

## • Important Safety Instructions

1. Please read the user manual carefully before use this product, and keep these instructions.
2. Do not mix up transmitter and receiver before installation.
3. Channel of the transmitter(TX) must be different, otherwise, the system would be breakdown(including transmitter, receiver, IGMP switch etc.).
4. It is advised to set channel of transmitter before access to network.
5. Follow all instructions.
6. This extender must be installed and operated within the limits of specified operating temperature and humidity.
7. Do not place objects on top of the unit.
8. Do not position the matrix extender near any heating source such as heater, radiator, or direct exposure to sun.
9. Prevent entering of water and moisture into the unit. If necessary, use dehumidifier to reduce humidity.
10. Use DC5V/3A power supply only. Make sure the specification matched if using 3rd party DC adapters.

## • Product Introduction

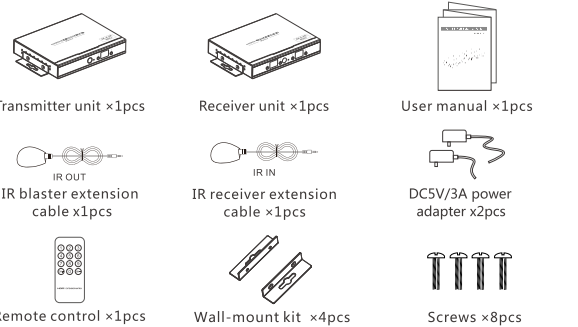
This HDbiT HDMI Extender Matrix includes a transmitter unit(TX) and a receiver unit(RX). It allows for the distribution and switching of high definition video/audio signal by this product and off-the-shelf IGMP switch. It applied advanced HDbiT technology, the resolution supported is up to 4Kx2K@60Hz ultra HD. It can also used in a point-to-point connection, the distance is up to 120 meters. It is widely applied in digital signage advertisement, control room, command centers, entertainment and exhibition center, safety monitoring system, etc.

## • Features

1. Resolution supported is up to 4Kx2K@60Hz ultra HD.
2. Transmission distance is up to 120 meters via CAT6.
3. Support IR pass back function to control source device from RX location.

4. Offer scalable and flexible input-output matrix configuration, allows 100 input to infinite output.
5. Support computer control software to select and switch source device input.
6. Plug and play.
7. Support to select and switch source device input from receiver via remote control and hard button.
8. Support APP control, user can scan, preview, build up their configuration by using a phone/tablet easily.

## • Package Content

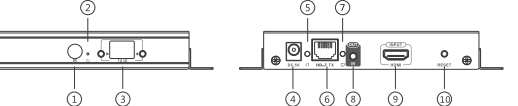


## • Installation Requirements

1. HDMI source devices: with HDMI OUTPUT interface, DVD, PS3, STB, PC etc.
2. Display devices : With HDMI INPUT port, SDTV, HDTV, projector etc.
3. Network cables : UTP/STP CAT5/5E/6 network cables, which following the standard of IEEE-568B. Transmission length: CAT5 80m/CAT5E 100m/CAT6 120m.

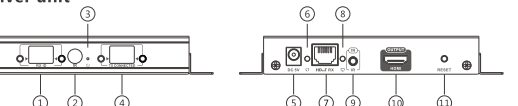
## • Panel Description

### 1. Transmitter unit



① IR receiver window	Receive IR signal from remote control
② Power indicator	LED indicator turn on when power on
③ TX ID	Mark transmitter unit's channel as a number, indicator of the current TX ID number
④ Power input	Connect with DC5V/3A power adapter
⑤ Data transmission indicator	Led blinks slowly when it is building connection. Led blinks fast when it is successfully connected and transmitting data
⑥ HDbiT signal output	Output encoded HDMI signal
⑦ Connection indicator	LED indicator turn on when the transmitter connects to the receiver, otherwise it is off
⑧ IR blaster extension cable interface	Connect with IR blaster extension cable. Please put the IR blaster close to source device to best transmit the IR signal from receiver
⑨ HDMI input	Connect with the source device
⑩ Reset button	Press for restarting the unit

### 2. Receiver unit



① RX ID	Indicator of the current RX ID number
② IR receiver window	Receive IR signal from remote control
③ Power indicator	LED indicator turn on when power on
④ TX CONNECTED	Indicate the input channel as a number, and when the channel of receiver as same as the channel of transmitter, transmission connected

⑤ Power input	Connect with DC5V/3A power adapter
⑥ Data transmission indicator	Led blinks slowly when it is building connection. Led blinks fast when it is successfully connected and transmitting data
⑦ HDbiT signal input	Input encoded HDMI signal
⑧ Connection indicator	LED indicator turn on when the transmitter connects to the receiver, otherwise it is off
⑨ IR receiver extension cable interface	Connect with IR receiver extension cable. Please make sure the remote control is within the required range of IR receiver
⑩ HDMI output	Connect with the display device
⑪ Reset button	Press for restarting the unit

## • Installation and Connection

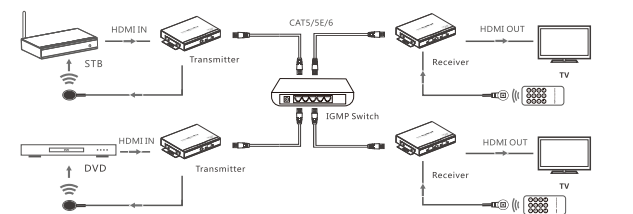
### 1. How to make a CAT5/5E/6 network cable

Follow the standard of IEEE-568B:

1. white and orange; 2. orange; 3. white and green; 4. blue; 5. white and blue; 6. green; 7. white and brown; 8. brown.

### 2. Connection Drawing

#### 2.1 Matrix configuration



【NOTE】: The switch has to support IGMP function

#### 2.2 Point to point configuration



## 3. IR use guide

### 3.1 IR passback

IR blaster extension cable should plug into the IR-out port of TX (Transmitter) of this extender matrix, and the IR receiver extension cable should plug into the IR-in port of the RX (Receiver) of this matrix extender. The emitter of IR blaster should as close as possible to the IR receiver window of the signal source device.

### 3.2 IR remote control

Using the IR remote controller to set/select the channel of this HDMI Extender Matrix.

## 4. APP control use guide

### 4.1 HDbiT Matrix Controller MODE--APP "Matrix controller"

4.1.1 **Android User:** Download the App "Matrix Controller" by your mobile phone from the website:

<http://www.hdbitt.com/download-matrix/>.

**IOS User:** Download the APP"Matrix Controller" from the APP Store.

4.1.2 Firstly, connect the video matrix controller to the IGMP switch.

Then, connect mobile phone/tablet and the video matrix controller via hotspot"MATRIX" with each other(as figure 1, the wifi password is 12345678). At this time, open the downloaded APP"matrix control, will enter to the interface as figure 2, and APP control starts.

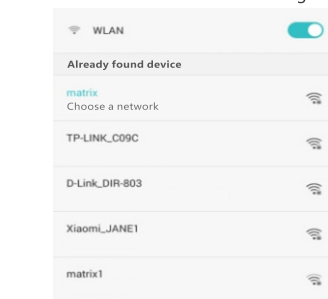


Figure 1

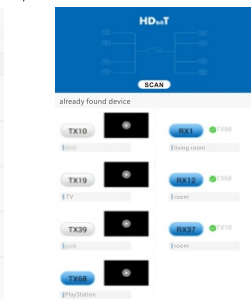
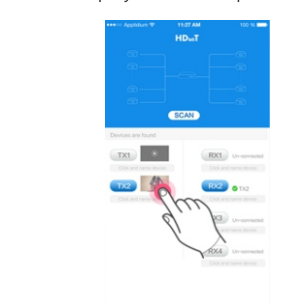


Figure 2

## 4.1.3 APP function

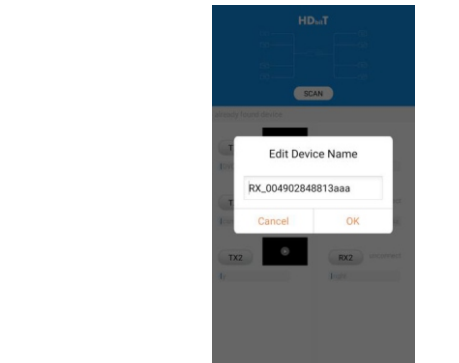
### 4.1.3.1 Preview

Click " play" button to preview the content of the source device.



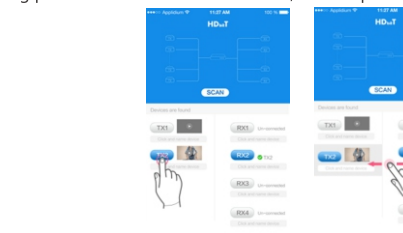
### 4.1.3.2 Edit

Click the frame under the TX/RX button to edit device name.



## 4.1.4 Push and slide

Drag push button TX and slide to RX, to set up new connection.



**Note:** Please do not use more than one mobile phone/tablet to control the system simultaneously.

## 4.2 Router MODE--APP " Matrix Control Lite"

4.2.1 **Android User:** Download the APP "Matrix Control Lite" from google play.

4.2.2 **IOS User:** Download the APP "Matrix Control Lite" from APP Store.

4.2.3 Firstly, connect the router to the IGMP switch. Then, connect mobile phone and the router with each other, open the downloaded APP "Matrix Control Lite" will enter to the interface as figure 3, TX ID, RX ID, TX connected number can be re-set by this APP, also can edit device name for marking.

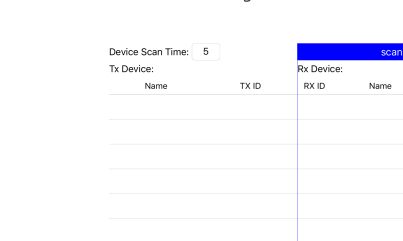


Figure 3

## 5. Button control

There is a "TX ID" on TX unit, and there are both "RX ID" and "TX connected" on the RX unit.

Each of them consists of two Nixie tubes and two buttons (beside the Nixie tube), the left button controls the value of the left Nixie tube, and the right one to control the value of the right Nixie tube. The value of each Nixie tube is from 0 to 9, each button is pressed at a time, the number is added one value. For example, the existing value of TX ID is "00" , and press the left button once, also press the right button once, then the value of TX ID is changed to " 11" . When the value of "TX connected" on the RX unit is as same as the value of "TX ID" on the TX unit, a connection built between the TX and RX units.

**Short press:** Press to set IGMP group and display the setted value. Product switches automatically to the corresponding IGMP group 5 seconds after the press.

**Long press:** Press and keep 3 seconds to reset the product.

## 6. Computer software control use guide

6.1 Access to network  
Connect your PC/computer with the off-the-shelf IGMP Ethernet switch via a single network cable

6.2 PC/computer setting  
Change the PC/computer's IP to 192.168.1.xxx (xxx can be 0 to 255) , which as same as the IP segment of TX unit and RX unit.

6.3 Web operation  
Open application program "HDbiT E-Matrix Control center" ,it displays the interface as Figure 1 ( Download from the website: <http://www.hdbitt.com/download-matrix/>).

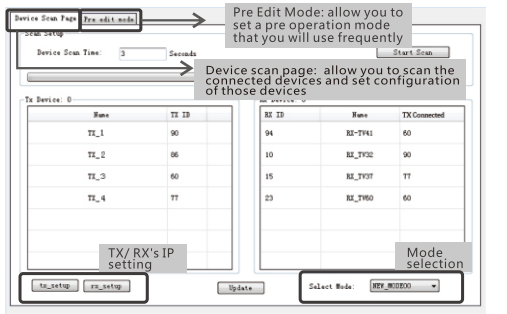


Figure 1

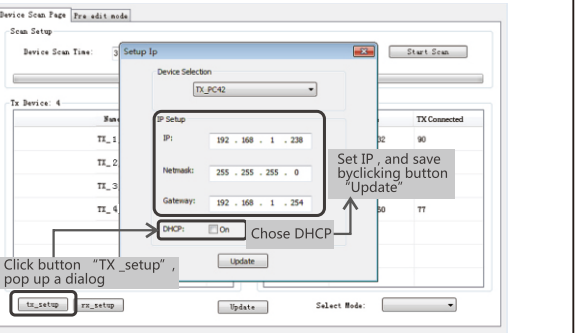


Figure 2

**Device scanning and setting** (here make an example of TX's setting only, RX's setting is same as TX's)

\* Click button "Start Scan", the scanned result shows as Figure 3

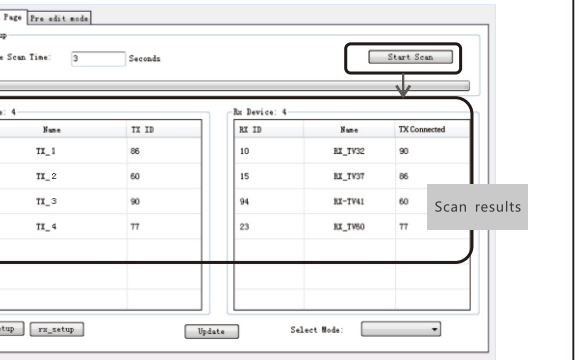


Figure 3

\* Device Name setting as Figure 4

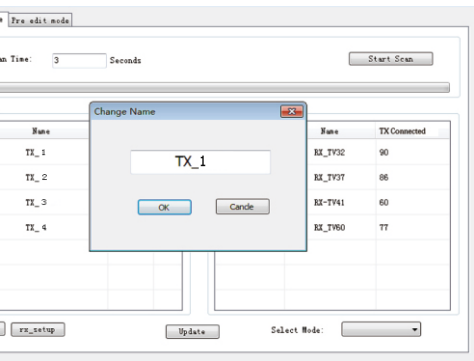


Figure 4

\* Device channel (TX ID) setting as Figure 5

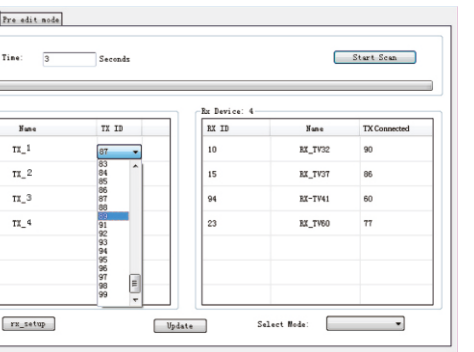


Figure 5

Click button "Update", new configuration saved

**Pre-operation mode editing**, show as Figure 6

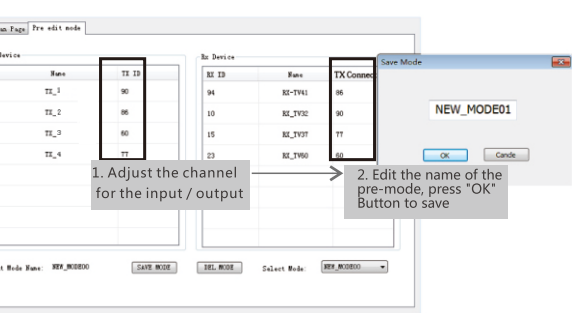


Figure 6

**Operation mode selection setting**

Follow up Figure 7, Click button "Select Mode", to choose the mode needed.

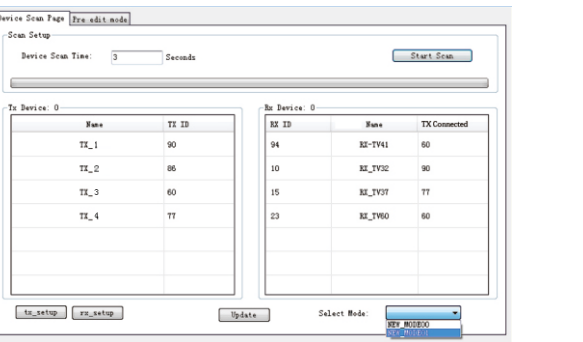


Figure 7

## FAQ

Q: TV display "Waiting for connection" on the right corner?

A: 1) Please check if the power supply of transmitter and switcher (if used) is connected, and make sure all connection is correct and well.

2) Please check and make sure receiver's channel number is within transmitter's channel list.

3) Please check and make sure all of the transmitter's channel are different.

Q: TV display "Please check the transmitter input signal"?

A: 1) please check if there is a HDMI signal input of transmitter;

2) Try to connect the signal source directly to display device to see if there is signal output from source device, or change the signal source, HDMI wire and try again.

Q: Display is not fluent, not stable?

A: 1) Please check and make sure your switch is with IGMP function, and the IGMP function is open.

Q: Black screen or no image on displays?

A: 1) Cut off the input of source device, if TV displays "Please check the transmitter input signal" after about 10 seconds, please connect the source again, change and try another resolution.

## Specification

Items	Specification	
Power Supply	Voltage/Current	DC5V/3A
	Power consumption	TX: 7W RX: <10W
HDMI Performance And Interface	HDMI compliance	HDMI2.0
	HDCP compliance	HDCP2.2
	HDMI input resolution	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 4Kx2K @24/25/30/60Hz
	HDMI output resolution	1080p@60Hz, 4Kx2K@30/60Hz

	Supports audio formats	PCM
	Maximum transfer rate	18Gbps
	Input and output TMDS signal	0.7~1.5Vp-p(TMDS)
	Input and output DDC signal	5Vp-p(TTL)
	Input cable length	≤5m(AWG26)
	Output cable length	≤5m(AWG26)
	APP control	Support APP control, user can scan, preview, build up their configuration by using a phone/tablet easily, OS system supports IOS and Android
IR performance and interface	IR remote control	Supports IR passback with 20~60KHz frequency
HDbiT	Transfer method	Over UTP/STP CAT5/5e/6
	Transmission distance	120 Meters
	Connector	RJ45
	Delay	≤200 ms
Protection Level	Electrostatic protection of the whole machine	1a Contact discharge level 3
		1b Air discharge level 3
Operating Environment	Standard: IEC61000-4-2	
	Working temperature	0~50°C
	Storage temperature	-10~70°C
	Humidity (no condensation)	0~90%
Body Properties	Dimension	164(L) x108.5(W) x 23.6(H)mm
	Material	Iron alloy material + crystal panel
	Finishing	Grit blast
	Color	Black
Reliability	Mean time between failures (MTBF)	Weight
		TX:330g, RX:330g
		>30000 Hours

## Disclaimer

The product name and brand name may be registered trademark of related manufacturers. TM and ® may be omitted on the user manual. Design and specifications of this unit are subject to change without prior notice. Pictures are for reference only. Products may differ slightly from images shown.

## HDbiT HDMI Extender Matrix

## User Manual

4Kx2K  
60Hz

