ITEM NO: HDMI & USB, Audio, RS232, IR CAT5 Extender Over IP

TheHDMI, USB with Analog audio, RS232, and IR CAT5 extender design for extends and distribute all signals over one CAT5 up to 150 meters, with local HDMI monitor output. It provides superior video quality up to 1920 x 1200 resolutions, and using cost effective Cat5e cable, instead of HDMI, RS232 cables, for an easy, neater and reliable installation. The local and remote units can be connected together for a Point-to-Point connection via CAT5e/6 cable or a Point-to-Many connection via a managed network switch. It is optimized for applications at broadcasting system, multimedia display and multi-data sharing, digital signage, home network integration, and industrial control, hospital, education, security, Matrix network system and system control over RS232 and equipment control over IR.

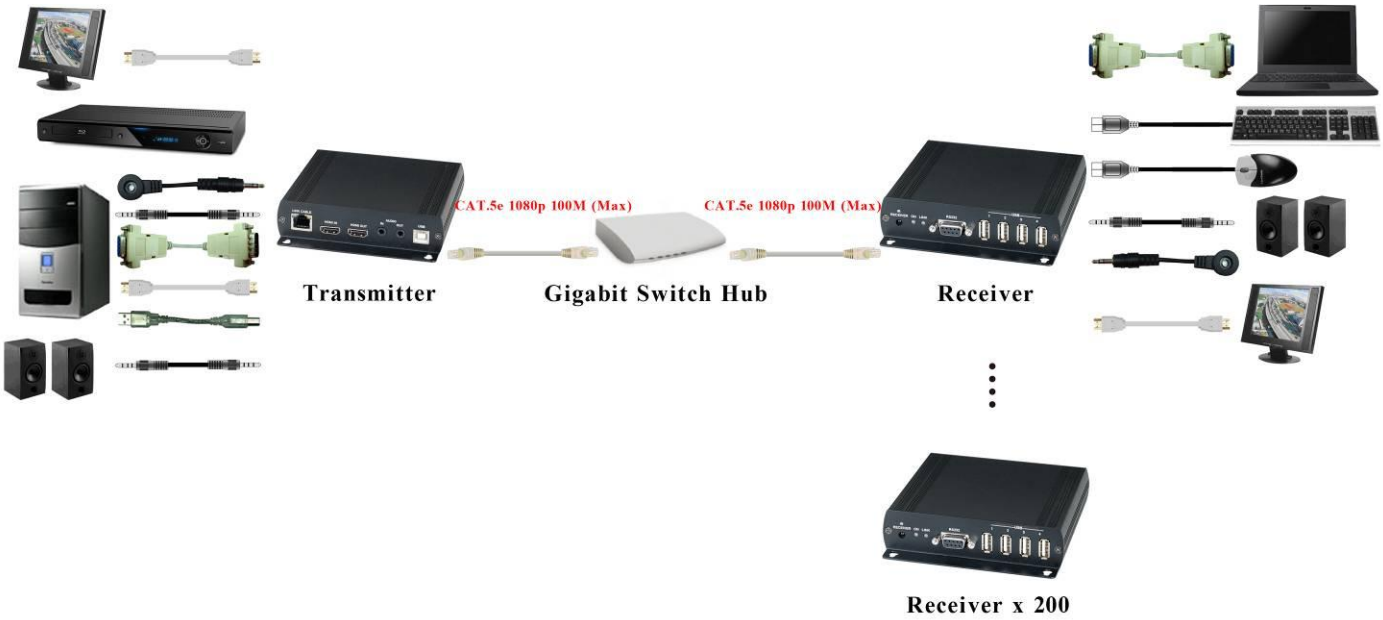
Features:

- Extend HDMI, RS232, IR and USB signals over one CAT5E/CAT6 cable.
- **Supports resolutions up to 1080p Full HD and 1920 x 1200 (WUXGA) 32bpp@ 60 Hz**
- **Transmission range up to 150M over CAT5e, 180M over CAT6.**
- Supports 2-way RS232 commands at baud rate 115200 (control software on a PC, or other automated control system hardware) to control devices attached to the matrix using RS232. Full Duplex data communication.
- Built in Bi-Directional analog audio.
- Built in Bi-Directional IR.
- **transmitter unit built in HDMI loop output.**
- Receiver unit with 4 ports USB devices (1 port USB 1.1 & 3 Port USB 2.0), to extend USB peripheral devices, such as flash disk, hard disk, keyboard, mouse, etc.
- **Support point to point and multiple source devices to multi-display connections via Gigabit network switch.**
- Built in Bi-Directional audio ,
- Built in Bi-Directional IR.
- Perfect for control remote machines and security monitoring systems, digital signage application.
- **Optional model: signal repeater for longer distance application.**

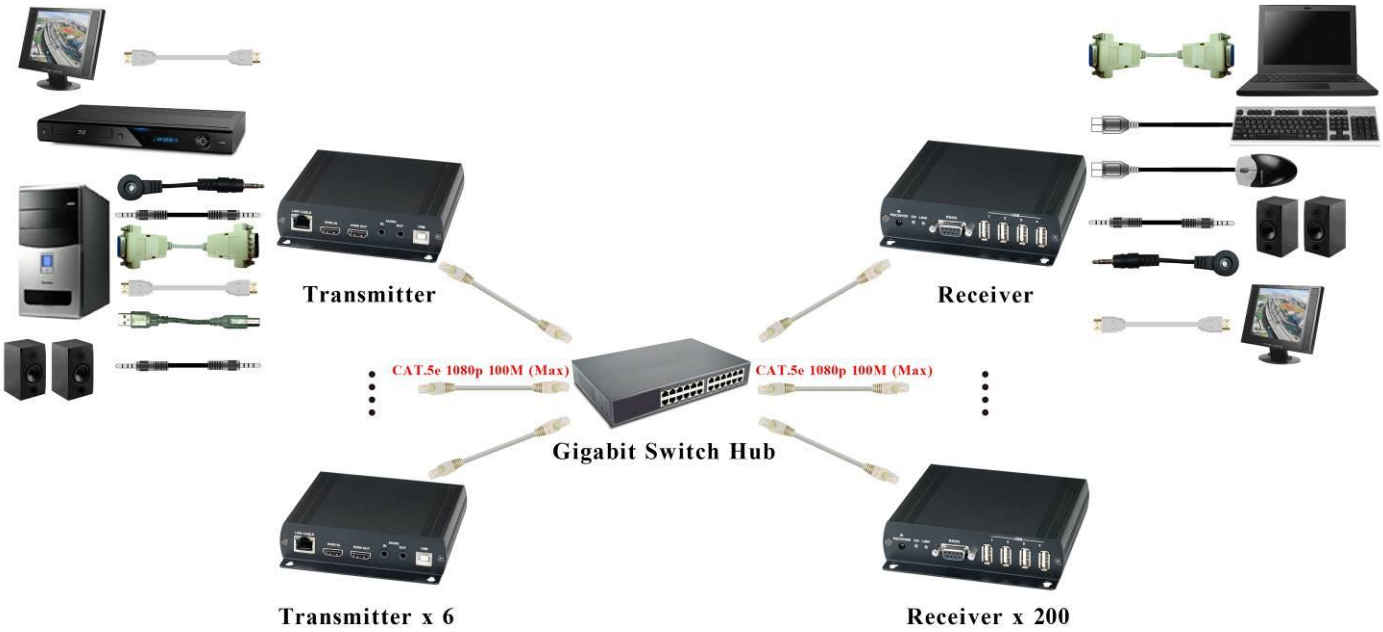
Installation View:

Point to Point Direct Connection:

Over Gigabit Ethernet switches: One to Multiple or Multiple to Multiple Connection:



1 Input to Multiple outputs connections via a Gigabit network switch



Multiple Inputs to Multiple outputs connections via a Gigabit network switch

Recommend installation using an independent Gigabit LAN; do not link with existing LAN to avoid a lot of video data transmission slow down your network system.

When using multiple transmitters and receivers via a Gigabit network switch, identically configure dip switches on the local and remote units to link them together.

In multiple connections keyboard and mouse are plug and play, for other USB devices just simply press and click the USB keyboard Pause/Break" KEY on a receiver for three times to get USB control; only one unit can have USB control over the source at any time.

For configurations that require greater distances, cascade the managed network switches to extend the distance between the transmitter and receiver. Up to 16 transmitters can be connected per individual network switch or between cascaded network switches.

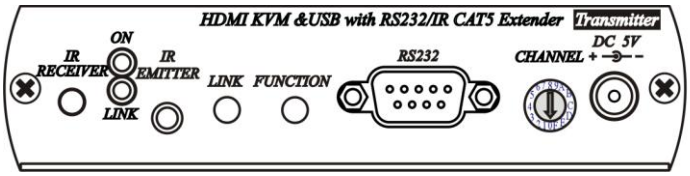
Optional Model: Signal Repeater

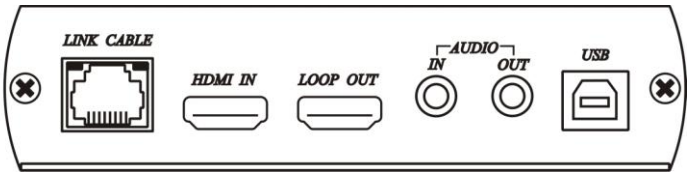
- Extend data signal for an additional 120meters.
- Application for signals for extra long range transmission.
- Ability to cascade connection with multiple for long range transmission
- Built in LED status indication.
- External power required.
- Plug and play for easy installation.

Work with CAT5 Extender:

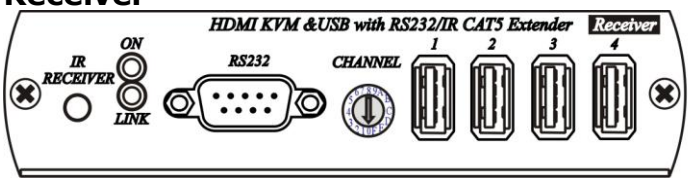
Panel View:

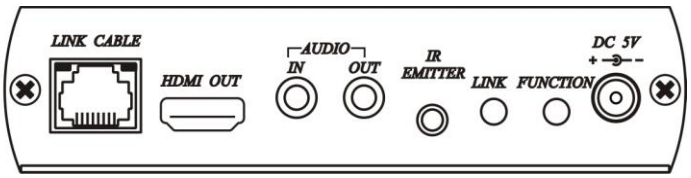
Transmitter





Receiver





LED Indication Status:

Power (Green LED):	Flash	Booting
	ON	Boot completed
Link (Blue LED):	Flash	Connection or connected but no HDMI input
	ON	linking
RJ45 LED:	Green Flash	(Data transmission)
	Orange On	(linking)

Back Panel Rotary Switch Function:

rotary switch could switch 0~F total 16 channels, T and R must be setting at same channel in order to do mutual transmission.

Front Panel Button Function:

One to one Application as below chart:

ITEM	T		R	
Button	**LINK**	**FUNCTION**	**LINK**	**FUNCTION**
Short Press	***Loopback and Remote output*** / Loopback output only	**Video Mode**/ *Graphic Mode**	Link on : **Link** Link off : *Unlink*	**Video Mode**/ *Graphic Mode**
Long Press (3 seconds)	Remote output only (on/***off***)*	Anti-Dither (*1/2*/**off**)*	N/A	Anti-Dither (*1/2*/**off**)**
Press to power off (Press and hold until Green LED and Blue LED Flash)	RESET to Default*	N/A	RESET to Default*	N/A

Above "bold font" part as the default

One to Multiple Applications as below chart:

ITEM	T		R	
Button	**LINK**	**FUNCTION**	**LINK**	**FUNCTION**
Short Press	***Loopback and Remote output*** / Loopback output only	**Video Mode**/ *Graphic Mode**	Link on : ***Link*** Link off :Unlink	**Video Mode**/ *Graphic Mode**
Long Press (3 seconds)	Remote output only (on/***off***)*	Anti-Dither (*1/2*/**off**)*	USB Link (*on*/**off**)	Anti-Dither (*1/2*/**off**)*
Press to power on (Press and hold until Green LED Flash)	N/A	**Use Loopback EDID ***	N/A	**Update EDID***
Press to power off (Press and hold until Green LED and Blue LED Flash)	RESET to Default*	N/A	RESET to Default*	N/A

Above "bold font" part as the default

Multiple to Multiple Mode Function:

could do Multicast mode with back panel Rotary Switch function, to do multiple to multiple transmission must consider bandwidth and data rate, it could be setup several groups as below :

- Switch can be set to a max. 16 channels, to work with a Gigabit Switch Hub, T and R need to need to switch same channel in order to linking each other.
- The video inputs highest rate around 150 ~200 Mbps,T could setup at max. 6 units as source when using Gigabit Switch Hub.

Cable:

Link Cable use high quality Cat.5e UTP/STP/FTP or Cat.6 UTP cable

Ethernet Switch Hub Recommendation：

Recommend to use IGMP and Jumbo Frame over 8K Ethernet Switch Hub in order to achieve the best transmission quality

HOT KEY Function：

could use Ethernet Switch Hub to do one to multiple application, Under multiple R for switching R external host USB flash drive port, make the external flash drive you want to use with an external USB keyboard, to click three times “Pause/Break” KEY, the system will redetect and connect USB devices.

Caution：

1. do not recommend to work with general LAN connection to avoid large video Data transmission or multicast packets to slow down your other LAN devices.
2. When use T “Line In” function, the HDMI audio output of R Receiver will be disabled.
3. When doing one to multiple applications, theR Receiver “MIC” won’t be affected.
4. IR receiving angle ±55degree, emitting angle 30degree，distance reach to 3-5 meters.

Web Setting Function：

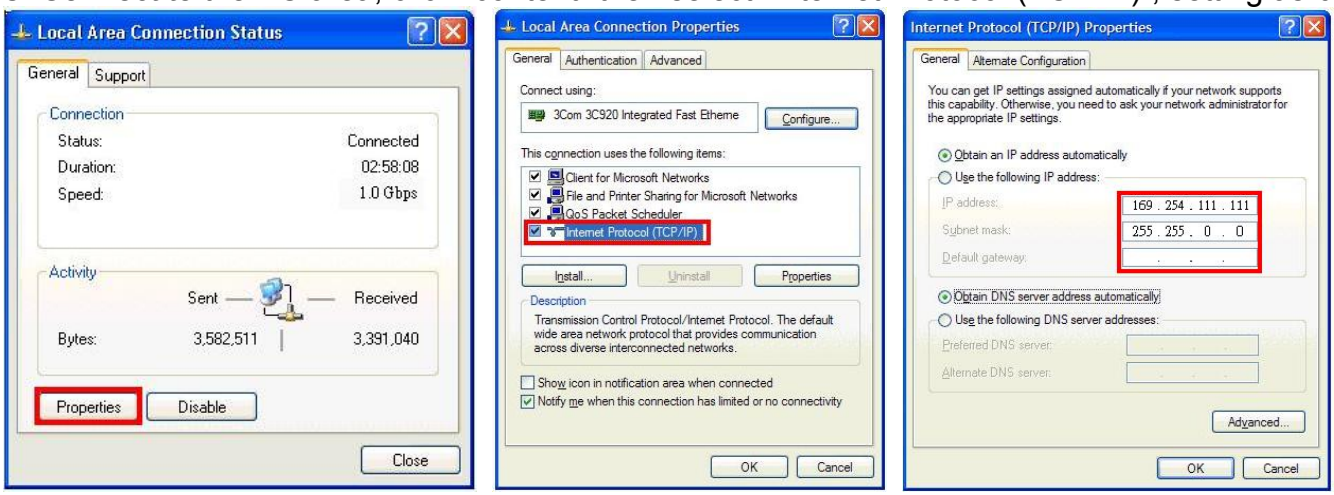
default setup at one to multiple mode (Multicast), the detailed setting could be changed via the web UI, the setting as below:

Installation and connection:

1. Install BonjourSDKSetup.exe and zcexplorer-1.0.msi

2. After completed the Install zcexplorer-1.0.msi, desktop will appear “My Zeroconf Neighborhood” icon

3 .Connect to the PC area, click “content” then select “Internet Protocol (TCP/IP)”, setting as below:



(IP address: 169.254.111.111 Submask: 255.255.0.0 Getway and DNS are not required)

4. Use CAT5 network cable connect to PC with T or R

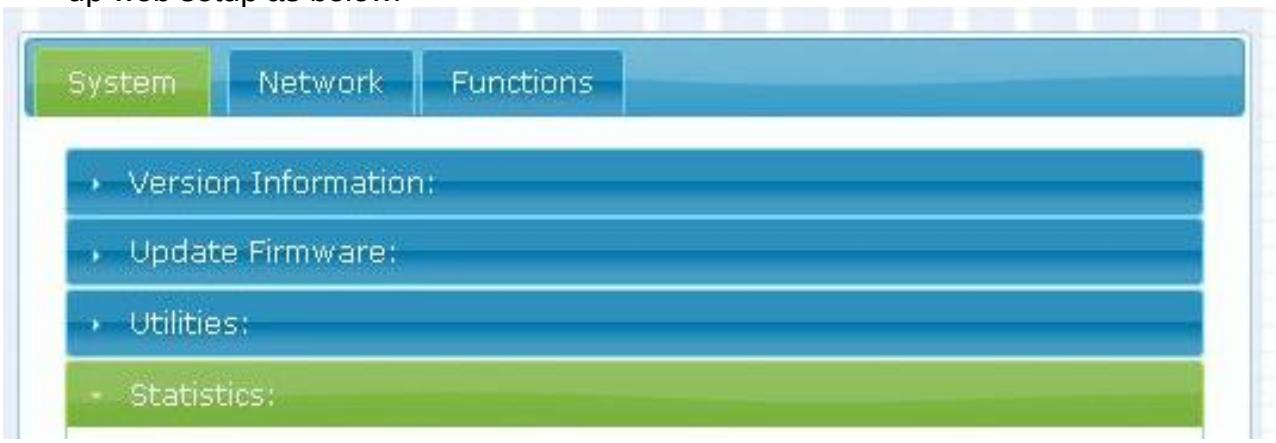
5. When PC and T or R connection, click “My Zeroconf Neighborhood” icon

6. It will pop up below file icon on ast-gateway as T or HTTP on ast-client asR

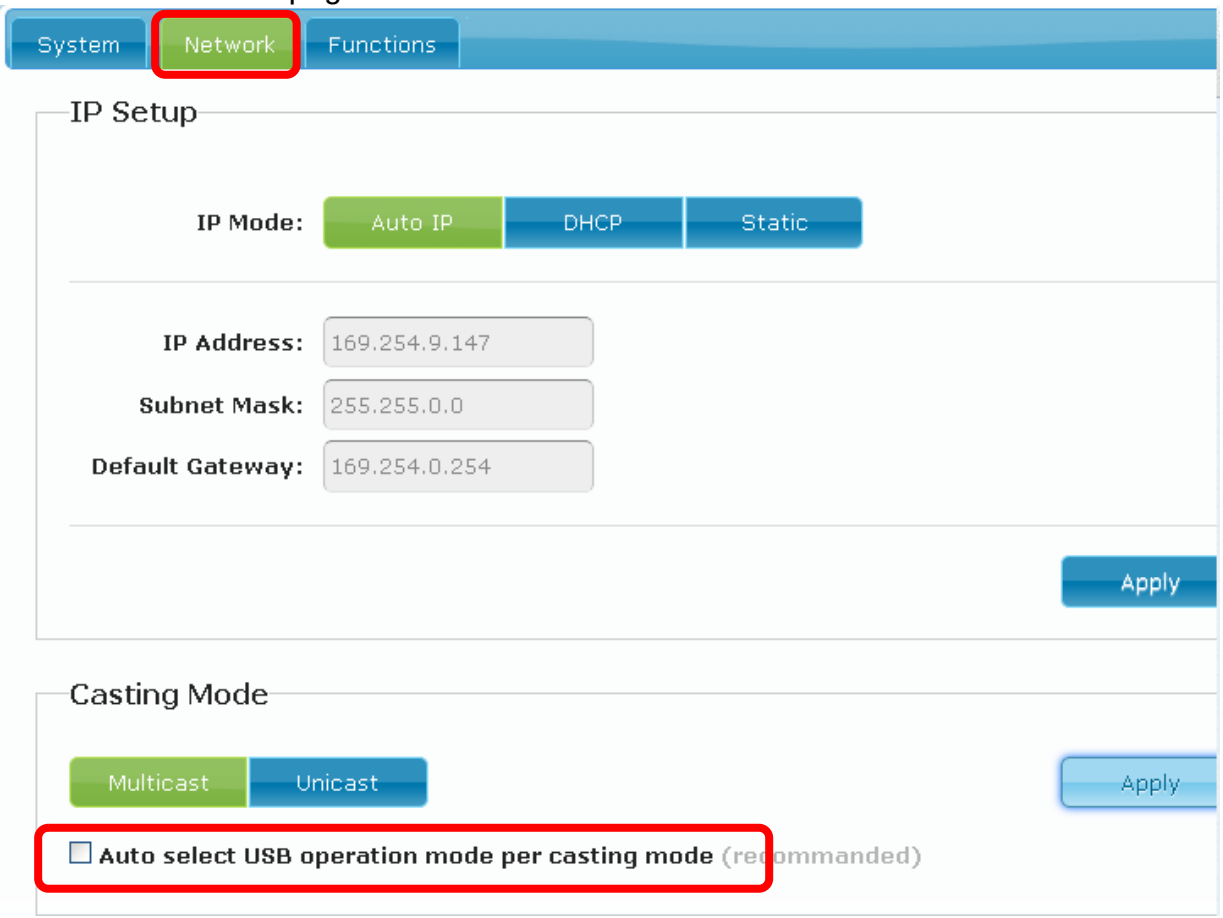
T

R

7. Double click on “HTTP on ast-client” (R) or “ HTTP on ast-gateway” (T), will pop up web setup as below:

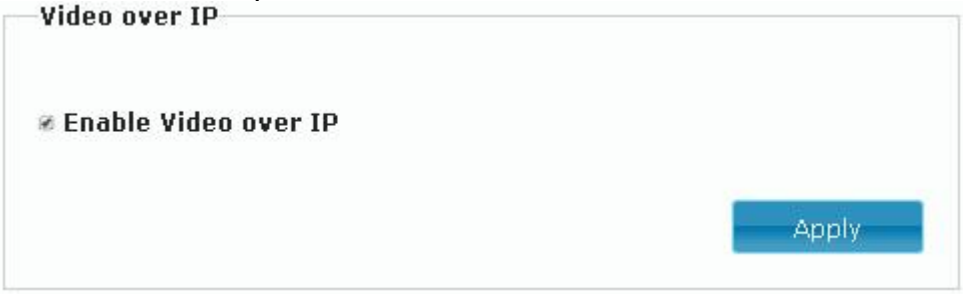


8. Select Network page



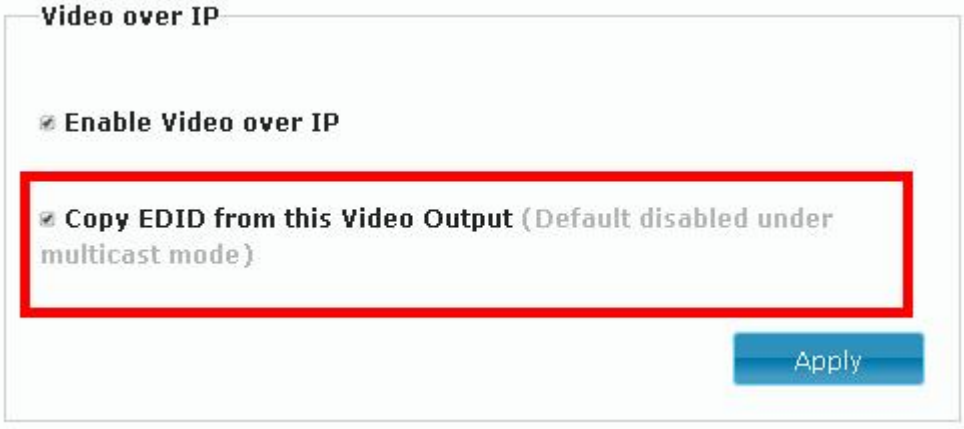
- IP Mode : Auto IP、DHCP、Static three modes, select one of them and press “Apply” to finish setting.
- Casting Mode : Multicast(one to multiple) and Unicast(one to one) two modes ,select and press “Apply” to finish setting (If setup at Multicast, pick Auto select USB operation mode per casting mode)

9. Function setup

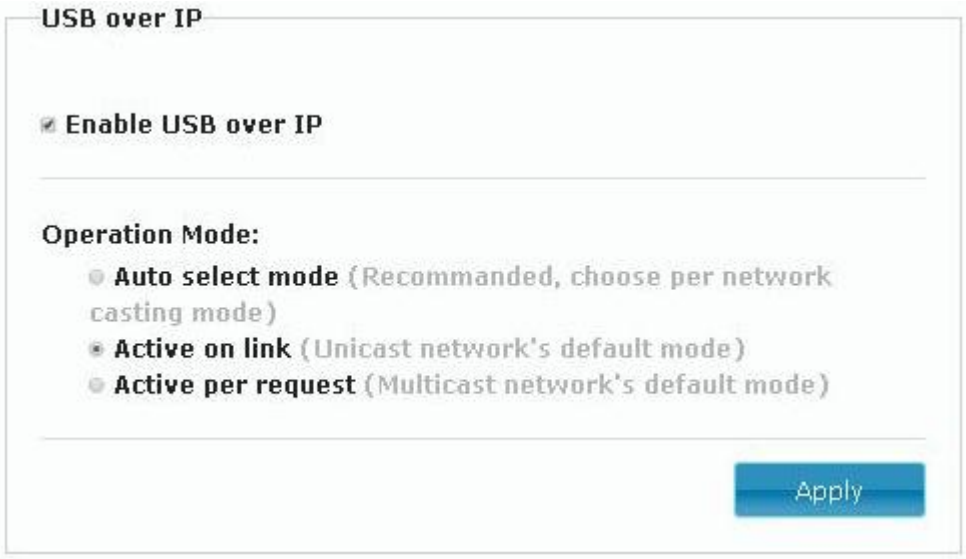


T Video over IP: This function setup the video signals send from network, select and enter “Apply” finish setting

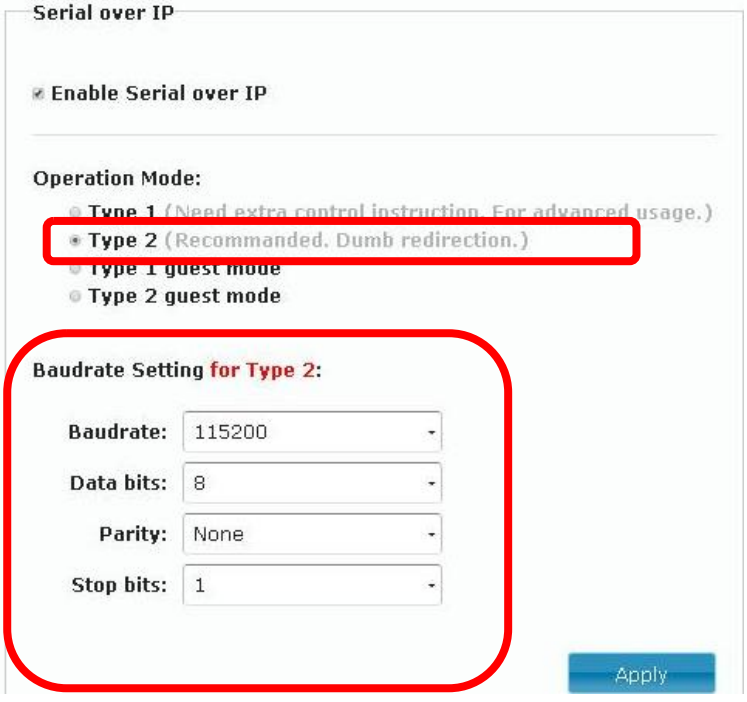
Please note it will turn off HDMI output if this function be disabled, only analog audio output



R Video over IP : This function setup the video signals send from network, select Copy EDID from this Video Output and enter “Apply” finish setting (pick up this item will auto copy R TV EDID)
In multiple connections the EDID will copy from the last connected receiver.



USB over IP Setup: This function setup the USB signals send from network.
In Unicast (one to one) mode: Operation Mode selects “Active per request” and enters “Apply” to finish setting.
In Multicast (one to multiple) mode: Operation Mode select “Auto select mode” and enter “Apply” to finish setting.



Serial over IP：This function setup Serial (RS232) signal sends from network
[Baud Rate Default：115200]

- Operation Mode selects “Type 2 (Recommended. Dumb redirection.)” And enter Apply to finish setting.
- Baud rate Setting for Type 2 : It could change Baud rate as below : 300, 600, 1200, 2400, 4800, 9600, 14400, 19200, 38400, 57600, 115200, 230400

RJ45 Define:

Link Cable (TIA/EIA-568-B)

1. Orange-white	Data 1 +
2. Orange	Data 1 -
3. Green-white	Data 2 +
4. Blue	Data 3 +
5. Blue-white	Data 3 -
6. Green	Data 2 -
7. Brown-white	Data 4 +
8. Brown	Data 4 -

Package Include:

T Transmitter x 1
R Receiver x 1
USB A to B cable x 1
IR emitter cable x 1
DC 5V 2Amp power adapter x 2

Specification:

ITEM NO.	**T**	**R**
Support Resolution	1920 x 1200p 32bpp@ 60 Hz	
Transmission Distance	CAT.5e：150M / CAT.6：180M (Max)	
HDMI Connector	HDMI Type A x 2	HDMI Type A x 1
USB Connector	USB Type B x 1	USB Type A x 4
RS232 Connector	DB9 (Female) x 1	DB9 (Male) x 1
Link Connector	RJ45 x 1	
Audio Connector	3.5 mm Phone Jack x 2	
IR Connector	3.5 mm Phone Jack x 1	
IR Receive/Emit Angle	Horizontal ± 45, Vertical ± 35 / ± 30	
IR Receive/Emit Distance	5 M	
Power Supply	DC 5V 2A	
Power Consumption	1,3Amp	
Temperature	Operation: 0 to 55℃, Storage: -20 TO 85℃, Humidity: up to 95%	
Dimensions mm	125 x 140 x 30	
Weight g	380	

RoHS CE FC

Rev.A1