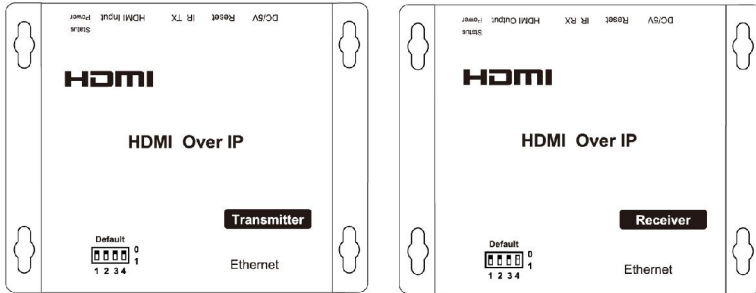# HDMI Extender over Ethernet with POE

MODEL:SX-EP22
Operating Instructions

Dear Customer

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

FEATURES

l   Flexible and scalable HDMI 1080p High Quality Video Broadcasting with Gigabit Ethernet LAN.
l   Extends 1080p HDMI signals up to 120m over a single UTP Cat5e/6 cable.
l   Multicasting and broadcasting architecture, adding more displays without adding LAN bandwidth loading.
l   Support Point-to-Point, Point-to-Many and Many-to-Many network configuration.
l   Dual power input: 802.3af compliant POE or DC5V 1A power adapters.
l   Up to 16 transmitters and more than 200 receivers in a single system.
l   With wide -brand IR remote control. it allows you control back the source at the end of destination
l   Built-in DIP switch to change Group ID for multiple displays.
l   Support IGMP v.1 & v.2 address
l   Can be casecaded for many layers by using Ethernet switches.

NOTICE

Our company reserve the right to make changes in the hardware, packaging and any accompanying documentation without prior written notice.

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SPECIFICATIONS

|	
Operating Temperature Range	-5 to +35　(+23 to +95　)
Operating Humidity Range	5 to 90%RH (No Condensation)
Support Video Format	DTV/HDTV:480i/576i/480P/576P/720P/1080i/1080P
Output Video	HDMI,HDCP
Audio Sampling rate	32kHz, 44.1kHz and 48kHz
Transmission Distance	1080P @60Hz120m(Maximum) over single CAT5E/6 /24AWG/Solid
Power consumption	5V/1A DC , 802.3af POE Power consumption: Max. 4W
Dimension (L×W×H)	L94xW93.5xH24.6mm
IR frequency range	38-56 KHz
Net Weight	Receiver:255g,Transmitter:255g
TX & RX	Default IP address:192.168.168.55;MAC address:00:0b:78:00:60:01 Group IP address: 239.168.168.xx, (xx is the value of bits[2:0]) Default IP address:192.168.168.56;MAC address:00:0b:78:00:60:02

Note1: Specifications are subject to change without notice. Mass and dimensions are approximate.
Note2: IP and MAC address must be different for one TX to many RX or many TX to many RX configuration.

PACKING CONTENTS

1) Main Unit. Transmitter & Receiver HDMI Extender
2) Power adapter DC 5V 1A x2PCS
3) IR-TX cable & IR-RX cable
4) Operating Instruction

PANEL DESCRIPTIONS

Transmitter Panel
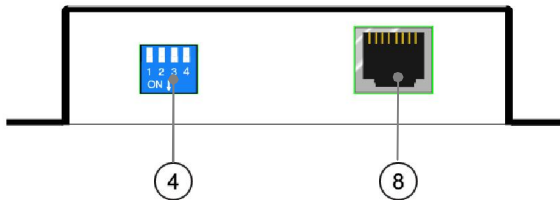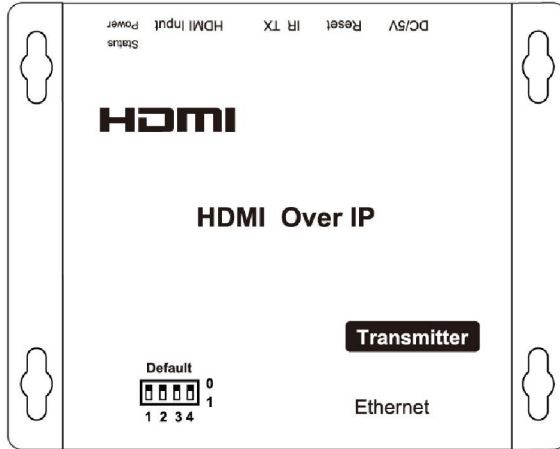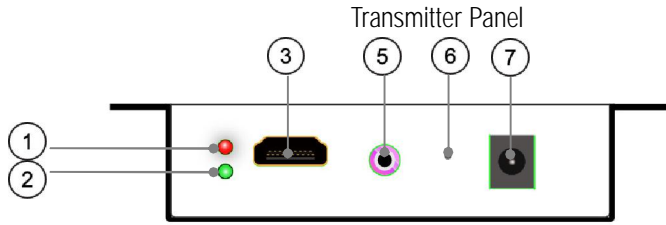
Indicator of power input	Status of signal connection	HDMI input
DIP switch	IR-TX port	Reset button
Power input port	Ethernet port	

4 bits DIP Switch:

Use 4bits DIP switch to select 16 groups ID (such as 0001,0010,0101 etc)
Default TX unicast IP address is 192.168.168.55 , it can be configured from webpage.
TX Group IP address: 239.168.168.xx, (xx is the value of bits[2:0])
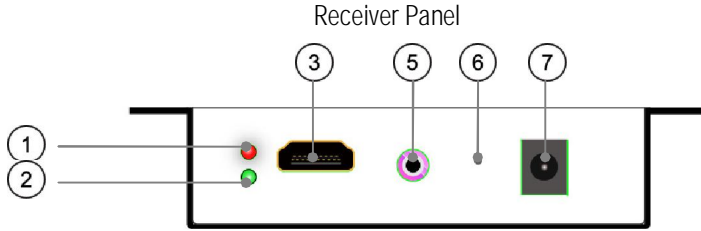
Receiver Panel

|		
Indicator of power input	Status of signal connection	HDMI Output
DIP switch	IR-RX port	Reset button
Power input port	Ethernet port	

4 bits DIP Switch:

Use 4bits DIP switch to select 16 group ID(such as 0001,0010,0101 etc,)

Default RX unicast IP address is 192.168.168.56, it can be configured from webpage.

RX Group IP address: 239.168.168. XXX (XXX is the value of bits[2:0])

User should configure the DIP switch within 10 seconds, firmware should reset the system 20 second after detecting the first change of DIP switch, and latch the new DIP switch value after reset.
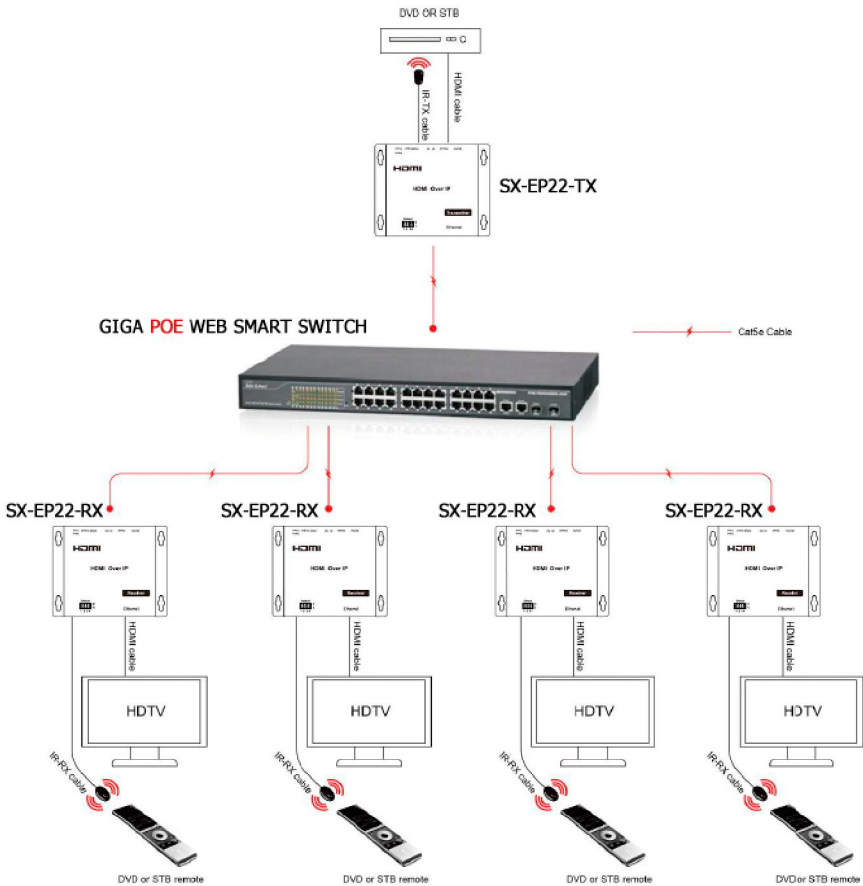
Point to point configuration:

1. Connect one HDMI Cable between the HDMI output port of source device and the HDMI input port of Transmitter unit
2. Connect one HDMI Cable between the HDMI input port of display and the HDMI output port of Receiver unit.
3. Connect one UTP Cat5e or better cables between the RJ45 port of Transmitter unit and RJ45 port of Receiver unit.
4. Connect 5V DC power supplies to both Transmitter unit and Receiver unit.
5. Power on the output device first and the source second.

Transmitter   Receiver
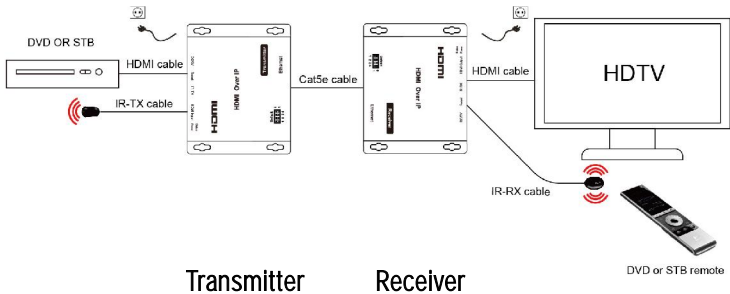
Point to multicast network configuration:

1. Connect one HDMI Cable between the HDMI output port of source device and the HDMI input port of Transmitter unit

1. Connect one CAT5e or better cable between the RJ45 port of transmitter and input port of Gigabit Ethernet switch hub (with POE).

3. Connect one CAT5e or better cable between the output port of each Gigabit Ethernet switch hub(with POE) and RJ45 port of Receiver unit.

5. Power on the output device first and then the source device.

6. If DIP switch at the transmitter is set up: Group ID:0001, then DIP switch at each receiver should be set up as same as the transmitter: Group ID:0001
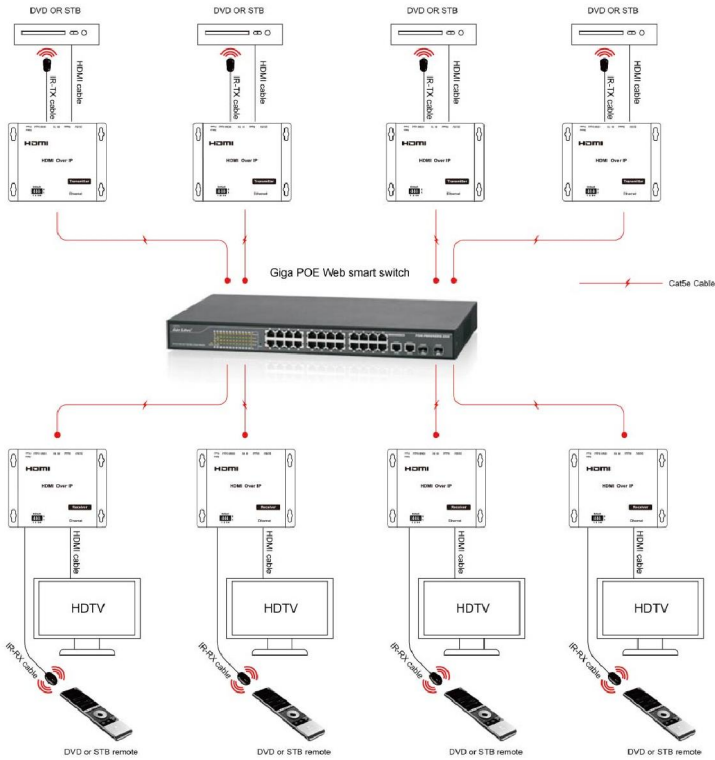

Modify the TX and all RX for a different IP & MAC address in LAN (local area network   to avoid conflict.

Multipoint to multipoint network configuration:

1. Connect one HDMI Cable between the HDMI output port of source device and the HDMI input port of Transmitter unit.
2. Connect one HDMI Cable between the HDMI input port of display and the HDMI output port of Receiver unit.
3. Connect one CAT5e or better cable between the RJ45 of each Transmitter unit and RJ45 port of Gigabit Ethernet switch hub (with POE)
4. Connect one CAT5e or better cable between each RJ45 port of Gigabit Ethernet switch hub to RJ45 port of Receiver unit. User can select source channel by setting up dip switch on each transmitter unit. And select display devices for Receiver units via one remote control.
5. Use DIP switch to select sources.
Note: All transmitters and receivers build-in PD moudle, Gigabit Ethernet switch is power sourcing equipment. No need connect power adapters with Transmitters and Receivers.

Modify the TX and all RX for a different IP & MAC address in LAN (local area network   to avoid conflict.

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Setup HDMI TX and HDMI RX

A HTTP server is embedded in each TX and RX. you can setup IP address for HDMI extender via web browser.

The default IP address of the **TX is 192.168.168.55,   MAC address is: 00:0b:78:00:60:01.**

The default IP address of the **RX is 192.168.168.56,   MAC address is: 00:0b:78:00:60:02.**

Step 1: Assign the PC (or laptop) IP address on the computer : "Control Panel"   " Network Connections"   "Local Area Connections Status"   "Properties"   "Internet Protocol (TCP/IP)", Type the IP address field with 192.168.168.11 (0-255) and Subnet mask with 255.255.255.0.   After that press OK to save the configuration.

Note: The IP address of PC should be different from the IP address of TX and RX.

Step 2: Use an Ethernet Cable to connect the PC (or laptop) and the extender. the power LED for the extender is red and the status LED becomes green.

Step 3: please Ping the connected device through the sequence on computer: "Start"   "Run"   input "CMD"   input "ping 192.168.168.55" for TX or input "ping 192.168.168.56" for RX, you will receive the reply if the connection is established.

Step 4:   Login in IE :192.168.168.255 (default IP for TX) or 192.168.168.256(default IP for RX), You can setup IP address, subnet mask, gateway, and MAC address for the TX and RX.

Please set IP address for each TX and each RX, IP:192.168.168.XX (XX:0-255). all IP address for TX and RX must be different .

Please set MAC address for TX and RX, MAC:00:0b:78:XX:XX-XX (XX:01-FF), The MAC address for each TX and each RX must be different .

Step 5: After click "Apply" button, the green LED light on the device will go out, you have successfully set IP address for TX and RX now.

Note: if you need to restore the device to it's factory default settings, please power on the device, the red light becomes lighting, waiting about 10 seconds, the green LED light starts working, at this time to press the reset button about 5-10 seconds, then the green light will go out, you have successfully restored IP address to factory IP address now.

PRODUCT SERVICE

1) **Damage requiring service:** The unit should be serviced by qualified service personnel if:

(a)The DC power supply cord or AC adaptor has been damaged;

(b)Objects or liquids have gotten into the unit;

(c)The unit has been exposed to rain;

(d)The unit does not operate normally or exhibits a marked change in performance;

(e)The unit has been dropped or the cabinet damaged.

2) **Servicing Personnel:** Do not attempt to service the unit beyond that described in these operating instructions. Refer all other servicing to authorized servicing personnel.

3) **Replacement parts:** When parts need replacing ensure the servicer uses parts specified by the manufacturer or parts that have the same characteristics as the original parts. Unauthorized substitutes may result in fire, electric shock, or other hazards.

4) **Safety check:** After repairs or service, ask the servicer to perform safety checks to confirm that the unit is in proper working condition.