• 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/2A power supply only. Make sure the specification matched if using 3rd party DC adapters.

• Product Introduction

This HDbitT 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 HDbitT technology, the resolution supported is up to 1080p@60Hz full 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.

• Product Features

1. Applies advanced HDbitT over IP technology.
2. Resolution supported is up to 1080p@60Hz full HD.
3. Transmission distance is up to 120 meters via CAT6.
4. Support IR pass back function to control source device from RX location.
5. Offer scalable and flexible input-output matrix configuration, allows 100 input to infinite output.
6. Support computer control software to select and switch source device input.
7. Plug and play.
8. Support to select and switch source device input from receiver via remote control and hard button.
9. Support APP control, user can scan, preview, build up their configuration by using a phone/tablet easily.

• Package Content


Transmitter unit ×1pcs


Receiver unit ×1pcs


User manual ×1pcs


IR blaster extension cable x1pcs


IR receiver extension cable ×1pcs


Power supply (DC5V) ×2pcs


Remote control ×1pcs


Wall-mount kit ×4pcs

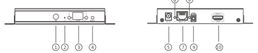

Screws ×8pcs

• 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.

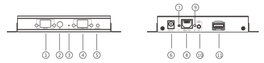
• Panel Description

1.Transmitter unit



① IR receiver window: remote control channel
②Power indicator
③TX ID: Mark transmitter unit's channel as a number, indicator of the current TX ID number
④RESET button
⑤DC5V power input
⑥Data transmission indicator
⑦RJ45 signal output
⑧Connection indicator
⑨IR blaster extension cable interface
⑩HDMI signal input

2. Receiver unit



①RX ID: Mark receiver unit as a number, indicator of the current RX ID number
②IR receiver window: remote control channel
③Power indicator
④TX CONNECTED: Indicate the input channel as a number, and when the channel of receiver as same as the channel of transmitter, transmission connected
⑤RESET button
⑥DC5V power input
⑦Data transmission indicator
⑧RJ45 signal input
⑨Connection indicator
⑩IR receiver extension cable interface
⑪HDMI signal output

• Installation and Connection

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

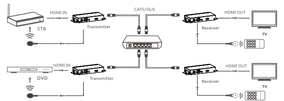
Follow the standard of IEEE-568B:



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 HDbitT 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.

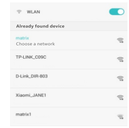


Figure 1



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 "HDbitT E-Matrix Control center",it displays the interface as Figure 1 (Download from the website: http://www.hdbitt.com/download-matrix/).

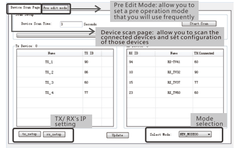


Figure 1

IP setting

TX and RX have their own default IP address, TX's IP is 192.168.1.238, and RX's IP is 192.168.1.239. **Generally, it is no need to change the device IP address**, as the system can work normally even though multiple TX units and multiple RX units connected into the system with their default IP address.

If IP setting is really needed, please follow up the operation as Figure 2 (here make an example of TX's IP setting only, RX's setting is the same as TX's)

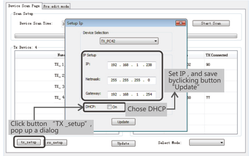


Figure 2

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

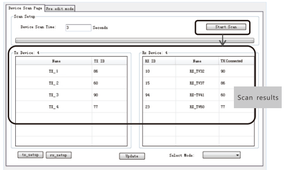


Figure 3

* Device Name setting as Figure 4

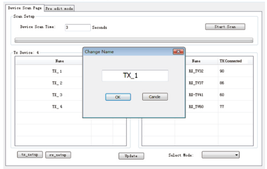


Figure 4

* Device channel (TX ID) setting as Figure 5

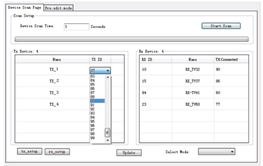


Figure 5

Click button "Update", new configuration saved

Pre-operation mode editing , show as Figure 6

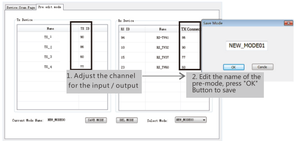


Figure 6

Operation mode selection setting

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

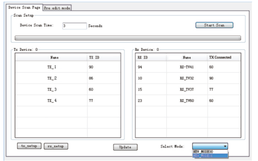


Figure 7

• 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: 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: 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

Item	Specification
HDMI signal	HDMI1.3,compliant to HDCP
Network bandwidth	1BMbps
Supported resolution	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz
Audio format	PCM
TMDS signal	0.7~1.2Vp-p
DDC signal	5Vp-p
Remote control	Support
IR passback	Supports 20~60KHz IR devices
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
Matrix configuration	Up to 100 source signals can be connected and switched to infinite output
Power supply	5V/2A
Power consumption	TX≤4W ; RX≤4W
Weight	TX260g ; RX250g
Dimensions(LxWxH)	133.8×83.8×23.8mm
Working temperature	0~60℃
Storage temperature	-20~70℃
Relative humidity	0~95%(no condensation)
Color	Black

HDbitT HDMI Extender Matrix

User Manual



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