

# ZIGEN

COMPLETE HD/IP  
CONNECTIVITY SOLUTIONS

## ZIG-POC-70 MkII

HDBaseT HDMI Extender



ZIG-POC-70 MkII User Manual

# Important Safety Instructions

1. Do not use this product near water.
2. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
3. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
4. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
5. Only use attachments/accessories specified by the manufacturer.
6. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
7. Unplug this apparatus during lightning storms or when unused for long periods of time.
8. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
9. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

# Warranty Information

## Powered Product Warranty

Zigen warrants its powered products against any defects in materials and workmanship for a period of three years from the date of invoice. Touchscreen displays carry a one year parts and labor warranty. If a malfunction occurs during the warranty period, Zigen will repair or replace a product to its original operating condition. A return authorization number must be obtained from Zigen before products are returned for service.

## Non-Powered and Cable Products - Lifetime Limited Performance Warranty

Zigen warrants that its non-powered products and cable products will be free from defects in material and workmanship for as long as you or your customer owns the product. All Zigen non-powered products and cables are designed and engineered to meet and exceed performance specifications. If, at anytime, the product fails due to manufacturer defect, Zigen will repair or replace the product to ensure that it meets original performance specifications. Reduced performance due to normal wear and tear, or damages caused by misuse or negligence will not be covered. Zigen will test and evaluate all non-powered and cable products claimed defective. Products must be shipped to Zigen, prepaid along with proof of purchase only after obtaining a Return Merchandise Authorization (RMA) number from Zigen. This statement of policy is in lieu of any other policy expressed or implied and no representative or person is authorized to assume any other liability or adopt any other policy for Zigen without our written consent.

## Return Policy

If you would like to return a Zigen product, it can be done within 30 days of purchase for a full refund, less shipping and handling. Zigen will not be responsible for shipping and handling of product returns. Returns will only be accepted of products with proof of purchase, products in the original packaging with zero to minimal use and a Return Merchandise Authorization RMA number provided by Zigen.

# Contacting Zigen

## Technical Support

Tel: (818) 654-5252

Fax: (818) 654-5355

8:00AM - 5:00PM (PST)

## Email

[info@zigencorp.com](mailto:info@zigencorp.com)

## Web

[www.zigencorp.com](http://www.zigencorp.com)

## Mailing Address

Zigen Corp.  
c/o Customer Service  
16135 Wyandotte Street  
Lake Balboa CA 91406  
USA

# Features

- Supports 4K/UHD/60Hz/4:4:4
- Supports HDMI2.0 & HDCP2.2, and is backward compatible to the previous version
- Maximum transmission distance is up to 40m for 4Kx2K, and 70m for 1080p
- Supports CEC, IR and RS232 pass-through for long-distance control
- Supports bi-directional POC for simplified wiring
- Supports HDR-10

# Specifications

Function				
HDMI Connector	HDMI A-Type Female x 1			
RJ-45 Connector	RJ-45 Jack x 1			
RS232 Connector	DB9 Female x 1			
IR IN	3.5 $\psi$ Stereo Jack x 1			
IR OUT	3.5 $\psi$ Stereo Jack x 1			
LED	LED x 3			
DC Jack	12 VDC			12 VDC
Max. Resolution	4K@60Hz / 4:4:4			
Cable Distance	4K/60Hz 40 m (Max.)		1080P/60Hz 70 m (Max.)	
Power Adapter (Min.)	24VDC with lock			
Power consumption	20W (MAX)			
Operating Temperature	0 ~ +50°C			
Storage Temperature	-10 ~ +50°C			
Relative Humidity	0% ` 90%			
External Power Supply	Input: 100VAC~240VAC, 50/60Hz; 24VDC/1.25A			
Enclosure	Aluminum			
Weight	Tx	182g	Rx	182g
Dimensions (LxHxW)	166 x 20 x 84 mm			

# Packing List

The ZIG-POC-70 MkII is packaged with the following items:

- 1 x Transmitter
- 1 x Receiver
- 1 x 24VDC/1.25A Power Adaptor
- 1 x IR Receiver
- 1 x IR Emitter
- 1 x User Manual

If any of these products are not present upon first opening of the package, please contact Zigen or your reseller.

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The ZIG-POC-70 MkII is an ultra-thin HDMI2.0 Extender consist of transmitter and receiver. It extends 1080p/4K HDMI signal over CAT-6a cable up to 70m /40m (PoC), and enables IR and RS232 pass-through to control source or display device remotely. This extender is equipped with visually lossless video compression technology (VLC) to ensure HD lossless transmission of HDR-10 and 4K@60Hz/4:4:4 over CAT-6a cable.

# Transmitter Front Panel

- 1 **POWER** - blue LED light
- 2 **LINK** - blue LED light
- 3 **HDCP** - blue LED light



# Transmitter Back Panel

**1 24VDC/1.25A**

Support bi-directional PoC.

**2 HDBT**

Connect using a CAT-6a cable.

**3 IR OUT**

Connect IR Emitter to send IR signal to source device.

**4 IR IN**

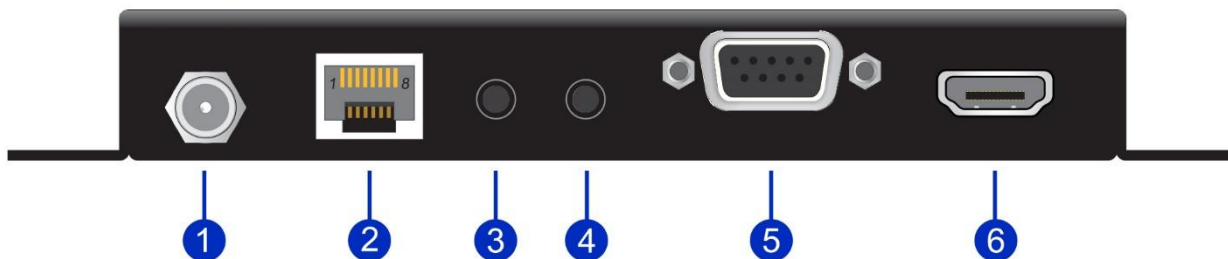
Connect to 3<sup>rd</sup> party control processor IR out to control display device.

**5 RS-232**

Connect an RS-232 cable from this port to an RS-232 device.

**6 HDMI IN**

Connect to HDMI source.



# Receiver Front Panel

- 1 **POWER** - blue LED light
- 2 **LINK** - blue LED light
- 3 **HDCP** - blue LED light



# Receiver Back Panel

## 1 24VDC/1.25A

Support bi-directional POC.

## 2 HDBT

Connect using a CAT-6a cable.

## 3 IR OUT

Connect IR Emitter to send IR signal to TV / Display.

## 4 IR IN

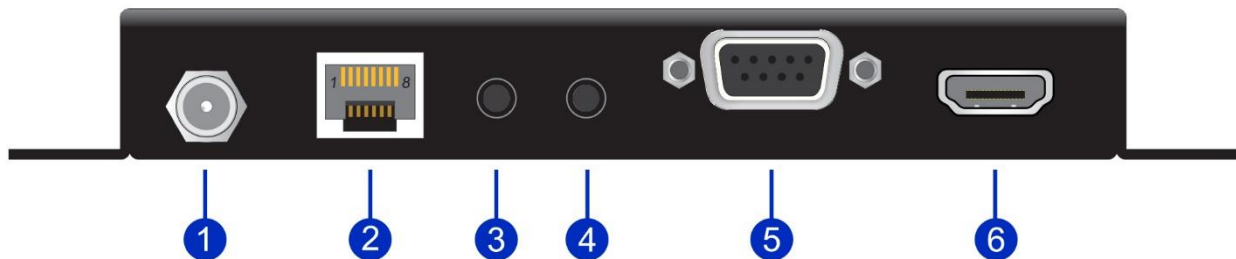
Connect to 3<sup>rd</sup> party control processor IR out or included IR Receiver Cable to control source or sink devices.

## 5 RS-232

Connect an RS-232 cable from this port to an RS-232 device.

## 6 HDMI OUT

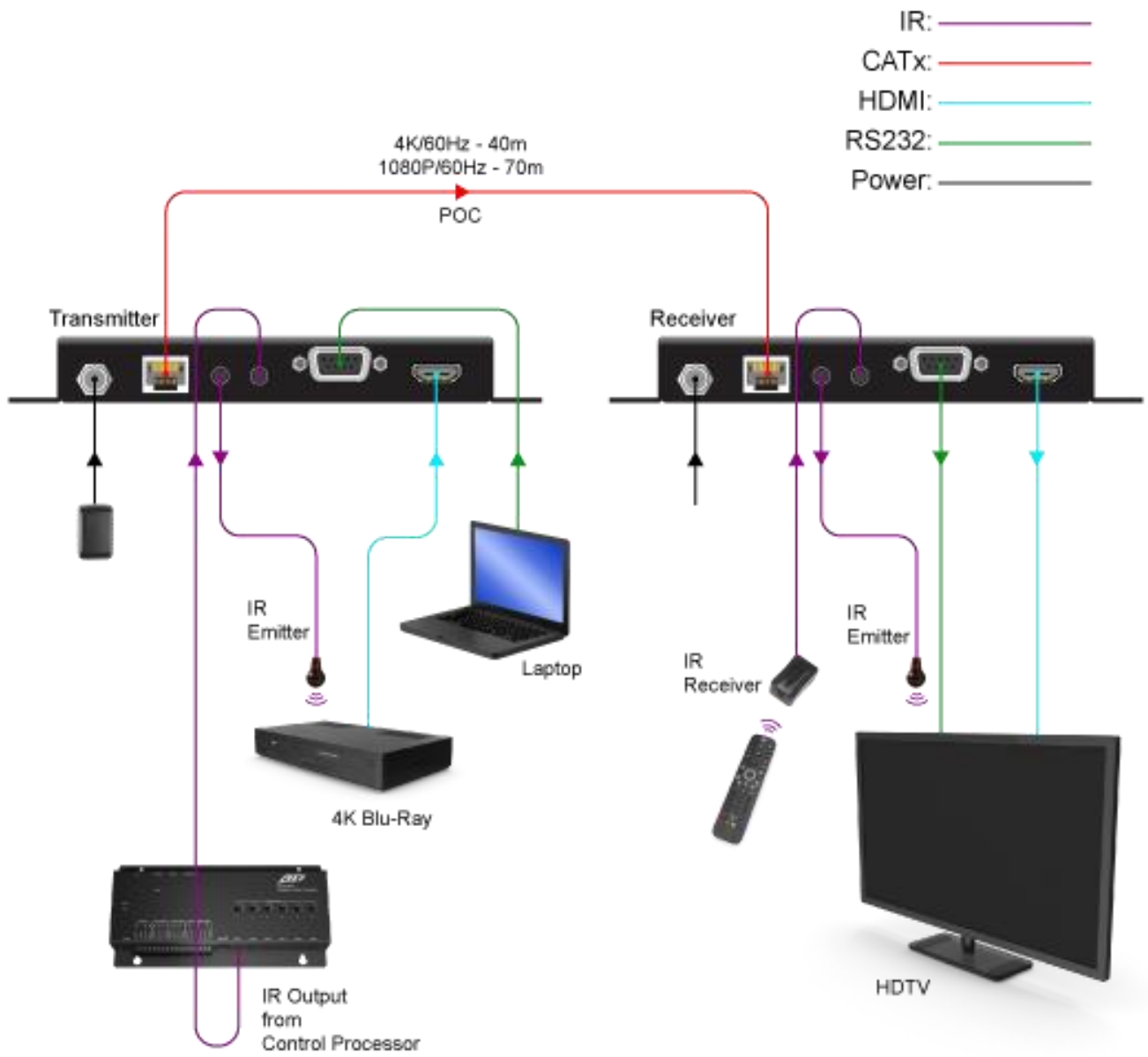
Connect to HDTV Display.



1. Be sure to turn OFF source and TV.
2. Connect the HDMI extension cable between HD Source and HDMI In port of the Transmitter.
3. Connect the HDMI extension cable between the HDTV and the HDMI Out port of the Receiver.
4. Connect Cat-6a cable between the Transmitter Link port and the Receiver Link port of the Receiver.
5. Connect the Power adapter to the Receiver or Transmitter and power up the extender
6. Turn on the HD source and HDTV.

# System Diagram

Get Started



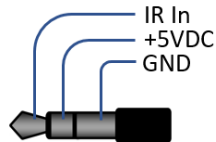
# IR Input and Output Interface

The ZIG-POC-70 MkII Input and Output interface circuitry is identical to both RX and TX. The IR input supports Infrared Receivers as well as IR output electrical interfaces from Control Systems.

## IR Inputs

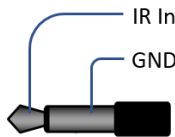
When using Infrared Receivers, it is recommended to use the included Zigen IR Receiver with the proper 3.5mm Jack pin out:

1. Tip = Signal
2. Ring = Power
3. Shield = GND



When interfacing with the electrical IR outputs from Control Systems, use a 2 pin 3.5mm Jack with the following pin out:

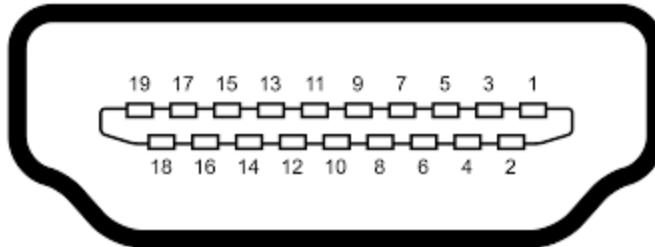
1. Tip = Signal
2. Ring/Shield = GND
- 3.



Control system electrical interfaces vary greatly with adjustable signals ranging from 3V up to 24V. For ZIG-POC-70 MkII to properly decode the IR serial data, it is important to adhere to the following logic thresholds: < 0.8 volts for logic 0, >1.5 volts for logic 1. Adjust the control system's IR Output signal levels if required to meet the threshold requirements of ZIG-POC-70 MkII.

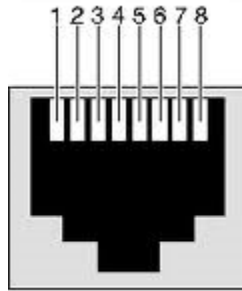


# HDMI Connector Signal Pin Out



Pin	Signal	Pin	Signal
1	TMDS Data 2+	11	TMDS Clock Shield
2	TMDS Data 2 Shield	12	TMDS Clock -
3	TMDS data 2 -	13	CEC
4	TMDS Data 1+	14	Reserved (N.C. on device)
5	TMDS Data 1 Shield	15	SCL
6	TMDS Data 1 -	16	SDA
7	TMDS Data 0+	17	DDC/CEC Ground
8	TMDS Data 0 Shield	18	+5 power
9	TMDS Data 0 -	19	Hot Plug Detect (HPD)
10	TMDS Clock +		

# RJ-45 Wiring Information & Coding



Looking into connector

Conductor Identification	RJ-45 Plug Pin Assignment	Color Code for Conductor
Pair 1	5	White-Blue
	4	Blue
Pair 2	1	White-Orange
	2	Orange
Pair 3	3	White-Green
	6	Green
Pair 4	7	White-Brown
	8	Brown

# One-to-One System Connection Example

