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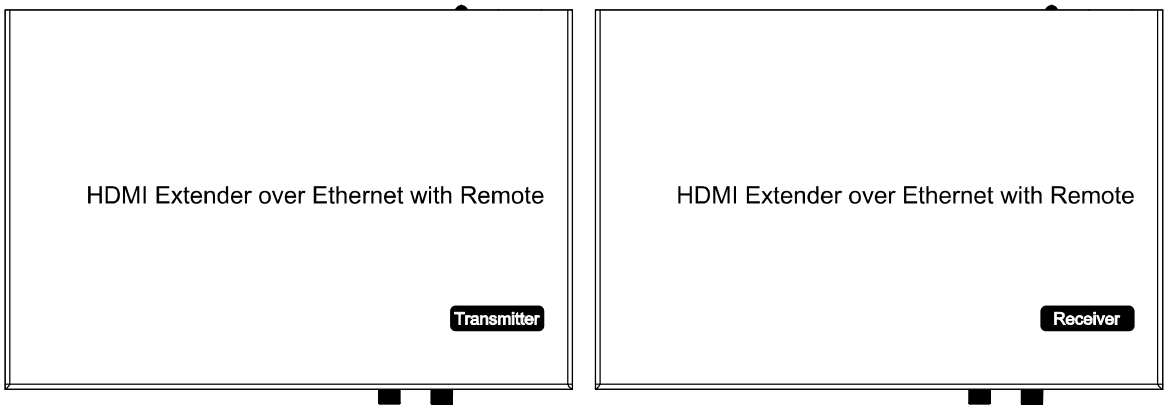
SC08.6010

H.264 HDMI Extender over IP Extender

With LED, Remote, RS232

Operating Instruction



Introduction

The SC08.6010 transmitters and receivers can be used as point to point extenders up to 120m or when connected to a Gigabit LAN, can create a 64 x 256 HDMI matrix. The transmitter provides a local HDMI output for connecting a local screen. Multicast addresses are set on the transmitters and receivers select these streams using front panel buttons or the infra-red remote supplied with the receiver. Infra-red is also passed through the transmitter for controlling the source devices using the Satellite or DVD remote. The infra-red is routed to ensure you only control the source device selected.

Full duplex RS232 enables control of connected screens for volume, power etc. which is useful when used in digital signage applications.

1. Features

1). Using H.264 compression encoding, support resolution up to 1080p@60hz

2). Transmit up to 120m over single Cat5e/6 cable, with 1x looping HDMI output

3). With IR Remote to choose the source, with LED to show the Group ID

4). Comply with TCP/IP protocol, streaming bit rate is up to 15Mbps

5). Support LPCM audio format

6). Smart IP Address Setting: Dynamic Host Configuration Protocol (DHCP)

7). Wide-band IR pass through to control the source (38khz to 56khz)

8). By pass 2 way UART/RS232 (Up to 115200), use remote controller to select 8 group Baud rate

9). Support one to one, one to many, many to one, many to many modes, with large cascade

10). HDCP Compliant

11). Support PC tool control

12). DC 5V 1A power supply

2. 1 Specifications

Performance	
Protocol	H.264 encoder over TCP/IP
Support Video format	480i/480p/576i/576p/720p/1080i/1080p@60HZ
Support Audio format	LPCM, Audio sampling rate 48KHZ
Streaming Bit Rate	15Mbps
HDCP	Compliant
IR Frequency	38 -56 KHZ
RS232 Baud rate	Default 2400bps, total 8 kinds optional
IP setting &Group ID setting	
Default IP	TX: 192.168.1.11 ; RX: 192.168.1.12
Group ID	Group 00 ~ group 63
Request for Switch/Router	Support IGMP, support DHCP
Connectors on Transmitter	
Input	1xHDMI Female port
Output	1x RJ45 output , 1x HDMI looping output
RS232	Phoenix RS232 port
IR	IR TX port (Support 38K-56KHz) IR Ext port (Support 38KHz)
Connectors on Receiver	
Input	1xRJ45 input
Output	1x HDMI Female port looping output
RS232	Phoenix RS232 port
IR	IR RX port (Support 38K-56KHz) IR Ext port (Support 38KHz)
Environmental & Power Requirements	
Operating temperature	-5 to +35 ℃ （+23 to +95℉）
Operating Humidity Range	5 to 90%RH (No Condensation)
Power supply	DC 5V 1A
Power consumption	Max 3 watt
Physical	
Dimension	TX: 119x79.5x28mm ; RX: 119x79.5x28mm
Net Weight	TX: 0.28KG ; RX:0.28KG

2. 1 Supported input resolution

Frequency	Resolution
50Hz	576i
	576P
	720P
	1080P
	1080i
60Hz/59.94Hz	480i
	480P
	720P
	1080P
30Hz/29.97Hz	1080P
24Hz	1080P
25Hz	1080P

VESA Resolution

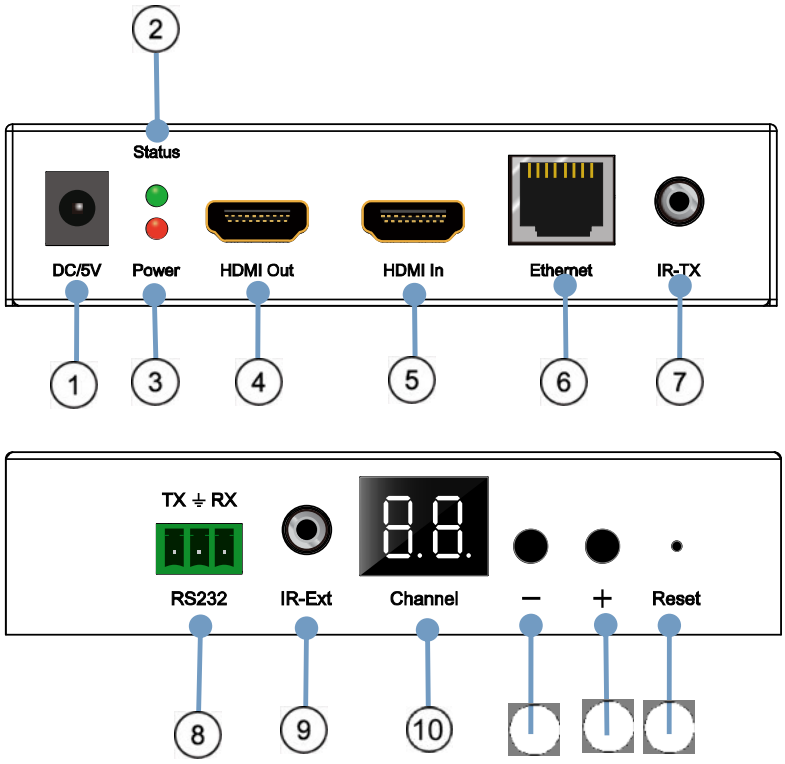
Frequency	Resolution
50Hz	576i
	576P
	720P
	1080P
	1080i
60Hz/59.94Hz	480i
	480P
	720P
	1080P
30Hz/29.97Hz	1080P
24Hz	1080P
25Hz	1080P

3. Packing content

1). 1x Transmitter
2). 1x Receiver
3). 1x IR-TX cable
4). 1x IR-RX cable
5). 2X IR Ext cable
6). 1x Manual
7). 4x Screws
8). 4x Detachable mounting ears
9). 2x Phoenix plugs for RS232 cable termination
10). 2x Remote controls
11). 2x Power adapter 5V 1A

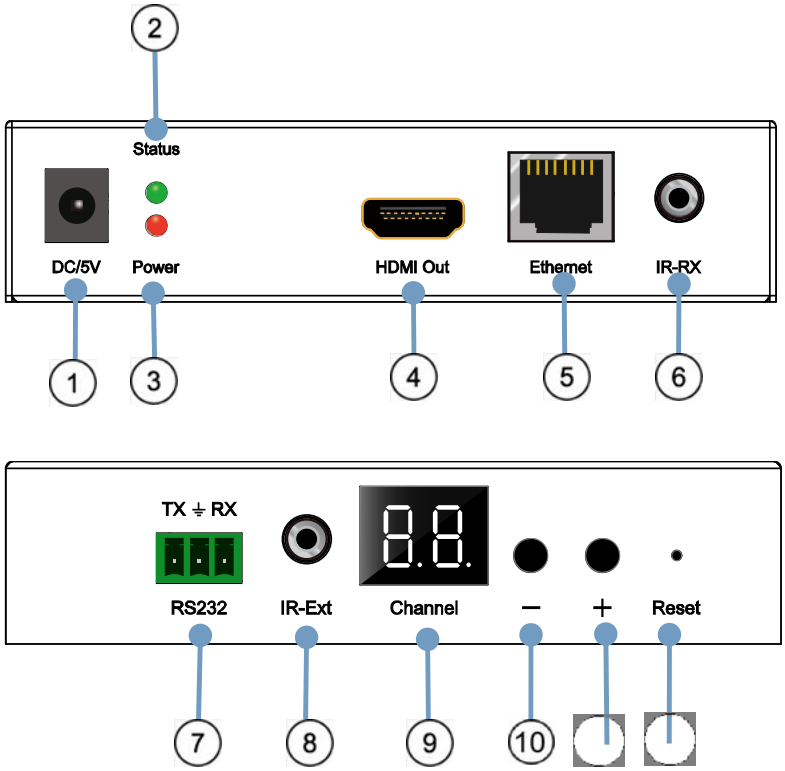
4. Panel description

1). Transmitter



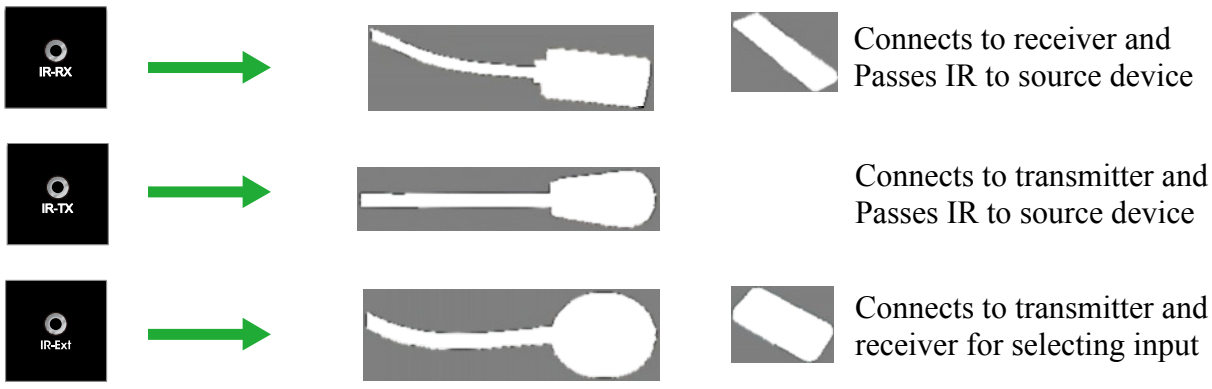
1) DC/5V @ 1A Input
2) Green LED “Data Status”
3) Red LED “Power”
4) HDMI Output for local display
5) HDMI Input
6) Ethernet
7) IR Tx “IR Pass-Through”
8) RS232 Phoenix terminal
9) IR Ext “Channel selection
10) Numerical Display “selected channel”
11) Channel down
12) Channel up
13) Reset button

2). Receiver



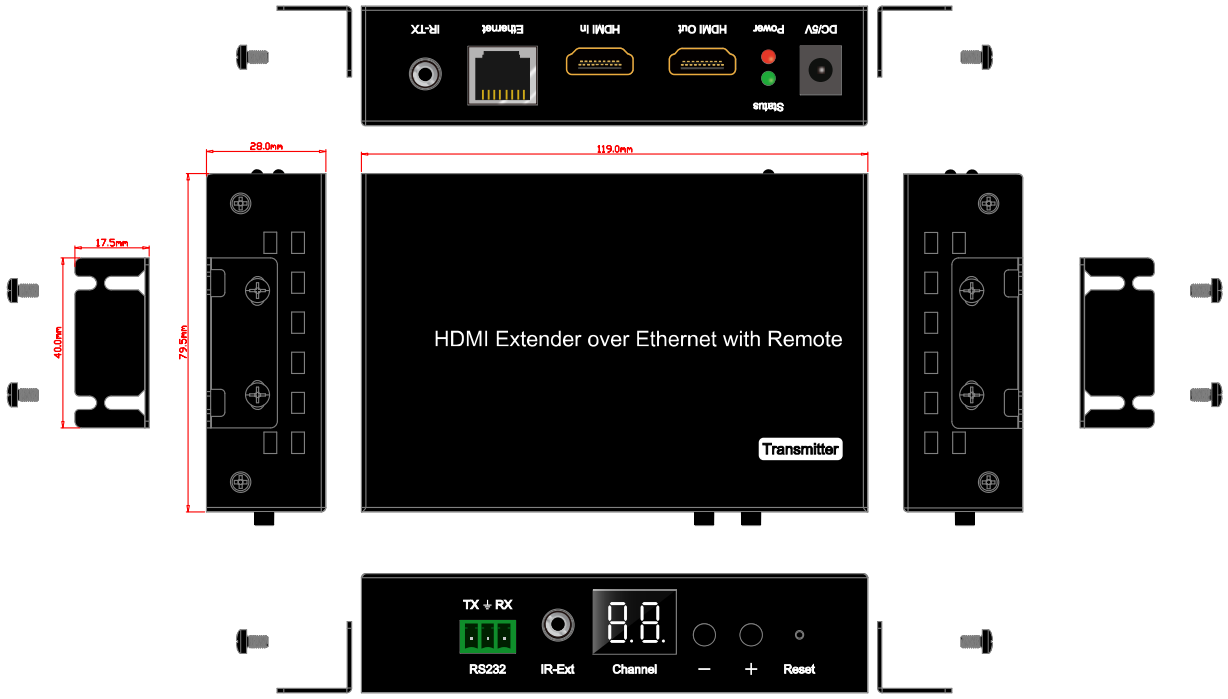
1) DC/5V @ 1A Input
2) Green LED “Data Status”
3) Red LED “Power”
4) HDMI Output
5) Ethernet
6) IR Rx “IR Pass-Through”
7) RS232 Phoenix terminal
8) IR Ext “channel selection”
9) Numerical display “selected channel;”
10) Channel down
11) Channel up
12) Reset button

3). Connecting IR cables

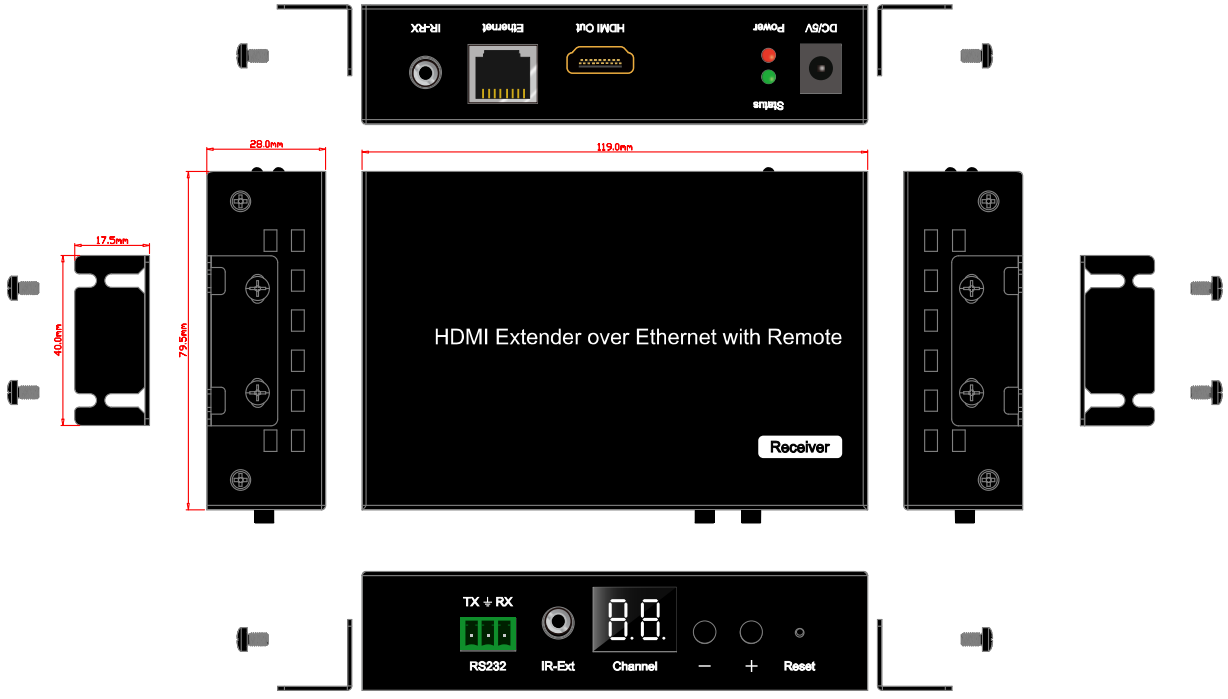


4.1. Panel Drawing

Transmitter



Receiver



5. Installation and Configuring

Point-to-Point

There is no need to configure either unit when used in this configuration.

Point-to-Many and Many-to-Many

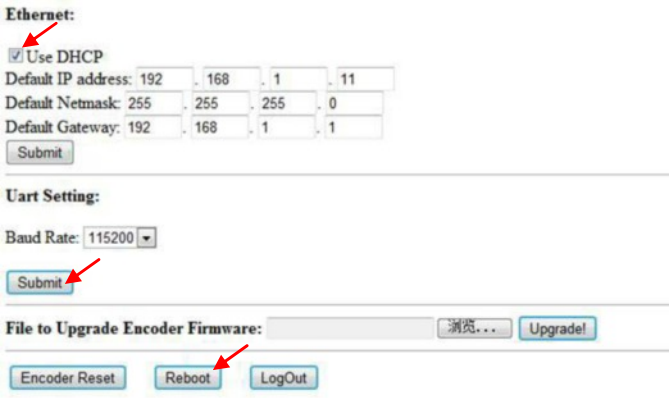
Each transmitter and receiver must have their own MAC and IP address when used in this confiuration. The transmitter must also have it's own group ID, no two transmitters can share the same group ID.

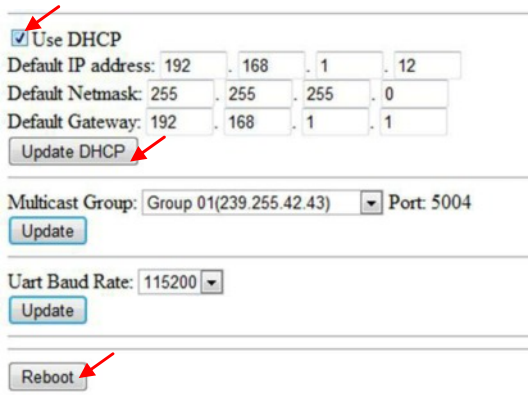
The transmitter and receiver has been assigned a unique MAC address and therefore requires no change. However, the IP addresses will need changing as these have been set during manufacture.

5.1.1 Setting IP Address

A) DHCP (Dynamic host configuration protocol)

If you are using a router or switch that supports DHCP, please enable this function on all transmitters and receivers.





B) Setting IP address via web browser

If you are using a switch that doesn't support DHCP you will need to change the IP address on all transmitters and receivers. The default IP addresses are Tx (192.168.1.11), Rx (192.168.1.12).

Web login:- user name: adim and password: admin

Step 1: Make sure the Tx, Rx and PC are in the same domain.
Access the network settings in your control panel and locate the Internet Protocol Version 4 (TCP/Ipv4). Change these settings to IP address 192.168.1.1 and Subnet Mask 255.255.255.0.

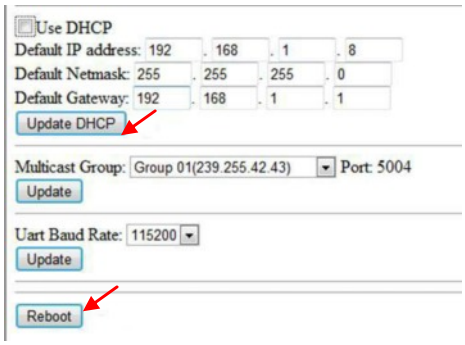
Step 2: Connect the transmitter to you PC using a standard Ethernet cable and connect the power. The red LED will illuninate and the green LED will flash.

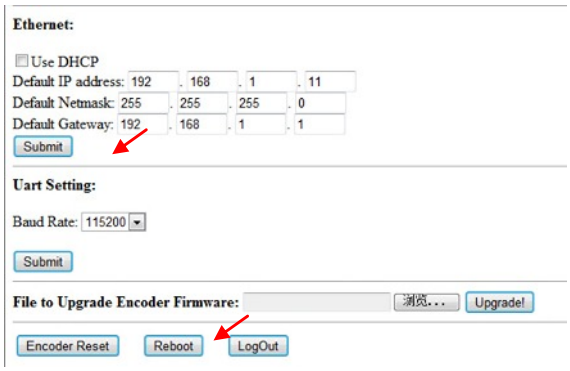
Step 3: Log in to the transmitter by typing the IP address in to the address bar of your internet explorer, transmitter (192.168.1.11) or receiver (192.168.2.12). The transmitter login is "admin" and the password is "admin".

Step 4: In the Ethernet section select un-select DHCP and entre individual IP addresses for each product. We suggest using 192.168.1.11, 192.168.1.13, 192.168.1.15 etc. for transmitters and 192.168.1.12, 192.168.1.14, 192.168.1.16 etc. for receivers.

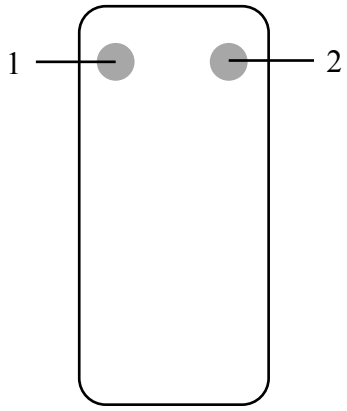
Step 5: Click "Update DHCP" to complete the operation.

Step 6: Re-Start the transmitter or receiver to activate the new settings.





5.1.2 Selecting Group ID and Baud Rate



Button 1. Press to select Group ID or Baud Rate
Button 2. Press for “Factory Reset”

Selecting Group ID [00 - 63]
1. Press “+” or “-” to move up and down the groups/channels
2. To select a group/channel enter the number using the numerical buttons. For example, group/channel (01). Press “0” then press “1”.

Selecting Baud Rates
Press button (1) to select Baud Rate mode, them press “+” or “-” to change the Baud Rate.

F0 = 2400 (Default)
F1 = 4800
F2 = 9600
F3 = 19200
F4 = 28800
F5 = 38400
F6 = 57600
F7 = 115200

Choosing a source/transmitter on the network - Example
Source (DVD1) - Tx1 - Gigabit Switch - Rx1 - TV1
Source (DVD2) - Tx2 - Gigabit Switch - Rx2 - TV2
Source (DVD3) - Tx3 - Gigabit Switch - Rx3 - TV3

The group ID of transmitters
Tx1 = (01)
Tx2 = (02)
Tx3 = (03)

To display DVD1 on TV1, select Group ID 01 on the receiver.
To display DVD2 on TV1, select Group ID 02 on the receiver.


5.1.3 Setting Group ID using a web browser

Step 1: Follow the instruction in section 5.0 “Installation and Configuring”.

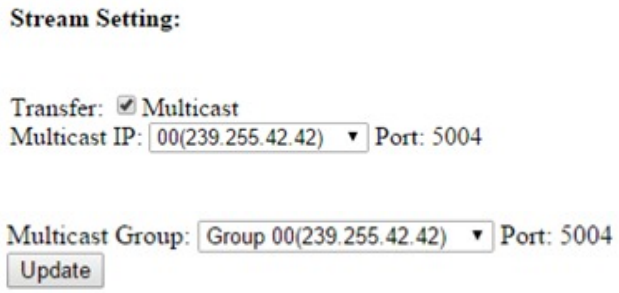
Step 2: In the “Stream Setting” menu, choose your group ID by clicking on the “Multicast Group” panel. You can select from 00 to 63.

Step 3: Click “Update” to confirm.

Note

NOTE: When you change the group ID via a web browser the new selection will not be shown on the numerical LED display. This only changes when used with infra-red or panel buttons.

If the units are re-booted (power cycled), the group ID will be remebered from the last change whether from a web browser, IR and button selection.



5.2 Preparing Network Switches

When using a point-to-many or many-to-many configurations you need to ensure the network switches support “IGMP Snooping”. For configurations were multiple transmitters are used it network should support “Querier”.

If you are not sure about these features please consult your network administrator.

5.3 Connecting Transmitters and Receivers

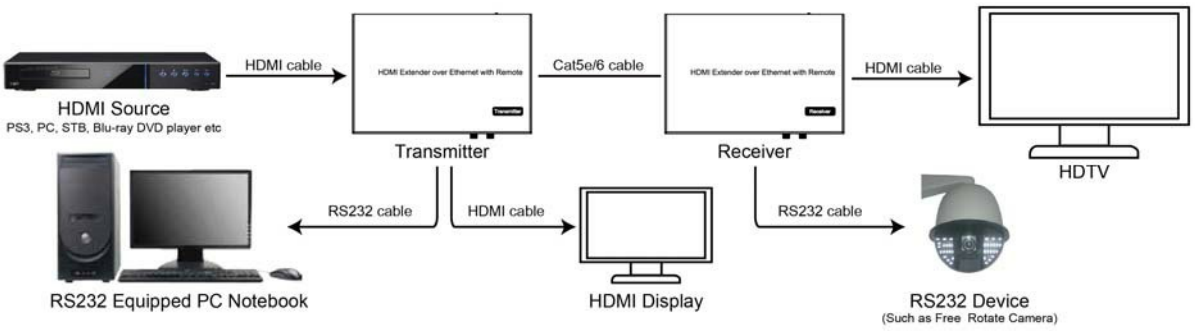
5.3.1 Point-to-Point

1. Connect the source device to the transmitters input using a high quality HDMI cable.
2. Connect the HDMI looped output to your local display.

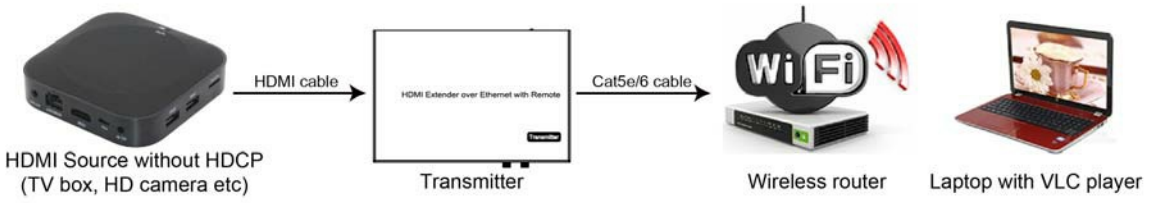
Note

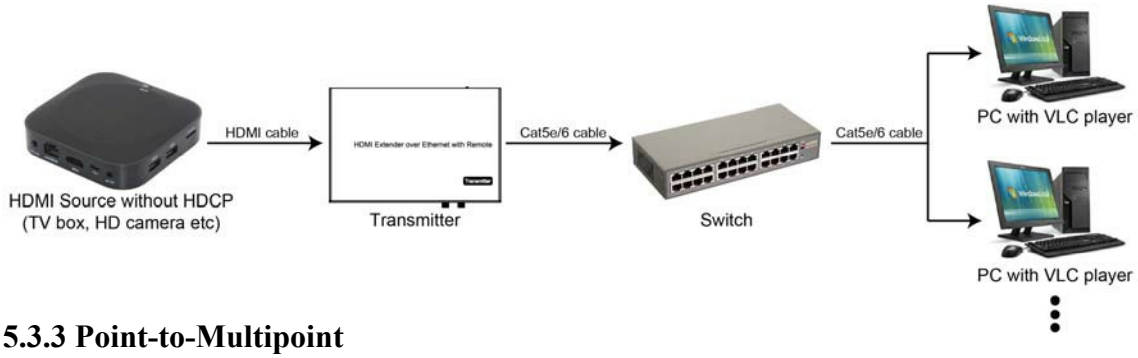
All HDMI connections should be made and properly inserted before power is applied to both the transmitter and receiver.

3. Connect the display to the receiver using a high quality HDMI cable.
4. Connect the transmitter to the reciever using a standard Ethernet CAT5e/6 cable.
5. Connect the IR TX cable to the IR TX port of the transmitter and the IR RX cable to the IR RX port of the receiver. This allows you to control the source device sonnected to the transmitter.
6. Connect the RS232 cable from your PC or automation system to the transmitter and from the receiver to the RS232 device being controlled.
7. Apply power to both the transmitter and receiver.



5.3.2 Compatible with Video Player such as VLC etc





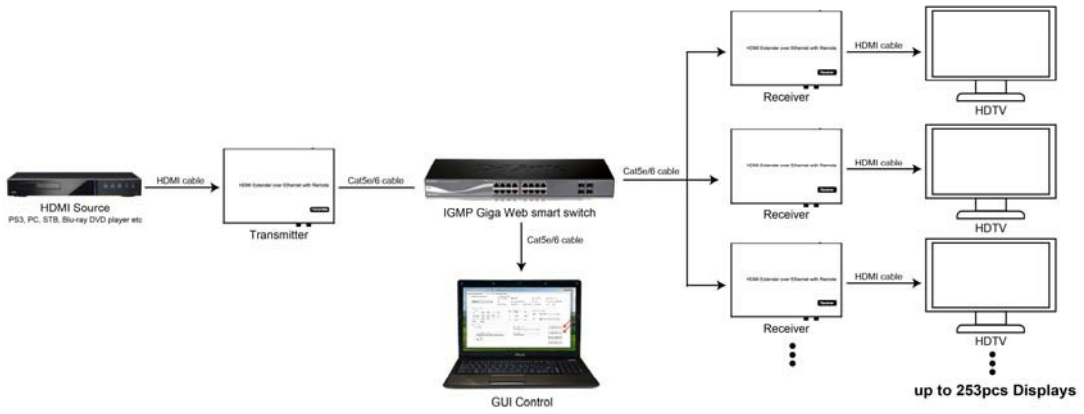
5.3.3 Point-to-Multipoint

1. Setup DHCP or manual IP addresses follwing section 5.1.1 & 5.2.
2. Connect the source device to the transmitters input using a high quality HDMI cable.
3. Connect the HDMI looped output to your local display.
4. Connect the display to the receiver using a high quality HDMI cable.
5. Connect the transmitter to the reciever via the network swicth using a standard Ethernet CAT5e/6 cable.

6. Connect the IR TX cable to the IR TX port of the transmitter and the IR RX cable to the IR RX port of the receiver. This allows you to control the source device sonnected to the transmitter.
7. Connect the RS232 cable from your PC or automation system to the transmitter and from the receiver to the RS232 device being controlled.
8. Apply power to both the transmitter and receiver.

Note

Network switches can be cascaded to achieve a max of 64 transmitters and 255 receivers.



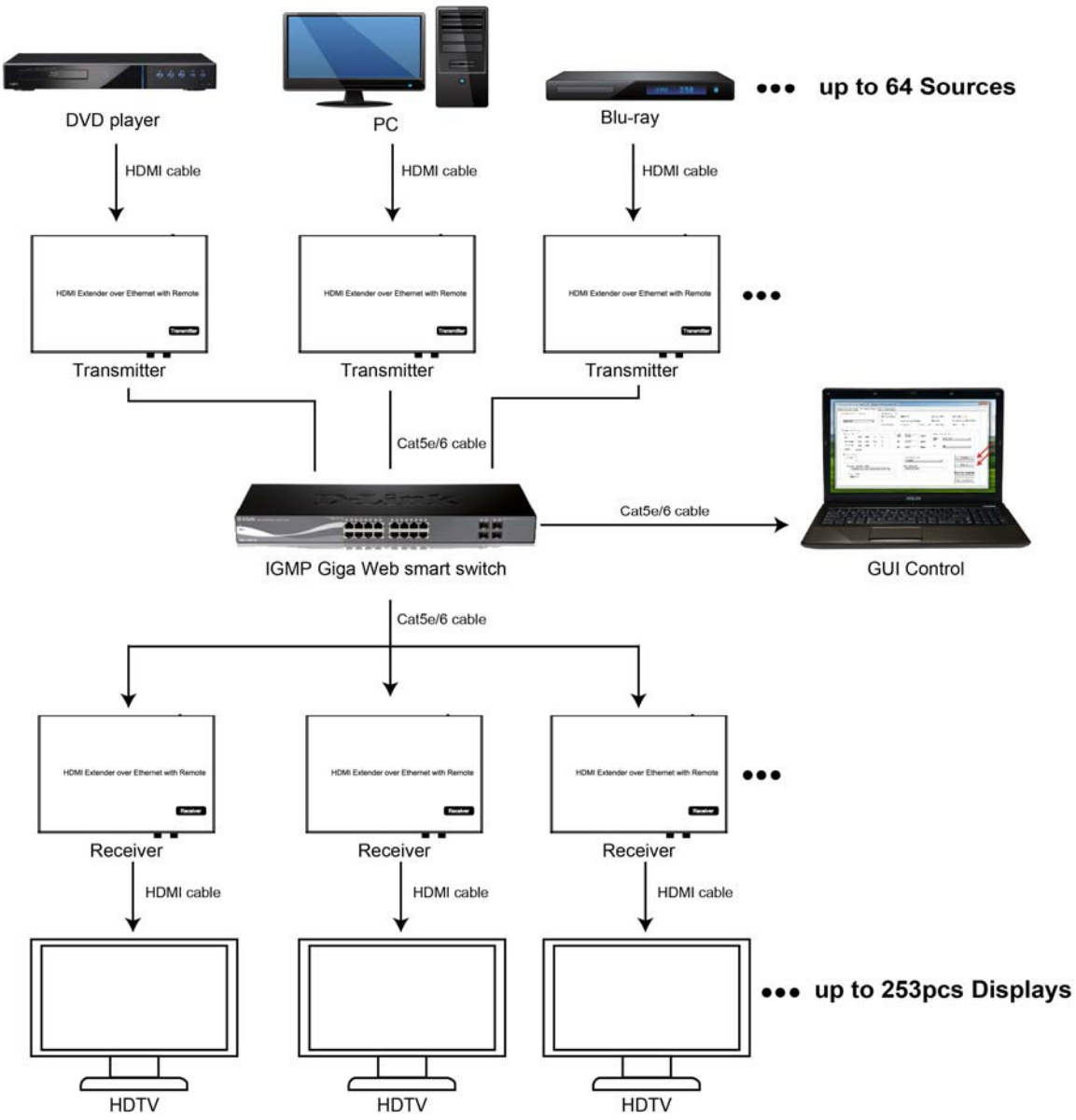
5.3.3 Multipoint-to-Multipoint

1. Setup DHCP or manual IP addresses follwing section 5.1.1 & 5.2.
2. Connect the source device to the transmitters input using a high quality HDMI cable.
3. Connect the HDMI looped output to your local display.
4. Connect the display to the receiver using a high quality HDMI cable.
5. Connect the transmitter to the reciever via the network swicth using a standard Ethernet CAT5e/6 cable.
6. Connect the IR TX cable to the IR TX port of the transmitter and the IR RX cable to the IR RX port of the receiver. This allows you to control the source device sonnected to the transmitter.
7. Connect the RS232 cable from your PC or automation system to the transmitter and from the receiver to the RS232 device being controlled.
8. Apply power to both the transmitter and receiver.

Note

Network switches can be cascaded to achieve a maximum of 256 transmitters/receivers.
Example a) 1 x Transmitter to 255 receivers
Example b) 10 x Transmitters to 246 receivers
Example c) 64 x Transmitters to 192 receivers

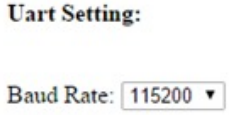
10. Transmitters/Source devices are selected using the infra-red remote supplied or via the web browser as instructed in section 5.1.2.



6.2 Baud Rate Settings

6.2.1 Setting the Baud Rate via Web Browser

Login the the transmitter and receiver using the default IP addresses (TX: 192.168.1.11) and (RX: 192.168.1.12). If these values have already been changed, please use your new values. The Baud Rates can be changed from 2400 to 115200.



WARRANTY

If your product does not work properly because of a defect in materials or workmanship, our Company (referred to as "the warrantor") will, for the length of the period indicated as below, **(Parts(2)Year, Labor(90) Days)** which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new of a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labour" Limited Warranty period there will be no charge for labour. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers product purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

MAIL-IN SERVICE

When shipping the unit carefully pack and send it prepaid, adequately insured and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

LIMITED WARRANTY LIMITS AND EXCLUSIONS

(a)This Limited Warranty ONLY COVERS failures due to defects in materials or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, misadjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Server, or damage that is attributable to acts of God.
(b)THERE ARE NO EXPRESS WARRANTIES EXCEPT AS LISTED UNDER "LIMITED WARRANTY COVERAGE". THE WARRANTOR IS NOT LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRNTY. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive, but are for illustration only.) (c)PARTS AND SERVICE, WHICH ARE NOT COVERED BY THIS LIMITED WARRANTY, ARE YOUR RESPONSIBILITY.