



J-TECH DIGITAL®

V1.0

USER MANUAL



4K60HZ HDMI 4X4 MATRIX WITH AUDIO EXTRACTION
JTD-669 | JTECH-4KM44A

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Scan the QR code below or visit
<https://resource.jtechdigital.com/products/669>
to view and access detailed digital
resources regarding this unit.



Safety Instructions:

- Before using this product, please carefully read the following safety instructions to ensure its proper use and keep this manual for future reference:
- To prevent electric shock, do not attempt to open the product.
- Only qualified personnel should perform any repairs or maintenance.
- Always place the product on a stable, flat surface to prevent it from falling.
- Do not expose the product to water, moisture, or high-humidity environments to avoid the risk of damage.
- To prevent damage from direct sunlight or high temperatures, do not expose the product to such environments.
- Do not place the product near heat sources like radiators, heat registers, stove, or other heat-producing apparatus.
- Do not place any objects on top of the product to avoid damage.
- Use only the attachments and accessories specified by the manufacturer.
- During lightning storms or prolonged periods of disuse, unplug the power supply to prevent damage.

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1. Features

- HDMI 2.0 | HDCP 1.4/2.2 Compliant
- Bandwidth up to 18 Gbps
- Supports HDR10 | HLG | Dolby Vision
- 4 x HDMI Input | 4 x HDMI Output | 4 x Coaxial S/PDIF Audio Out | 4 x Analog Audio Out
- Control via IR Remote | RS232 | Web GUI | TCP/IP
- Supports PCM 2.0 | Dolby True HD | DTS-HD Master Audio | LPCM7.1 | Audio Sampling Rate up to 192KHZ
- Supports Analog and S/PDIF Audio Extraction
- Supports EDID Management and EDID Copy
- Firmware Updates via RS232

2. Package Contents

- (1) x JTECH-4KM44A Matrix Switcher
- (1) x 12V/2A DC Power Supply
- (1) x Remote Control
- (1) x IR Ext RX Cable
- (5) x Phoenix Connectors
- (1) x CD for Control Software & User Manual

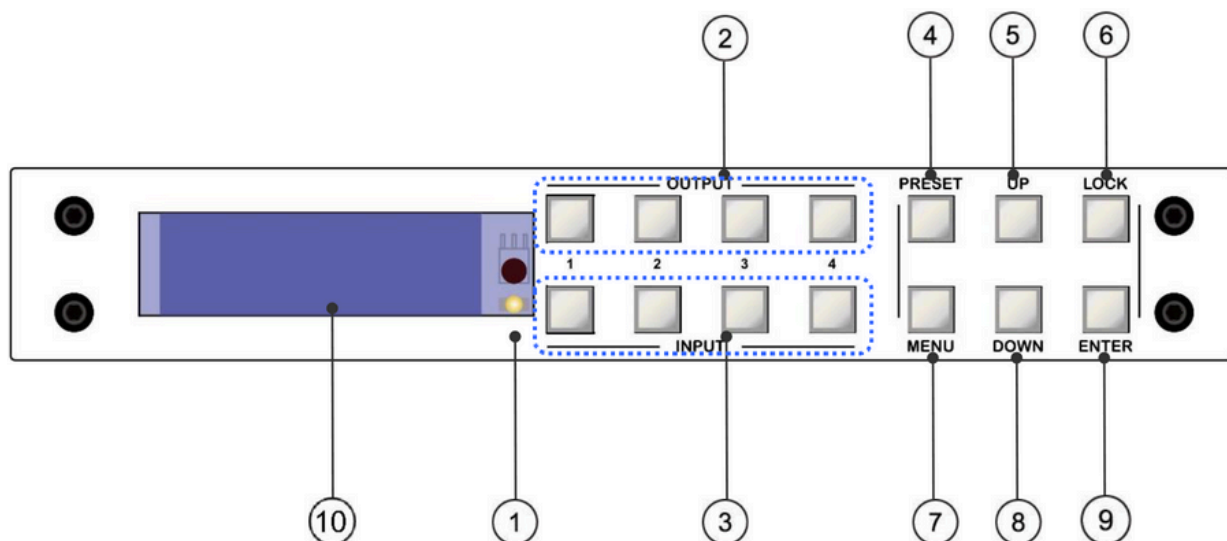
3. Specifications

Operating Temperature	32°F ~ 104°F
Operating Humidity	5% to 90% RH (No Condensation)
Max Resolution	4K@60Hz YUV 4:4:4
HDCP Compliant	HDCP 1.4 HDCP 2.2
Output Video	HDMI 1.4 HDMI 2.0
Audio Format Supported	PCM 2.0 Dolby TrueHD DTS-HD Master Audio LPCM 7.1 Dolby Atmos
RS-232 Serial Port	3-Pin Phoenix Connector
Ethernet Port (IP Control)	RJ45 (Female)
IR Ext Port	3.5mm (TRS Female)
Bandwidth	18Gbps
Default IP Address	192.168.1.168
Dimensions (L x W x H)	8.51" x 5.06" x 1.33"

Net Weight	1.04lbs
Power Consumption	14W (Max)

4. Panel Descriptions

Front Panel

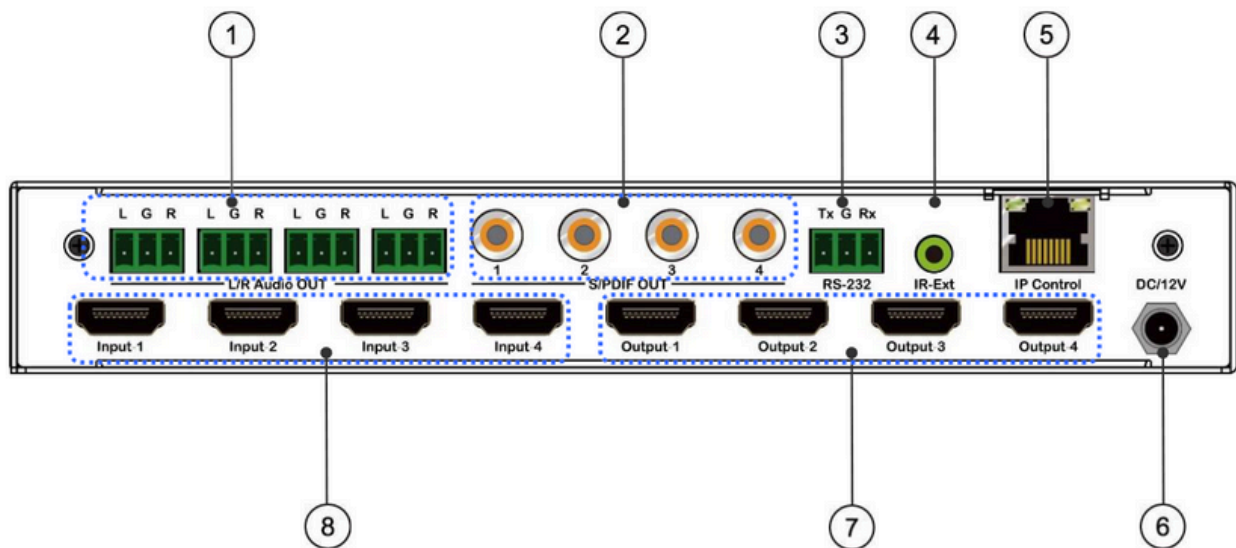


- ① IR Receiver Sensor
- ② **Output 1-4:** Short press to choose output (press again to cancel); long press to choose all outputs (long press again to cancel)
- ③ **Input 1 - 4:** Short press to choose input (user must choose output first); long press to choose one input for all outputs
- ④ **PRESET:** Access Presets
- ⑤ **UP:** Navigate Up through menu
- ⑥ **LOCK:** Long press to enable button lock (long press to unlock). *Note – All buttons are non-functional except for 'Lock' button when lock function is enabled.
- ⑦ **MENU:** Access main menu or return to the previous menu interface
- ⑧ **DOWN:** Navigate Down through menu
- ⑨ **ENTER:** Short press to confirm selection
- ⑩ LCD Screen

***Note:** LCD screen will enter power saving mode if a selection has not been made within 60 seconds

4X4 HDMI Matrix Audio Extract Initializing...

Rear Panel

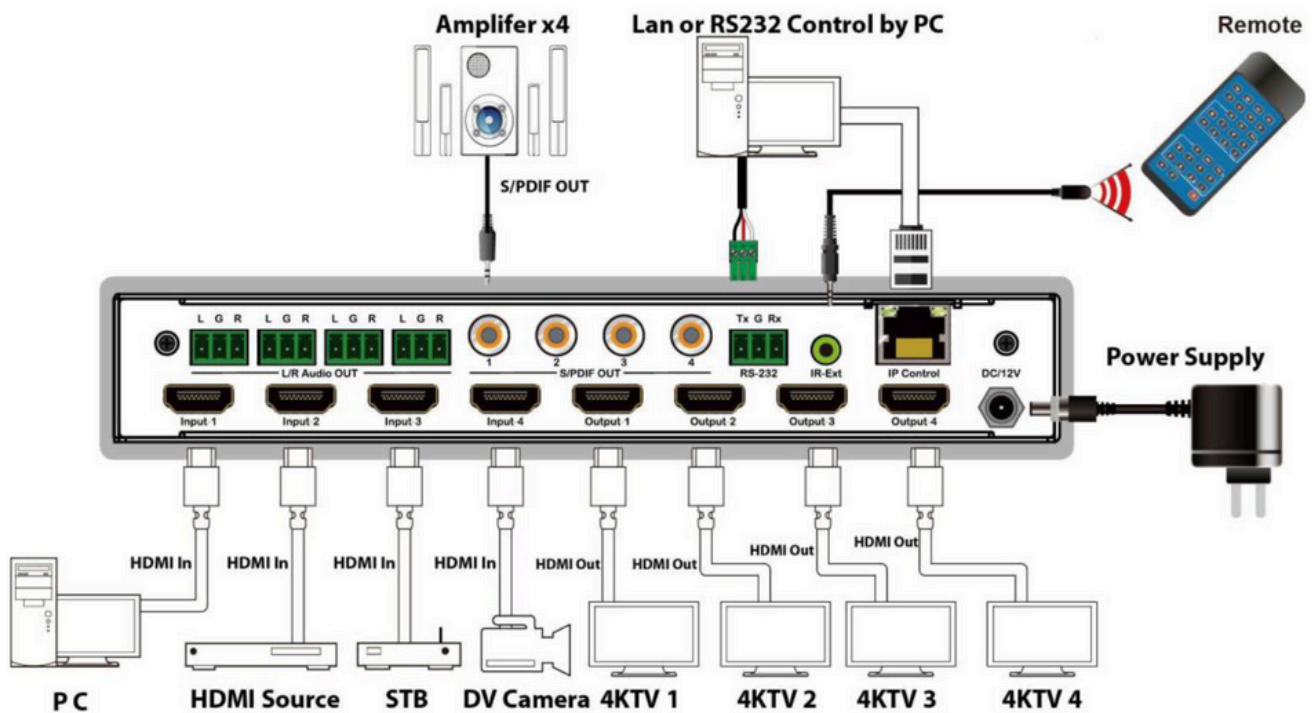


- ① Analog Audio Out (Phoenix)
- ② S/PDIF Audio Out (Coaxial)
- ③ RS232 (Phoenix)
- ④ IR-Ext
- ⑤ Ethernet Port
- ⑥ DC 12V/2A Power Adapter Port
- ⑦ HDMI Output Ports
- ⑧ HDMI Input Ports

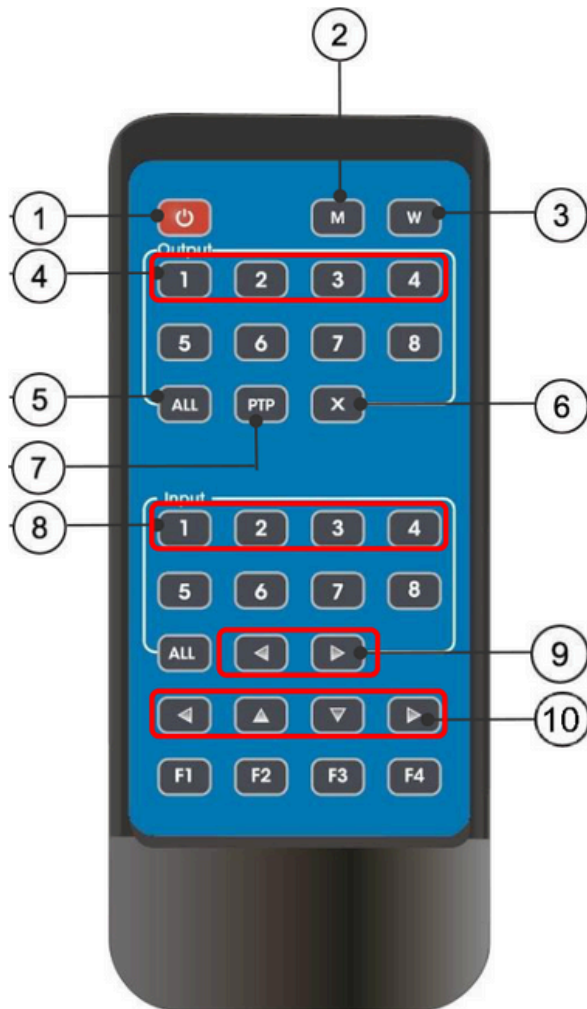
5. Connecting and Operating

1. Connect source devices to input ports via HDMI cable
2. Connect HDMI output ports to TV or other HDMI sink devices via HDMI cable
3. Optional: Connect RS232 cable from PC to RS232 port
4. Optional: Connect an Ethernet cable from the TCP/IP port on the matrix to a local area network
5. Connect 12V Power Supply to DC/12V power port
6. Power on the matrix, HDMI sources and displays

6. Application Diagram



7. Remote Control Description



- ① Power On / Standby
- ② **M**: Mute HDMI Output Audio
- ③ **W**: Lock Remote Control
- ④ Output 1-4 (press output 1-4 then input 1-4 for routing)
- ⑤ All Outputs Show 1 Input
 - a. Press "ALL" Button
 - b. Press Desired Input Button (1-4).
Desired Input will be sent to all outputs
- ⑥ Turn Off Output Port
- ⑦ PTP button: Mirror All Inputs and Outputs (Ex. Input 1 to output 1, input 2 to output 2, etc)
- ⑧ Input 1-4 (press output 1-4 then input 1-4 for routing)
- ⑨ Cycle through Input Ports
- ⑩ Left | Up | Down | Right

Note:

Power On / Standby: Short press for standby mode; LCD screen will show "System Shutdown" and TV will not display an image. Short press again to wake up from standby mode, HDMI output returns to normal

Video Switch: Output + Input (ex: Output1 + Input2 switches Output 1 to Input 2)

Mute HDMI Output Audio: Output + M (ex: Output1+M mutes Output 1 audio)

Lock Remote Control: Short press "W" to lock remote buttons | Short press again to unlock

Turn Off Output Port: Output + X (ex: Output1 + X disables Output 1 Port | Output + X again to enable Output Port)

Cycle Through Input Ports: Output + "<" or ">"; (ex: All + "<" cycles backwards through source signals on ALL connected displays. Function automatically skips input port if no input signal is detected)

8. Panel Control Description

8.1 Video Switch Operation

Signal routing includes 4 input and 4 output channels that can be configured according to the desired effect to form a 1×4 through 4×4 matrix. Users can route any input signal to any output port or all output ports.

Operation Format - "Output Port" + "Input Port"

Output	1	2	3	4
Input	1	2	3	4

Examples:

1. Route Input 4 to Output 1

Operation: Press Output 1 + Input 4

2. Route Input 2 to Output 1, 2 & 3

Operation: Press Output 2, Output 1, Output 3 + Input 2

3. Route Input 4 to All Outputs

Operation: Press ALL + Long Press Input 4

8.2 Video Control

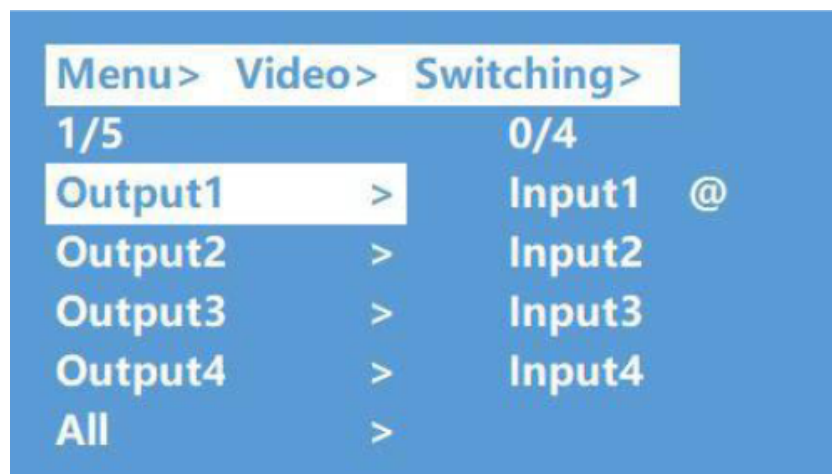
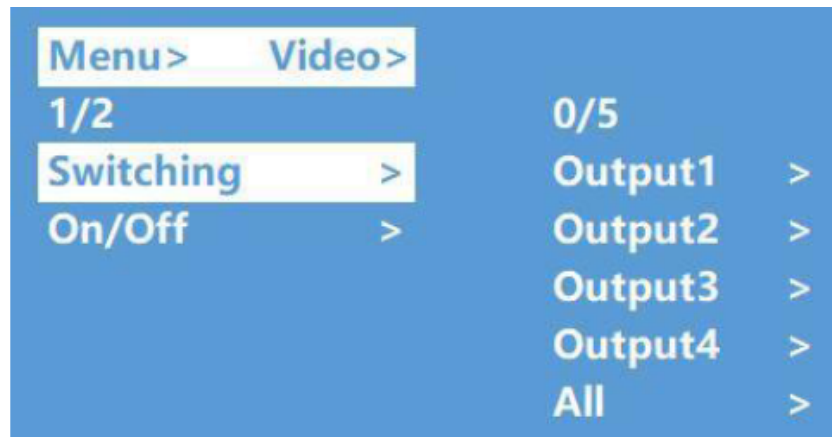
There are 2 sub-menus in the Video Menu: Switching | On/Off



8.2.1 Video Switching

Operation:

- ① Select "Video" in the main menu & press "ENTER" button
- ② Press "Up and Down" buttons to highlight "Switching" sub-menu
- ③ Press "ENTER" to enter the "Switching" sub-menu
- ④ Press "Up and Down" buttons to select "Output 1 – Output 4" or "All". Your current selection will be highlighted in white
- ⑤ Press "ENTER" to enter the next sub-menu
- ⑥ Press the "Up and Down" buttons to select the desired input. Your current selection will be highlighted in white
- ⑦ Press "ENTER" button to complete video switching

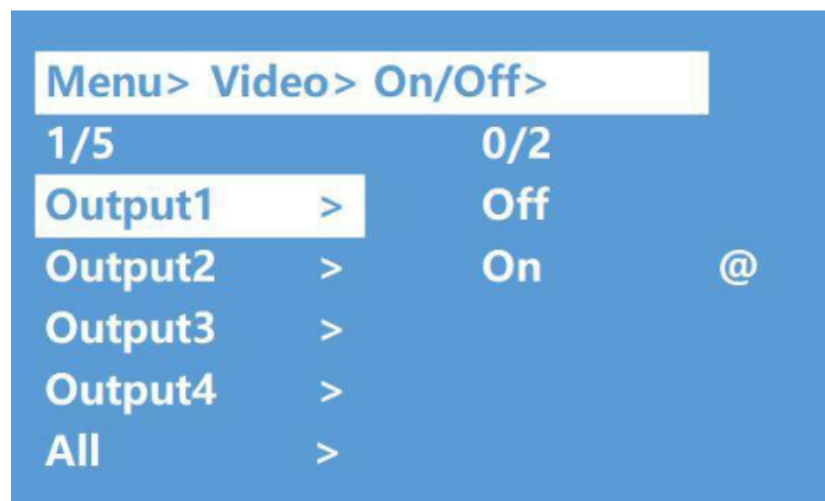


8.2.2 Output Switch Control

You can enable or disable any output port or all output ports. Output ports are enabled by default.

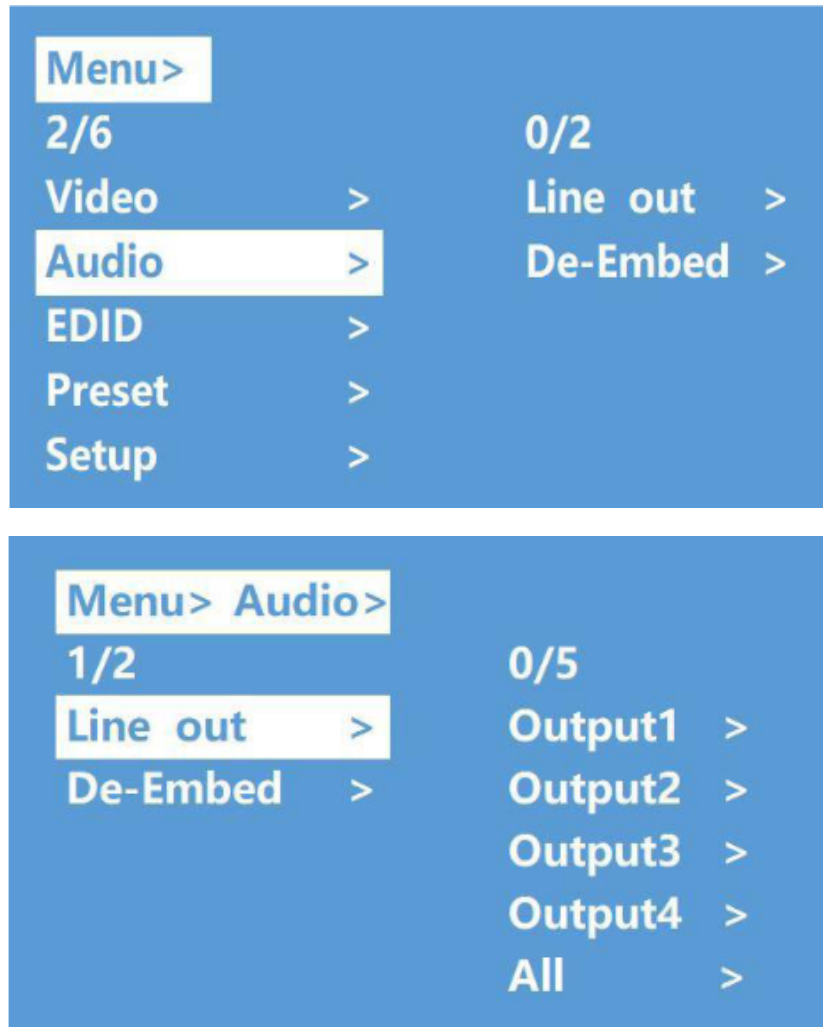
Operation:

- ① In the main menu, select "Video" and press "ENTER" button
- ② Press "Up and Down" buttons to select "On/Off"
- ③ Press "ENTER" button to enter the next sub-menu
- ④ Press "Up and Down" buttons to select "Output 1-4"
- ⑤ Press "ENTER" to enter the next sub-menu
- ⑦ Press the "Up and Down" buttons to select "Off" or "On"
- ⑧ Press "ENTER" button to apply your selection



8.3 Audio Control Menu

There are 2 sub-menus in Audio Control menu: Line Out | De-Embed



8.3.1 Switch Output Audio

Switch Output Audio

“Line out” function allows users to enable or disable HDMI Output audio while maintaining HDMI Output video.

Operation:

- ① Select “Audio” in main menu and press the “ENTER” button
- ② Press “Up and Down” buttons to select “Line Out” and press the “ENTER” button. Select “Output 1-4” or “All” via “Up and Down” buttons. Press “ENTER” to choose “On” (audio enabled) or “Off” (audio disabled)
- ③ Example: Mute audio of TV connected to HDMI Output 1

Operation: “Audio” + “ENTER” > “Line Out” > “Output1” > “Off” + “ENTER”

8.3.2 Audio Extraction Control

“De -Embed” function allows users to enable or disable Analog and Digital Audio Output ports.

Operation:

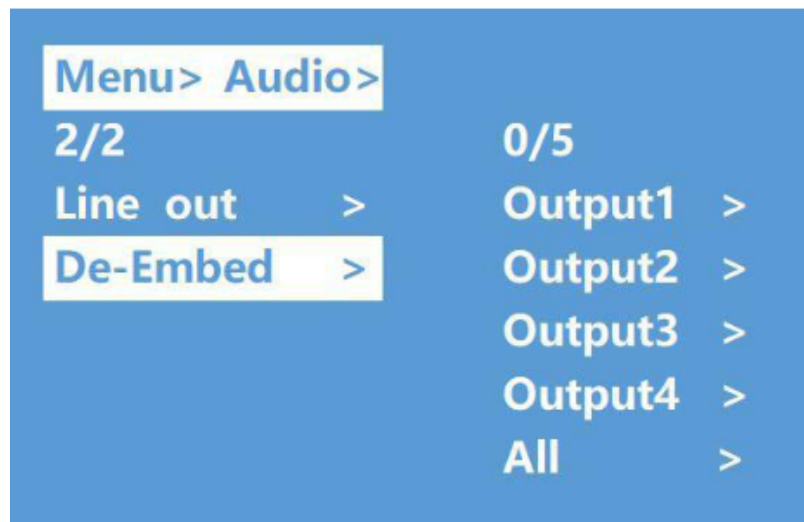
① Select “Audio” in main menu and press the “ENTER” button

② Press “Up and Down” buttons to select “De -Embed” and press the “ENTER” button

Select “Output 1-4” or “All” via “Up and Down” buttons. Press “ENTER” to choose “On” (audio enabled) or “Off” (audio disabled)

③ Example: Disable audio extraction of HDMI Output 1

Operation: “Audio” + “ENTER” > “De-Embed” > “Output 1” > “Off” + “ENTER”



8.4 EDID Setting Menu

EDID Management: User EDID | Built-in EDID | Copy EDID Function

*Note - The default EDID profile is “Default1”

Default1	4K60 444-LPCM: 2.0, HDR: HLG	Default2	4K60 420-LPCM: 2.0, HDR: None
Default3	4K30 444-LPCM: 2.0, HDR: None	Default4	1080P60 444-LPCM: 2.0, HDR: None



Example: Apply EDID profile “Default 1” to HDMI Input 1

Operation:

- ① Select “EDID” in the main menu and press the “ENTER” button
- ② Press the “Up and Down” buttons to select “Input 1”
- ③ Press the “ENTER” button to enter the next sub-menu
- ④ Press the “Up and Down” buttons to select “Default1” and press “ENTER” to apply the EDID profile
- ⑤ EDID Profile settings (max resolution | audio format | HDR) will be shown when the EDID profile is highlighted



8.5 Preset Application

“Preset” function allows users to save the current audio video routing, EDID settings and system settings. The JTECH-4KM44A supports 8 presets that can be set via web GUI, RS232 commands or front panel buttons.

Preset Control Interface has three sub-menus:

Call Scene | Save Scene | Clear Scene

Operation:

- ① Select “Preset” in the main menu and press the “ENTER” button
- ② **Save Preset:** Select Save > Highlight desired Preset (Preset 1 through 8) > “ENTER”
- ③ **Call Preset:** Select Call > Highlight desired Preset (Preset 1 through 8) > “ENTER”
- ④ **Clear Preset:** Select Clear > Highlight any of the previously saved Presets (Preset 1 through 8) > “ENTER”



8.6 Setup Interface

The Setup interface allows users to set serial port baud rate, enable DHCP, reboot the device and apply a factory reset.



8.6.1 Baud Rate Setting

4 Baud Rate Settings: 9600 | 19200 | 57600 | 115200 (default)

Example: Setting Baud Rate to 9600

Operation:

- ① Select "Setup" in the main menu and press the "ENTER" button
- ② Press the "Up and Down" buttons to select "Baud"
- ③ Press "ENTER" to enter the next sub-menu
- ④ Press the "Up and Down" buttons to select "9600"
- ⑤ Press "ENTER" to apply the setting change



8.6.2 DHCP

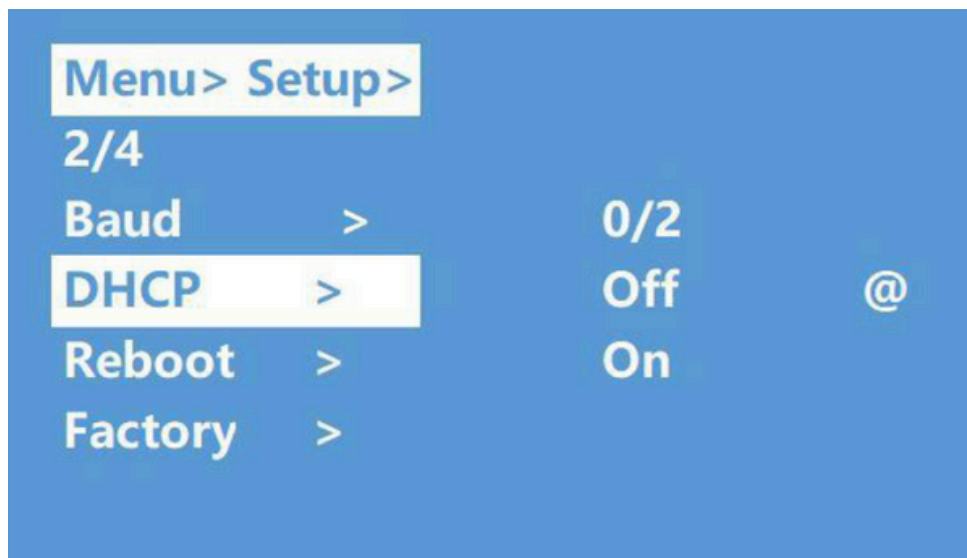
DHCP On: Dynamic IP address

DHCP Off (default): Static IP address

DHCP Operation:

Select "Setup" in main menu and press the "ENTER" button

- ② Press the "Up and Down" buttons to select "DHCP" setting
- ③ Press "ENTER" to enter the next sub-menu
- ④ Press "Up and Down" buttons to select "On"
- ⑤ Press "ENTER" to enable DHCP & to allocate IP address automatically

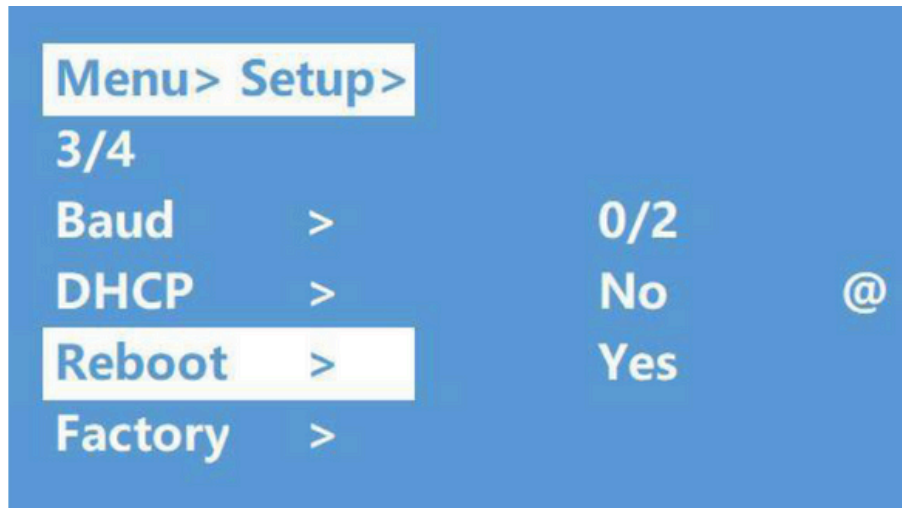


8.6.3 Reboot

Reboot device

Operation:

- ① Select "Setup" in main menu and press the "ENTER" button
- ② Press the "Up and Down" buttons to select "Reboot"
- ③ Press "ENTER" to enter the next sub-menu
- ④ Press the "Up and Down" buttons to select "Yes"
- ⑤ Press "ENTER" to begin rebooting the device



8.6.4 Factory Reset

“Factory Reset” is a function that allows the JTECH-4KM44A to revert back to its initial factory settings. There are two factory settings:

1. Factory Common: Factory reset for AV routing, EDID, audio line out and de-embed settings and device setting (IP address can't be reset with the “Factory Common” reset).

2. Factory All: Factory reset for AV routing, EDID, audio line out and de-embed settings, device settings, presets and device name.

Example: Factory All Reset

- ① Select “Setup” in the main menu and press the “ENTER” button
- ② Press the “Up and Down” buttons to select “Factory”
- ③ Press “ENTER” to enter the next sub-menu
- ④ Press the “Up and Down” buttons to select “ALL” and press the “ENTER” button
- ⑤ Press the “Up and Down” buttons to select “Yes” and press the “ENTER” button





8.7 Query Information Interface

Query IP and System Information

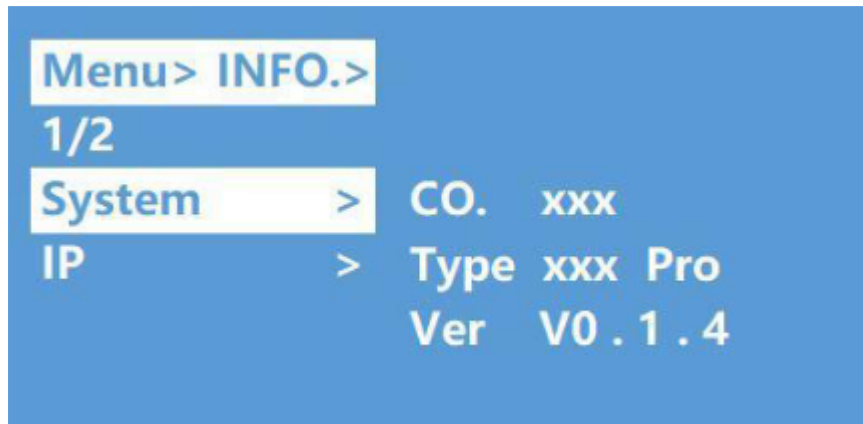
System Interface: Query company name, device name and version information

IP Interface: Query device IP address, MAC address and DHCP status

Operation:

- ①Select "INFO" in the main menu and press the "ENTER" button
- ②Press the "Up and Down" buttons to select "System" or "IP"
- ③Press "ENTER" to enter the next sub-menu here system or IP information is available





9. RS232 Control

Open CommUart Assistant:

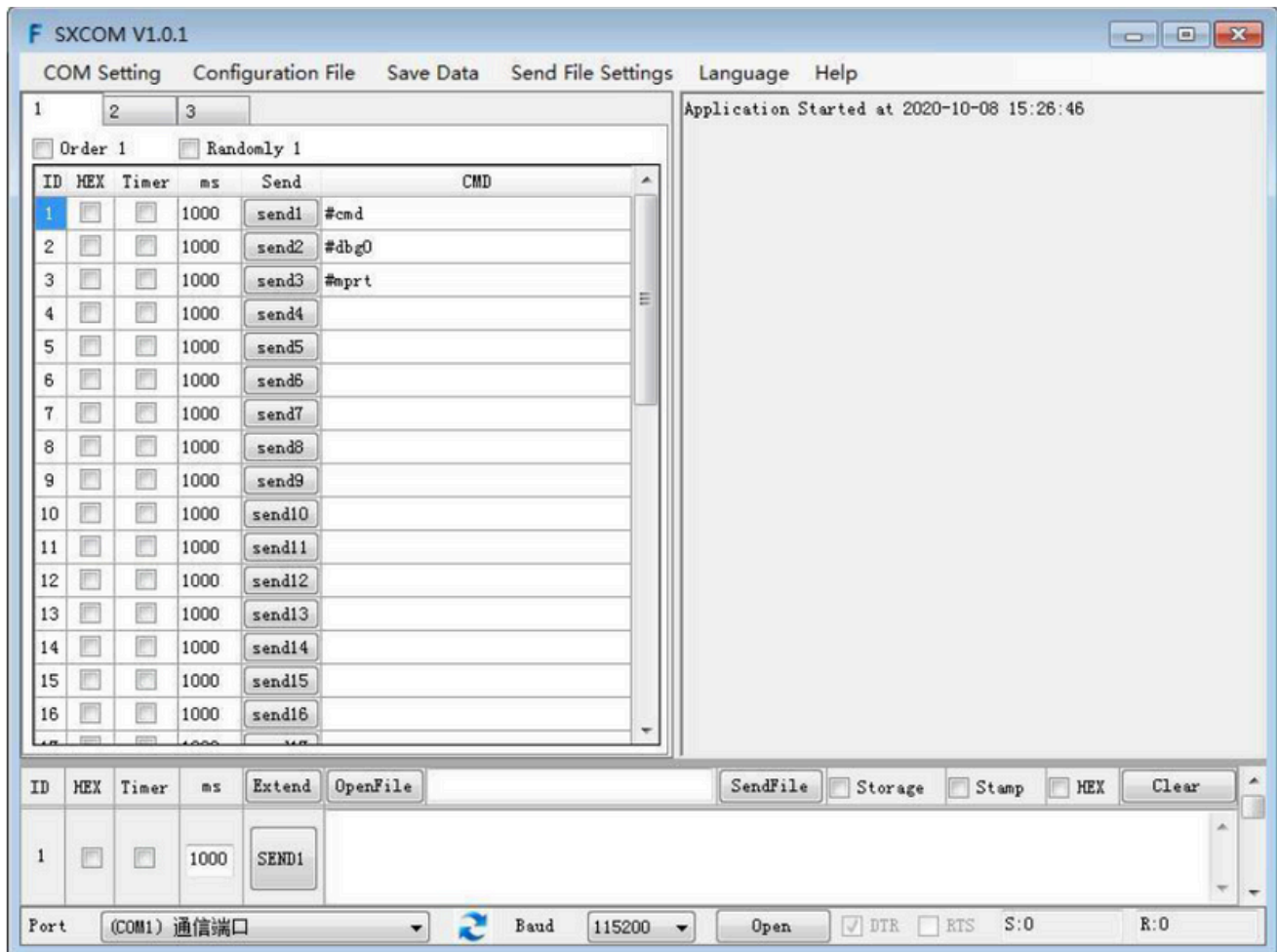


Comport Settings:

Choose correct COM port that connects to the PC in the parameter configuration area

Baud Rate:	115200 bps (Default)
Parity:	None
Data Bit:	8 bit
Stop Bit:	1 bit

Sending Port Commands:



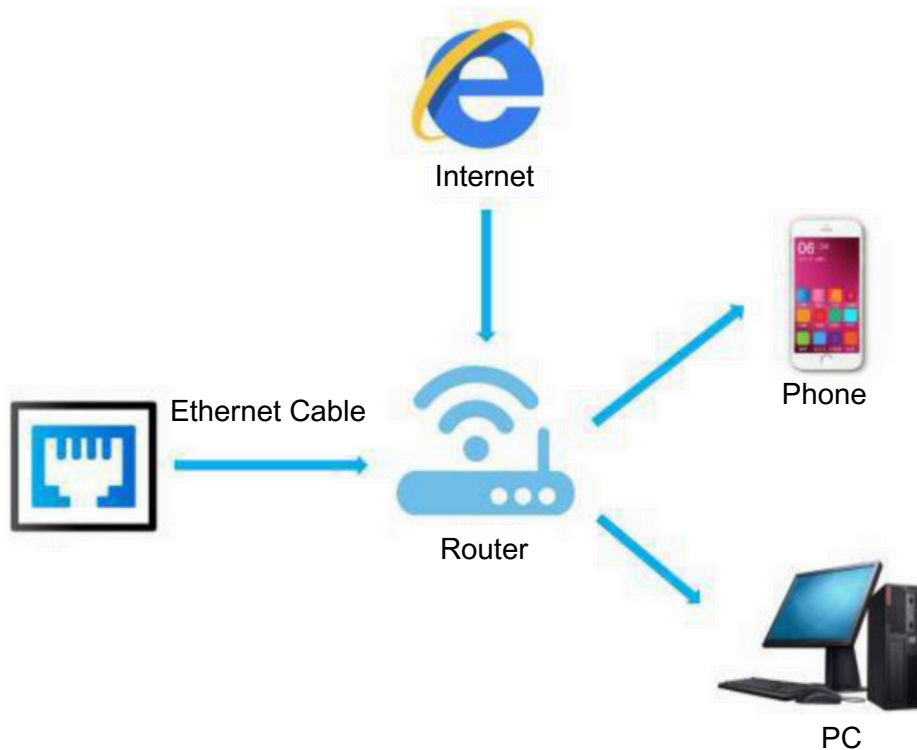
Command List:

- 1). All commands start with “#”
- 2). “_” the underline cannot be omitted.
- 3) Command head, Parameter and target need to have one “SPACE”

The following table is only an example. Please refer to the list of instructions

Type	Format	Value	Regulation
Command head	#cmd	without	
Explain	Can be used to search command, after receiving command, the system will feedback all open command format fields		
Example1	#cmd		
	Search all open command		

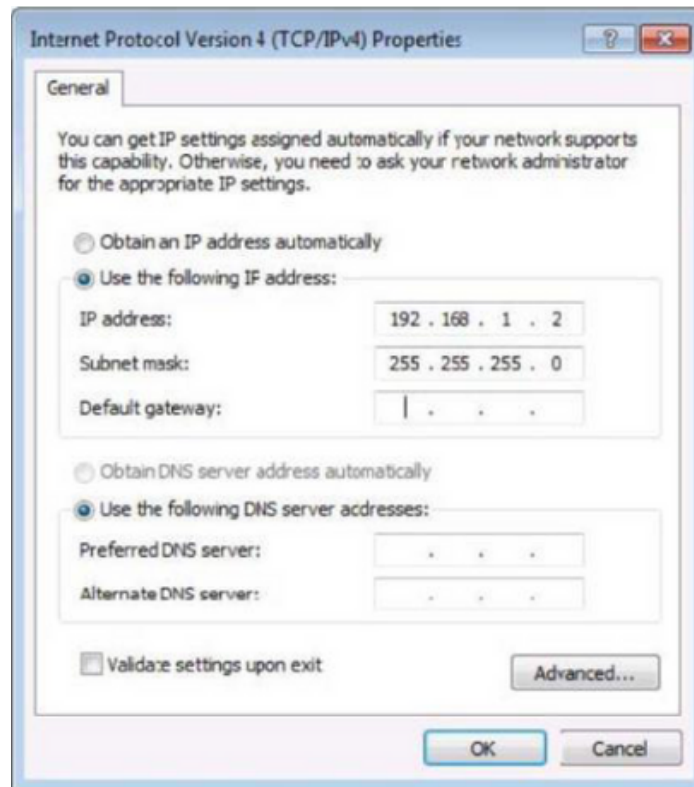
10. Web Control



10.1 Change IP Address of PC:

Before configuring the device through the web GUI, it is necessary to configure the IP address of the computer connected to the JTECH-4KM44A (to ensure that the computer and the device are set in the same network segment).

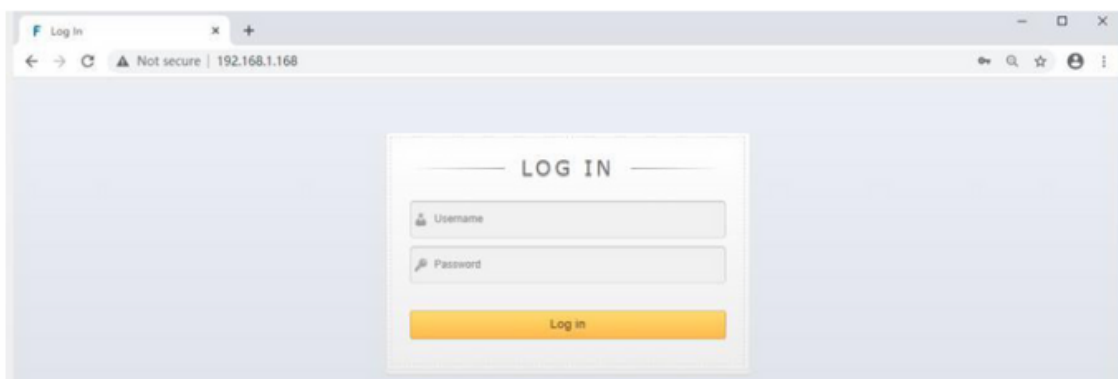
- 1). Open Network Settings > Change Adapter Properties and set the computer's IP address
- 2). Choose to use Static IP (Use the following IP address), with the IP address set to 196.168.1.x (x ranges from 0 to 254, excluding 168 [device's default IP])
- 3). Subnet mask set to 255.255.255.0
- 4). Gateway set to 192.168.1.1



10.2 Log in via Browser

Enter the default IP address of JTECH-4KM44A (192.168.1.168) in your browser's address bar
Type in user name and password (default user name: admin | default password: 123456)

Note: We recommend to using the latest version of Google Chrome, Mozilla Firefox and Microsoft Edge web browsers for the best compatibility.



10.3 Video Interface

1. **Output:** 01 >> 02 | 01 = Input & 02 = Output

2. **Input:** HDMI Inputs 1 - 4

3. **OFF:** Disable Output Port | Click "OFF" to close output port

4. **Store:** Preset 1 – Preset 8 | Recall: recall the preset | Save: save the preset

Operation steps:

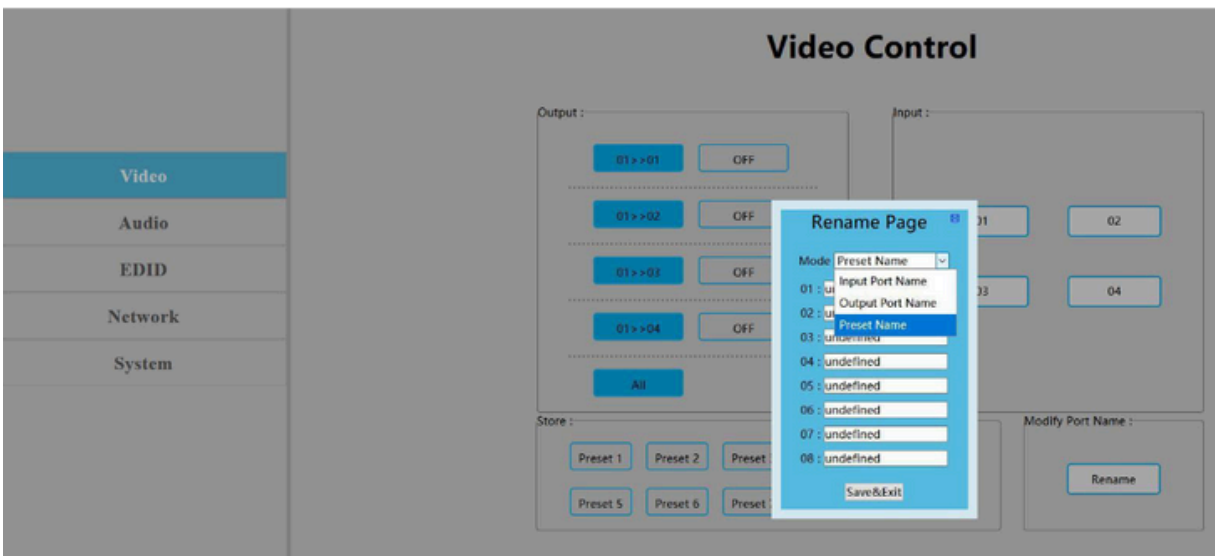
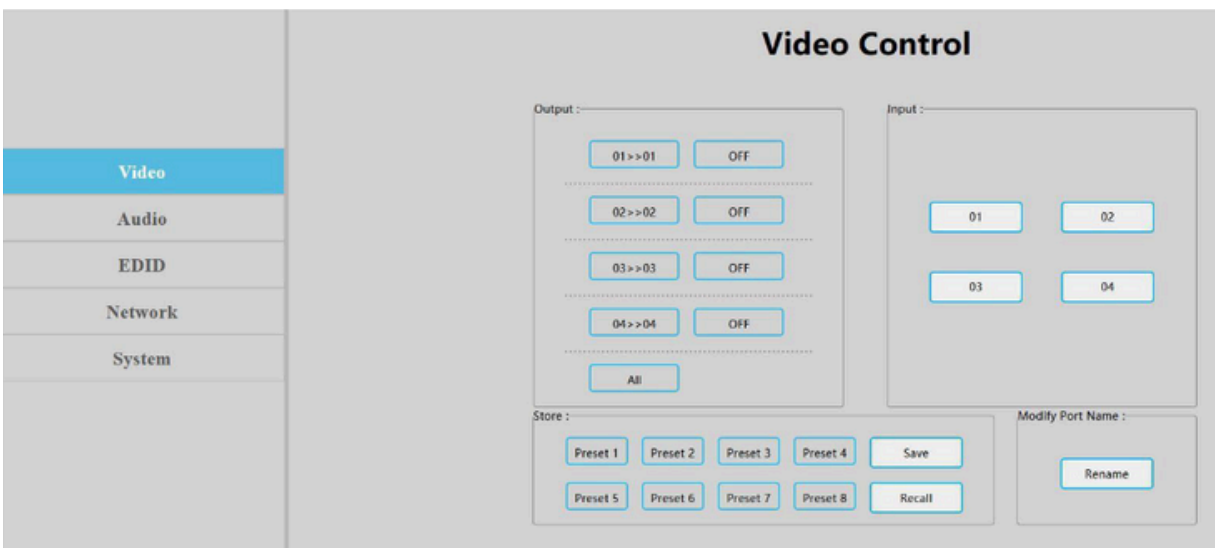
1) **Call Preset:** Preset1 + Recall | recall Preset 1

2) **Save Preset:** Preset2 + Recall | save Preset 2

Modify Port Name

1. Select desired mode from drop down menu – Input Port Name | Output Port Name | Preset Name

2. Select desired input or output port. Rename port in field. Click "Save & Exit" to apply changes



10.4 Audio Interface

1. Click Output 1 - 4 “ HDMI”: Enable / Disable HDMI Output Audio

Ex: Disable HDMI Output 1 Audio

Operation:

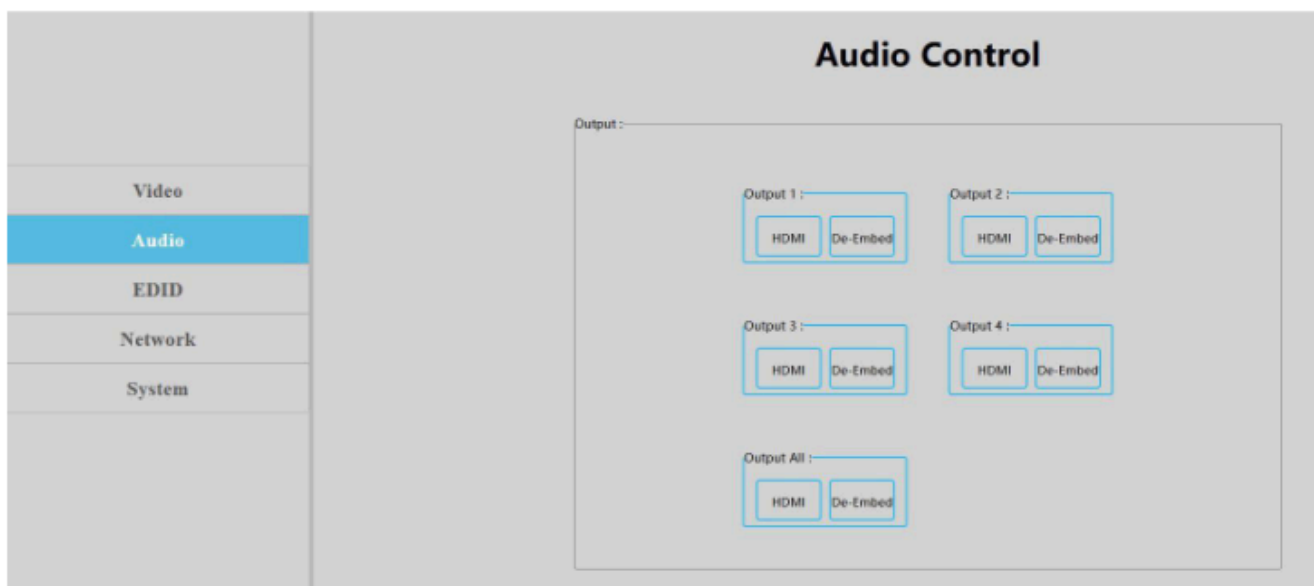
Click Output 1 “ HDMI” button. Button color will change and audio will be disabled. Press again to enable audio.

2. Click Output 1 - 4 “ De-Embed”: Enable / Disable Audio De-Embed Function

Ex: Disable Audio De-Embed Function on Output 1

Operation:

Click Output 1 “ De-Embed” button. Button color will change and audio de-embed ports will be disabled. Press again to enable de-embed audio ports.



10.5 EDID Interface

1. Input: 00>>Input1 | 00 - 16: EDID number | Input 1 - 4: HDMI Input Port 1 - 4

2. Output: 00 - 03: Default EDID | 04 - 07: User EDID | 08 - 11: Copy EDID | 12 - 15: Input EDID | 16: Temp EDID

00	4K60 444-LPCM: 2.0, HDR:HLG	01	4K60 420-LPCM: 2.0, HDR:None
02	4K30 444-LPCM: 2.0, HDR:None	03	1080P60 444-LPCM: 2.0, HDR:None
04	User1	05	User2
06	User3	07	User3
08	Copy HDMI Out 1	09	Copy HDMI Out 2
10	Copy HDMI Out 3	11	Copy HDMI Out 4
12	Copy Input 1	13	Copy Input 2
14	Copy Input 3	15	Copy Input 4
16	Default is empty. Requires EDID to be saved to device to take effect. <i>*Doesn't support power-off memory</i>		

1. EDID Information Field: This field shows EDID info.

E x : Click “00>>Input1” or “00:Default1” to show resolution, audio format, audio channels, HDR and serial number

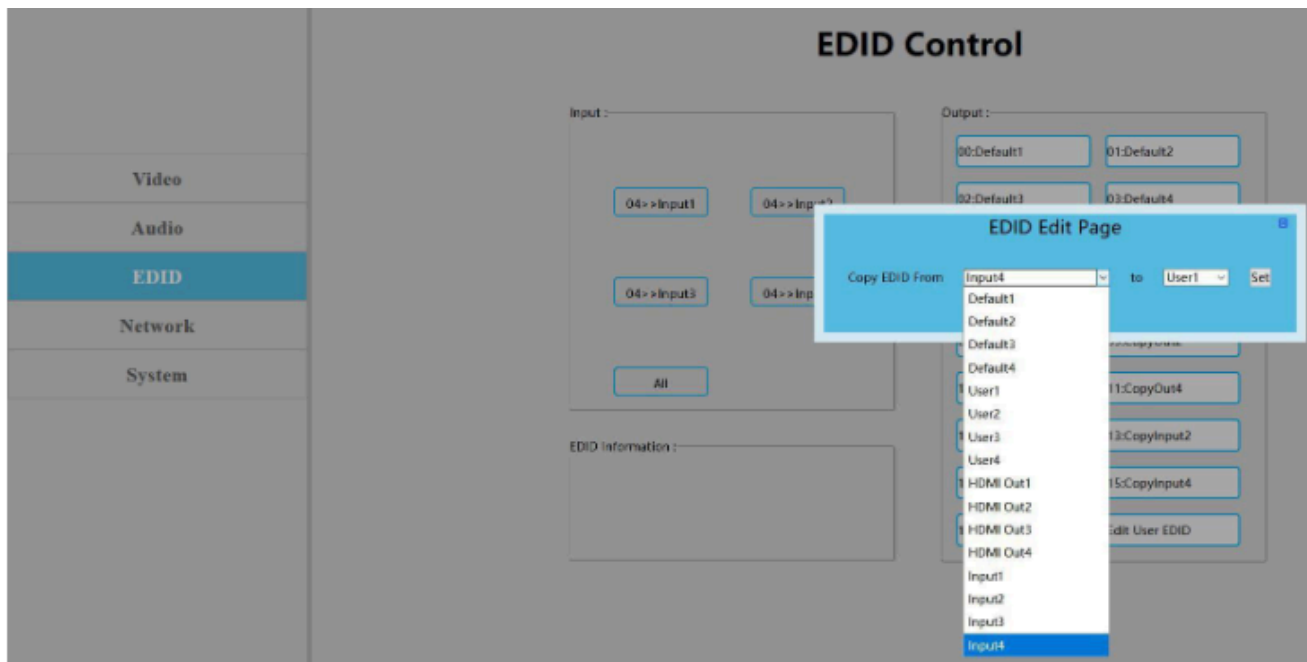
2. Edit User EDID: Click “Edit User EDID”. Choose EDID profile from the drop-down menu on “EDID Edit Page” and then save to User 1-4 profiles

Operation:

1) Apply Default2 EDID Profile to HDMI Input 1: Click “00>>Input1” and then click “01:Default2”

2) Save HDMI Out 1 EDID to User1 Profile: Choose “Default1” in “EDID Edit Page” and then choose “User1” and click “Set” to finish





10.6 Network Interface

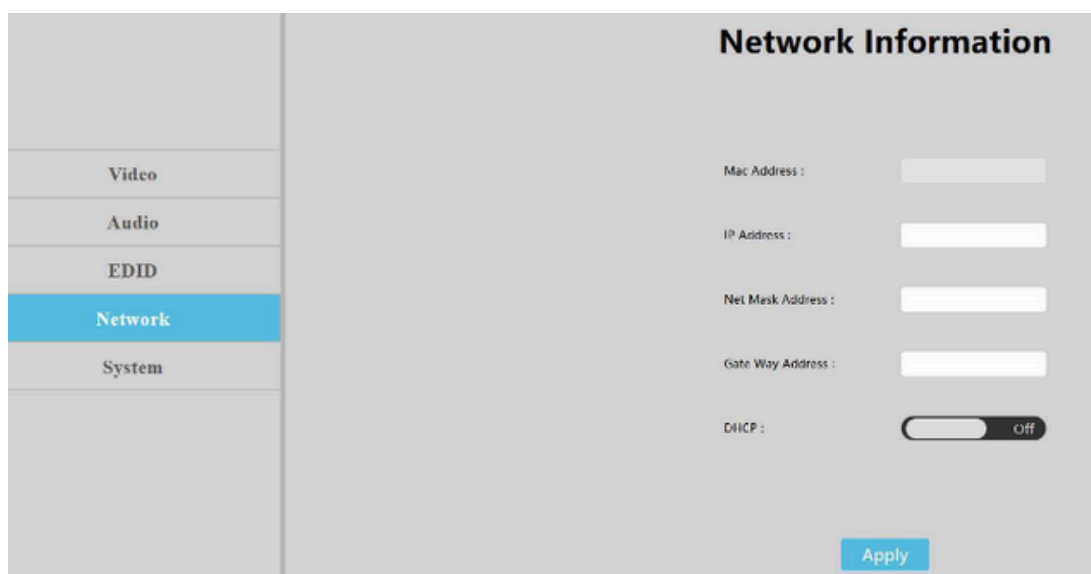
Note: MAC address cannot be modified

Static IP: Click DHCP switch (DHCP Off) to disable DHCP. Input desired static IP address to the “IP Address” field and then click “Apply” button to apply changes. If device IP address is the same as client IP, the user will need to re-login to the web GUI

Dynamic IP: Click DHCP switch (DHCP On). IP address will be assigned by router and will turn grey to signify that the IP address cannot be modified

IP Address | Net Mask Address | Gateway Address can be modified only when DHCP is disabled.
Cannot be modified when DHCP is enabled

Default IP address: 192.168.1.168



10.7 System Setting Interface

1. System Setting:

Reboot: Click to reboot device | Reboot will not clear user parameters

Factory Common: Click to reset device to partial factory settings | Will not clear network and preset parameters

Factory All: Click to reset device to full factory settings

2. Change Password: Change user name and password and then click "Apply"

***Note:** The username and password only supports 6 - 15 characters

The screenshot shows the 'System Setting' web interface. On the left is a sidebar with navigation links: Video, Audio, EDID, Network, and System (which is currently selected and highlighted in blue). The main panel is titled 'System Setting' and is divided into two functional areas. The top area, labeled 'System Setting', contains three blue buttons: 'Reboot', 'Factory Common', and 'Factory All'. The bottom area, labeled 'Change Password', contains three text input fields for 'User Name:', 'New Password:', and 'Confirm the Password:'. At the bottom right of the main panel, the version 'Web Ver/V0.6.2' is displayed above an 'Apply' button.

11. Firmware Upgrade

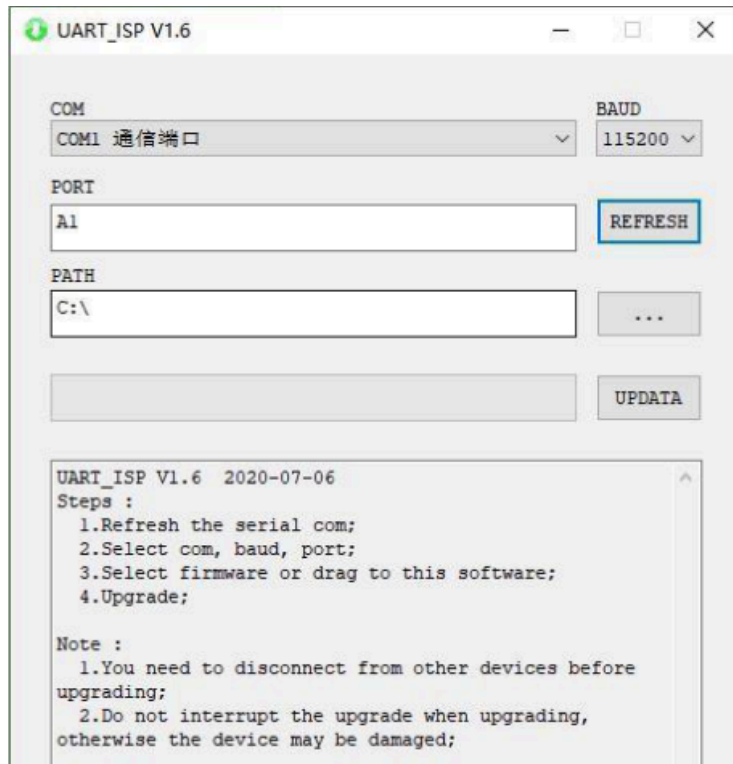
After upgrading the MCU application, upgrade the web application using RS232. (Both MCU and GUI are upgradable via RS232). If firmware is encrypted, decrypt before updating.

11.1 MCU Application Layer Upgrade:

Connect unit to PC via RS232

Open Application "UART_ISP_V1.6.exe" and select correct USB/COM port

Set Baud Rate: 115200 | Type in "A1" in PORT | Select PATH and then click UPDATA to apply update

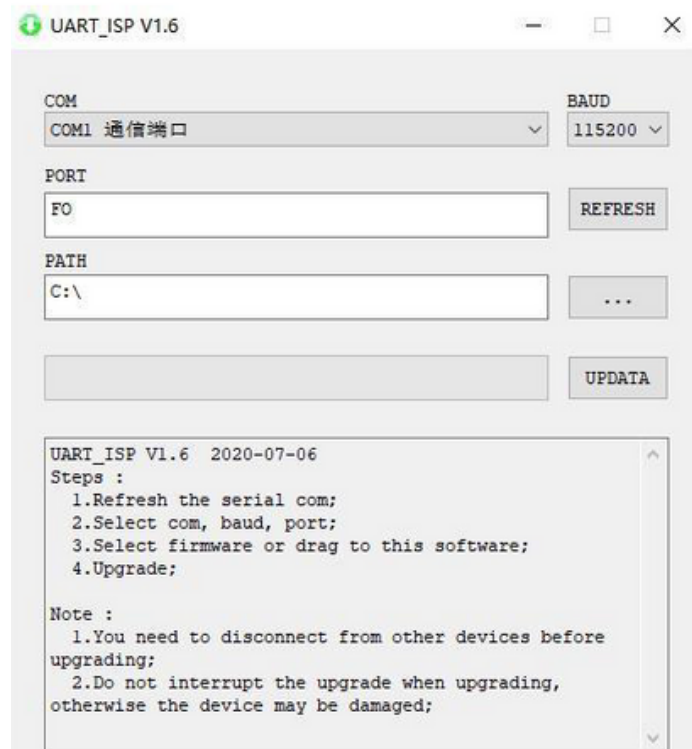


11.2 Web Upgrade

Connect unit to PC via RS232

Open Application "UART_ISP_V1.6.exe" and select correct USB/COM port

Set Baud Rate: 115200 | Type in "F0" in PORT | Select PATH and then click UPDATA to apply update



15. Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner, or benzine to clean.

16. 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 and Labor (1) Year”, 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 products purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

17. 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.

18. Limited Warranty Limits and Exclusions

This Limited Warranty ONLY COVERS failures due to defects in material 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, mis- adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributed to acts of God.

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). Parts and service, which are not covered by this limited warranty, are your responsibility.



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