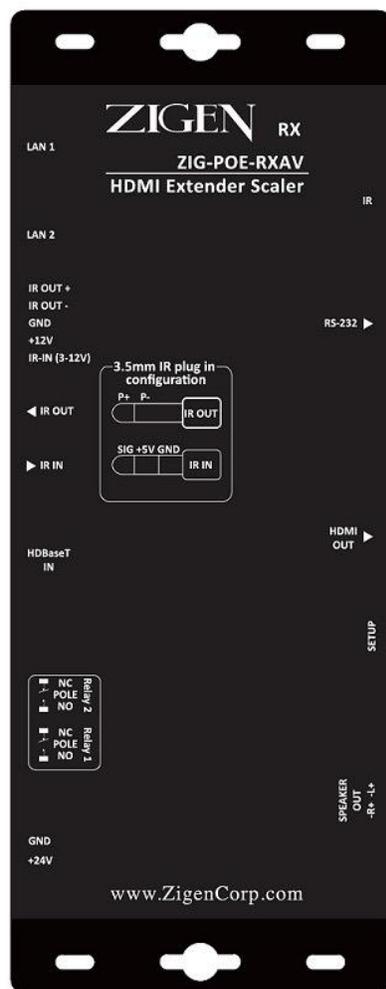# ZIGEN

Zigen HDBaseT Receiver (330 ft.), POE, 4K UHD Scaler, 20W per channel Amplifier, Ethernet ports, Relays, IR and RS-232

ZIG-POE-RXAV

USER MANUAL Ver. 2.0
June 2015

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Copyright and Trademarks:

Before You Begin

Follow all instructions marked on the device during using.
Do not attempt to maintain the device by yourself, any faults, please contact your vendor.

- Provide proper ventilation and air circulation and do not use near water.

- It is better to keep it in a dry environment.

- The system should be installed indoor only.

- Only use the power cord supplied with the device.

- Do not use liquid or aerosol cleaners to clean the device.

- Always unplug the power to the device before cleaning.

- Unplug the power cord during lightning or after a prolonged period of non-use to avoid damage to the equipment.

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Introduction

HDBaseT 328'/100M Receiver (RX) perfect for classrooms, boardrooms, huddle rooms and more – POE, 4K UHD and 4K UHD scaler, built-in amplifier that strips from HDMI, 2 Ethernet ports, 2 relays, WebOS. Also includes IR and RS232.

Package Contents

- 1 x ZIG-POE-RXAV
- 1 x 24V/2.5A DC Power Supply
- IEC USA AC Cord 3'
- 5 x Male Captive Screw Connectors (2 pin: power, 3 pin: Relays x 2 (NC-G-NO), 4 pin: speakers, 5 pin: IR)
- Remote Control
- 1 x User Manual
- 1 IR Receiver 3.5mm

Features

- 48V IEEE POE
- WebOS Control
- 2 Ethernet LAN ports
- Built-in Class-D Amp 20 watts per channel stereo
- Built-in 4K UHD Scaler
- Supports HDMI 1.2, 1.3 and 1.4 with 48-bit deep color
- Supports digital video formats up to 4K UHD (2160P60 @4:2:0 pixel format)
- Supports uncompressed PCM 2- Ch., 5.1, 7.1, Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio and more.
- Bi-directional IR 3V to 12V
- Bi-directional RS-232
- 2 Relays for Contact Closure
- RS-232 Command Set for 3rd Party control

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Specifications

Ports

Inputs

HDBaseT – RJ-45

Outputs

HDMI x 1
L/R Audio (stereo) – via 4 pin female locking connector (Phoenix), 20W per channel Class D

Control/Access

IR in/out – 3.5mm stereo
IR in/out – female locking connector (Phoenix)
Power – female 2-pin locking connector - 24V (internal step up transformer to get 48V IEEE POE source)
2 Ethernet 10/100 BaseT – RJ-45
2 Relay/Contact Closures – 2-pin locking connectors (Phoenix)

Distance between TX and RX

Full HDBaseT - 328' or 100M @ 2160P60 4:2:0 8-bit

Copy Protection Compliance

HDCP – Yes – 1.4 (includes functionality to overcome the problem when displays don't implement clock stretching)

Video Bandwidth

10.2 Gbps

Video Timings

480i, 480p, 720p, 1080i, 1080p, 1920x1200, 2K and 4K. 4K/2K, 30Hz 24bpp. 4K/2K, 60Hz, 24bpp with 4:2:0 pixel format

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Audio

Stereo, 20W per channel RMS, Class D Amplifier 8 ohms recommended

4K UHD Scaler

Scales 1080P24/30 (generally a movie) incoming signal up to 2160P24/30

Wall Mountable

Yes

Power Consumption

Depends on POE requirements. Without POE ~ 5W. With POE > 5W up to around 13W -> ~18W

Dimensions

5.9 x 2.9 x .95 inches
150 x 74 x 24 millimeters

Weight

.67 pounds
303 grams

Certifications/Compliance

FCC, HDBaseT, CE, RoHS, HDCP, HDMI

Works With

Any properly implemented HDBaseT transmitter. Works especially well with Zigen ZIG-PS-61 presentation switch and ZIG-POEWP-100 wall plate transmitter.

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ZIGEN RX
ZIG-POE-RXAV
HDMI Extender Scaler

LAN 1

LAN 2

IR OUT +
IR OUT -
GND
+12V
IR-IN (3-12V)

3.5mm IR plug in
configuration

P+ P-

IR OUT

◄ IR OUT

SIG +5V GND

IR IN

► IR IN

HDBaseT
IN

IR

RS-232 ►

HDMI
OUT ►

SETUP

NC
POLE
NO
Relay 2

NC
POLE
NO
Relay 1

SPEAKER
OUT
-R+ -L+

GND
+24V

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6. Status Lights

5. IR Receiver

4. RS-232

3. HDMI Output

2. Dip Switch

1. Speaker Connect

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International: +1 818-654-5252

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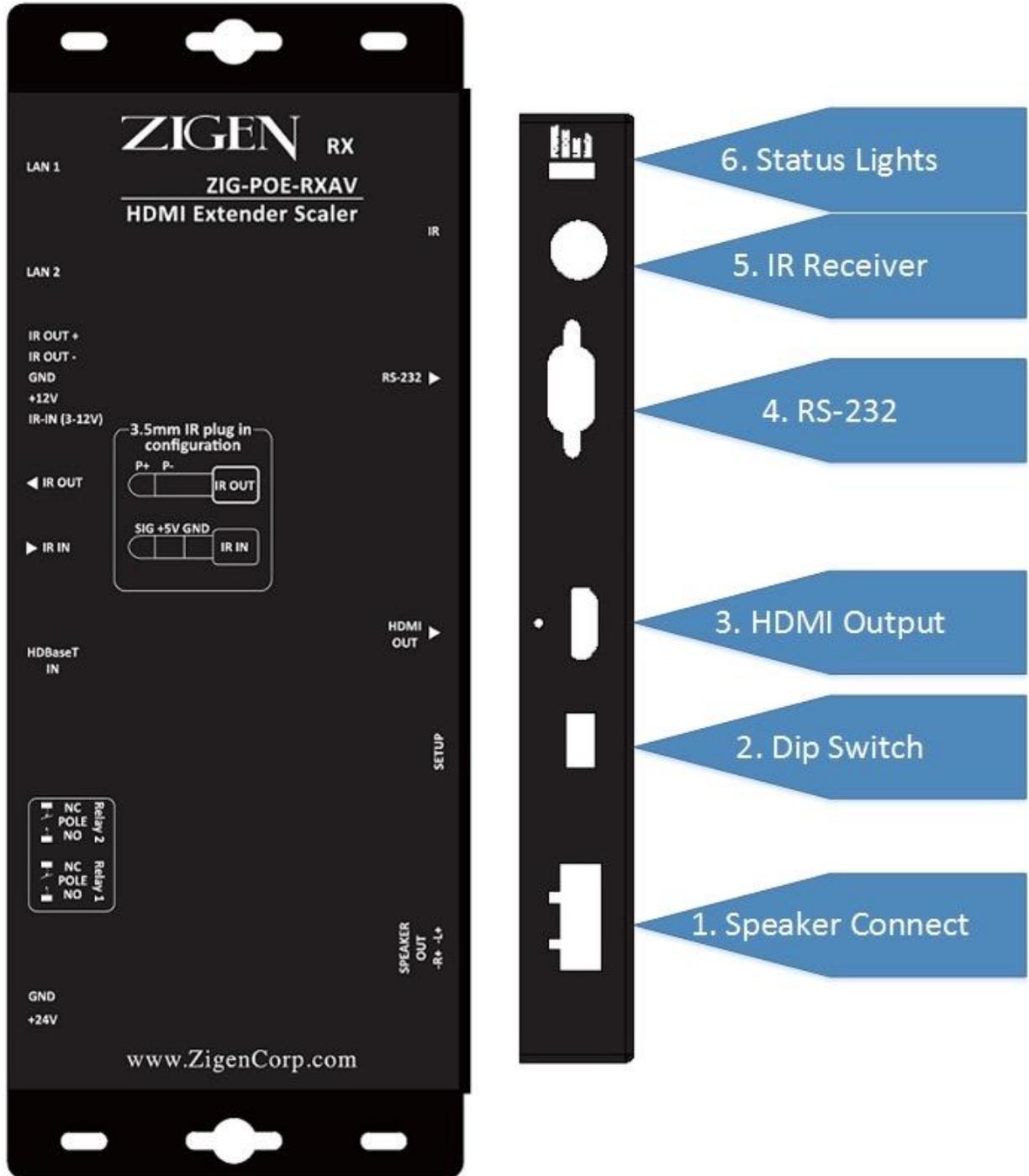
Panel Description

Right Side Panel

1. Speaker connection – 4 pin female locking connector. Connect directly to speaker wires and then to speakers. Output is 20 watts per channel – plenty or sound for classroom, bedroom, conference room or huddle room.

2. Dip Switch –

   Dip Switch Settings:

   Default/Factory – **All Up or OFF**

   Up = Off
   Down = On

   DIP 1: EDID

   OFF: **EDID default mode (use EDID from connected TV)**
   ON: Custom EDID - not implemented yet. Once implemented will override switches 2 and 3.

   DIP2: Force 3D Off

   OFF: **EDID copied from HDMI output**
   ON: EDID copied but force output to NO 3D

   DIP3: Force 2 Channel Audio

   OFF: **EDID copied normal with multichannel audio**
   ON: EDID forced 2 channel stereo

   DIP4: Audio Routing

   OFF: **Speaker output (amp turned on)**
   ON: HDMI output to TV (amp turned off)

3. HDMI Output – Connect HDMI cable here for output to the display or projector.
4. RS-232 – Connect to standard 9 pin serial port and on to your projector, TV, 3rd party controller, etc for RS-232 device control
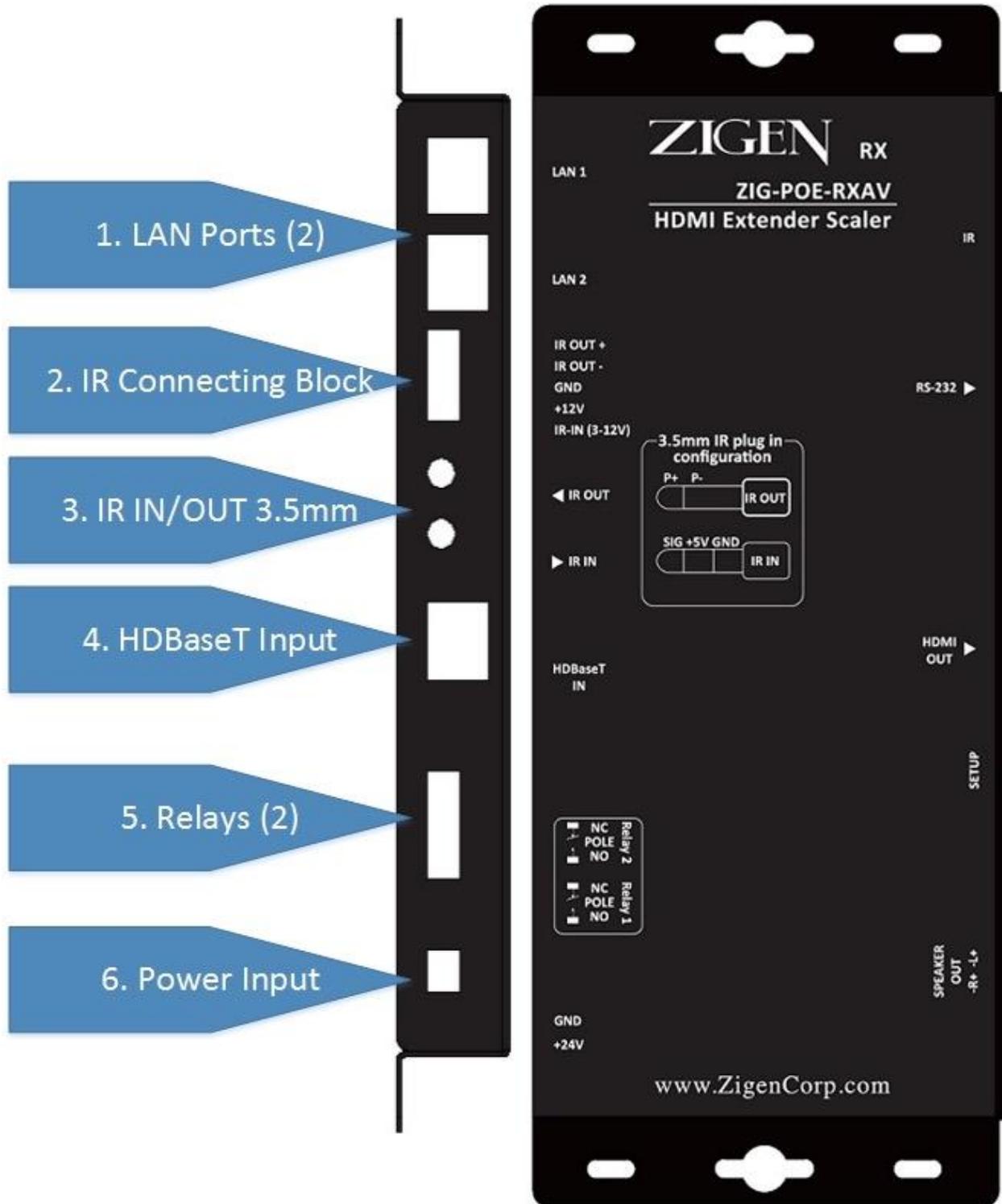5. IR Receiver – built in IR receiver sensor – if possible place in line of site to remote control.

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Note: You may also use the IR receiver that is included with the RXAV if you cannot get line of sight access to the built-in IR "eye". Simply connect the IR receiver to the RXAV 3.5mm IR IN jack and route the eye to a place with line of sight access to the remote. If you use this procedure make sure to cover the built-in eye with black tape so conflicts are eliminated.

6. Status Indicator Lights:
   a. Power – Solid green – indicated power is present
   b. Mode – Should be flashing green – data is flowing
   c. Link – Should be solid when TX and RX are connected
   d. HDCP – Solid Green – when HDCP is detected/present

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1. LAN Ports (2)

2. IR Connecting Block

3. IR IN/OUT 3.5mm

4. HDBaseT Input

5. Relays (2)

6. Power Input

ZIGEN RX

ZIG-POE-RXAV
HDMI Extender Scaler

LAN 1

LAN 2

IR OUT +
IR OUT -
GND
+12V
IR-IN (3-12V)

IR

RS-232 ▶

3.5mm IR plug in configuration

P+   P-
◀ IR OUT   IR OUT

SIG +5V GND
▶ IR IN   IR IN

HDMI
OUT ▶

HDBaseT
IN

SETUP

NC
POLE   Relay 2
NO

NC
POLE   Relay 1
NO

SPEAKER
OUT
-R+ -L+

GND
+24V

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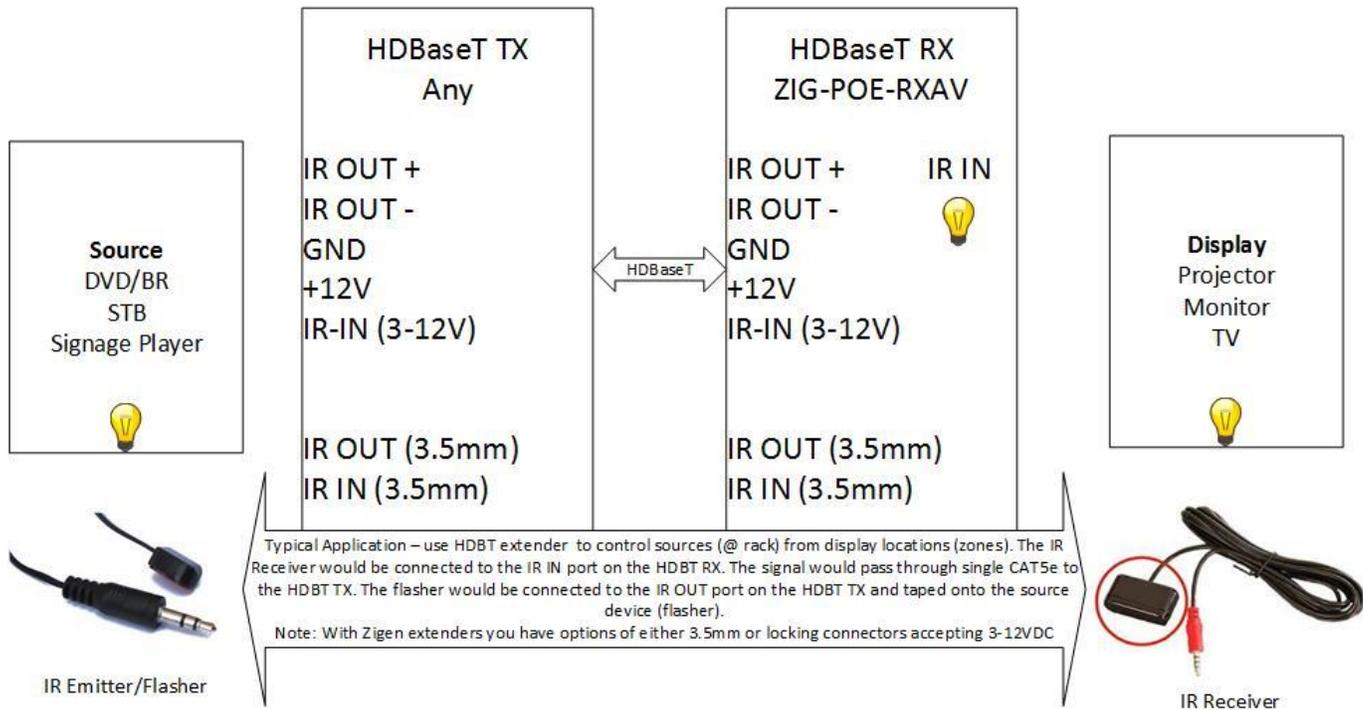
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Left Side Panel

1. 2 LAN Connections/Full Duplex Ethernet ports. 10/100 BaseT. Use for programming the ZIG-POE-RXAV and ZIG-POEWP-100 or for 3rd party controller, or connection to your ISP or router.
2. IR connection terminal – 5-pin locking (Phoenix style) connector.
    a. IR OUT +
    b. IR OUT –
    c. Ground
    d. + 12V
    e. IR IN 3-12V
3. IR connection via 3.5mm
    a. IR OUT – Use mono plug tip & ring (P+ and P-)
    b. IR IN – Use stereo plug tip, ring & sleeve (Signal, 5V & Ground)

Note: Includes dual voltage IR that installers can use to power up any 3rd party IR receiver such as Xantec, KX|AV or Niles. Traditional extenders support 5V **OR** 12V IR signals. Zigen extenders support from 3V up to 12v. This is a great feature when using it with 3rd party controllers that output different voltages (ex. Control4 uses 3V).

Connect IR inputs to receive IR signals for routing back to the transmitter via HDBaseT and the on to the source device you want to control. Connect IR outputs to your display or projector to control is from a source on transmitter. (See sample diagram below)

4. HDBaseT Input – plug HDBaseT (RJ45) input signal from HDBaseT transmitter. Maximum cable length is 100 meters (328')
5. Relays – 2 3-pin phoenix style connectors (captive screw) – NC (normally closed), G (ground) and NO (normally open. Use to insert in circuit of device you want to trigger – examples include masking screens, screen control, lighting features, etc.
6. Power connector – 2-pin phoenix style (captive screw) – connect to 24VDC power block supplied with the unit.

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HDBaseT TX
Any

HDBaseT RX
ZIG-POE-RXAV

Source
DVD/BR
STB
Signage Player

Display
Projector
Monitor
TV

IR OUT +
IR OUT -
GND
+12V
IR-IN (3-12V)

IR OUT +   IR IN
IR OUT -
GND
+12V
IR-IN (3-12V)

IR OUT (3.5mm)
IR IN (3.5mm)

IR OUT (3.5mm)
IR IN (3.5mm)

HDBaseT

Typical Application – use HDBT extender to control sources (@ rack) from display locations (zones). The IR Receiver would be connected to the IR IN port on the HDBT RX. The signal would pass through single CAT5e to the HDBT TX. The flasher would be connected to the IR OUT port on the HDBT TX and taped onto the source device (flasher).
Note: With Zigen extenders you have options of either 3.5mm or locking connectors accepting 3-12VDC

IR Emitter/Flasher

IR Receiver

Captive Screw Connectors – pin outs are also located on the top of the unit

2-pin connector – **for power**

- Power – connect black wire to negative terminal (-)
- Power – connect white wire to positive terminal (+)

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3-pin connecter – for relays

- Relays – there are settings for both NO and NC for each relay – control via WebOS or 3rd party controller.

4-pin connecter – for connecting to speakers

- Right Speaker +
- Right Speaker –
- Left Speaker +
- Left Speaker –
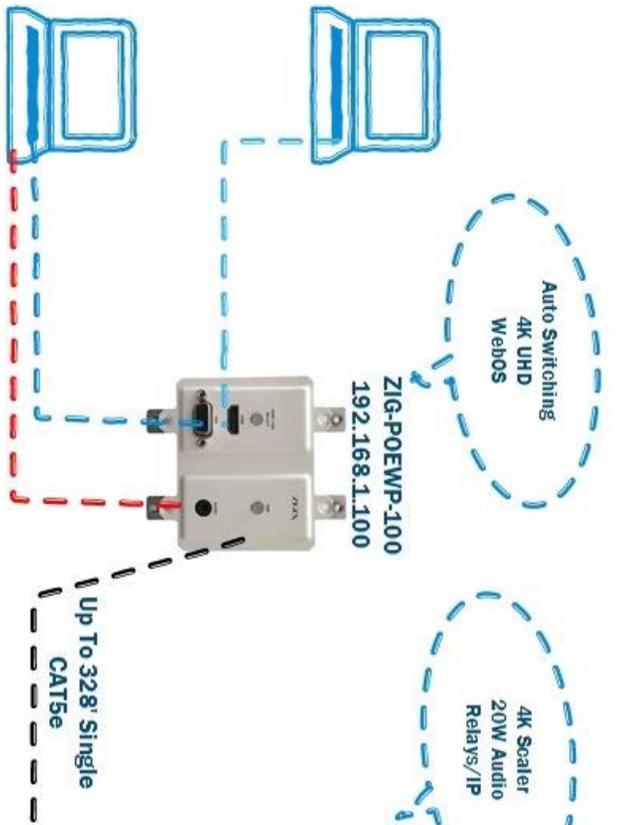- 14 gauge and higher speaker wire
- pin outs are labeled on unit.

Note: connections also labeled on top of unit. Consult you IR device manufacturer for proper connections.

5-Pin connecter – for IR connecting block

- IR OUT +
- IR OUT –
- Ground
- + 12V
- IR IN 3-12V

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Speaker
Audio
HDMI
UTP (HDBaseT)
VGA
10/100 BaseT Ethernet

The ZIG-POEWP-100 can be used stand-alone as an HDBaseT wallplate transmitter, but really shines when paired with the ZIG-POE-RXAV receiver & scaler & audio amplifier. A perfect "no-control"control system using "on-connection" technology to fire up projectors, drop screens and control lighting in small rooms – BYOD and in seconds collaborate with your colleagues with full audio and video in stunning 4K UHD. A must for conference rooms and huddle spaces.

Auto Switching
4K UHD
WebOS

ZIG-POEWP-100
192.168.1.100

Up To 328' Single
CAT5e

4K Scaler
20W Audio
Relays/IP

ZIG-POE-RXAV
192.168.1.101

ZIGEN RX
ZIG-POE-RXAV
HDMI Extender Scaler

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GND
+24V

Relay 1   Relay 2
NC   NC
POLE   POLE
NO   NO

HDBaseT
IN

IR IN
IR OUT

IR OUT +
IR OUT -
GND
+12V
IR-IN (3-12V)

LAN 2
LAN 1

3.5mm IR plug in
configuration

SIG +5V GND   P+ P-
IR IN   IR OUT

RS-232
IR

SPEAKER
OUT
-R+ -L+

SETUP

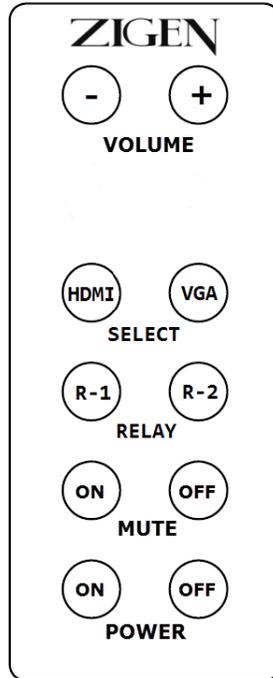HDMI
OUT

Internet Access Point
192.168.1.110

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General – In the example above we are showing using an HDBaseT transmitter (ZIG-POEWP-100) connected to the HDBaseT receiver (ZIG-POE-RXAV) – as mentioned previously you also get an amplified audio output for direct connection to speakers, LAN ports for almost anything you choose and for controlling/setting up the devices, relays, a 4K scaler and IR and RS232 control and functionality.

1. Connect sources to POEWP – HDMI and VGA w/Audio
2. Connect RXAV to Display via HDMI
3. Connect Ethernet cable between HDBaseT transmitter (ZIG-POEWP-100) and RXAV (HDBaseT) Ports – this will also provide power on the ZIG-POEWP-100
4. Connect LAN switch/router to LAN 1 port – this is the switch or router that issues IP address (DHCP server)
5. Connect your PC or MAC to the same switch/router. The DHCP server will issue IP addresses to both devices separately.
6. Turn on the Source, TV and RXAV
7. Locate the serial number sticker on each RXAV and make note of it. The web address for the given unit is http://rxav-xxxx/ where the xxxx are the last 4 digits of the serial number. Ex. If the serial number is 154320000015, then the web address is http://rxav-0015/. This is necessary to distinguish multiple units from colliding in the network before their names are changed by the customer. The ZIG-POEWP-100 operates similarly...i.e. http://poewp-xxxx/.
8. You can also locate the devices with Bonjour. If you do need to connect directly from a PC or Mac to the LAN 1 or 2 port in the RXAV without a router (LAN) you can expect up to 5 minutes for the address to be resolved.
9. Once connected the user interfaces will be available for you to evaluate, change, enter commands, etc.

ZIG-RXAV-POE Remote Control

Perfect for classrooms when connected to the ZIG-POEWP-100 use the remote to change between HDMI and VGA sources.

- Trigger devices connected to relays
- Mute the audio
- Power down the RXAV
- Control the Volume

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WebOS Interface Page

ZIGEN ZIG-POE-RXAV Control Panel

Local HDBaseT   Remote HDBaseT
    LINK: ●   LINK: ●
    HDMI: ●   HDMI: ●
    Mode: ●   Mode: ●
Cable Length: 31   Cable Length: 32

[Refresh]

Device Name:rxav

Notes | installer notes for rxav

[Save Notes]

Control

Relays
☐ Relay1
☐ Relay2

Audio
☐ Mute
Volume ——————○——— -10
Bass   ————○———— 5
Treble ————○————

RS232 Baud Rate 57600   [Change]

Serial:143340000000
Firmware:0.98a
Hardware:0001
IP Address:172.31.31.76

Hostname rxav   [Change Name]

[Erase Storage]

[Choose Files] no files selected   [Upload Firmware]

[Reset POEWP] [Install Update]

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International: +1 818-654-5252

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WebOS

Status

Local HDBaseT (RXAV in this case)

- Link – Green when there is an HDBaseT connection
- HDMI - Green when HDMI is present
- Mode: Solid green when HDCP is present, flashing green when no HDCP detected.
- Cable Length of CAT cable being reported by HDBaseT chip – this is not always 100% accurate, especially with shorter cables.

Remote HDBaseT (POEWP in this case)

- Link – Green when there is an HDBaseT connection
- HDMI - Green when HDMI is present
- Mode: Solid green when HDCP is present, flashing green when no HDCP detected.
- Cable Length of CAT cable being reported by HDBaseT chip – this is not always 100% accurate, especially with shorter cables.

Device Name & Notes

- Device Name – default out of the box is RXAV.XXXX (last 4 digits of the serial number). You should change it if you are using more than 1 device (Change Name below) to whatever you want – ex. CR100RX – for conference room number 100 receiver.
- Notes – free form field for entering installer notes.

Control/Defaults

- Relay 1 – checking box changes the state of the relay. NC-G-NO
- Relay 2 – checking box changes the state of the relay. NC-G-NO
- Audio Mute – Mutes the audio from the built-in amplifier.
- Volume Control – Control volume
- Bass – Control the bass of the audio
- Treble – Control the treble of the audio
- RS232 Baud Rate – use to match the speed of your 3rd party control system.

Firmware/Reset/Info

- Serial Number – serial number of RXAV
- Firmware – Current firmware revision
- Hardware – for internal use
- IP Address – IP address of the unit assigned by your DHCP Server
- Hostname – this is what you want to call the unit – syntax example CR100RX_k123. This is also the name you type into your browser to access the WebOS.

- Factory Reset – will erase user entered date like installer notes.
- Choose File/Upload Firmware – when necessary, this is where you select a new firmware file and upload firmware.
- Reset POEWP – will reset the ZIG-POEWP-100 remotely.
- Install Update – when necessary is for installing new software updates to the unit.

Command Syntax

RS-232 & IP Commands – note the same commands are available via RS-232 and IP

RS-232

Command Structure for ZIG-POE-RXAV & POEWP-100 RS-232

<@hostname> <space> <command> <space> <parameter> <end of command>

<@hostname > indicates the specific target RXAV device, followed by <space> space or tab
<command> defines the current operation
is the variable or the value passed to the device

<end of command> newline char \n, ASCII 0xA [hex]

Example single command: @rxav mute on

Example 2 commands: @rxav mute on\n@rxav rel1 on\n

Notes: You may add command strings up to 128 characters. You should delimit commands with the \n (new line) command. If you are using a terminal program set default to CR + LF (add carriage return and line feed to each entry).

Additionally, if there are multiple POEWP or RXAV in the system that can

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be addressed separately by adding the last 4 digits of the serial number to the command line.

Example: @rxav-0048 mute on or @poewp-0078 insel VGA – these commands would address specific devices when multiple devices are deployed in the system.

Response Structure:

<@hostname> <sp> <parameter> <sp>... <parameter> <sp> <end of response>

<@hostname> = indicates the device initiating the response
<sp> = space, ASCII 0x20
= command-specific number of parameters, each followed by a space 0x20 [hex] <end of response> = newline char \n, ASCII 0xA [hex]

Example: @rxav-0048 mute on

Default RS232 Protocol Settings (can be changed in WebOS if required):

Baud Rate = 115200 Data Bits = 8
Parity = None
Stop Bit = 1

Flow control = None

IP

IP Command syntax is exactly the same as with RS-232 and can be access via Telnet session.

Remove the @RXAV/@POEWP and any RS232 delimiters and the commands are the same.

Example RS232 - @rxav mute off

Example IP – mute off

The above 2 commands do the same thing.

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Commands

ZIG-POE-RXAV COMMANDS – shown in RS232 format – remove @rxav or @poewp when using IP:

Set volume [range -136dB to +10dB, 1dB steps] - Sets a fixed volume on the RXAV.

 @rxav-0048 vol -25

Set device 'rxav-0048' volume to -25dB Response: @rxav-0048 vol x

Increase volume in 1dB steps

 @rxav-0048 volup

Increase device 'rxav-0048' volume by 1dB Response: @rxav-0048 vol x

Decrease volume in 1dB steps

 @rxav-0048 voldn

Decrease device 'rxav-0048' volume by 1dB Response: @rxav-0048 vol x

Bass level [range -10dB to +10dB in 2dB steps]

 @rxav-0048 bass 6

Set device 'rxav-0048' bass level to +6dB Response: @rxav-0048 bass x

Treble level [range -10dB to +10dB in 2dB steps]

 @rxav-0048 treb -2

Set device 'rxav-0048' treb level to -2dB Response: @rxav-0048 treb x

Mute on/off/toggle

 @rxav-0048 mute on

Set device 'rxav-0048' mute on Response: @rxav-0048 mute x

Note: toggle has been added to change mute to the opposite state regardless of where it is setting when addressed.

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Relay 1 on/off/toggle

@rxav-0048 rel1 on

Set device 'rxav-0048' relay 1 to ON position Response: @rxav-0048 rel1 x

Relay 2 on/off/toggle

@rxav-0048 rel2 on

Set device 'rxav-0048' relay 2 to ON position Response: @rxav-0048 rel2 x

Note: toggle has been added to change the relay to the opposite state regardless of where it is setting when addressed.

Get Device Status

@rxav-0048 st

Get device 'rxav-0048' status
Response:
@rxav-0048 st power x, vol x, bass x, treb x, mute x, relay1 x, relay2 x

Display Device Info

@rxav-0048 man

Get device 'rxav-0048' device information
Response:
@rxav-0048 Zigen Corp, ZIG-POE-RXAV, fw1 ver xx, fw2 ver yy

Power on/off

@rxav-0048 pwr off

Set device 'rxav-0048' power off Response: @rxav-0048 pwr x

Note: The power off command now only shuts down the AV stream – all other functions remain active.

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Discovery

@rxav-0048 disco

Provides a list of other Zigen products on the network. Includes name-xxxx (last 4 of serial number), serial number and IP address.

Uptime

@rxav-0048 uptime

Provides Days, Hours, Minutes and Seconds the device has been running.

Version

@rxav-0048 version

Provides firmware info – Release number, Revision number, Build date and Serial number.

Help

@rxav-0048 help

Provides a list of all commands available (above).

Coming Soon – Direct http:// commands

Notes: As of this printing of the manual other command options are being added including direct WebOS command line entry. "admin" is already there if you want to check it out.

http://rxav-0048/admin

Provides back status information like device name, serial number, mac address, IP address, uptime info and firmware info.

Pronto/IR commands are also being developed and will be available shortly.

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Controlling the System

The POEWP-100 and POE-RXAV can be used separately with other HDBaseT transmitters and receivers. This Tech Tip addresses signal flow when they are used together in a small room application.

General: Communication between the POE-RXAV (RX) and POEWP-100 (TX) is primarily routed from point to point via single CAT5e (6a recommended).

Control: The purpose of this pair is to provide maximum capability for connecting to and controlling the TX and RX and all devices connected to them (sources and displays.

Control Methods:

Button press - on the POEWP there are 2 buttons - one to switch between VGA and HDMI and one that can be programmed to send an RS-232 command (more on how to later).

On-Connection - When an HDMI or VGA cable is connected to the POEWP that source will be routed to the display connected to the RXAV. An additional set of RS-232 commands can be added via the POEWP WebOS (up to 128 characters delimited by \n (next line)). For example, you may want to turn on the display when an active HDMI or VGA source is connected.

On-Disconnection - Same process as above (on-connection), however the command is executed when the active source is disconnected. ex. When the HDMI cable is unplugged the display gets turned off.

Note: The above is a screenshot of the WebOS for the POWEP. This is an example while connected to a Sharp display:

Button Press – toggle the mute condition in the RXAV and turn the power on the Sharp display.

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HDMI Cable Connect – Power on the Sharp TV

HDMI Cable Disconnect – Power off the Sharp TV

VGA Cable Connect – Power on the Sharp TV and change to PC input

VGA Cable Disconnect – Power the Sharp TV off

This assumes there is an RS-232 connection between the RXAV and Sharp TV. All TVs are different so consult the owner's manual to determine RS-232 straight or crossover (null modem) cable and specific command syntax for your display.

IR/Remote Control - The RXAV comes with an IR remote. The RXAV has a built-in "eye" (IR receiver) that may be used during initial installation or in operation is line of site can be maintained. In many installations this is not possible. The RXAV also comes with an IR receiver (3.5mm) that can be placed within line of site of the remote or a 3rd party remote. The only caveat here is the MCU in the POEWP does the IR processing and must be in the system if the extended IR receiver is used. As an alternative, if the POEWP is not used an IR flasher can be placed over the built-in IR "eye" in the RXAV to issue IR commands to the RXAV.

RS-232 - There are a few ways to use RS-232 commands (for a list of RS-232 commands for the RXAV/POEWP see user manual for either device. For a list of commands for your particular hardware see the device service manual):

With RXAV DB9 connected directly to a device to be controlled like a display. Commands can be entered in the POEWP WebOS on any input line depending on application. Ex. On-connection (of HDMI cable) turn on the display and dim the lights in the room. In the WebOS HDMI Cable Connect line enter: **\n@rxav rel1 on\nPOWR1 \n** - thus, when the HDMI cable is connected relay #1 in the RXAV closes, triggering the lights to dim to viewing level, additionally, the Sharp TV that is connected to the RXAV DB9 and HDMI turns on. Since you have 128 characters you could also change to input HDMI (on display) and change VOL level to reference level (in RXAV). \n is to force a next line, which is needed in RS-232 to indicate a new command is being entered.

With RXAV DB9 connected to a 3rd party control processor. When connected as part of a distributed system to a 3rd party controller all commands in the users manuals are valid and can be issued to control both devices.

With RXAV DB9 connected directly to a PC or Mac via terminal program. Primarily for troubleshooting and testing of commands - use of null modem vs. straight connection, etc. All commands are valid and can be executed and echoed via terminal session.

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IP - All RS-232 commands are also valid via IP connection to RXAV. The only difference is you remove **@RXAV** or **@POEWP** so instead only enter: **mute on or mute off** vs. via RS-232: @rxav mute on or @rxav mute off

HTTP Direct Commands – Coming Soon – Check zigencorp.com for updates.

Block Diagram
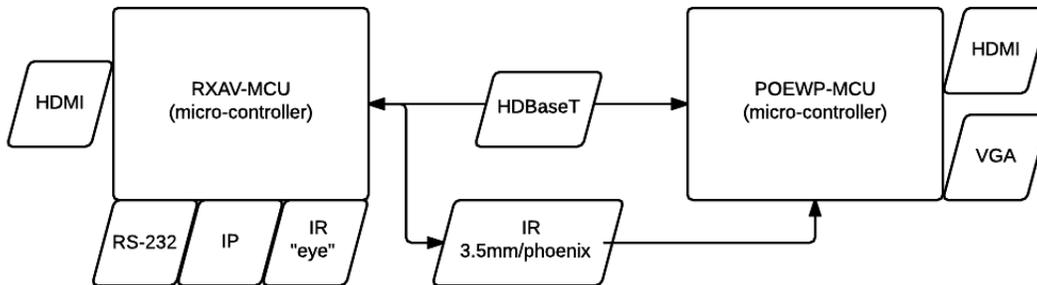
RXAV Available RS-232/IP Commands: Several - see manual for commands to control relays, EQ audio, mute, volume control, etc. for features inside the RXAV. These commands can come from the POEWP command lines or from 3rd party controllers or computers.

POEWP Available RS-232/IP Commands: @poewp insel HDMI or VGA or CVBS - the ability to change the source input used on the POEWP. This is the only action that can be directly controlled remotely in this device.

Note on RS-232 vs. IP Command Syntax: RS-232 Command Example: **@rxav mute on** IP Equivalent Command: **mute on**

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Notes on IR routing:

Built-in IR sensor - When using the IR remote that comes with the RXAV (or 3rd party IR remote) and the IR "eye" (built-in IR Receiver) all processing of commands are completed in the

RXAV. 3.5mm or Phoenix extended IR receiver - When using the IR remote that comes with the RXAV (or 3rd party IR remote) and the IR extension cable (connected to the IR IN 3.5mm jack on RXAV) all processing of commands are completed in the POEWP.

This is important to know, as some integrators may want to deploy the RXAV without the POEWP - in that case you can still remotely control the RXAV via IR by connecting a 3rd party IR flasher/sender directly over the built-in IR "eye" receiver.

Cover eye – if you deploy a remote IR receiver to control the RXAV make sure you cover the built-in IR "eye" – use electrical tape or similar.

Loading Firmware

Firmware is loaded via the WebOS interface – in this case on a Mac we enter http://rxav-0048/.local to gain access to the control screen. Firmware loading is at the bottom of the page.

See screenshots below:
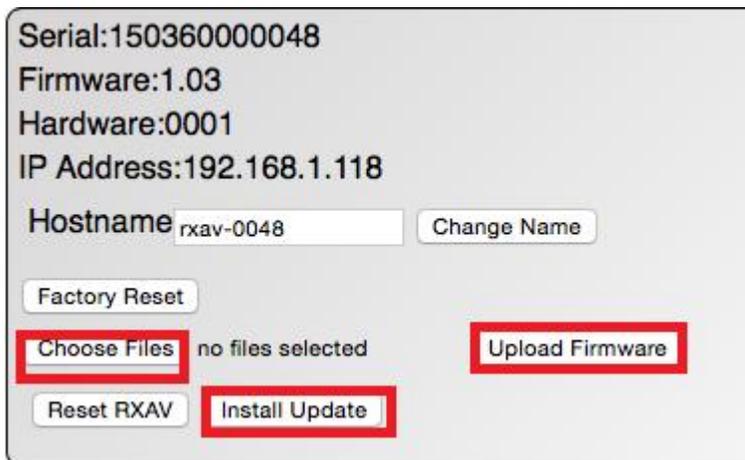
Step 1 – **Choose File** – Will take you to a browsing window (below). Locate the file(s) from the list/download location and in this case we would select the zig_**rxav**-v1.03_1030.mcu by clicking on the filename.

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Previous 7 Days
- zig_poewp-v1.1-adc-052115.xbin
- zig_poewp-v1.06_1030.mcu
- zig_rxav-v1.03_1030.mcu
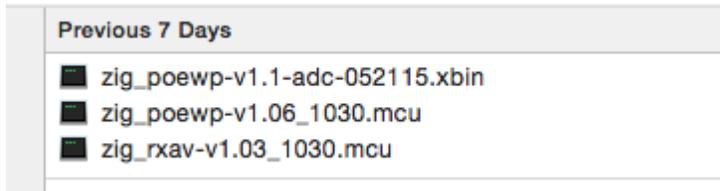
Step 2 – **Upload Firmware** – This will begin the process of uploading the firmware into the RXAV. Should be less than 2 minutes and a status bar will show when the task is complete. Additionally see screenshot below showing file is uploaded.

Step 3 – **Install Update** – This will begin the process of installing the updates to the RXAV or POEWP.

For .mcu files the indication that the install is complete is that the unit will reset itself and operate normally.

For .xbin files you must cycle power once the progress bar indicates the load is complete.

As of this printing of the paper manual current firmware revisions are:

POEWP-100 – ver. 1.06

POE-RXAV – ver. 1.03

Release notes from latest version:

1. IR commands via IR JACK IN using an IR extender will be processed by RXAV in addition to the direct IR lens receiver. This feature assumes POEWP is connected on the other side of the HDBaseT connection.

2. RXAV and POEWP factory reset -button clears all values and resets defaults where applicable

3. RXAV default volume is now -10dB

4. RXAV volume up/down uses increments/decrements of 1dB

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5. RXAV remote control button operation enhancements

6. POEWP supports composite video now (CVBS). The CVBS signal is input via the GREEN channel in the VGA cable. The default selection is always VGA and the POEWP web-page has a channel selection button for CVBS now.

7. POEWP supports many more analog modes such as 1920x1200x60.

8. Added Toggle command to mute, rel1 and rel2 commands

9. Added several new commands now listed in this manual – help, discover, etc.

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Warranty Information

LIMITED WARRANTY – with the exceptions noted in the next paragraph, ZIGEN warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a period of one year from the date of purchase. The proof of sale is required in order to claim warranty. Should this product, in ZIGEN's opinion, prove defective within this warranty period, ZIGEN, at its option, will repair or replace this product without charge. Customers outside of US are responsible for shipping charges to and from ZIGEN. Any defective parts replaced become the property of ZIGEN. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended for. Items integrated into ZIGEN products that are made by other manufacturers, notably computer hard drives and liquid crystal display panels, are limited to the term of the warranty offered by the respective manufacturers. Such specific warranties are available upon request to ZIGEN.

ZIGEN makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of ZIGEN with respect to any defective products will be limited to the repair or replacement of such products. In no event shall ZIGEN be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party. The information in this manual has been carefully checked and is believed to be accurate. However, ZIGEN assumes no responsibility for any inaccuracies that may be contained in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.