• 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 switch.
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. This product must be used with the IGMP switch.
11. Use DC5V/2A power supply only. Make sure the specification matched if using 3rd party DC adapters.

• Product Introduction

This HDMI video matrix over IP 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 technology, the resolution supported is up to 4K×2K@30Hz 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.

• Product Features

1. Apply advanced over IP technology.
2. Resolution supported is up to 4K×2K@30Hz ultra 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. Plug and play.
6. Support scalable and flexible input-output matrix configuration, allows 100 inputs to infinite output.
7. Support computer control software to select and switch source device input.
8. Support to select and switch source device input from receiver via remote control and hard button.
9. Surge Protection, Lightning Protection, ESD Protection.

• Package Content


Transmitter unit ×1pc


Receiver unit ×1pc


User manual ×1pc



IR blaster extension cable x1pc



IR receiver extension cable ×1pc


Power supply (DC5V) ×2pcs


Remote control ×1pc


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

2. Receiver unit



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

• Installation and Connection

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

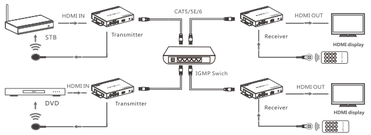
Follow the standard of IEEE-568B:



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 must 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 video Matrix

4. 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.

5. Computer software control use guide

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

5.2 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.

5.3 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/).

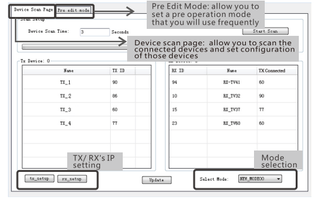


Figure 1

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)

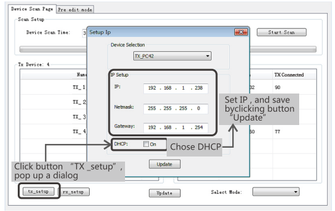


Figure 2

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

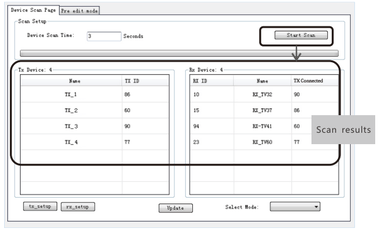


Figure 3

* Device Name setting as Figure 4

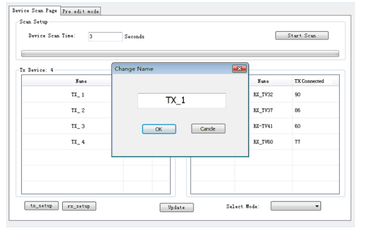


Figure 4

* Device channel (TX ID) setting as Figure 5

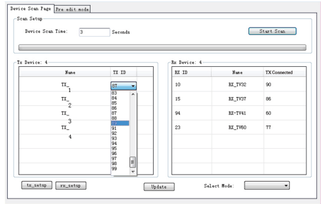


Figure 5

Click button "Update", new configuration saved

Pre-operation mode editing , show as Figure 6

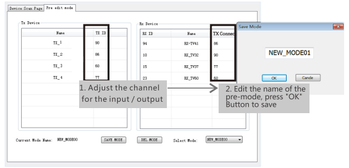


Figure 6

Operation mode selection setting

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

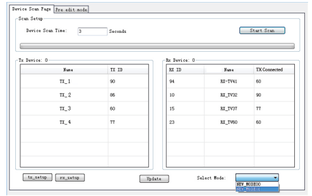


Figure 7

• FAQ

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

A: 1) Please check if the cable is correct and the length is within the range this unit supported .
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 the 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

Item	Specification
HDMI signal	HDMI1.4,compliant to HDCP
Network bandwidth	18Mbps
HDMI input resolution supported	480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 4Kx2K @24/25/30Hz
Audio format supported	PCM
TMDS signal	0.7~1.2Vp-p
DDC signal	5Vp-p
Remote control	Support
IR passback	Supports 20~60KHz IR devices
Matrix configuration	Up to 100 source signals can be connected and switched to infinite output
Voltage/Current	5V/2A
Power consumption	TX≤6W ; RX≤5W
Weight	TX: 320g ; RX: 310g
Dimensions(LxWxH)	164×107.6×23.6mm
Working temperature	0~60℃
Storage temperature	-20~70℃
Humidity	0~95%(no condensation)
Color	Black
Protection	Lightning Protection/Surge Protection/ ESD protection

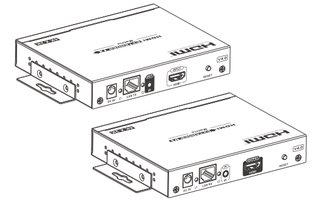
Disclaimer

The product name and brand name may be registered trademark of related manufactures. ™ and ® may be omitted on the user manual.
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HDMI Matrix Extender

User Manual

4Kx2K 30Hz



HDMI™
HIGH-DEFINITION MULTIMEDIA INTERFACE