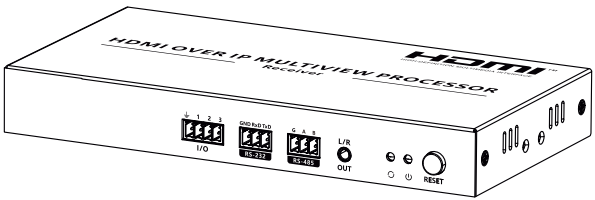
User Manual

HDMI OVER IP MULTIVIEW PROCESSOR

(This product needs to be used with the iMCS series products.)



HIGH-DEFINITION MULTIMEDIA INTERFACE

• Important Safety Instructions:

1) Do not expose this device to rain or place it near water. Any liquid that goes into the device may cause a failure, fire, or electric shock.
2) Never insert anything metallic into the open parts of this device. This may cause a danger of electric shock.
3) Do not place this device near or over a radiator or heat register, or where it is exposed to direct sunlight.
4) The device should be repaired only by a qualified technician.
5) If a third-party power supply is used, please ensure that the power supply specifications meet the product requirements.

• Introduction

This HDMI multi-view processor is designed for ipcolor Multimedia Control System(iMCS). When using this product, it needs to be paired with the iMCS series products. After connecting to the iMCS Transmitter through an IGMP switch, it can simultaneously receive and process multiple AV signals. Allowing remote control of multiple 4K@60Hz video displays via the iMCS control APP.

Utilizing ipcolor STREAM technology to achieve high-definition, low-latency transmission, while supporting other functions such as RS-232 control, RS-485 control, I/O control, and digital audio separation. This product can be widely applied in areas such as audio-visual conferences, dispatch centers, home entertainment, broadcast television, and education and training.

• Features

1. Built on ipcolor STREAM™ technology to deliver high-definition and low-latency transmission.
2. Supports up to 4096 x 2160@60Hz resolution, backwards compatible.
3. Compatible with CAT5e/6 and above networking cables, the transmission distance can reach up to 120 meters when using CAT6 or above networking cables. The actual distance may vary slightly due to different switch performances.
4. Supports switch cascading.
5. Supports RS-232 Control.
6. Supports RS-485 Control.
7. Supports IR learning remote and control device by APP(20 ~ 60KHz).
8. Supports I/O interface control.
9. Supports POE(Power over Ethernet).
10. Support for 3.5mm L/R Channel Audio Separation.
11. After connecting to the iMCS over IP matrix, it supports receiving and processing multiple signals simultaneously. Paired with the iMCS APP, allowing remote control of the screen display view, providing four-panel and nine-panel screen view, also adjusting the view size and position freely.
12. Firmware upgrading via Micro USB port.
13. Lightning protection, surge protection, ESD protection.
14. Stable 24/7 operation.

• Package Contents

Multiview Processor x1

DC5V/2A x1

User manual x1

IR receiver extension cable x1

IR blaster extension cable x1

Terminal block (3P) x2

Terminal block (4P) x1

Mounting ear x2

Screw x5

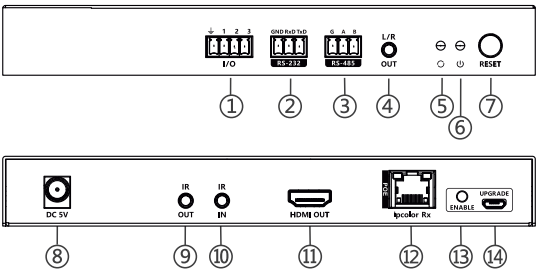
Grounding screw x1

• Installation Requirements

Item	Description	Requirement
Cable	Cat5e/6 or above, following standard IEEE-568B	CAT6/6A/7 ≤ 120m
Display device	TV, projector, LED screen, etc.with HDMI port	HDMI cable ≤ 5m
Network switch	switch cascade	IGMP PoE Gigabit switch
Router	Use the APP to control the product while in the same network	Gigabit bandwidth or higher

• Panel Description

1. Receiver(Rx)



①	I/O interface	Use the terminal block to connect the external device,and control the output signal via the control APP
②	RS-232 (GND/RxD/TxD)	RS-232 control commands for APP
③	RS-485 (G/A/B)	RS-485 control commands for APP
④	L/R output	Connect with the audio device with 3.5mm stereo audio cable
⑤	Status indicator	1) Light off: The network is not connected 2) Steady on: The network is connected
⑥	Power indicator	Indicator lights up when power is applied
⑦	Reset	1) Press to restart the device 2) Press and hold for 5 seconds to restore factory settings

⑧	Power	Connect with DC5V/2A power adapter
⑨	IR output	Connect with IR blaster extension cable
⑩	IR input	Connect with IR receiver extension cable
⑪	HDMI output	Connect with HDMI display device
⑫	ipcolor Rx	Connect with CAT5e/6 or higher-level networking cables (PoE input)
⑬	ENABLE	Press and hold the upgrade button, then power the product, 5 seconds later will enter upgrade mode.
⑭	Micro USB port	For firmware upgrading

• Installation Procedures

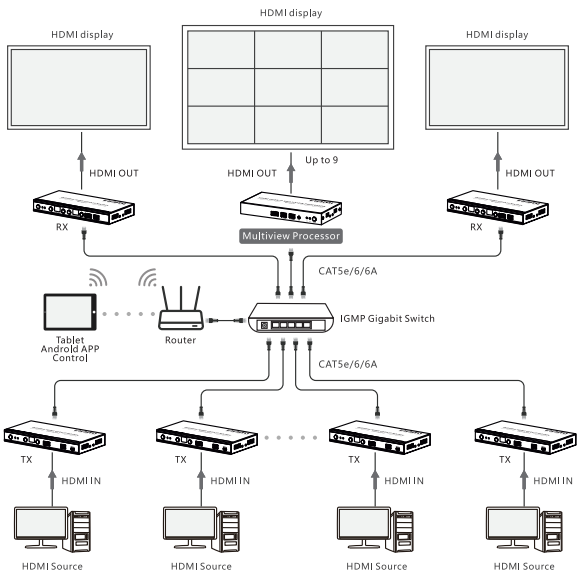
1. How to make a networking cable

Follow the standard of IEEE-568B:

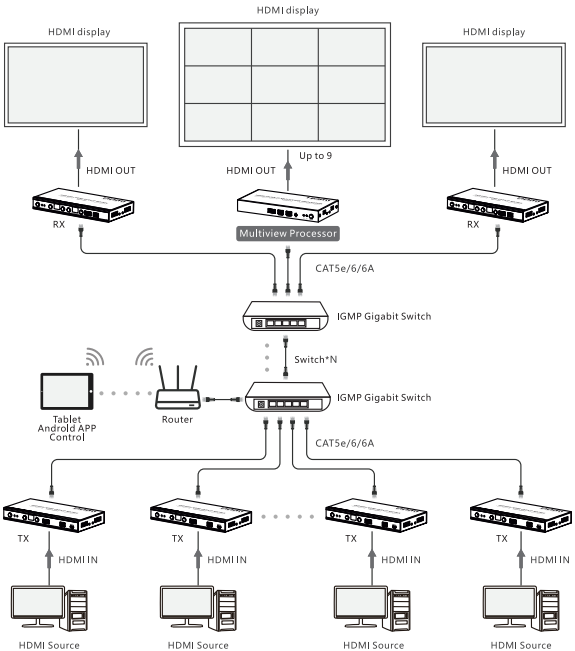
1-white and orange	2-orange	3-white and green	4-blue
5-white and blue	6-green	7-white and brown	8-brown

2.Connection Diagrams

2.1 Regular switch connection



2.2 Switch Cascade



3.Connection Instructions

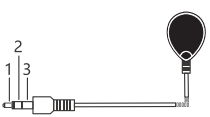
1) Connect the Multiview Processor to the HDMI port of the display using an HDMI cable.
2) Use a Gigabit switch as a bridge to connect the iMCS over IP matrix Transmitter and Multiview Processor with networking cables.

3) IR pass-back: insert the IR blaster extension cable into IR OUT and the IR receiver extension cable into IR IN.
4) RS-232 control: insert the terminal block in the RS-232 port of the Multiview Processor, and then connect it to remote console.
5) RS-485 control: insert the terminal block in the RS-485 port of the Multiview Processor, and then connect it to remote console.
6) Audio extraction: connect the L/R output port of the Multiview Processor and external audio device with a 3.5mm stereo audio cable.
7) I/O control: insert a wiring terminal into the I/O interface of the Multiview Processor, then connect it to an external device.
8) Plug the power supply into the devices to get started.

4. Audio Output

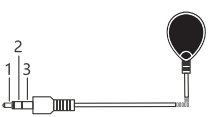
When the Multiview Processor receives signals from multiple transmitters, it is possible to use the iMCS APP to select which audio signal to output to the display or audio equipment.

5. IR User Guide



IR blaster

1. Power
2. IR Signal
3. Null



IR receiver

1. Power
2. IR Signal
3. Grounding

1) IR blaster extension cable should plug in the IR OUT port of the Multiview Processor, IR receiver extension cable should plug in the IR IN port of the Multiview Processor.
2) The emitter of the IR blaster extension cable should be as close as possible to the IR receiving window of the source device.
3) Point the remote control at the receiving head of the IR receiver extension cable to operate.

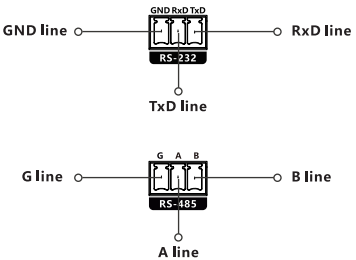
6. RS-232 bi-directional pass-through function:

6.1 Baud rate

Different encoding mechanisms cannot be mixed, the baud rate of the RS-232/RS-485 port of this Processor is 2400, 4800, 9600, 19200, 38400, 57600, 115200.

6.2 Line order

Make sure the RS-232/RS-485 serial line is firmly connected and that the serial data line is connected correctly as follows:



If the RS-232/RS-485 serial does not work by following the above connection, please try to change the order of the TXD line and RXD line/A line and B line.

6.3 Set baud rate

The baud rate of the device's serial port can be viewed and modified through the control page of the iMCS APP.

7. Download iMCS APP

Download iMCS APP from the website:
https://www.ipcolor.org/download.html
or scan the QR code below via a browser to download

Note: Recommend using a tablet with a SOC Snapdragon 865 or above, 8GB or more of RAM, and a gigabit network to guarantee the optimal experience.

• FAQ

Q: Why the status indicator is off?
A: Please check whether all equipment is powered on and the networking cable is connected properly.

Q: Why is the output image unstable?
A:
1) Check whether the length of the Ethernet cable is within the specified range, the length of HDMI cable is recommended to be ≤ 5 meters.
2) Press the "reset" button on Multiview Processor panels to restart and reconnect.

• Technical Parameters

Video	
Input interface	1x RJ45
Output interface	1x HDMI
HDMI length	≤ 5m
Maximum transfer rate	18Gbps
Compatibility	HDMI 2.0
	HDCP 1.4/HDCP 2.2
Resolutions	4096x2160@24/30/50/60Hz, 3840x2160@24/30/50/60Hz, 1080P@50/60Hz, 720P@50/60Hz, 1920x1200@60Hz, 2560x1440@60Hz
Connection types	Regular switch Connection or Switch Cascade
Transmission distance	Cat6/6A/7≤120m
Transmission latency	180~250ms
Audio signal	
Input interface	1x RJ45
Output interface	1x 3.5mm L/R 1xHDMI
HDMI output	LPCM 2.0
3.5mm audio input/output format	LPCM 2.0
Command Signal	
Input interface	1x 3.5mm IR output 1x 3.5mm IR input
IR frequency	20kHz~60kHz
RS-232/RS-485	Default baud rate: 115200 Supported: 2400, 4800, 9600, 19200, 38400, 57600, 115200
I/O	Output control instructions

Power	
Power Supply	DC 5V/2A
Power Consumption	≤ 8W
Operating Environment	
Working temperature	-20℃~60℃
Storage temperature	-30℃~70℃
Humidity	0~90%RH (no condensation)
Physical Properties	
Housing	Iron
Dimensions	191.0(L)*96.0(W)*25.0(H)mm
Weight	518g
Color	Black
Protection	ESD protection 1a Contact discharge level 2 (±4KV) 1b Air discharge level 3 (±8KV) Implementation of the standard: IEC61000-4-2
	Lightning protection, Surge protection

Disclaimer

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