

## **H.264 120m HDMI Wallplate Extender over IP**

### **Support PC Tool Control, POE, Audio Extraction at Receiver**

#### **Operating Instruction**



### **Introduction**

This HDMI Wallplate Extender over IP use the advanced H.264 as the compression type, which makes it occupy lower bandwidth and transmit over the LAN more smoothly. It supports 120m over single cat5e/6 cable at point to point, as well as point to many and many to many over Ethernet switch. The over IP solution is widely used in various locations, like meeting room, class room, metro, airport, home, mall advertisement...etc.

### **1. Features**

- 1) Support Dynamic Host Configuration Protocol (DHCP)
- 2) Support one to one, one to many, many to one, many to many modes, with large cascade
- 3) Following North American Wall plate standard
- 4) Transmit up to 120m over single Cat5e/6 cable
- 5) Using H.264 compression encoding, support resolution up to 1080p@60hz
- 6) Comply with TCP/IP protocol, streaming bit rate is 15Mbps
- 7) Support Analog 2.0 Audio Extraction at Receiver
- 8) Support LPCM audio format
- 9) Support PC tool control
- 10) Compatible with Video Player such as VLC etc
- 11) 802.3 of compliant POE (No need power supply when connecting with POE Switch)
- 12) HDCP Compliant
- 13) 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/1080P
HDCP	Compliant
IP setting & Group ID setting	
Default IP	TX: 192.168.1.11 ; RX: 192.168.1.12
Request for Switch/Router	Support IGMP, support DHCP
Connectors on Transmitter	
Input	1xHDMI Female port input
Output	1x RJ45 output
Connectors on Receiver	
Input	1xRJ45 input
Output	1x HDMI Female port output, 1x Audio output
Environmental & Power Requirements	
Operating temperature	-10 to +40 °C （+14 to +104°F）
Operating Humidity Range	20 to 90%RH (No Condensation)
Power supply	DC 5V 1A
Power consumption	TX: 4W RX: 3W
Physical	
Dimension	TX: 70x115x40mm ; RX: 70x115x40mm
Net Weight	TX: 0.12KG ; RX:0.13KG

## 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

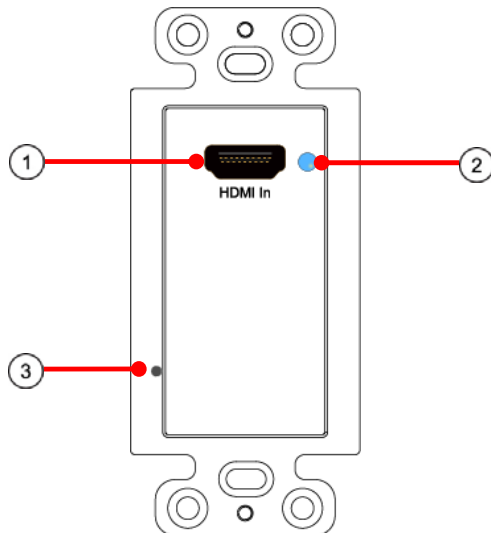
Frequency	Resolution
50Hz	576i
	576P
	720P
	1080P
	1080i
60Hz/59.94Hz	480i
	480P
	720P
	1080P
30Hz/29.97Hz	1080P
24Hz	1080P
25Hz	1080P

### 3. Packing content

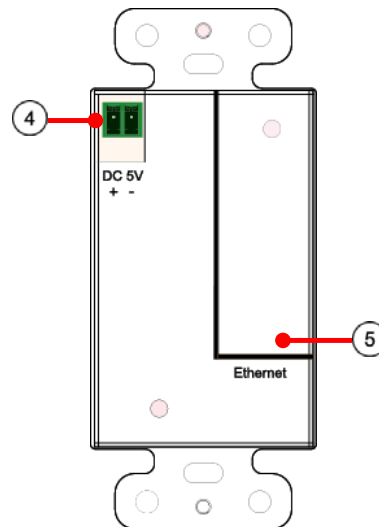
- 1). 1x Transmitter
- 2). 1x Receiver
- 3). 1x Manual
- 4). 2x 6#-32x7/32" screws
- 5). 4x 4#-32x5/8" screws
- 6). 2x Phoenix plugs for power supply
- 7). 2x Power supply

### 4. Panel description

#### Transmitter

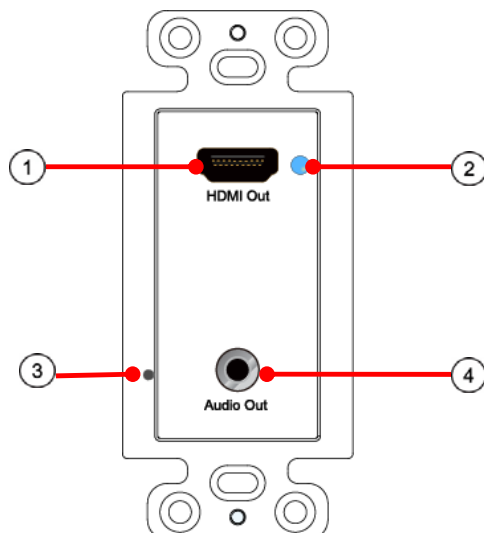


- 1) HDMI input
- 2) Blue indicator of HDMI input
- 3) Reset port **1**
- 4) CAT5e/6 output

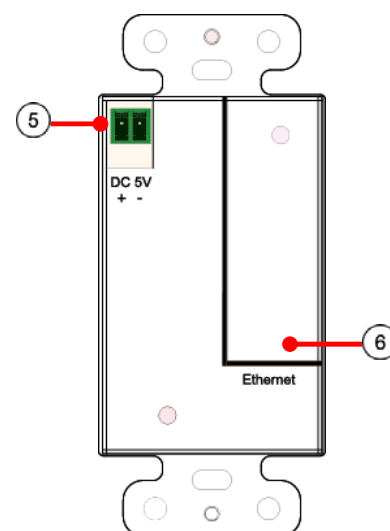


- 2) Blue indicator of HDMI input
- 4) DC 5V

#### Receiver



- 1) HDMI output
- 2) Blue indicator of HDMI output
- 3) Reset port **1**
- 4) Audio output



- 2) Blue indicator of HDMI output
- 4) Audio output
- 5) DC 5V
- 6) CAT5e/6 input

**Note 1:** Power on the device use a tiny pin to insert the reset hole and hold about 10 seconds, then the LED will go out, you have successfully recover the factory setting.

## 5. Installation and Configuration

### 5.1 Setup HDMI TX and RX

When connecting point to point, no need to configure TX and RX,  
When connecting point to many, many to point and many to many, please make sure every TX and RX has unique IP and MAC address, every TX has unique group ID.

Our this over IP Extender has been assigned unique default MAC address for every TX and RX, so you don't have to set the MAC for the units.

You just need to set the IP address and Group ID following bellowing steps.

#### 5.1.1 Setting the IP address

##### A). DHCP (Dynamic host configuration protocol)

If you are using a Switch that supports DHCP, please enable DHCP so that the Switch will assign an unique IP for TX and RX, and you don't need to change the IP for the units manually.

**Ethernet:**

☒ Use DHCP

Default IP address: 192 . 168 . 1 . 11

Default Netmask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 1 . 1

---

**Uart Setting:**

Baud Rate: 115200

---

**File to Upgrade Encoder Firmware:**  

---

☒ Use DHCP

Default IP address: 192 . 168 . 1 . 12

Default Netmask: 255 . 255 . 255 . 0

Default Gateway: 192 . 168 . 1 . 1

---

Multicast Group: Group 01(239.255.42.43) Port: 5004

---

Uart Baud Rate: 115200

---

##### B). Set the IP via web browser

If you are using a Switch that doesn't support DHCP, please change the default IP for TX (192.168.1.11) and RX (192.168.1.12) manually.

A HTTP server is embedded in each TX and RX. You can set up IP address for HDMI Extender via web browser

The default IP address of the **TX is 192.168.1.11**, **user** name: admin, password: admin

The default IP address of the **RX is 192.168.1.12**

### Step 1: Make sure the Transmitter and PC are in the same domain.

Access the Network Setting Control Panel in Windows and locate your Lan connection. Under Windows 7, this can be done by clicking Start > Control Panel > Network Sharing center > Change adapter settings > Properties > Internet Protocol Version4 (TCP/IPv4). Change the IP address field to 192.168.1.1 (0-255). After that press "OK" to save the configuration.



Note

- ※ The PC and TX/RX should be in the same domain.
- ※ 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 green status is blinking.

**Step 3:** Login in IE: 192.168.1.11 (default IP for TX) or 192.168.1.12 (default IP for RX), You can setup IP address for the TX and RX. TX requires user name: admin and password: admin  
Please set IP address for each TX and each RX, IP: 192.168.1.XX (XX:1-255. all IP address for TX and RX must be different and can't be same as the PC's address.)

**Step 4:** After selecting "Use DHCP" or reset the IP Address, click "Submit" (transmitter) or "update DHCP" (Receiver).

**Step 5:** Click "Reboot".

**Step 6:** Restart the extender after setting the IP Address.

### 5.1.2 Set the group ID for TX and RX via web browser

**Step 1:** Make sure the Transmitter and PC are in the same domain.  
(Refer to 5.1.1)

**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 green status LED is blinking.

**Step 3:** Power on the TX or RX with 5V 1A power supply.

**Step 4:** Login in IE: 192.168.1.11 (default IP for TX) or 192.168.1.12(default IP for RX), TX requires user name: admin and pass word: admin.

**Step5:** Change the group ID at “Stream setting”.

**Step 6:** Click “Submit” (transmitter) or update (receiver).

Stream Setting:

Transfer: ☒ Multicast  
Multicast IP:  Port: 5004

Multicast Group:  Port: 5004



Note ※ Make sure the Group ID is different for each Transmitter under one to many and many to many mode.

## 5.2 Preparing the switch

When doing point to many and many to many, it requires a switch to distribute the sources. We suggest you use the Switch that supports IGMP and DHCP. IGMP feature help to manage the group ID which is related to switch the sources; DHCP allow the switch to assign an IP for TX and RX automatically, please enable DHCP of the switch.

## 5.3 Connection



Note ※ Please don't insert into or pull out HDMI cable when power on. Please connect cable only when power is off.



### 5.3.1 Point to point

1. Connect the source device and the Transmitter unit with HDMI Cable.
2. Connect HDMI display and the HDMI Receiver unit with HDMI Cable.
3. Connect the Transmitter and Receiver with Cat5e/6 cable
4. Power on Transmitter and Receiver with adapter 5V 1A.

**NOTE: Insert/Extract cables gently.**



### 5.3.2 Compatible with Video Player such as VLC etc



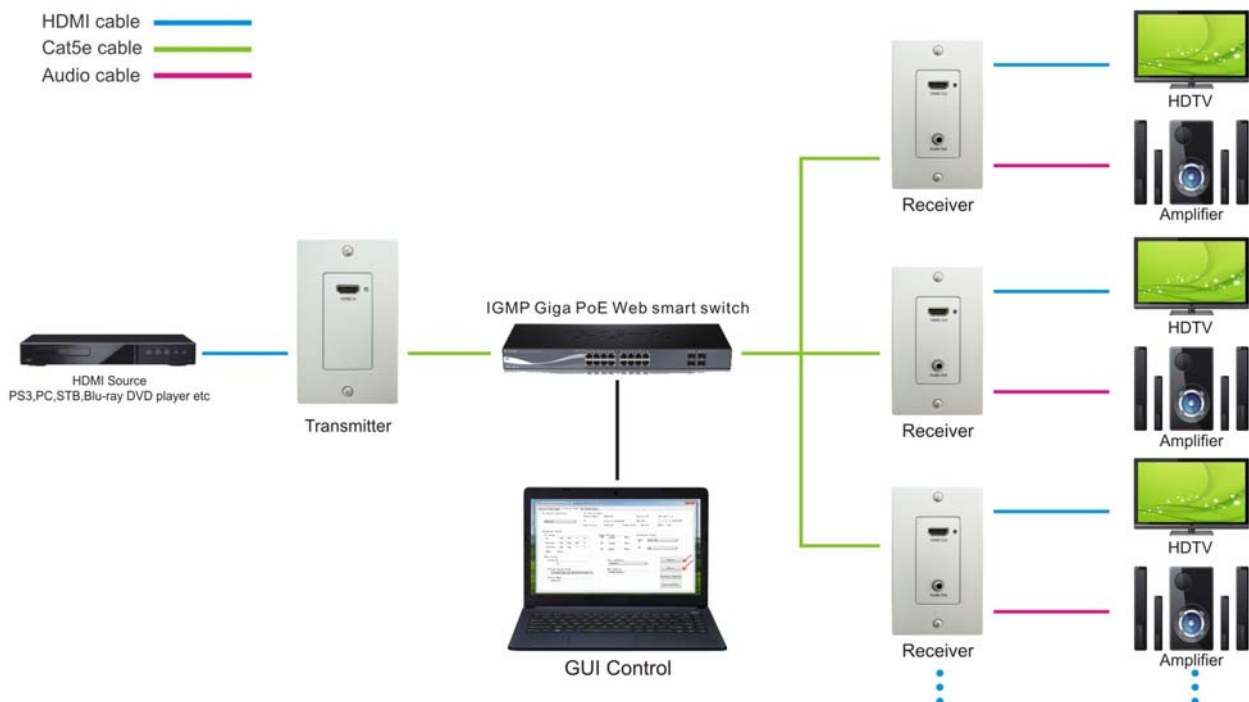
### 5.3.3 Point to many

1. Setting the IP address for Transmitter & Receiver and preparing the switch following the steps as instructed above (5.1.1&5.2)
2. Connect the source device and the Transmitter unit with HDMI Cable.
4. Connect the transmitter and the switch/router with cat5e or cat6 cable.
5. Connect all the Receivers and the switch/ router with Cat5e/6 cable.
6. Connect the HDMI displays and the HDMI Receiver units with HDMI Cable.
7. Power on Transmitter and Receiver with adapter 5V1A, power on the switch with its adapter.



Note

- ※ Daisy chain the switch if its RJ45 port is not enough.
- ※ The quantity of Receiver is up to 255pcs.
- ※ Make sure the Group ID is different for each Transmitter under one to many and many to many mode.






### 5.3.4 Many to many

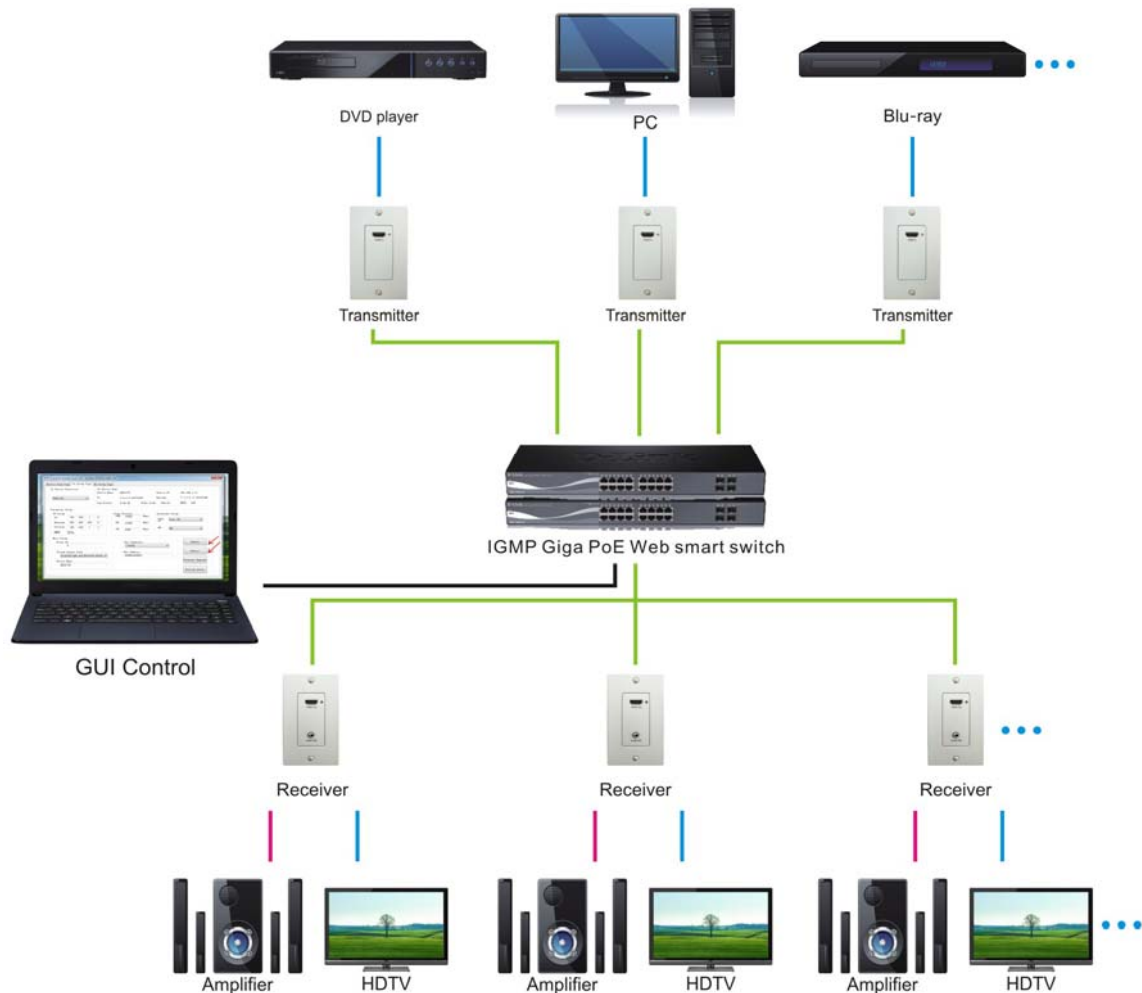
1. Setting the IP address for Transmitter & Receiver and preparing the switch following the steps as instructed above (5.1.1&5.2)
2. Connect the source device and the Transmitter unit with HDMI Cable.
3. Connect the transmitters and the switch/router with cat5e or cat6 cable
4. Connect the Receivers and the switch/ router with Cat5e/6 cable
5. Connect the HDMI displays and the HDMI Receiver units with HDMI Cable.
6. Power on Transmitter and Receiver with adapter 5V1A, power on the switch with its adapter.
7. Choose the source Web browser as instructed above (5.1.2)



Note

- ※ Daisy chain the switch if its RJ45 port is not enough.
- ※ The total quantity of Transmitter and Receiver is less than 256 pcs.
- ※ Make sure the Group ID is different for each Transmitter under one to many and many to many mode.

HDMI cable   
Cat5e cable   
Audio cable 



**Note** ※The total qty of TX, RX, Switch is less than 256pcs.

### 6. Firmware update

We provide the firmware to upgrade the units when it is necessary. Please follow up bellowing steps to update the firmware.

Step1: Connect TX / RX to the PC with a short Cat5e cable

Step2: Power on TX/ RX with power adapter 5V1A.

Step3: Login TX or RX with their default IP (TX: 192.168.1.11; RX:192.168.1.12) on web browser, TX requires user name: admin and password: admin

Step4: Click "choose File" on the interface and find out the latest version firmware.

Step5: Click “Upgrade”, the process will takes seconds, please DO NOT interrupt or power off the units during the time.

**File to Upgrade Firmware:**

No file chosen

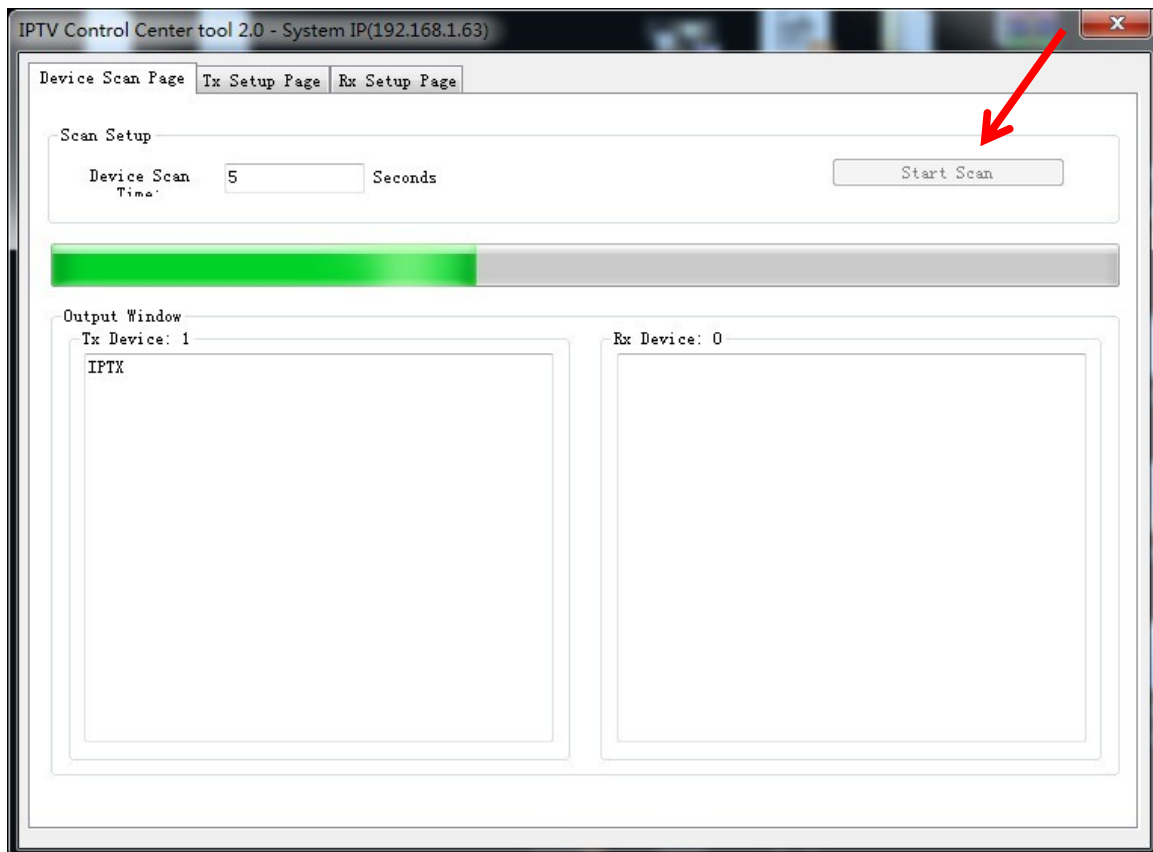
## 7. PC Tool Instructions

Step 1: Make sure the Transmitter and PC are in the same domain. (Refer to 5.1.1)

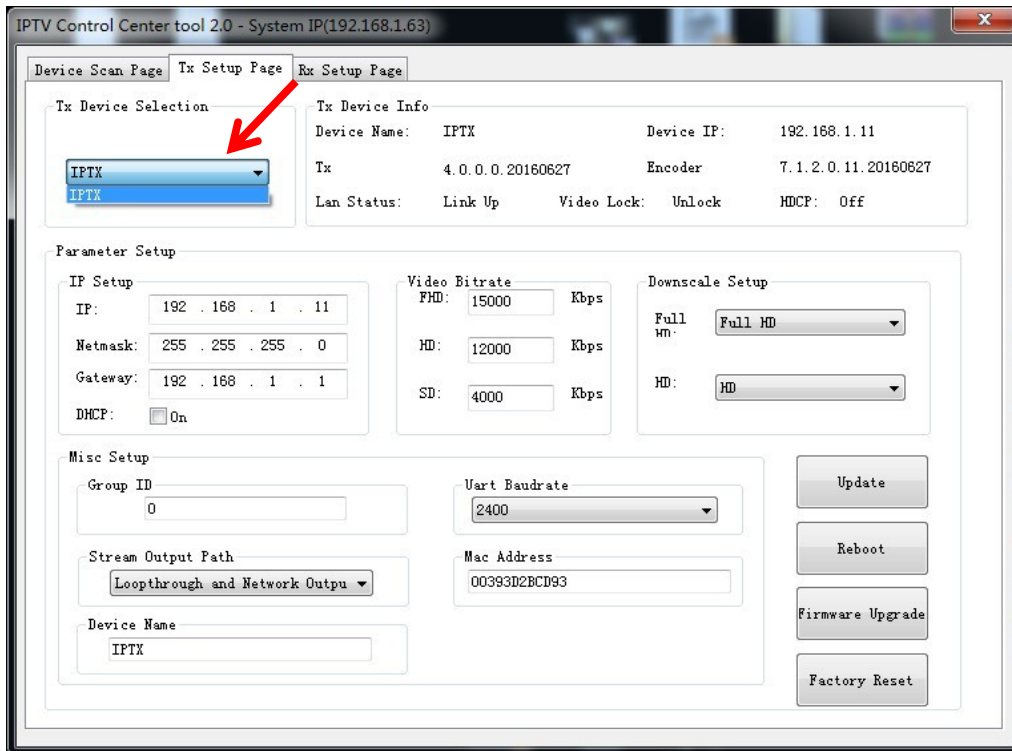
Step 2: Open the PC Tool.



Step 3: Click “Start Scan”.



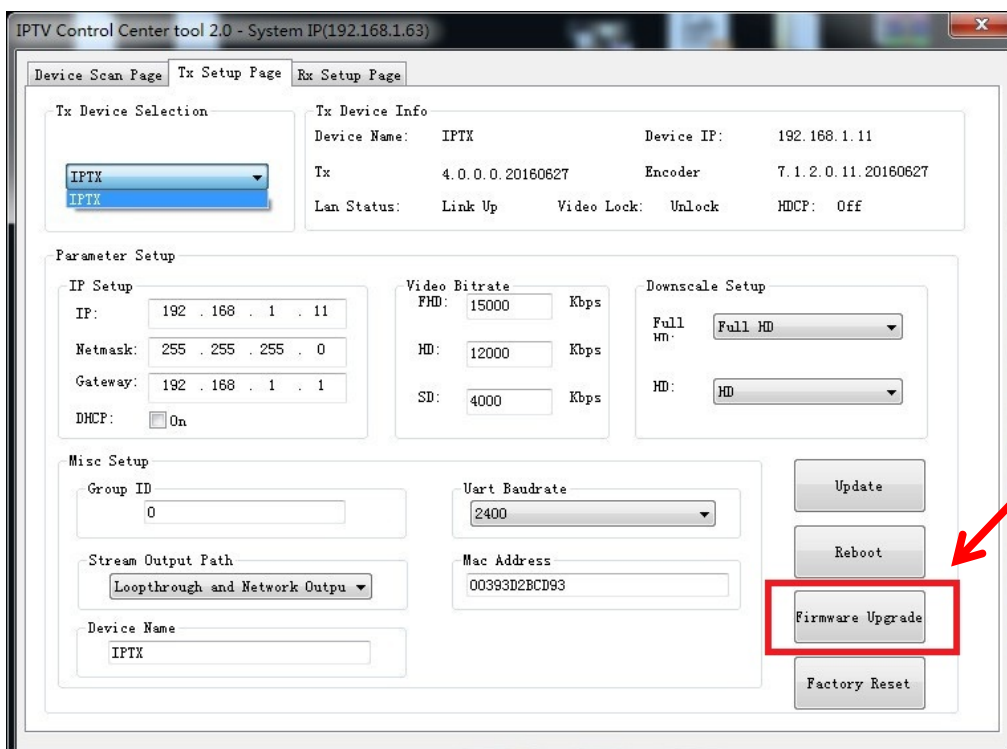
## Step 4: Choose the TX or RX Name.



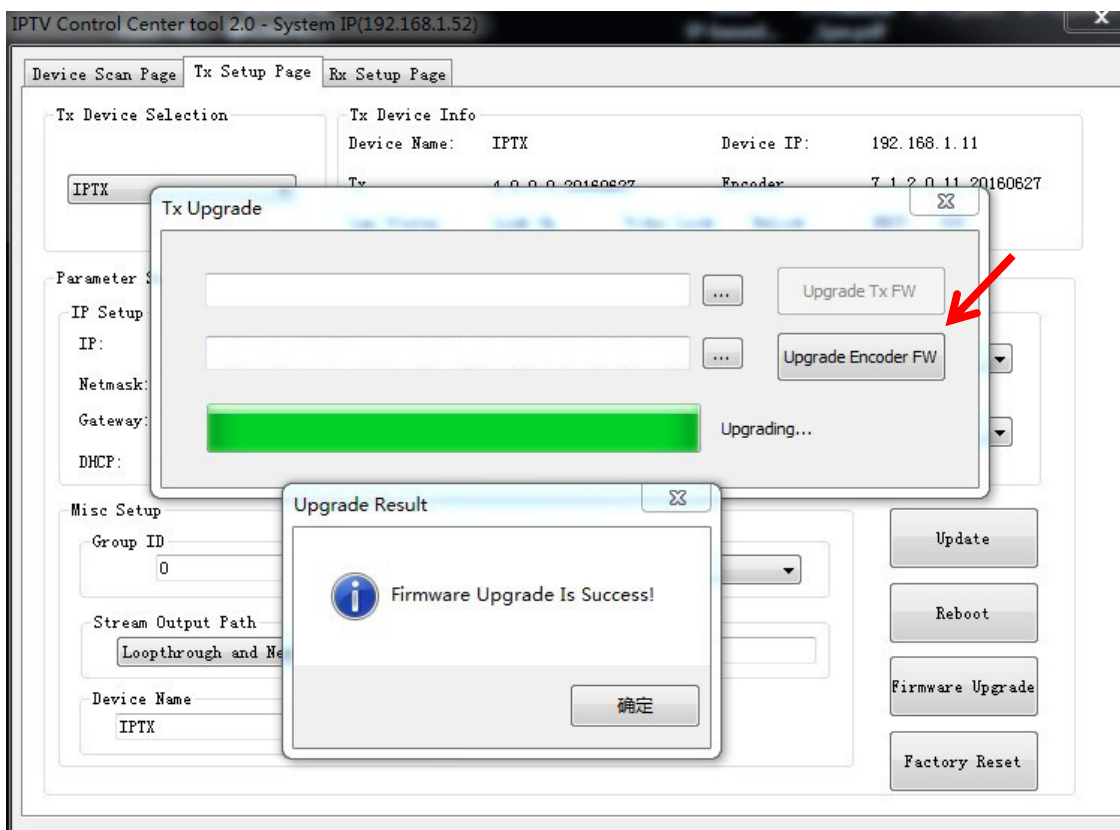
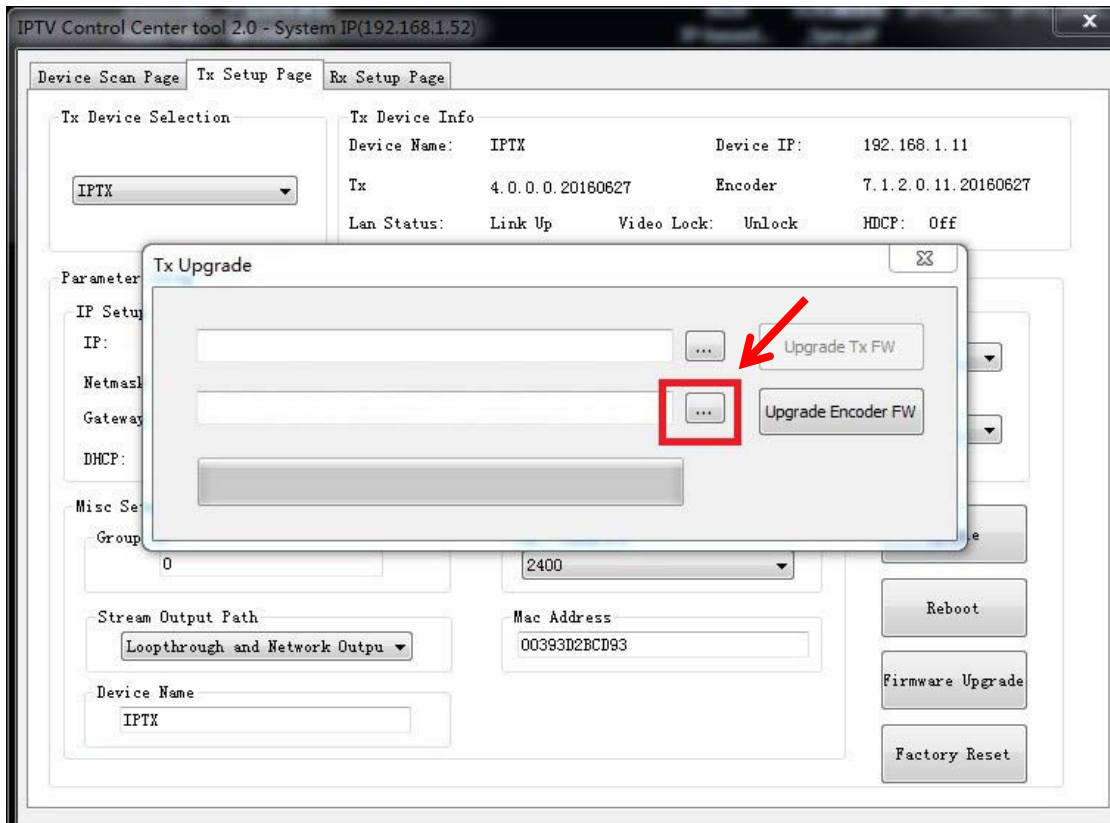
## 7.1 Firmware Upgrade

### Upgrade for TX

#### Step 1: Click "Firmware Upgrade".

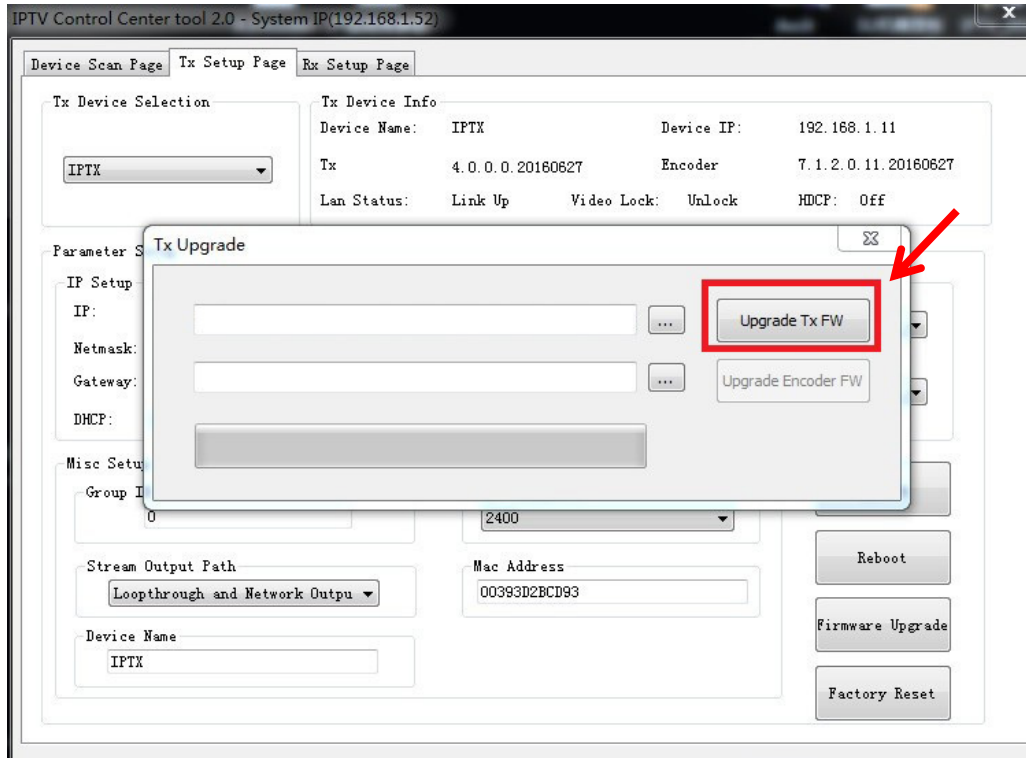


Step 2: Click “Upgrade Encoder FW” first.



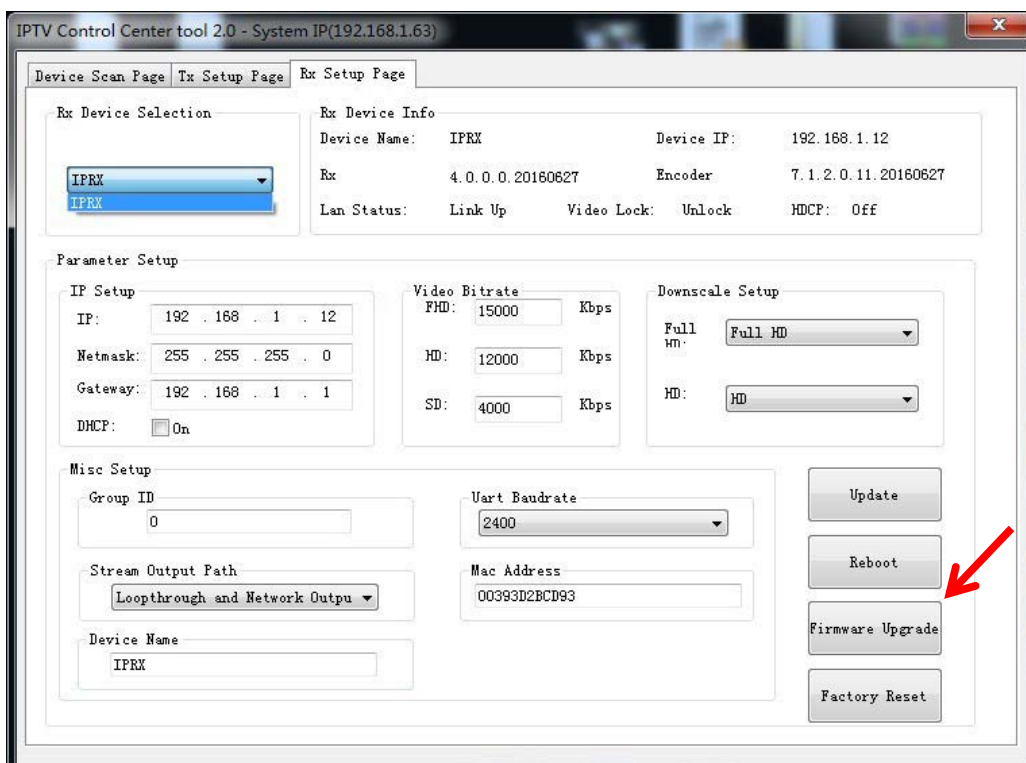
## Operating Instructions

Step 3: After the step 2 is finished, click “Firmware Upgrade” again, then click “Upgrade TX FW”.



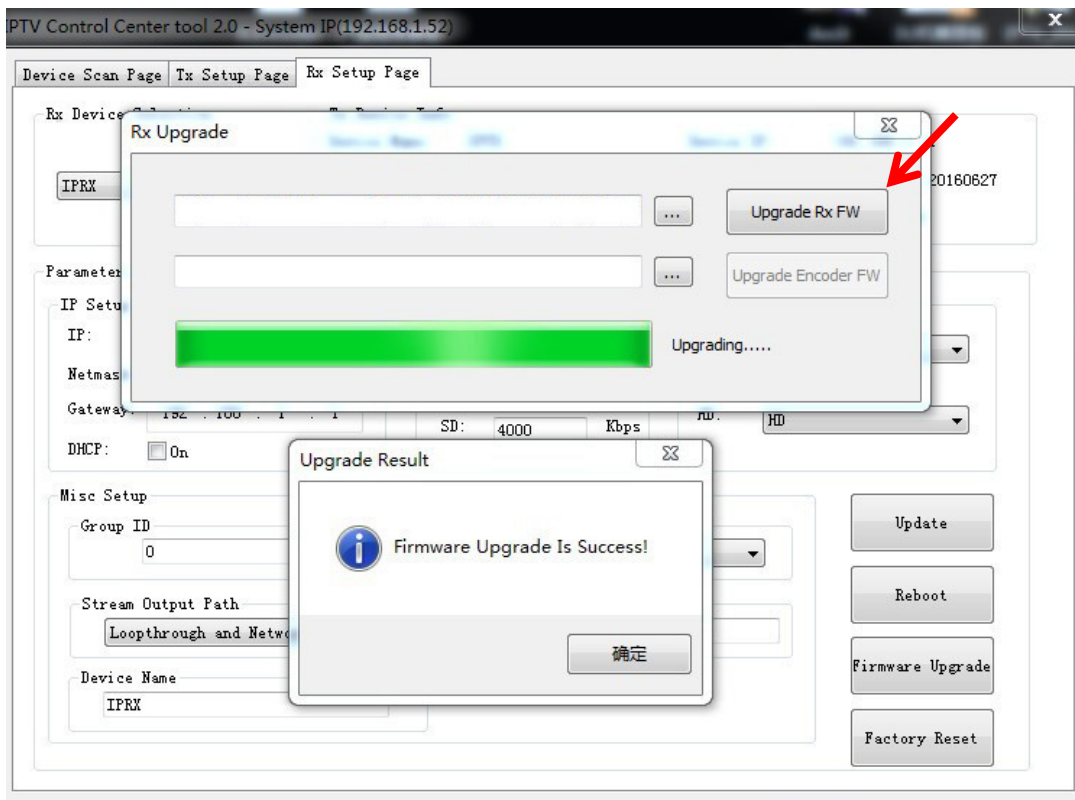
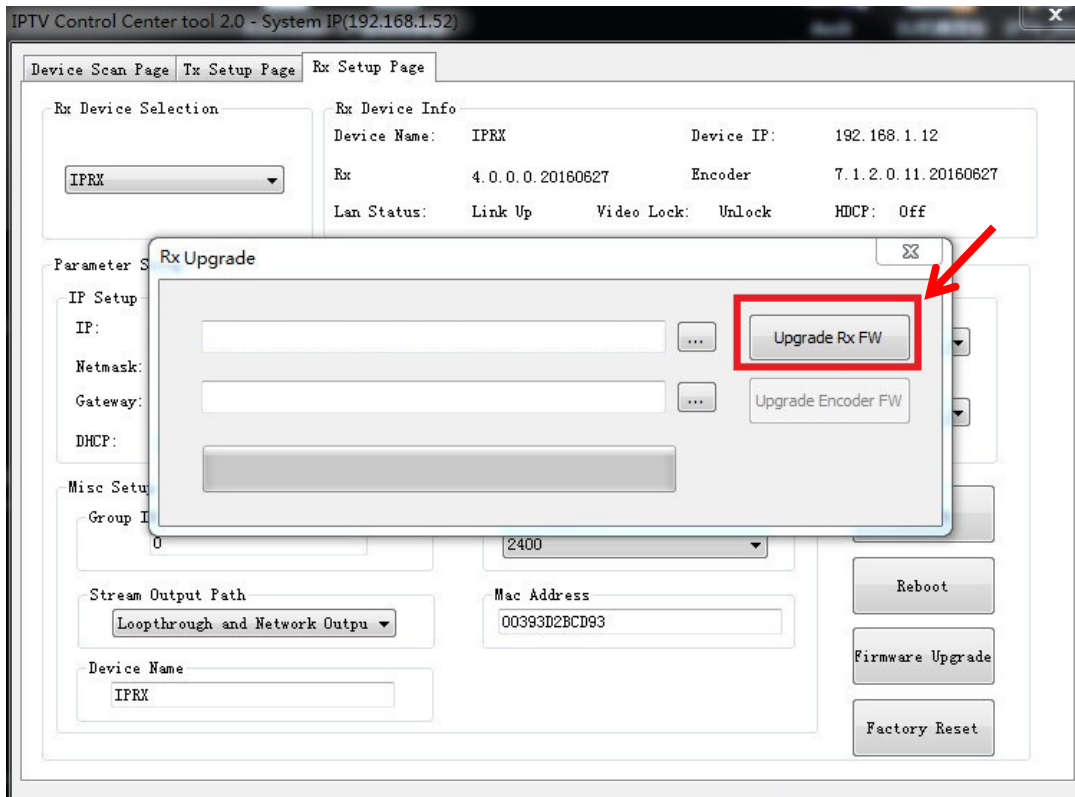
## Upgrade for RX

Step 1: Click “Firmware Upgrade”.





Step 2: Click “Upgrade Rx FW”.





## 7.2 Other settings

Step 1: Change the IP/Net mask/Gateway/DHCP/Group ID/Mac Address/Device name on the PC tool interface.

Step 2: Click “Update”, after “Update” is finished, click “Reboot”.

IPTV Control Center tool 2.0 - System IP(192.168.1.63)

Device Scan Page Tx Setup Page Rx Setup Page

Tx Device Selection

IPTX

Tx Device Info

Device Name: IPTX Device IP: 192.168.1.11

Tx: 4.0.0.0.20160627 Encoder: 7.1.2.0.11.20160627

Lan Status: Link Up Video Lock: Unlock HDCP: Off

Parameter Setup

IP Setup

IP: 192.168.1.11

Netmask: 255.255.255.0

Gateway: 192.168.1.1

DHCP: ☐ On

Video Bitrate

FHD: 15000 Kbps

HD: 12000 Kbps

SD: 4000 Kbps

Downscale Setup

Full HD: Full HD

HD: HD

Misc Setup

Group ID: 0

Vart Baudrate: 2400

Stream Output Path: Loopthrough and Network Output

Mac Address: 00393D2BCD93

Device Name: IPTX

Update

Reboot

Firmware Upgrade

Factory Reset

IPTV Control Center tool 2.0 - System IP(192.168.1.63)

Device Scan Page Tx Setup Page Rx Setup Page

Rx Device Selection

IPRX

Rx Device Info

Device Name: IPRX Device IP: 192.168.1.12

Rx: 4.0.0.0.20160627 Encoder: 7.1.2.0.11.20160627

Lan Status: Link Up Video Lock: Unlock HDCP: Off

Parameter Setup

IP Setup

IP: 192.168.1.12

Netmask: 255.255.255.0

Gateway: 192.168.1.1

DHCP: ☐ On

Video Bitrate

FHD: 15000 Kbps

HD: 12000 Kbps

SD: 4000 Kbps

Downscale Setup

Full HD: Full HD

HD: HD

Misc Setup

Group ID: 0

Vart Baudrate: 2400

Stream Output Path: Loopthrough and Network Output

Mac Address: 00393D2BCD93

Device Name: IPRX

Update

Reboot

Firmware Upgrade

Factory Reset

### 7.3 Click “Factory Reset” on TX or RX.

IPTV Control Center tool 2.0 - System IP(192.168.1.52)

Device Scan Page Tx Setup Page Rx Setup Page

**Tx Device Selection**

IPTX

**Tx Device Info**

Device Name: IPTX Device IP: 192.168.1.11

Tx: 4.0.0.0.20160622 Encoder: 7.1.2.0.11.20160622

Lan Status: Link Up Video Lock: Unlock HDCP: Off

**Parameter Setup**

**IP Setup**

IP: 192.168.1.11

Netmask: 255.255.255.0

Gateway: 192.168.1.1

DHCP: ☐ On

**Video Bitrate**

FHD: 15000 Kbps

HD: 12000 Kbps

SD: 4000 Kbps

**Downscale Setup**

Full HD: Full HD

HD: HD

**Misc Setup**

Group ID: 0

Vart Baudrate: 2400

Stream Output Path: Loophrough and Network Output

Mac Address: 00393D2BCD93

Device Name: IPTX

Update

Reboot

Firmware Upgrade

Factory Reset

IPTV Control Center tool 2.0 - System IP(192.168.1.52)

Device Scan Page Tx Setup Page Rx Setup Page

**Rx Device Selection**

IPRX

**Rx Device Info**

Device Name: IPRX Device IP: 192.168.1.12

Rx: 4.0.0.0.20160622 Encoder: 7.1.2.0.11.20160622

Lan Status: Link Up Video Lock: Unlock HDCP: Off

**Parameter Setup**

**IP Setup**

IP: 192.168.1.12

Netmask: 255.255.255.0

Gateway: 192.168.1.1

DHCP: ☐ On

**Video Bitrate**

FHD: 15000 Kbps

HD: 12000 Kbps

SD: 4000 Kbps

**Downscale Setup**

Full HD: Full HD

HD: HD

**Misc Setup**

Group ID: 0

Vart Baudrate: 2400

Stream Output Path: Loophrough and Network Output

Mac Address: 00393D2BCD93

Device Name: IPRX

Update

Reboot

Firmware Upgrade

Factory Reset

### 8. After sale Service and Warranty.

## 9. How to use VLC

Step1: Make sure the Transmitter and PC are in the same domain.

(Refer to 5.1.1)

Step2: Connect the HDMI Source without HDCP with the transmitter and power on the device.

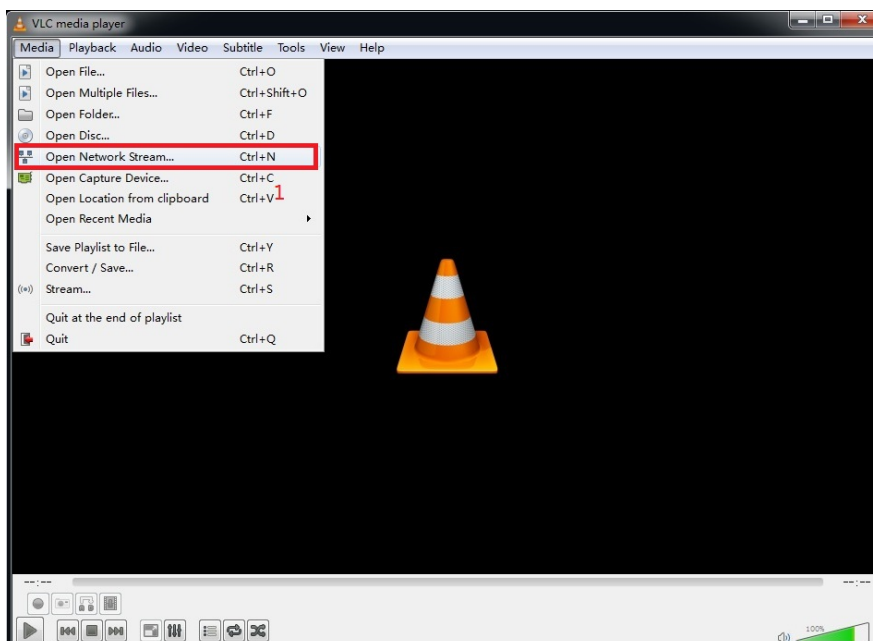
Step3: Connect the transmitter to the PC.

Step4: Check the Multicast Group on the web (refer to 5.1.3).

Step5: Click “Open Network Stream”, click “Stream”> “Network”, Input “UDP://@ 239.255.42.42 :5004”, then you can click “Play” to view the video.



Note ※ 239.255.42.42 (Multicast Group) 5004 (Port)



## **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 or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" Limited Warranty period there will be no charge for labor.

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, maladjustment 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 WARRANTY. (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.