



# DV-HMSW4K-44AUD

## 4x4 HDMI 2.0 Matrix



## Operating Instructions

244 Bergen Blvd Woodland Park NJ 07424  
973-998-2300 [www.fsrinc.com](http://www.fsrinc.com)

**Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.**

## **SURGE PROTECTION DEVICE RECOMMENDED**

**This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.**

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## Dear Customer

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## 1. Features

- HDMI 2.0 version ( Supports 4K@60Hz YUV4:4:4 )
- Bandwidth up to 18Gbps
- HDCP1.4/2.2 compliant
- Supports HDR10, HLG, Dolby vision
- 4xHDMI Input, 4xHDMI output with 4xSPDIF coaxial Audio, and 4x Analog Audio
- Any one of the 4 Ultra HD sources to any one of the 4 Ultra HD displays
- Supports IR control for long distance; RS232 control, Panel Button control, TCP/IP control and Web GUI Control
- Supports PCM 2.0, Dolby True HD and DTS-HD master audio, LPCM 7.1, audio
- Sampling rate up to 192 KHZ.
- Supports analog and S/PDIF audio extraction
- Supports EDID management and EDID copy
- Supports firmware updating through RS232 port.

## 2. Package Contents

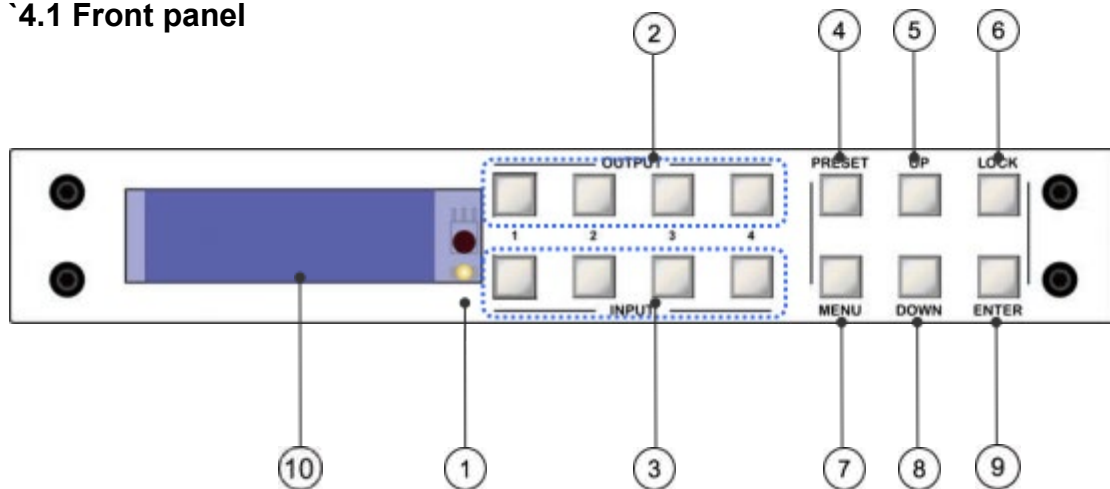
1. 1x HDMI Matrix
2. 1x 12V/2A DC power supply
3. 1x Remote control
4. 1x IR Ext RX Cable
5. 5x Screw terminal plugs for RS232 cable termination & L/R Audio termination.
6. 1x CD for control software & user manual

## 3. Specifications

Operating Temperature	0Cto+40C (+32°Fto+104°F)
Operating Humidity	5 to 90% RH (Non-Condensation)
Max resolution	4K@ 60hz YUV4:4:4
HDCP Compliant	HDCP2.2 and HDCP1.4
Output Video	HDMI2.0 and HDMI 1.4
Audio Format Supported	PCM2.0, Dolby True HD and DTS-HD master audio, LPCM7.1
RS-232 serial port	3PIN terminal block connectors
Ethernet port (IP control)	RJ45, female
IR Ext port	1x3.5mm stereo jack
Bandwidth	18 Gbps
Default IP	192.168.1.168
Dimensions (WxHxD)	L8.56" (216.2mm) X W5.07" (128.5mm) X H1.38" (34mm)
Net Weight	1.04 lbs.
Power consumption	14W (Max)

## 4. Panel Descriptions

### 4.1 Front panel

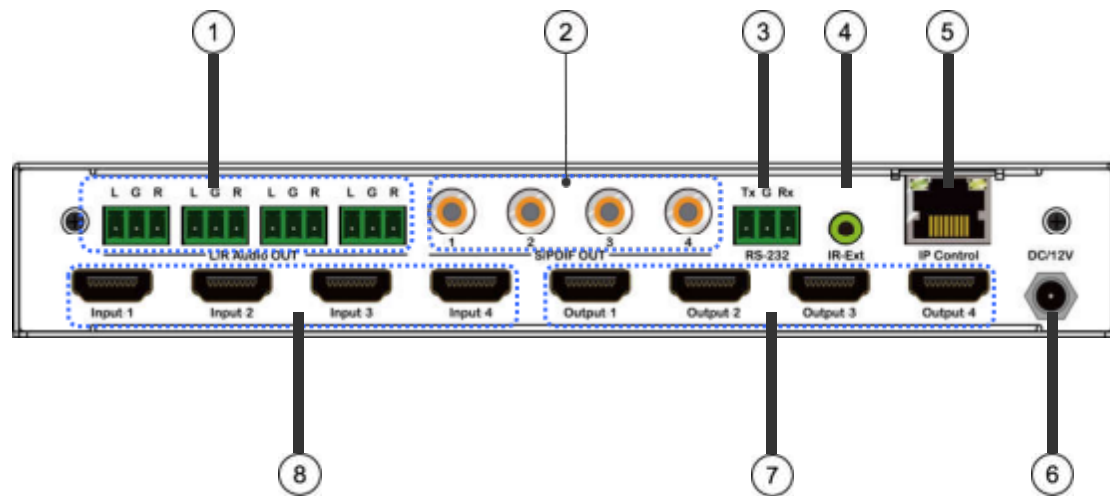


1. IR receive window.
2. Output 1-4: short press will select one output, press again to cancel; long press will select all outputs, long press again to cancel.
3. Input 1-4: short press will select one input if an output is already selected; a long press will select one input for all output.
4. PRESET: short press for preset
5. UP: short press for up
6. LOCK: long press to lock, long press again to unlock, all but the lock button is deactivated when locked.
7. MENU: press for the main menu interface or return to the previous menu interface.
8. DOWN: short press for down
9. ENTER: short press to confirm
10. LCD screen

**Note:** Unit will exit the menu interface will return to audio channel interface automatically 30s after last button press; after 60s without a button press the LCD screen will turn off.



## 4.2 Rear panel:

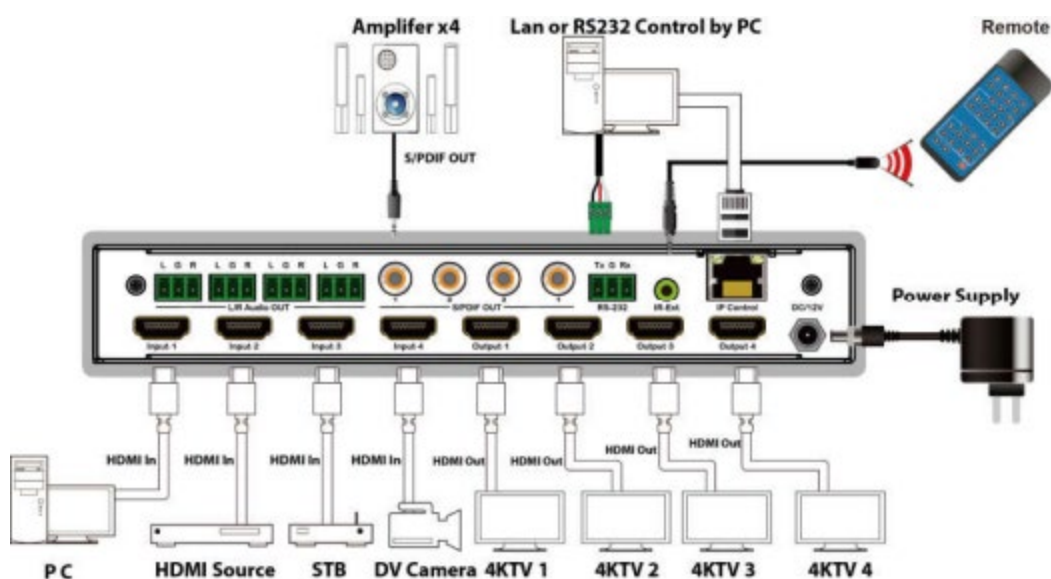


1. Analog audio out
2. S/PDIF audio out
3. RS232 for control
4. IR-Ext
5. Ethernet port
6. DC12V/2A input.
7. HDMI output port.
8. HDMI input port.

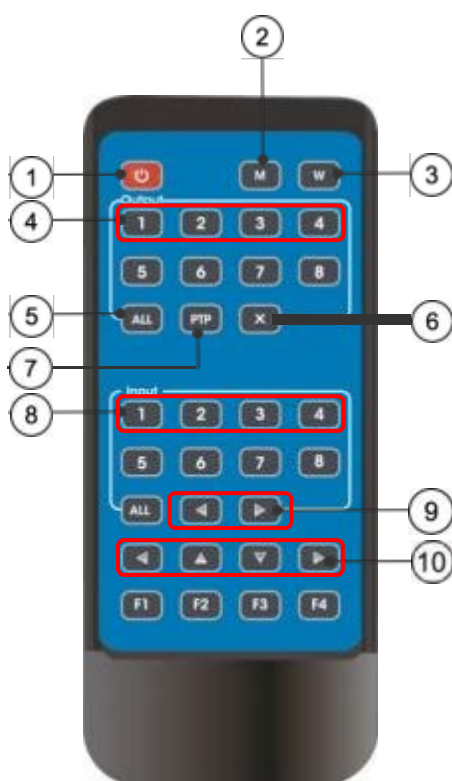
## 5. Connecting and Operating

1. Connect source devices to input ports of the matrix
2. Connect HDMI output ports to TV or other HDMI sink devices.
3. Optional: connect RS232 cable from PC 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 power socket.
6. Power on the matrix, HDMI sources and displays.

## 6. Application Diagram



## 7. Remote Control Description



1. Power on/Standby.
2. M: Turn off the HDMI output audio
3. W: Lock remote control
4. Output 1-4
5. All outputs select INPUT-Y:
  - a. Press the ALL button.
  - b. Press INPUT-Y button (Y means 1 to 4 of the inputs), then INPUT-Y switched to ALL OUTPUTS.
6. Turn off output channel.
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-X then Input-Y):
9. Switching input left and right.
10. Up and down, left and right

**Note:** All buttons use short button presses.

- Power on/standby: in standby the LCD screen will show “System Shutdown”, 5V on the HDMI output will be disconnected and the display will have no image.
- Video switch: output + input (e.g., output1+input2, switches output1 to input1)
- Turn off HDMI output audio: output + M (e.g., output1+M, turns off output1 audio)
- Lock remote control: short press “W” to lock, short press again to unlock.
- Turn off output channel: output + “X” (eg: Output1 + X, output1 turns to black screen, output + X again to return to normal)
- Switching input left and right: output + <( >); (e.g., All + < ,TV image will change according to the next input, it will skip inputs with no signal).

## 8. Panel Control Description

### 8.1. Video switch operation:

The unit can be randomly configured according to requirements to form a 1×4~4×4 matrix. It can switch any input signal to 1 or more output channels.

Operation format: “output channel” + “input channel”, or long press “input channel” for all output channels.

Output	1	2	3	4
Input	1	2	3	4

For example:

1. Switch output 1 to input 4.  
Operation: press output1+input4 to complete switch
2. Output 1, 2, 3 switch to input 2.  
Operation: press output 1, 2, 3 + input 2 to complete switch
3. All output switches to input 4.  
Operation: long press input 4 to complete switch

Note: to quickly (< 10s) switch between inputs press the output + input to switch, then the input button can be pressed repeatedly without then need to press the output again



## 8.2 Video control:

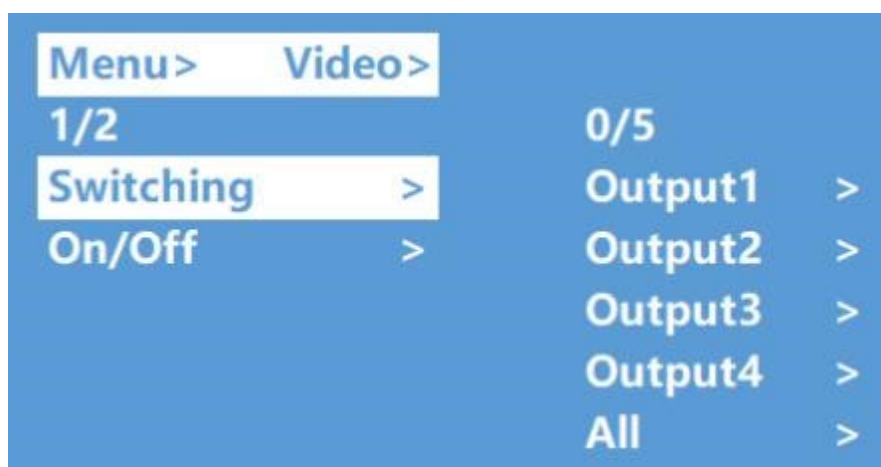
There are 2 sub-menus in video interface: 1. Switching; 2. On/Off

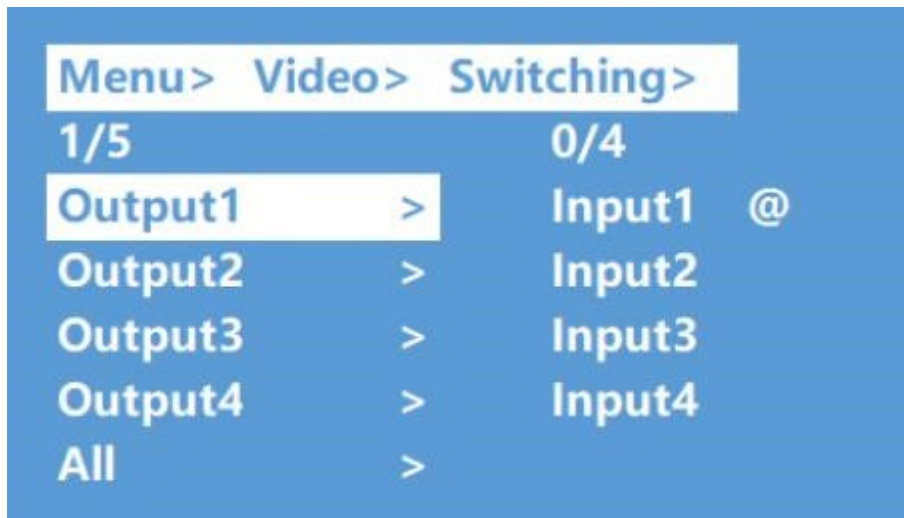


### 8.2.1 Video switching

Operation:

1. Select "Video" in the main menu, press the "ENTER" button.
2. press "up and down" button to choose "Switching".
3. press "ENTER" to enter the next sub-menu.
4. press the "up and down" button to select "Output1~4", ("All" means all output, "Switching"), the bottom color of the selected output turns to white
5. press "ENTER" to enter the next sub-menu.
6. press the "up and down" button to select input, the bottom color of the selected input turns to white.
7. press "ENTER" button to complete video switching.





### 8.2.2 Output switch control

You can open/close any output port, or open/close all output ports. Video outputs are defaulted to open.

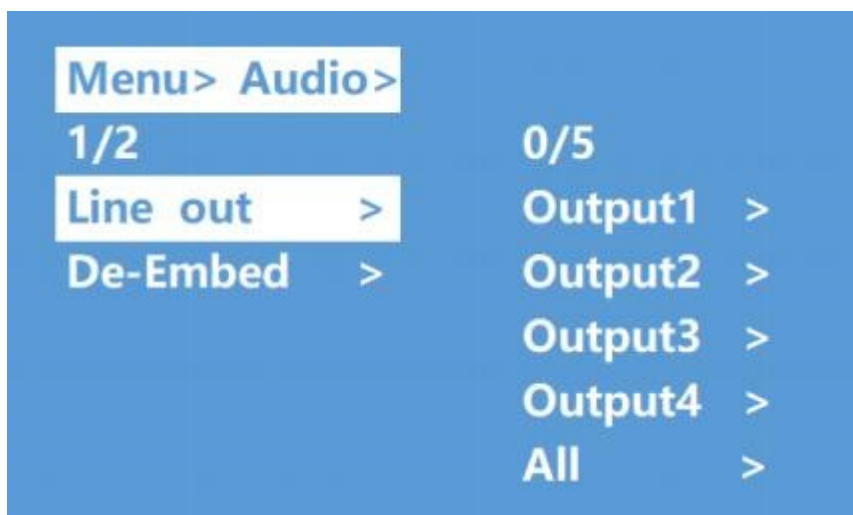
1. In the main menu, select "Video" and press "ENTER" button.
2. press "up and down" button to select "On/Off"
3. press the "ENTER" button to enter the next sub-menu.
4. press "up and down" button to select "output1-4" (All means all outputs), the bottom color of the selected output turns to white.
5. press "ENTER" to enter the next sub-menu.
6. select Output-HDMI1~4, press "ENTER" button to enter the next sub-menu.
7. press the "up and down" button to select Off or On
8. Press the "ENTER" button to confirm that the output port is open/closed.





### 8.3 Audio control interface

There are 2 sub-menus in audio control interface: Line out, De-Embed (both are defaulted to open)



### 8.3.1 Switch output audio

“Line out” mute/unmute HDMI embedded output audio on any one or all output channels.

Operation:

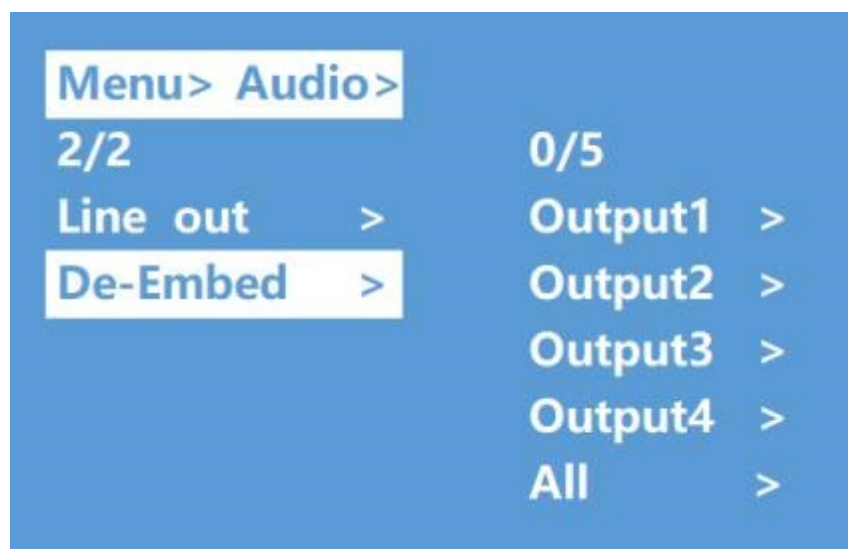
1. select “Audio” in the main menu and press the “ENTER” button.
2. Press “up and down” button to select “Line out”, press the “ENTER” button, the bottom color of the selected turns to white. Select output 1-4 or “ALL” via pressing the up and down buttons, press “ENTER” button to choose “on” or “off”.
3. e.g., mute sound of the TV connected to HDMI output1, operation: “Audio” + “ENTER” + “Line out” + “Output1-HDMI1” + “Off”, will return to upper-menu after “ENTER”.

### 8.3.2 Audio extraction control:

“De -Embed” enables the output audio (for both analog and SPDIF audio) on one or all output channels.

Operation:

1. select “Audio” in main menu and press “ENTER” button.
2. Press “up and down” button to select “De -Embed”, press “ENTER” button, the bottom color of the selected turns to white, Able to select output1-4 and all via pressing “up and down” button, press “ENTER” button to choose “on” and “off”.
3. e.g., turn off audio extraction of HDMI output1, operation: “Audio” + “ENTER” + “De - Embed” + “Output1” + “Off”, will return to upper-menu after “ENTER”.



### 8.4 EDID setting interface:

EDID management: User EDID, build-in EDID, Copy EDID mode.

The default EDID is “Default1”

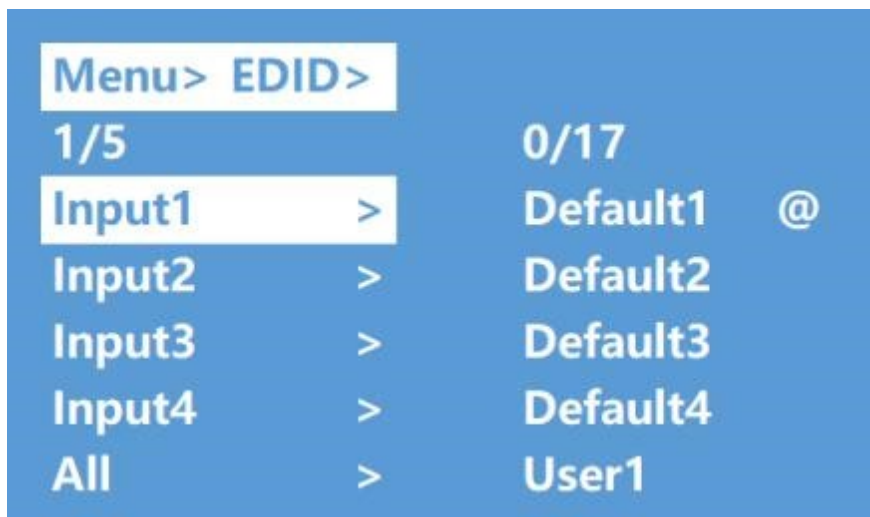
Default1	4K60 444-LPCM: 2.0, HDR: HLG	Default2	4K60 420-LPCM: 2.0, HDR: None
Default3	4K30 444-LPCM: 2.0, HDR: None	Default4	1080P60 444-LPCM: 2.0, HDR: None



Example: switch default1 to output1:

Operation:

1. select "EDID" in main menu and press "ENTER" button
2. press "up and down" button to select "Input 1" ("All" means all input)
3. press "ENTER" button to enter the next sub-menu.
4. press "up and down" button to select "Default1", the bottom color of the selected turns to white, press "ENTER" to complete setting.
5. behind the selected EDID, it will show the max supported resolution, audio format and audio channel.





### 8.5 Preset application

Preset interface can save the current video, audio, EDID, system setting, etc...

Supports 8 different presets, can execute a preset through the web, command, panel button, and recall.

Preset control interface has three sub-menus:

- Call scene
- Save scene
- Clear scene

Operation:

1. select "Preset" in main menu and short press "ENTER" button to enter preset interface; call, save and clear preset.
2. save preset: select Save- > anyone of Preset1~8- >ENTER.
3. call preset: Call- >any of the saved Preset1~8- >ENTER.
4. clear preset: Clear- >any of the saved Preset1~8- >ENTER (the saved preset will return to the default).





### 8.6 Setup Interface

The setup interface can set serial port baud rate, DHCP switch, device reboot and factory reset.



#### 8.6.1 Baud rate setting

The options for the baud rate setting are: 9600, 19200, 57600, 115200.

The default serial port is 115200.

Below example is setting baud rate to 9600.

Operation:

1. select "Setup" in the main menu and press "ENTER" button.
2. press the "up and down" buttons to select "Baud"
3. press "ENTER" to enter the next sub-menu.
4. press "up and down" button to select "9600"
5. press "ENTER" to complete setting the new Baud Rate





### 8.6.2 DHCP Switch

DHCP On: dynamic IP address; DHCP Off: static IP address (default is DHCP off)

DHCP Operation:

1. select "Setup" in the main menu and press the "ENTER" button.
2. press "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 open DHCP to allocate IP address automatically.



### 8.6.3 Reboot

Reboot device, default is "NO".

Operation :

1. select "Setup" in the main menu and press "ENTER" button.
2. press "up and down" button to select "Reboot".
3. press "ENTER" to enter the next sub-menu.
4. press "up and down" button to select "Yes".
5. press "ENTER" to complete reboot device.





#### 8.6.4 Factory Reset

reinitializing the setting for the device (default is "NO"). There are two factory settings:

1. Factory Common: factory reset for video switch, EDID, audio and setting (IP address will not be factory rest)
2. Factory All: factory set for video switch, EDID, audio, setting, preset and device name.

Factory Reset Operation:

1. select "Setup" in the main menu and press "ENTER" button.
2. press "up and down" button to select "Factory".
3. press "ENTER" to enter the next sub-menu.
4. press "up and down" button to select "ALL" and press "ENTER" button.
5. press "up and down" button to select "Yes" and press "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:

1. select "INFO" In main menu and press "ENTER" button.
2. press "up and down" button to select "System" or "IP", bottom color will turn white when selected.
3. press "ENTER" to enter the next sub-menu, then able to query device information.

**Menu>**

6/6

0/2

Audio

>

System

>

EDID

>

IP

>

Preset

>

Setup

>

**INFO.**

>

**Menu> INFO.>**

1/2

**System**

>

CO. xxx

IP

>

Type xxx Pro

Ver V0.1.4

**Menu>INFO. >**

2/2

**System**

DHCP Off

**IP**

IP 192.168.1.168

MASK 252.255.255.0

WG 192.168.1.1

MAC 0008-DC40-7454

## 9. RS232 Control



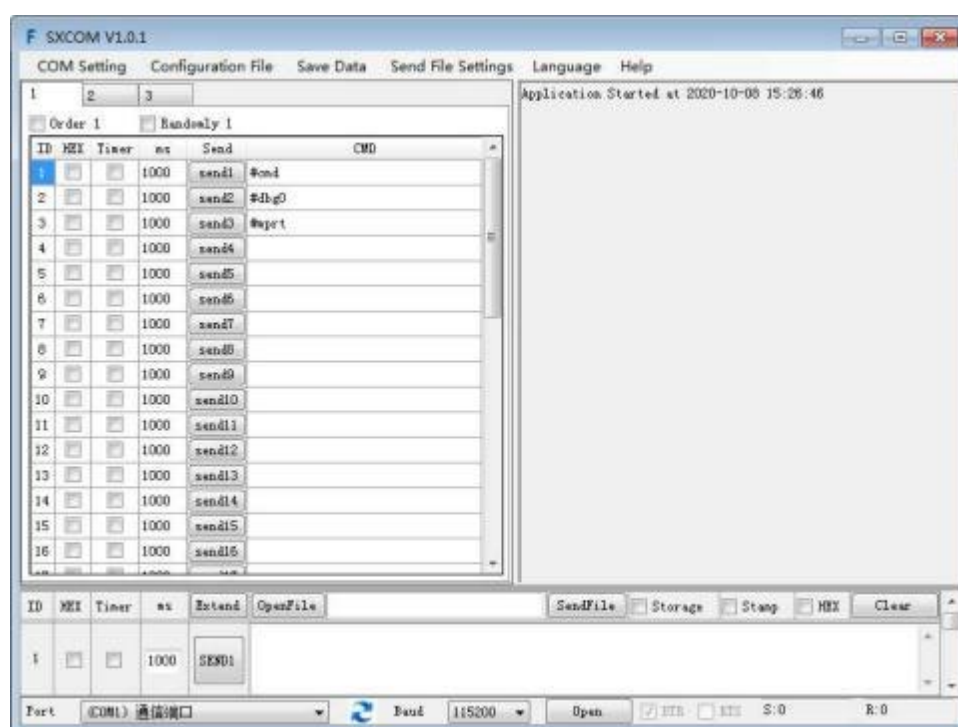
### 9.1 Open Comm Uart Assistant.

### 9.2 Comport setting:

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

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

### 9.3 Enter Port Command in Send options.



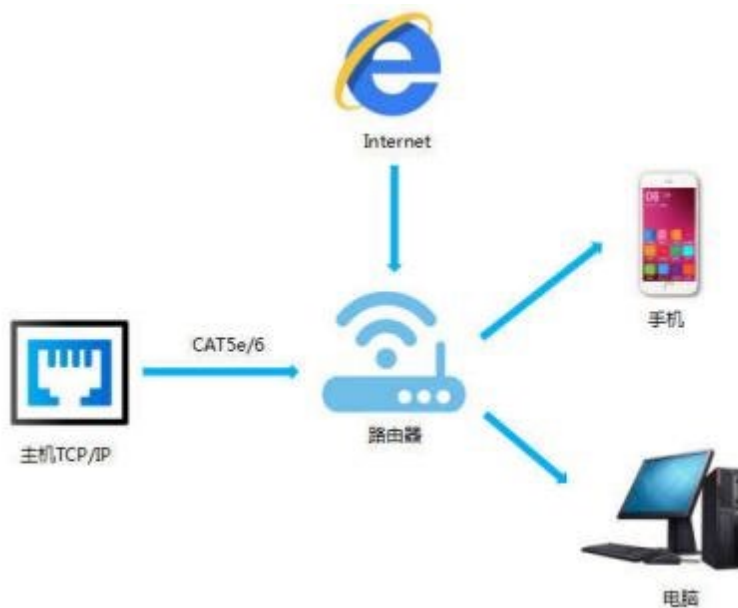
### 9.4. Command List

1. All commands start with “#”
2. The “\_” underline cannot be omitted.
3. Command header, 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 Header	#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		

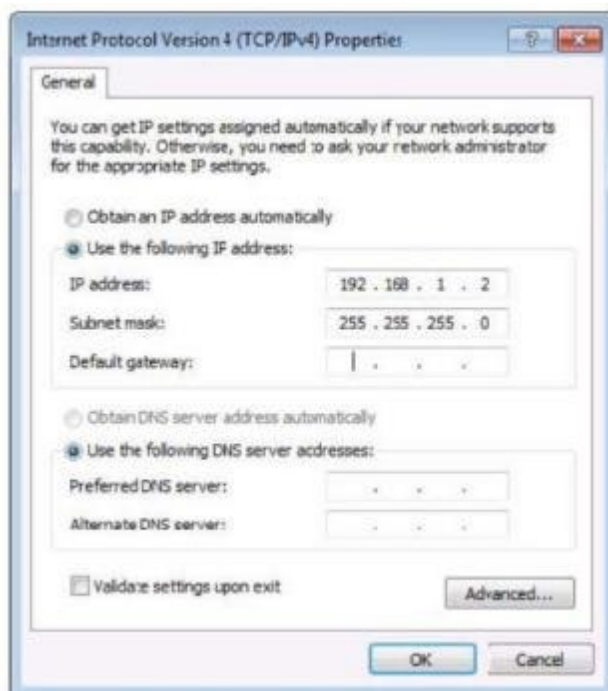
## 10. Web Control



### 10.1 Change IP address of PC

Before configuring the device through the webpage, it is necessary to configure the IP address of the computer with the device (mainly to ensure that the computer and the device are set in the same network segment).

1. Open the network control center and set the computer's IP address:
2. Choose to use Static IP, with the IP address set to 192.168.1.x (x ranges from 0 to 254, but cannot be consistent with the device's IP address),
3. Subnet mask set to 255.255.255.0
4. Gateway set to 192.168.1.1



## 10.2 Login by Browser

Default IP address for log-in:192.168.1.168

Type in user name and password (default user name: admin; default password:123456)

**Note:** suggest the use of a newer version of Google,firefox,IE11 browser for better compatibility.

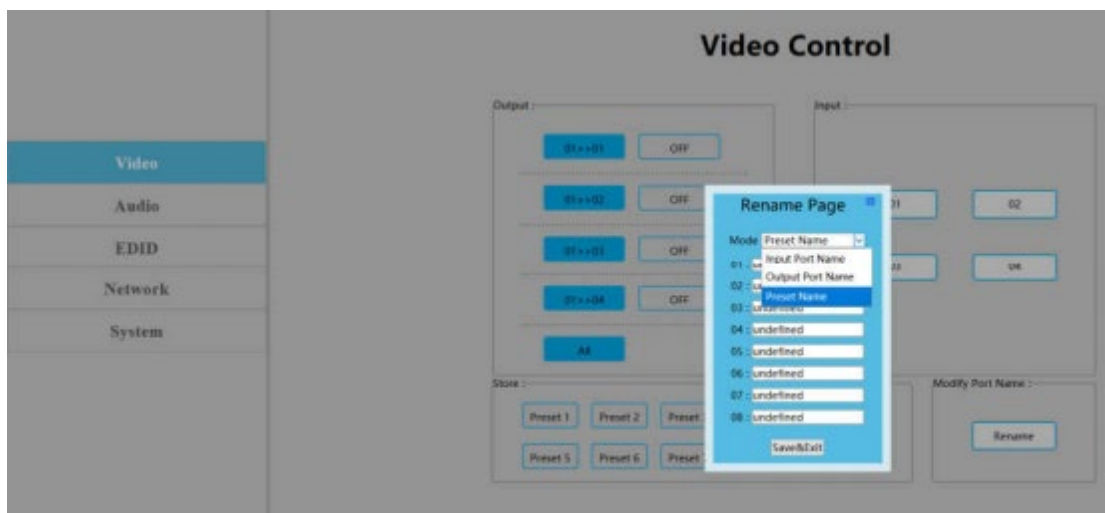
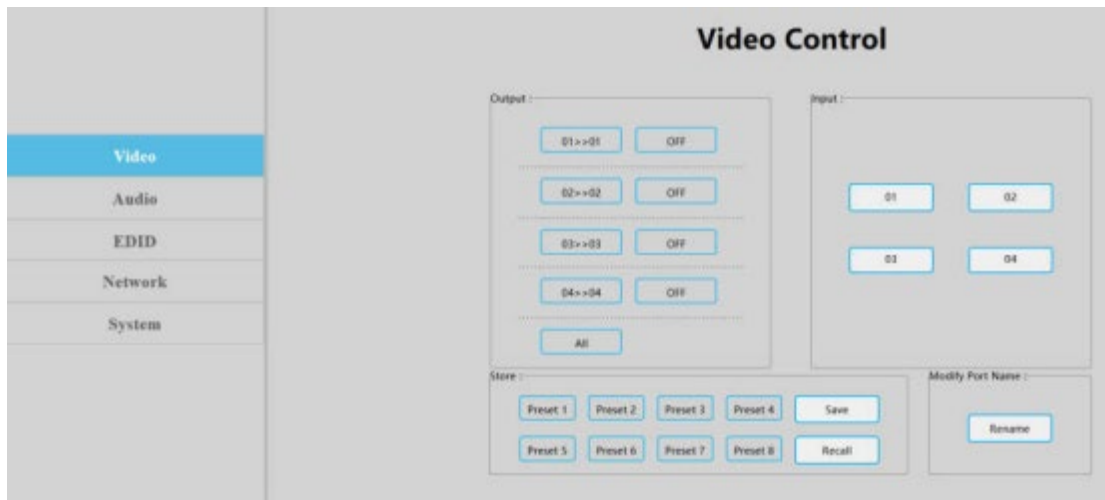


## 10.3 Video interface:

1. Output: 01 >> 02, 01 means input, 02 means output, "All" means all output Operation steps:  
Click 01 >> 01 or All, then click input 01~04. eg: switching input1 to output 4;  
Click "04 >> 04" first, then click "01".
2. Input: 01~04 means HDMI input 1~4.
3. OFF: close output channel, click "OFF" to close output channel; Click "ON" to close this function. The default is "OFF."
4. Store: preset1~preset8. Recall: call the preset;  
Save: save the preset Operation steps:
  - a. Call preset: preset1 + Recall, call preset1.
  - b. Save preset: preset2 + Recall, save preset2.

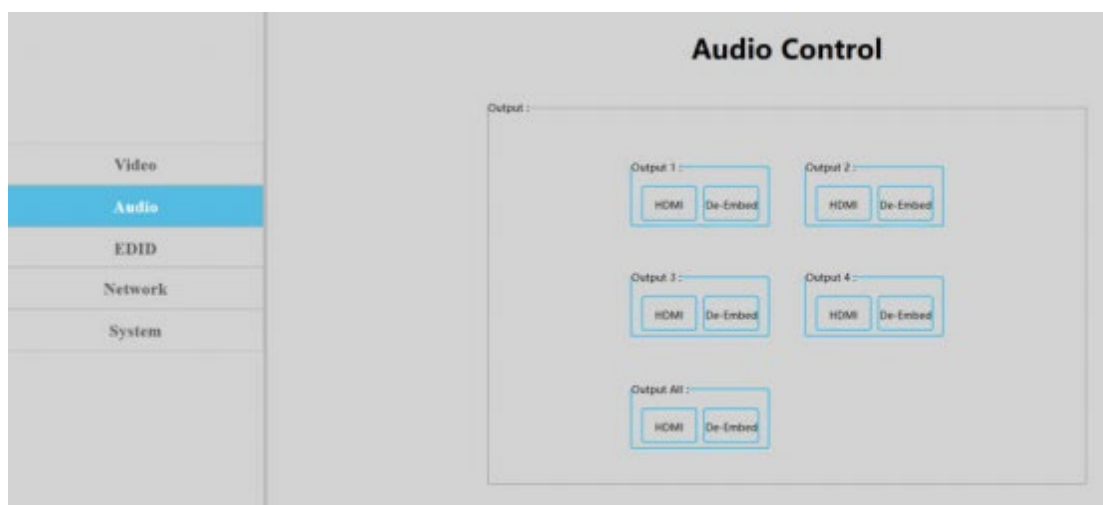
## Modify Port Name:

1. Click to choose the input or output port, rename in input box, then click Save & Exit.
2. Click to choose preset, rename in input box, then click Save & Exit. Note: Rename limit:1~15 letters / numbers / underline.



## 10.4 Audio Interface

1. Click output1-4 HDMI turn off HDMI output audio.  
Operation: e.g.: turn off audio of the TV which connected to HDMI output1  
Click output1 HDMI, color will change and TV only with video but no audio.  
Re-click to turn on audio.
2. Click output 1-4 De-Embed turn off audio extraction function, also turn off SPDIF and analog audio at the same time.  
Operation: e.g.: turn off HDMI output1 audio extraction  
Click output1 De-Embed, color will change and no audio for analog and SPDIF out. Re-click to turn on audio.



### 10.5 EDID Interface

1. Input: 00>>Input1, 00~16: EDID number, Input1~4: HDMI input1~4
2. Output: 00~03:default EDID, 04~07: user EDID, 08~11: copy EDID, 12~15: input EDID, 16: Temp EDID, refer to below for more details:

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 out1	09	Copy HDMI out2
10	Copy HDMI out3	11	Copy HDMI out4
12	Copy input1	13	Copy input2
14	Copy input3	15	Copy input4
16	Default is empty, need to save EDID to device to take effect, doesn't support power-off memory		

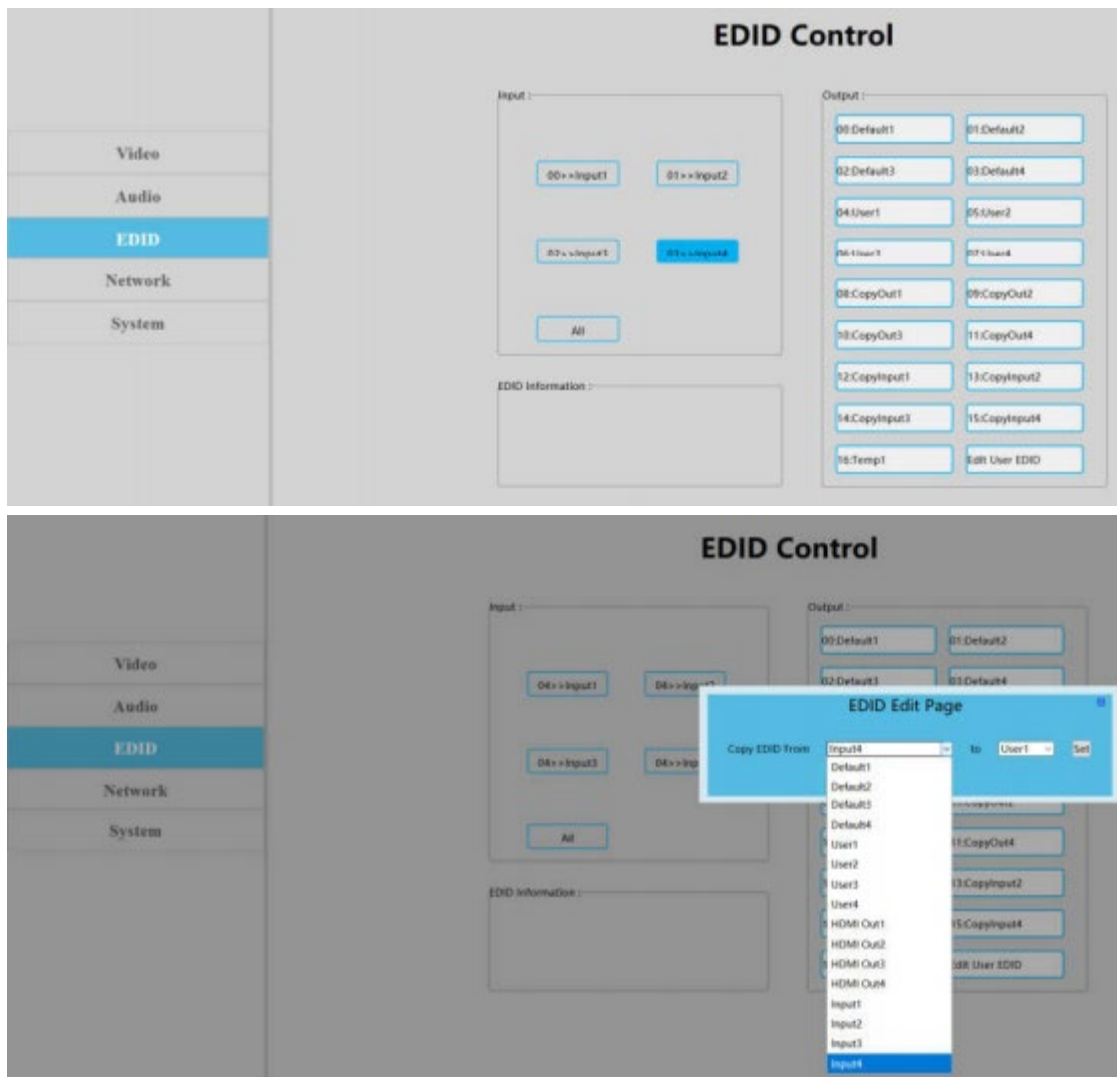
1. EDID Information: show EDID here: click "00>>Input1 "or "00: Default1", will show resolution, audio, audio channel, HDR and serial number.
2. Edit User EDID: Click "Edit User EDID", choose default, user, copy, input EDID on "EDID Edit

Page" to save to User1-4, supports power-off memory.

Operation:

1. HDMI input1 use second default EDID ; click"00>>Input1", then click "01: Default2".
2. Save copy HDMI out1 to User1: choose"default1"in "EDID Edit Page", then choose "User1" and click "Set" to finish.





## 10.6 Network Interface

MAC address cannot be modified, for display only.

**Static IP:** Click DHCP switch(DHCP Off),you can modify IP address, then click “Apply” button, it will countdown. If device IP address same as client IP, will re-login web interface. If unable to refresh automatically, then need to resubmit form manually.

**Dynamic IP:** Click DHCP switch(DHCP On),IP address assigned by router and turn to grey, cannot be modified, but can display current IP address information.

IP address/Net Mask address/Gate Way address can be modified only when DHCP Off, can't be modified when DHCP ON

**Default IP address:192.168.1.168**

## 10.7. System Setting Interface:

System Setting:

Reboot: Click to reboot device

Factory common: Click to reset device for partial function.

Factory all: Click to reset device totally.

“Reboot” will not clear user parameter; “Factory common” will not clear Network and Preset parameter; “Factory all” will reset to default all settings.

Change Password: Change username and password, then click “Apply”.

Note: The username and password, only supports 6~15 letters / numbers / underline

## MAINTENANCE

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

## PRODUCT SERVICE

Before returning any equipment for repair, please be sure that it is adequately packed and cushioned against damage in shipment, and that it is insured. We suggest that you save the original packaging and use it to ship the product for servicing. Also, please enclose a note giving your name, address, phone number and a description of the problem.

**NOTE:** all equipment being returned for repair must have a Return authorization (RMA) Number. To get a RMA Number, please call the FSR Service Department (1-800-332-FSR1). Please display your RMA Number prominently on the front of all packages.

## WARRANTY

The DV-HMSW4K-44AUD is warranted against failures due to defective parts or faulty workmanship for a period of three years after delivery to the original owner. During this period, FSR will make any necessary repairs or replace the unit without charge for parts or labor. Shipping charges to the factory or repair station must be prepaid by the owner, and return shipping charges (via UPS Ground) will be paid by FSR.

This warranty applies only to the original owner and is not transferable. In addition, it does not apply to repairs done other than at the FSR factory or Authorized Repair Stations.

This warranty shall be cancelable by FSR at its sole discretion if the unit has been subjected to physical abuse or has been modified in any way without written authorization from FSR. FSR's liability under this warranty is limited to repairing or replacing the defective unit.

FSR will not be responsible for incidental or consequential damages resulting from the use or misuse of its products. Some states do not allow the exclusion of incidental or consequential damages, so the above limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Warranty claims should be accompanied by a copy of the original purchase invoice showing the purchase date (if a Warranty Registration Card was mailed in at the time of purchase, this is not necessary). Before returning any equipment for repair, please read the important information on service below.

## **CONTACT INFORMATION:**

FSR INC.

244 Bergen Blvd.

Woodland Park, NJ 07424

Phone: (973) 998-2300 Order Desk Fax: (973) 785-4207

E-mail: [sales@fsrinc.com](mailto:sales@fsrinc.com)

Web: <http://www.fsrinc.com>