. The AC-CXWP-150-BKT can deliver 4K signals over Category cable up to 100 meters (330 ft) and Full HD signals up to 150 meters (492ft). The AC-CXWP-150-BKT features field-critical features, including Bi-Directional PoH (Power Over HDBaseT) and Bi-Directional RS232 for control.

The diagram below demonstrates the wall plates in a typical conference room or education application:



Features

- 18Gbps 4K HDMI 2.0 support with HDR technology
- Supports HDCP 2.2 & earlier
- Supports CEC Pas-through
- Supports a range of up to 150 meters for 1080p, using legacy Cat5e, and up to 100 meters is possible over Cat5e for 4K UHD signals.
- Supports uncompressed PCM 2- Ch., LPCM 5.1 & 7.1, Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio, Dolby Atmos on HDMI
- Bidirectional RS-232 Transport
- Advanced EDID management to overcome issues with legacy displays and equipment
- 24V DC PoH (Power Over HDBaseT; only one Power Supply Needed)
- Downscale 4K sources to 1080p legacy displays
- LED Status, Link, Power indication lights

Product Overview – AC-CXWP-150-BKT

Box Contents

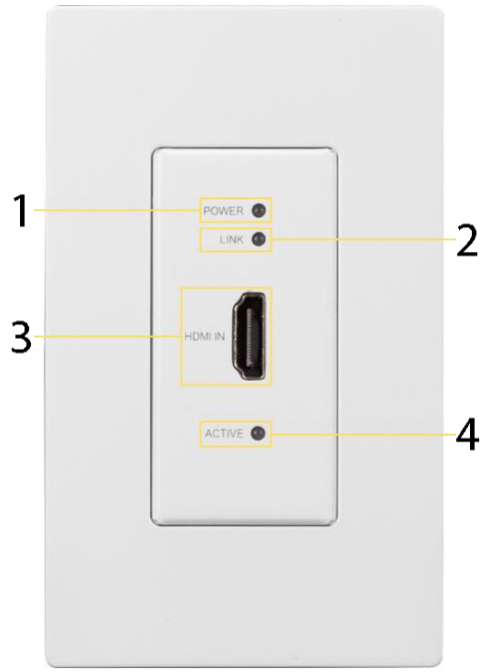
(1x) AC-CXWP-150-BT (Transmitter)
(1x) AC-EX150-BR (Receiver)
(1x) 24V Power Supply
(1x) 1M (3.3ft) USB-A to USB-C Cable (USB 2.0)
(1x) White Faceplate
(1x) 3-Pin Euroblock Connector
(2x) Mounting Screws

Technical Specifications –

Video:	
Video Resolutions	Up to 4K 60Hz 4:4:4
VESA Resolutions	Up to DCI 4k (4096x2160)
HDR Formats/Resolutions	420, 422, 444 (10 AND 12 DEEP COLOR) HLG, HDR10, HDR10+, DOLBY VISION, Low Latency Dolby Vision, DOLBY VISION
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 (1080) Up to 12 bit (4K)
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
Distance:	
HDBASET DISTANCE (4K & HDR)	100 METERS (330 FEET) (CAT 6A)
HDBASET DISTANCE (FULL HD)	150 METERS (492 FEET) (CAT 6A)
HDMI LEAD IN/OUT	UP TO 50 Feet (USING BULLET TRAIN HDMI)
HDMI In/Out (W/ AOC Cable)	UP TO 130 FEET (USING BULLET TRAIN AOC)
Other:	
Bandwidth	18 Gbps (W/ICT)
CEC	Yes
HDCP	HDCP 2.3 and Earlier
Ports:	
HDMI (TX & RX)	HDMI Type A 19-pin, female
HDBaseT (Output to Receiver)	RJ45 w/ PoH
RS-232 (RX Only)	3-Pin Terminal Block
POWER (TX)	RJ45 (PoH) or USB
POWER (RX)	Barrel Type
ISP/CTL	USB Type-C
Environmental:	
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)
Power:	
Power Consumption (Total)	16.8 WATTS MAX
Power Supply	Input: AC 100-240V ~ 50/60Hz Output: DC 24V 0.7A

Dimensions:	
Dimensions without faceplate (TX Only Height/Width/Depth)	mm: 53.98 x 31.8 x 53.98 inch: 2.13 x 1.25 x 2.13
Wall space	Single-gang
Compatible Box Types	Mud Rings, Stud Mount, Clamp Mount, Metal & Plastic Boxes, LV Boxes
Dimensions (RX Only Length/Width/Height)	mm: 100.1 x 68.33 x 22.4 inch: 3.94 x 2.69 x 0.88
Dimensions (Packaged Length/Width/Height) (Kit)	mm: 136.53 x 192.1 x 84.14 inch: 5.4 x 7.6 x 3.313
Weight (TX)	0.47 lbs. (0.213 kg)
Weight (RX)	0.42 lbs. (0.19 kg)
Weight (Packaged)	1.61 lbs. (0.73 kg)
*Specifications subject to change without notice. Mass & dimensions are approximate	

Front and Rear Panel Overview –



Front Panel

1	**Power Status LED**	• Red LED status indicator light • Solid red indicates power is present
2	**Link Status LED**	• Blue LED status indicator light • Flashing blue indicates the RJ45 HDBaseT Link is stable. • Solid blue indicates the RJ45 HDBaseT Link is stable and passing video.
3	**HDMI IN**	• 19-pin HDMI Type A female connector port • Source device input for HDMI connection
4	**Active Status LED**	• Blue LED status indicator light • Illuminates randomly as data is sent/received.

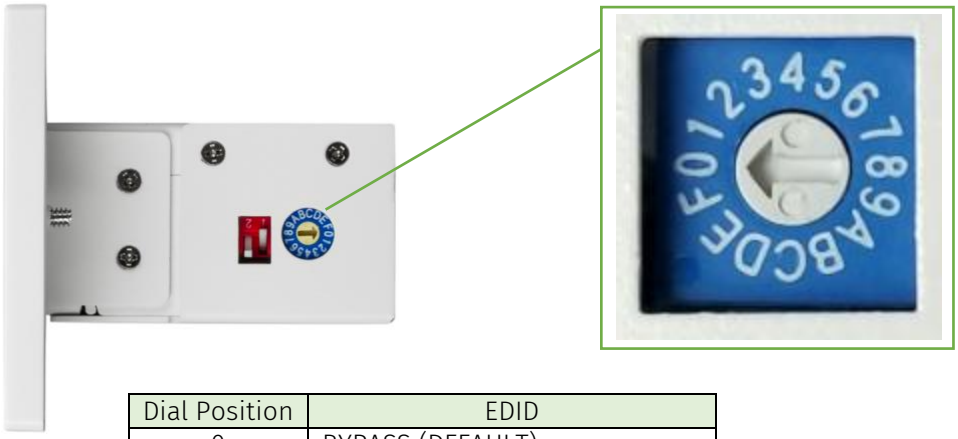


Rear Panel

5	**HDCP Dip Switch**	• 2x 2-position Dip Switches to set HDCP Mode • See HDCP Dip Switch settings section for details
6	**EDID Dial**	• 16x position dial for configuring EDID • See EDID Dial section for details
7	**ISP/ Debug**	• USB Type C female connector port • Proprietary servicing port for AVPro Edge technical assistance
8	**HDBT (PoC)**	• 8-pin RJ45 female connector • HDBaseT output port to receiver ○ Power over HDBaseT from receiver

EDID Dial

The AC-CXWP-150-BT features an EDID dial for manually configuring the EDID value. Simply turn the dial to one of the sixteen available settings to select the desired EDID. The EDID dial is located on the top side of the wall plate.



Dial Position	EDID
0	BYPASS (DEFAULT)
1	1080P60 2CH
2	1080P60 8CH
3	4K 60Hz YC420_3D_2CH
4	4K 60Hz YC420_3D_8CH
5	4K 60Hz YC444_3D_2CH_HDR
6	4K 60Hz YC444_3D_8CH_HDR
7	USER EDID
8	Reserved (Future Use)
9	Reserved (Future Use)
A	Reserved (Future Use)
B	Reserved (Future Use)
C	Reserved (Future Use)
D	Reserved (Future Use)
E	Reserved (Future Use)
F	Reserved (Future Use)

HDCP DIP Switch

Each AC-CXWP-150-BT features an HDCP DIP switch for manually configuring HDCP. Each DIP Switch has two switches. The down position or the position closest to the front of the wall plate is ON.

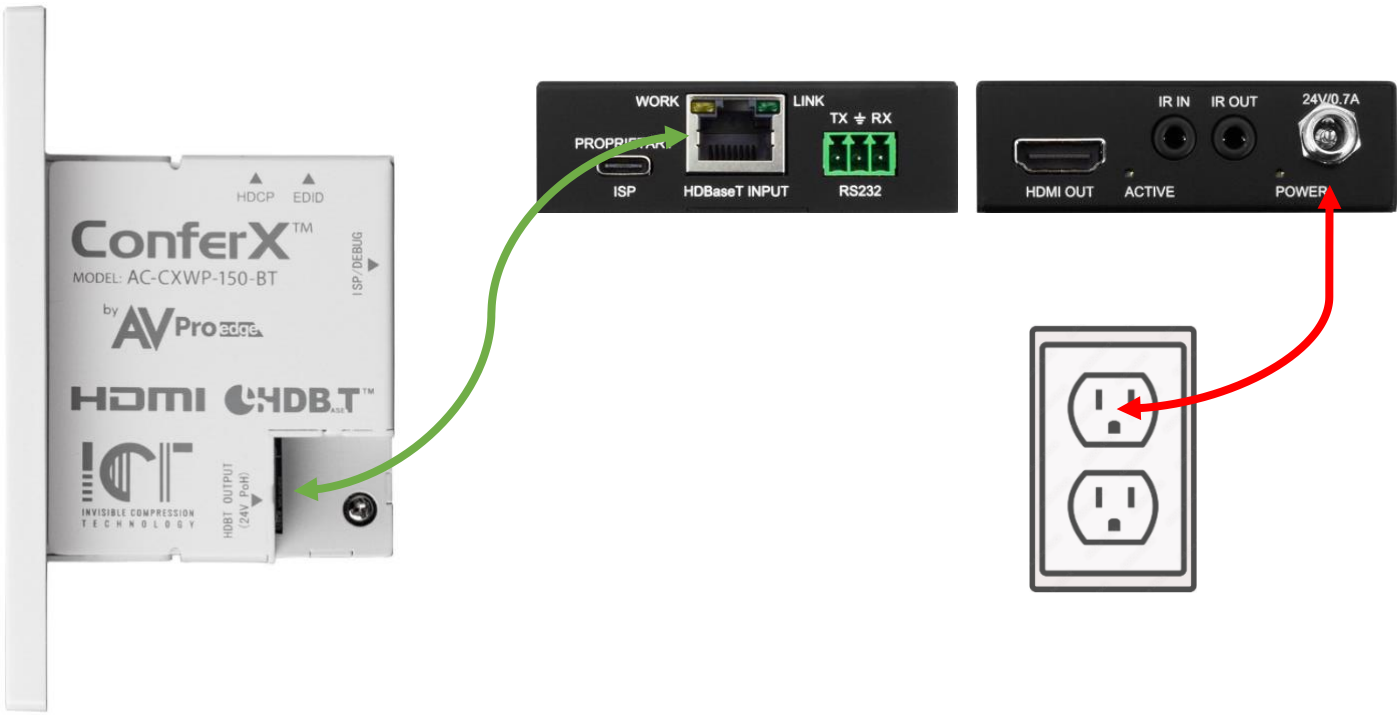


Switch 1	HDCP (Source)	Switch 2	HDCP (SINK)
OFF	Request HDCP (Default)	OFF	Request HDCP (Default)
ON	Do Not Request HDCP	ON	Do not Request HDCP

Installation

Powering the Wall Plate

The AC-CXWP-150-BKTs are powered over PoH (Power over-HDBaseT) from the receiving device. Be sure the receiving device is powered by a power supply. In the example below, an AC-150-BT wall plate is connected to the AC-CXWP-150-BR receiver. The Receiver is powered by its supplied PSU and the wall plate is powered via PoH.



Wiring and Connections

HDMI Cables

The AC-CXWP-150-BKT uses the standard 19-pin HDMI female connector port for the inputs and outputs.

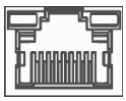


Some important things to consider when planning or installing this device:

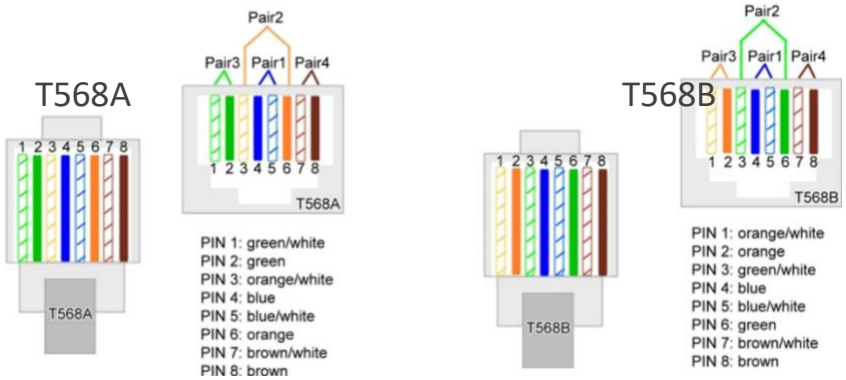
- Ensure all HDMI cables and devices can support the signal being sent. For most 4K and below use cases, a High-Speed HDMI cable with Ethernet rated for 18 Gbps will be more than sufficient to satisfy signal transport if every device in the system can handle the signal.
- Ensure your HDMI cable is the correct length. The current HDMI specification calls for cables to be between 2 to 10 meters (6.6 to 33 feet) for 4K and below signals. Smaller wire cables may be unable to transmit higher bandwidth signals.

HDBaseT Link Wiring

The HDBaseT output port on the wall features PoH (Power over-HDBaseT) for supplying power to the wall plate from the receiver. For maximum performance, the recommended cabling is Category 6A or Category 7 STP, and all other performances cannot be guaranteed.



The recommended termination is based on the TIA/EIA T568A or T568B standards for the wiring of the twisted pair cables. For TCP/IP control, commands use Telnet port 23.



USB Ports

AC-CXWP-150-BKT also has one USB Type-C port on both the transmitter and receiver. This is a service port intended for AVPro Edge technical support if troubleshooting or testing is required.

Note: The AC-CXWP-150-BT's USB Type-C port can be used to power unit itself.

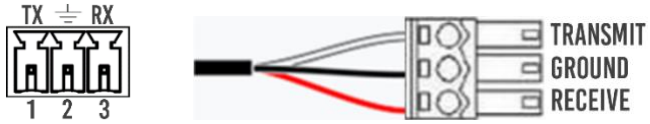


Type C

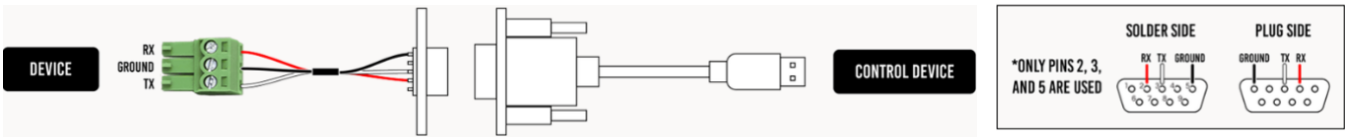
RS-232 Control

The RS-232 control port located on the rear panel is used to communicate with the wall plate via a computer or third-party control system.

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.

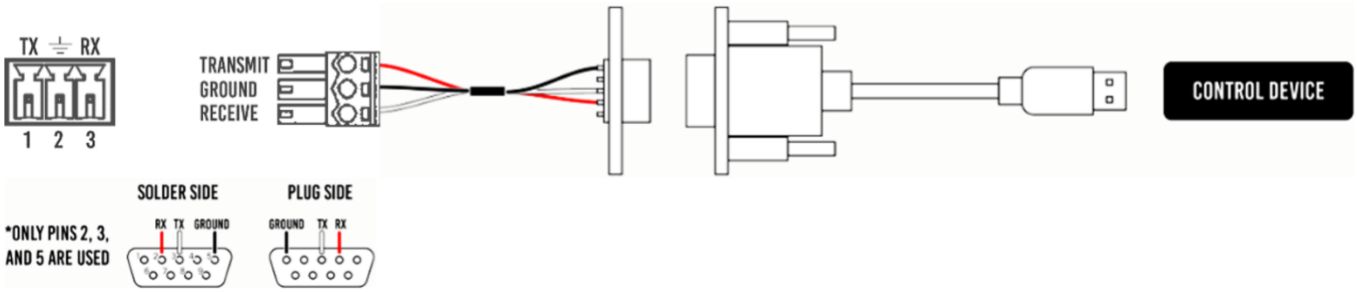


Wiring for this port uses a 3-pin terminal block connector to DB-9, where only pins 2, 3, and 5 are used. If the control devices do not have a DB-9 port, a USB to DB9 adapter may be required.



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, with no handshaking.

Add a carriage return (Enter key) after each command when using direct commands. The unified command list (ASCII) can be located here.



Command List

Command	Action
H	Help
SET RBT	Reboot Device
SET RST	Reset to Factory Defaults
SET ADDR xx	Set System Address to xx {xx = [00~99] (00=Single)}
SET HP OUT 5V MODEx	Set HDMI Port Out 5V Mode {x = [1,2] (1=5V Always High, 2=5V Follows Transmitter 5V Input)}
GET ADDR	Get System Address
GET TYPE INF	Get System Type Name
GET VER INF	Get System Version
GET HP OUT 5V MODE	Get HDMI Port Out 5V Mode

Maintenance

To ensure reliable operation of this product as well as protecting the safety of any person using or

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

Damage Requiring Service

The unit 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 unit
- The unit has been exposed to rain
- The unit does not operate normally or exhibits a marked change in performance
- The unit has been dropped or the housing damaged

Support

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

- Product name and model number
- Product serial number
- Details of the issue and any conditions under which the issue is occurring
- Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.

Warranty

The Basics

AVPro Edge warranties its products that are purchased from all Authorized AVPro Edge Resellers or direct purchases. Products are guaranteed to be free from manufacturing defects and 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 is 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 ARO (After Receipt of Order). The coverage continues for 10 years.

Red Tape

AVPro Edge is not responsible for untraceable purchases or those that were made outside 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, 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, Re-sellers, and Installers can request an RMA from AVPro Edge Tech Support Rep or their Sales Engineer.

You may also email support@avproedge.com or fill out the general contact form at avproedge.com/contact

End users may not request an RMA directly from AVPro Edge and will be referred back to the Dealer, Re-seller, 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 (and 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.