INSTRUCTION MANUAL

ANI-8-4K60-S

8x8 HDMI 18Gbps Matrix w/ Audio Matrix



A-NeuVideo.com
Frisco, Texas 75036

A▸NEUVIDEO®
AUDIO / VIDEO MANUFACTURER

SAFETY INFORMATION

1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.
2. Follow all instructions printed on unit chassis for proper operation.
3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and excessive moisture.
5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.
8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
10. Turn power off and disconnect unit from AC current before making connections.
11. Never hold a power switch in the “ON” position.
12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically “blown free” of foreign dust and matter.
14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.
15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.
16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.
18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
19. Service Information Equipment should be serviced by qualified service personnel when:
    A. The power supply cord or the plug has been damaged.
    B. Objects have fallen, or liquid has been spilled into the equipment.
    C. The equipment has been exposed to rain.
    D. The equipment does not appear to operate normally, or exhibits a marked change in performance.
    E. The equipment has been dropped, or the enclosure damaged.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY INSTRUCTIONS CONTAINED WITHIN THIS MANUAL.

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DEAR CUSTOMER

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.

INTRODUCTION

The ANI-8-4K60-S 18Gbps 8x8 HDMI matrix supports the transmission of video (up to 4K2K@60Hz YUV 4:4:4) and multi-channel high resolution digital audio (up to LPCM 7.1CH) from (8) HDMI sources to (8)HDMI displays. It supports 8x8 analog audio matrix output by de-embedding audio from (8) HDMI output to (8) RCA audio ports and (8) Phoenix audio ports. Analog audio output supports independent audio level control (range: 0-60) and lip sync adjust (delay 0-150ms). Each HDMI output of this 8x8 HDMI Matrix supports 4K to 1080P downscaler independently. The Matrix supports CEC control and advanced EDID management. It can be controlled via front panel buttons, IR remote, RS-232, LAN and Web GUI. In addition to supporting 8x8 HDMI, the ANI-8-4K60-S supports Independent 8x8 audio matrix routing, in which you can route the incoming audio from any HDMI source to Analog Audio Outputs (audio remains embedded on the HDMI). This product has a 3 year warranty.

PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- ANI-8-4K60-S 18Gbps 8 x 8 HDMI Matrix
- (9) 3pin-3.81mm Phoenix Connector (male)
- 2pin-3.81mm Phoenix Connector (male)
- IR Remote
- RS-232 serial cable (DP9 female head to 3pin Phoenix Connector)
- (2) Mounting Ears
- (10) Machine Screws
- 24V/2.7A Locking Power Adapter
- AC Power Cord (US Standard)
- Users Guide

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

DISCLAIMERS

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FEATURES

- HDMI 2.0b HDCP 2.3/2.2/HDCP 1.x, 18Gbps uncompressed signal bandwidth
- (8) HDMI inputs, (8) HDMI outputs
- (8) RCA analog audio output
- (8) 3-pin Phoenix analog audio output
- Independent video downscaling 4K-> 1080P/Bypass/HDBT mode (4K60 420)
- Dolby Vision, HDR, HDR10+ and HLG, HDMI audio pass-through up to 7.1CH HD audio (LPCM, Dolby TrueHD, and DTS-HD Master Audio
- CEC* control source and display, turn display device On/Off, change the input or enter a custom command.
- Audio De-embedding for audio matrix (no downmix required)
- Mirrored L/R audio Output via RCA or 3-pin phoenix (unbalanced)
- Advanced EDID management supported.
- Independent 8x8 audio matrix, in which you can route the incoming audio from any HDMI Input to any Analog Audio Output
- Independent audio level control (0-60) and lip sync adjust (delay 0-150ms) on Analog Audio Outputs
- Internal test pattern to test the device outputs
- Audio and Video Zone mode operation
- TCP/IP, RS-232, and IR control
- Supports firmware update

SPECIFICATIONS

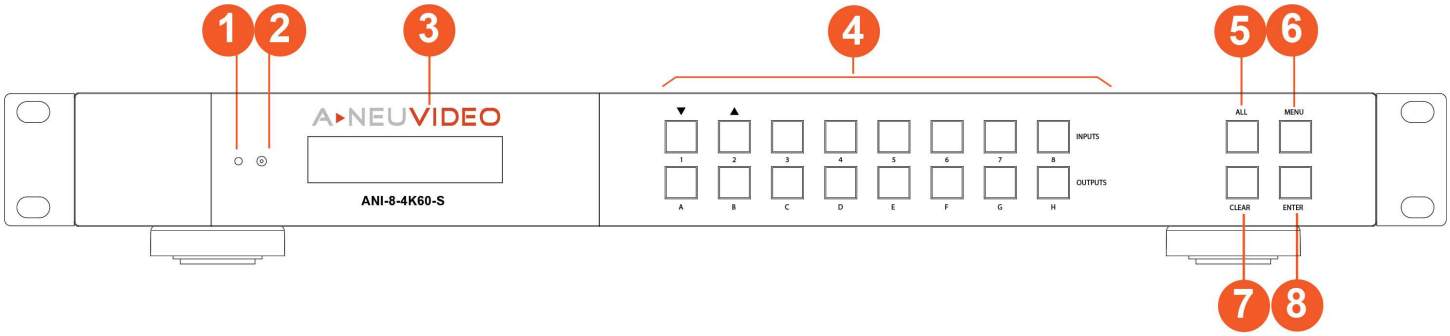
- **HDMI Compliance:** HDMI 2.0b
- **HDCP Compliance:** HDCP 2.2 and HDCP 1.4
- **Video Bandwidth:** 18Gbps
- **Video Resolution:** 4K2K@50/60Hz (YUV 4:4:4), 4K2K@30Hz, 1080p@120Hz and 1080p 3D@60Hz
- **Color Space:** RGB, YCbCr 4:4:4/4:2:2, YUV 4:2:0
- **Color Depth:** 8-bit, 10-bit, 12-bit
- **Video Latency:** No Latency
- **Audio Latency:** HDMI Audio: No Latency / Analog Audio: Delay 0-150ms
- **Audio Formats:**
  - **HDMI Audio Formats (Pass-through):** LPCM 2/5.1/7.1, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
  - **HDMI Audio De-embedding:** LPCM 2CH 32-192KHz
  - **Analog Audio Index:**
    - Vmax: 2Vrms SNR: > 90dB
    - THD+N Ratio: <0.1% (V_max) 0.001%~0.01% (V_best)
    - Frequency Response: 20Hz~20kHz [± 0.5dB]
- **Transmission Distance:** HDMI: 5M
- **IR Level:** 12Vp-p
- **IR Frequency:** Wideband 20K - 60 KHZ
- **HDR Formats:** HDR, HDR10, HDR10+, Dolby Vision, HLG
- **ESD Protection Human Body Model:**
  - ± 8kV (air-gap discharge)
  - ± 4kV (contact discharge)
- **Input Ports:** (8) HDMI IN [Type A, 19-pin female]
- **Output Ports:**
  - (8) HDMI OUT [Type A, 19-pin female]
  - (8) Coax Audio (RCA)
  - (8) L/R Audio [3-pin Phoenix Connector]
- **Control Ports:**
  - ETHERNET [RJ45]
  - RS-232 [3-pin Phoenix Connector]
  - IR [2-pin Phoenix Connector]
- **Housing:** Aluminum Enclosure
- **Color:** Black
- **Dimensions (WxDxH):** 17.2 x 9.8 x 1.8 in (436x250x45mm)
- **Weight:** 4.37lb / 1.98Kg
- **Power Supply:** Input: AC 100 - 240V 50/60Hz; Output: DC 24V/2.7A (US/EU standard, CE/FCC/UL certified)
- **Power Consumption:** 40W
- **Operating Temperature:** -10°C ~ 45°C / 14°F ~ 113°F
- **Storage Temperature:** -20°C ~ 60°C / -4°F ~ 140°F
- **Relative Humidity:** 20~90% RH (non-condensing)

As product improvements are continuous, specifications are subject to change without notice.

Resolution / Cable Length	4K60	4K30	1080P60
HDMI IN / OUT	16ft / 5M	32ft / 10M	50ft / 15M

The use of **"Premium High Speed HDMI"** cable is highly recommended.

FRONT PANEL



1 POWER LED: The LED will light in blue when the product is connected to power supply, and amber when the product is on standby.

2 IR WINDOW: IR receiver window, it only receives the IR remote signal from this product.

3 OLED SCREEN: Display matrix switching status, input / output port, EDID, Baud rate, IP Address, etc.

4 INPUTS / OUTPUTS BUTTONS: Signal input/output channel selection buttons. You need to press the output button (A~H) firstly and then press the input button (1~8) to select the corresponding input source for the output port. When the Audio Switch Mode is set to Independent on the Web GUI of the Matrix, press and hold the INPUT (1~8) button for 3s, then press buttons **"OUTPUT n (A~H)/ ALL + ENTER"** by sequence to switch the HDMI audio source to the corresponding audio output ports.

5 ALL BUTTON: Used to select all output channels. Press buttons **"ALL + INPUT m + ENTER"** by sequence to switch input source m to all the output channels.

6 MENU BUTTON: Press the **MENU** button and then press the **UP** (INPUT 1) or **DOWN** (INPUT 2) button to check the specific information of various menu function options.

STATUS CHECK: On the initial OLED display screen, press **"MENU"** button to enter the Matrix switching status interface to check the corresponding input and output ports.

EDID SETTING: On the initial OLED display screen, press **"MENU"** button to enter the **"Select Edid"** interface, press **"UP (INPUT 1)/ DOWN (INPUT 2)"** button to select the required EDID, and press the **"ENTER"** button. A prompt **"Copy to Input :"** will appear. Then press **"UP (INPUT 1)/DOWN (INPUT 2)"** button to select the input port you need to set, and press **"ENTER"** button again to confirm.

BAUD RATE SETTING: On the initial OLED display screen, press **"MENU"** button to enter the Baud rate interface, and press **"UP (INPUT 1)/DOWN (INPUT 2)"** button to select the required Baud rate, finally press the **"ENTER"** button to confirm the setting.

IP ADDRESS CHECK: On the initial OLED display screen, press **"MENU"** button to enter the IP interface to check the IP address. Meanwile, you can press **"UP (INPUT 1)/DOWN (INPUT 2)"** button to change the IP mode (DHCP ON/OFF).

AUDIO OUTPUT CHECK: On the initial OLED display screen, press **"MENU"** button to enter the audio output state interface.

AUDIO MODE CHECK: On the initial OLED display screen, press **"MENU"** button to enter the audio mode interface.

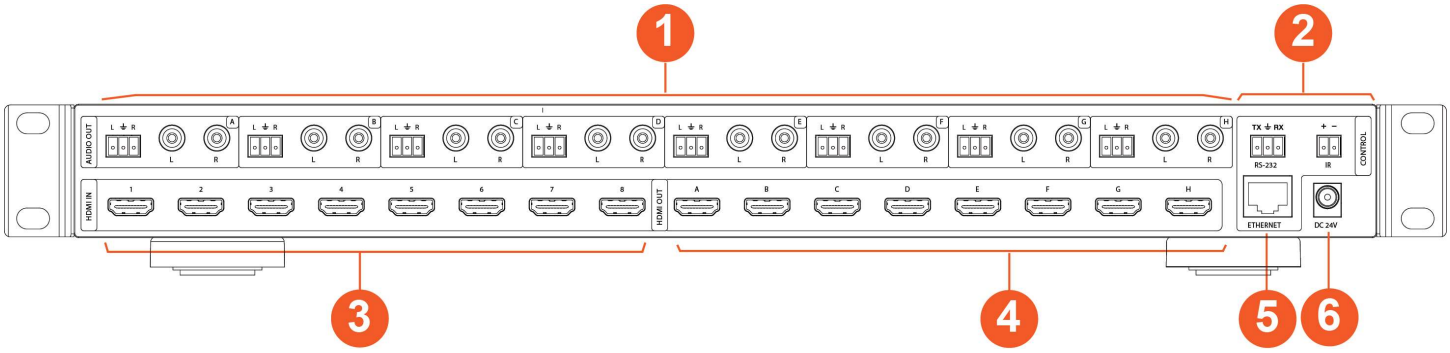
FIRMWARE VERSION CHECK: On the initial OLED display screen, press **"MENU"** button to enter the FIRMWARE interface to check the firmware version. Pressing the **"MENU"** button again will return to the initial OLED display screen.

7 CLEAR BUTTON: Used to close output. Press buttons **"CLEAR + OUTPUT m + ENTER"** by sequence to close the output of **OUTPUT m** channel.

- Short press the CLEAR button, then press buttons **"OUTPUT n(A~H)/ ALL + ENTER"** by sequence to turn off the HDMI output of corresponding output ports.
- When the Audio Switch Mode is set to Independent on the Web GUI of the matrix, press and hold the CLEAR button for 3s, then press buttons **"OUTPUT n (A~H)/ ALL + ENTER"** by sequence to turn off the audio output of corresponding audio output ports.

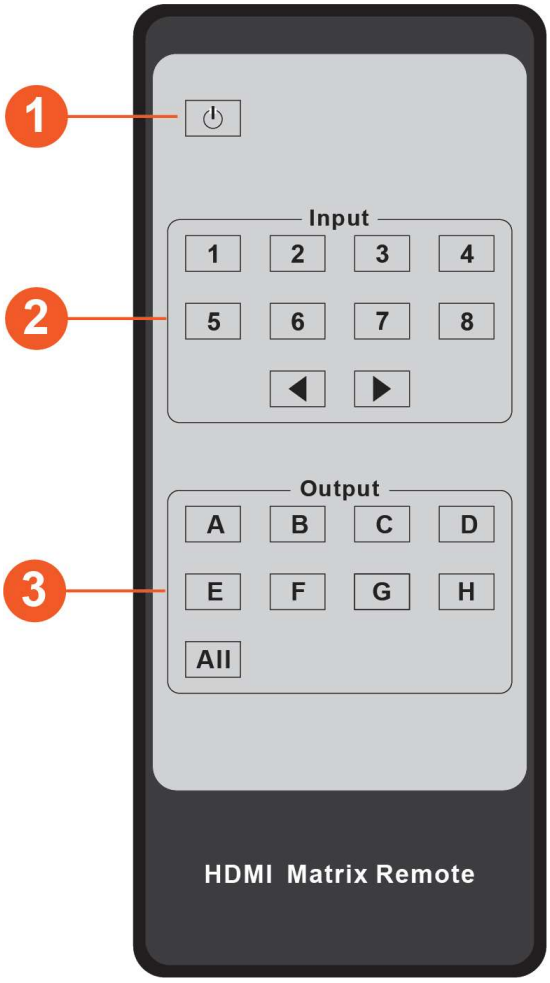
8 ENTER BUTTON: Press this button to confirm the operation and save the settings.

REAR PANEL



1. **TCP/IP PORT:** TCP/IP control port, connect to PC or router with an RJ45 cable.
2. **RS-232 PORT:** Connect to a PC or control system by D-Sub 9-pin cable to transmit RS-232 command.
3. **AUDIO OUT (1-16):** Coaxial audio output port, connect to audio output device such as audio amplifier via a coaxial cable.
4. **DC 24V:** Connect to 24V power adapter.
5. **GND:** Connect the housing to the ground.
6. **INPUT PORTS (1-16):** HDMI input ports, connect to HDMI source device such as DVD or set-top box with an HDMI cable.
7. **OUTPUT PORTS (1-16):** HDMI output ports, connect to HDMI display device such as TV or monitor with an HDMI cable.

REMOTE CONTROL



❶ **POWER ON OR STANDBY:** Power on the Matrix or set it to standby mode.

❷ **INPUT 1/2/3/4/5/6/7/8:** Press these buttons to select the signal source input channel.

◄ ►: Press these buttons to circularly switch the last or next signal source input channel.

❸ **OUTPUT A/B/C/D/E/F/G/H:** Press these buttons to select the signal output channel.

ALL: Select all output channels simultaneously.

For example: When you press the **"All"** button and then press input **"1"** button, at this time the input **"1"** signal source will output to all display devices.

OPERATION INSTRUCTIONS:

You need to press the output button firstly and then press input button to select the corresponding input source.

For example: Press Output-X (X means output button from A to H, including **"All"** button) Then press Input-Y (Y means input button from 1 to 8)

IR CODES

HOUSE CODE	00FF		OUTPUT_A	47
INPUT_1	19		OUTPUT_B	07
INPUT_2	1b		OUTPUT_C	40
INPUT_3	11		OUTPUT_D	02
INPUT_4	15		OUTPUT_E	18
INPUT_5	17		OUTPUT_F	44
INPUT_6	12		OUTPUT_G	0f
INPUT_7	59		OUTPUT_H	51
INPUT_8	08		OUTPUT_ALL	0a
INPUT_PRE	55		POWER TOGGLE	14
INPUT_NEXT	48			

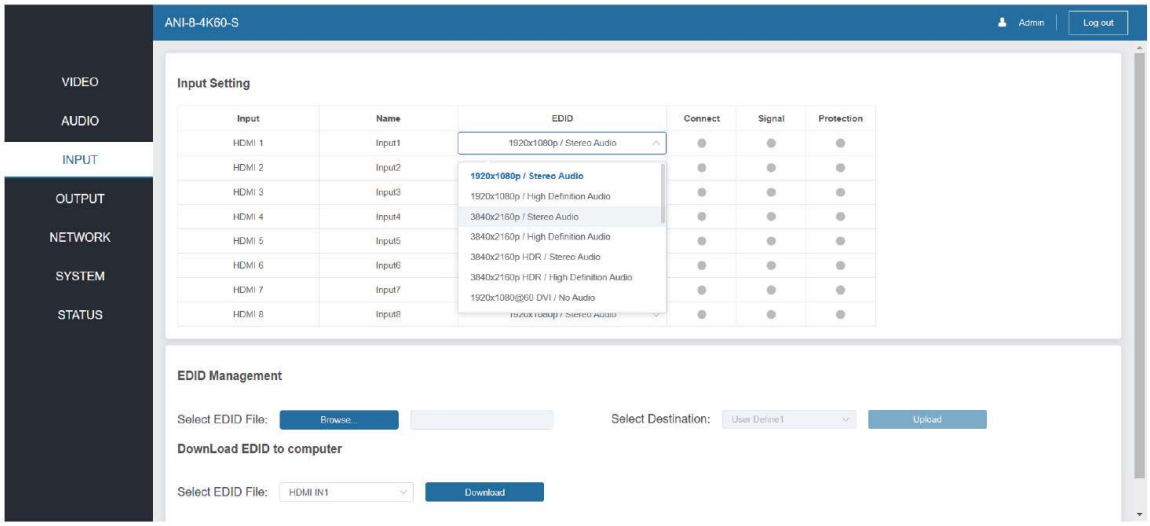
EDID MANAGEMENT

This Matrix has (7) factory defined EDID settings, (2) user-defined EDID modes and (8) copy EDID modes. You can select defined EDID mode or copy EDID mode to input port through front panel buttons, RS-232 control or Web GUI.

ON-PANEL BUTTON OPERATION: On the initial OLED display screen, press **"MENU"** button to enter the EDID setting interface, press **"UP (INPUT 1)/DOWN (INPUT 2)"** button to select the required EDID, and press the **"ENTER"** button. A prompt **"copy to input :"** will appear. Then press **"UP (INPUT 1)/DOWN (INPUT 2)"** button to select the input port you need to set, and press **"ENTER"** button again to confirm this operation.

RS-232 CONTROL OPERATION: Connect the Matrix to PC with a serial cable, then open a Serial Command tool on PC to send ASCII command to set EDID. For details, please refer to **"DEVICE SETTINGS"** in the ASCII command list of **"RS-232 Control Command".**

WEB GUI OPERATION: Please check the EDID management in the **"INPUT page"** of **"Web GUI User Guide".**



The defined EDID setting list of the product is shown as below:

EDID MODE	EDID DESCRIPTION		EDID MODE	EDID DESCRIPTION
1	1920x1080p / High Definition Audio		10	Copy from Output 1
2	3840x2160p / Stereo Audio		11	Copy from Output 2
3	3840x2160p / High Definition Audio		12	Copy from Output 3
4	3840x2160p HDR / Stereo Audio		13	Copy from Output 4
5	3840x2160p HDR / High Definition Audio		14	Copy from Output 5
6	1920x1080@60 DVI / No Audio		15	Copy from Output 6
7	2560x1440@60 DVI / No Audio		16	Copy from Output 7
8	User Define 1		17	Copy from Output 8
9	User Define 2			

The Matrix can be controlled by Web GUI. The operation method is shown as below:

STEP 1: Get the current IP Address. The default IP address is 192.168.1.100. You can get the current Matrix IP address in two ways:

```
IP Mode: DHCP
IP:192.168.62.109
Subnet Mask:255.255.255.0
Gateway:192.168.62.1
TCP/IP port:8000
Telnet port:23
Mac address:6c-df-fb-0c-b3-8e
```

THE FIRST WAY: You can get the IP address via panel buttons. On the initial OLED display, press **"MENU"** button to enter the IP interface, then press **"UP/DOWN"** button to check the current IP address.

THE SECOND WAY: You can get the IP address via RS-232 control. Send the command **" r ipconfig!"** through an ASCII Command tool, then you'll get the feedback information as shown.

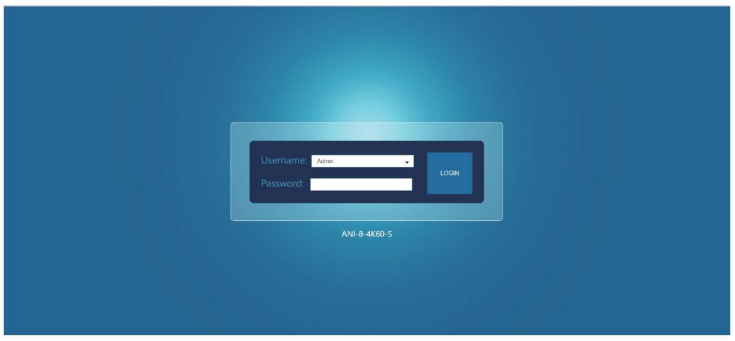
IP: 192.168.62.100 in the above figure is the IP Address of the Matrix (the IP address is variable, depending on what the specific machine returns). For the details of ASCII control, please refer to **"RS-232 Control Commands"**.

STEP 2: Connect the **ETHERNET** port of the Matrix to a PC with an UTP cable, and set the IP address of the PC to be in the same network segment with the Matrix.

STEP 3: Input the IP address of the Matrix into your browser on the PC to enter Web GUI page.



After entering the Web GUI page, there will be a Login page, as shown below:

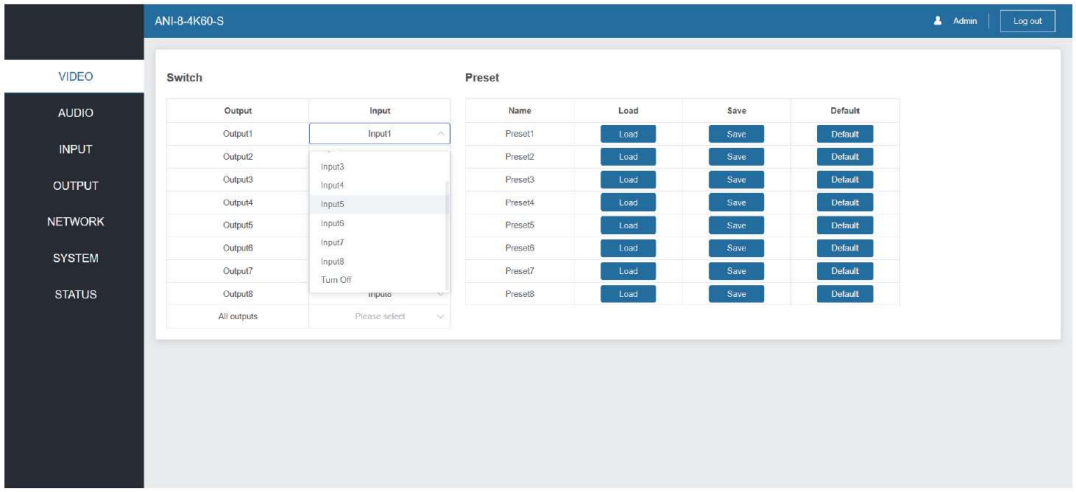


Select the Username from the list and enter the password. The default passwords are:

Username:	**User**	**Admin**
Password:	**user**	**admin**

After entering the password, click the **"LOGIN"** button and the following Status page will appear.

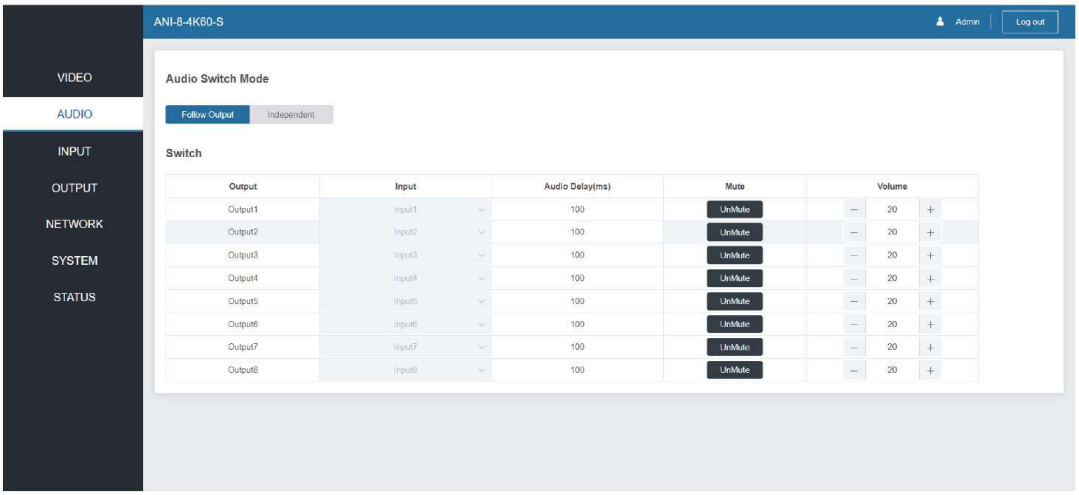
VIDEO PAGE



You can do the following operations on the VIDEO page:

1. **OUTPUT:** The current device's OUTPUT port. You can select signal source for it.
2. **INPUT:** You can click the drop-down menu to select signal source for the corresponding OUTPUT port.
3. **NAME:** You can name the current scene with maximum length of 12 characters (Chinese name is unsupported).
4. **LOAD:** You can load the settings of the last saved audio-video matrix switching relationship.
5. **SAVE:** You can save audio-video matrix switching relationship.
6. **DEFAULT:** You can clear the saved audio-video matrix switching relationship, and restore to default settings.

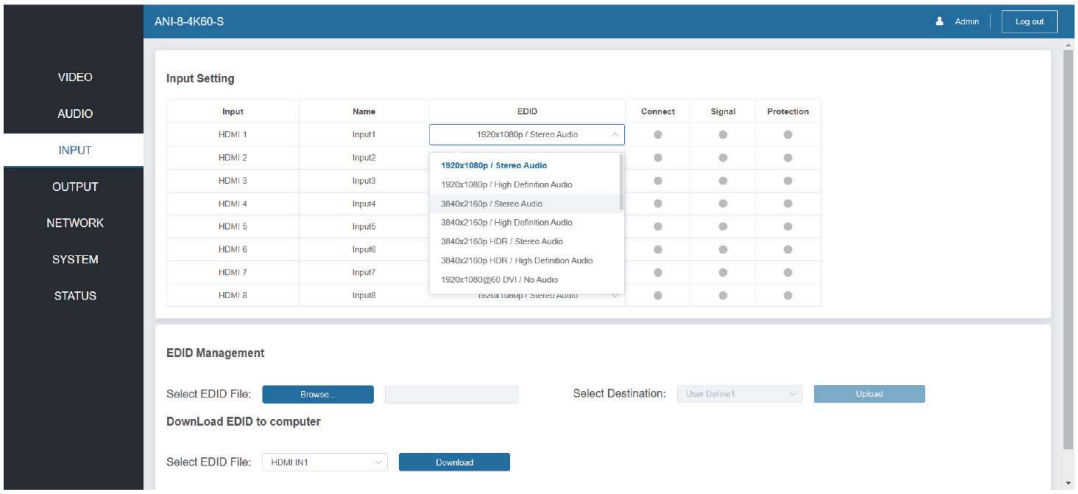
AUDIO PAGE



You can do the following operations on the AUDIO page:

1. **AUDIO SWITCH MODE:** Click to switch the mode for the audio to **"Follow Output"** or be **"Independent"**.
2. **OUTPUT:** The current device's OUTPUT port. You can select audio signal source for it.
3. **INPUT:** You can click the drop-down menu to select audio signal source for the corresponding OUTPUT port.
4. **AUDIO DELAY:** You can set the audio delay time (100ms by default).
5. **MUTE:** Click to mute/unmute the audio.
6. **VOLUME:** You can set the audio volume.

INPUT PAGE



You can do the following operations on the INPUT page:

❶ **INPUTS:** Input channel of the device.

❷ **NAME**: The input channel's name. You can modify it by entering the corresponding name (max length: 12 characters) in the input box (Chinese name is unsupported).

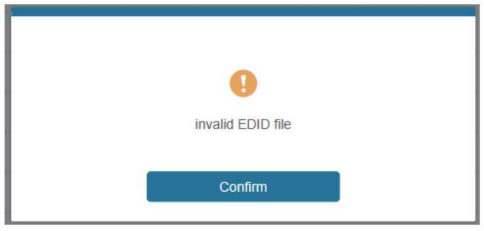
❸ **CONNECT:** It indicates whether the channel is connected to a signal source.

❹ **SIGNAL:** It indicates whether there is signal input.

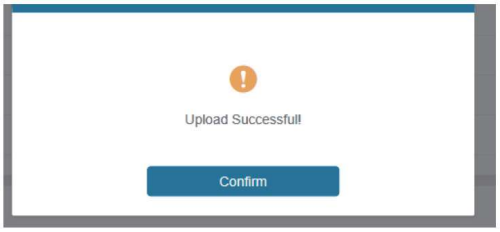
❺ **PROTECTION:** It indicates the HDCP status.

❻ **EDID:** You can set the current channel's EDID. The specific operation is as follows:

Set EDID for the User:



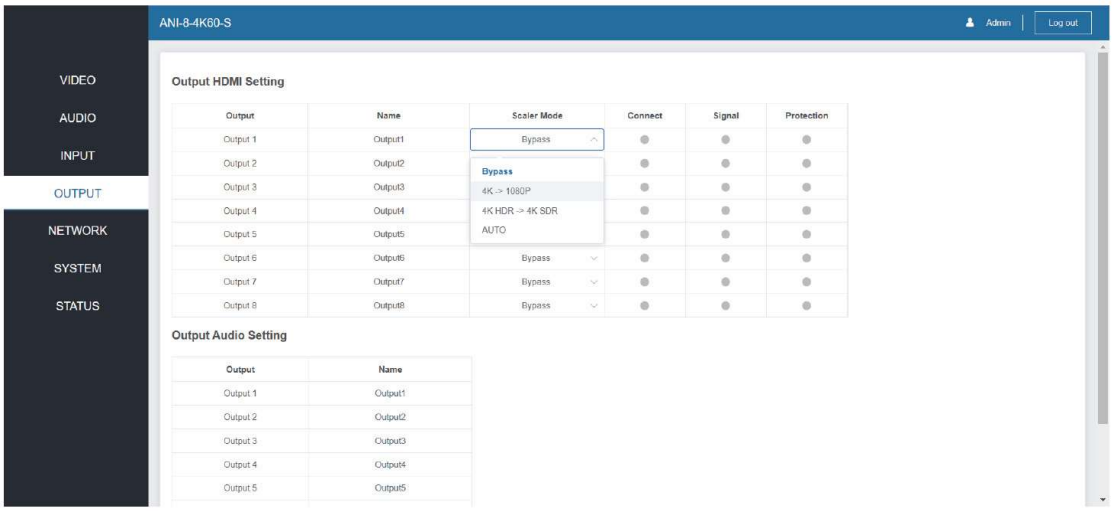
Click the **"Browse"** button, then select the bin file. If you select the wrong EDID file, there will be a prompt, as shown in the following figure.
Make sure to select the correct file, then you can check the name of the selected file. Select **"User 1"** or **"User 2"**, then click **"Upload".** After successful setting, it will prompt as follows.



Download the EDID File of the Corresponding Input Channel:

Click the drop-down box of **"Select EDID File"** to select the corresponding input channel. Then click **"Download"** to download the corresponding EDID file.

OUTPUT PAGE



You can do the following operations on the Output page:

❶ **OUTPUTS:** Output channel of the device.

❷ **NAME**: The current output channel's name. You can modify it by entering the corresponding name (max length: 12 characters) in the input box.

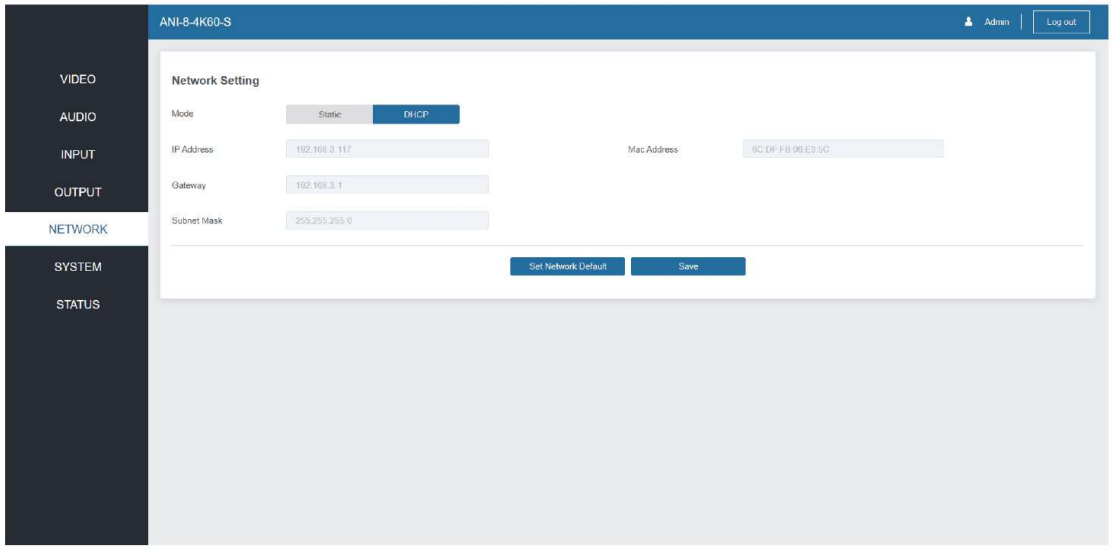
❸ **SCALER MODE:** Set the current output resolution mode.

❹ **CONNECT:** It indicates the connection status of output ports. When the output port is connected to the display, it shows green, otherwise, it shows gray.

❺ **SIGNAL:** It indicates whether there is signal input.

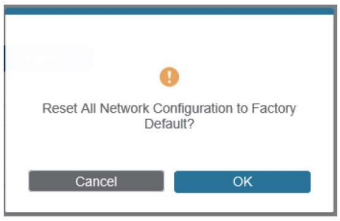
❻ **PROTECTION:** It indicates the HDCP status.

NETWORK PAGE

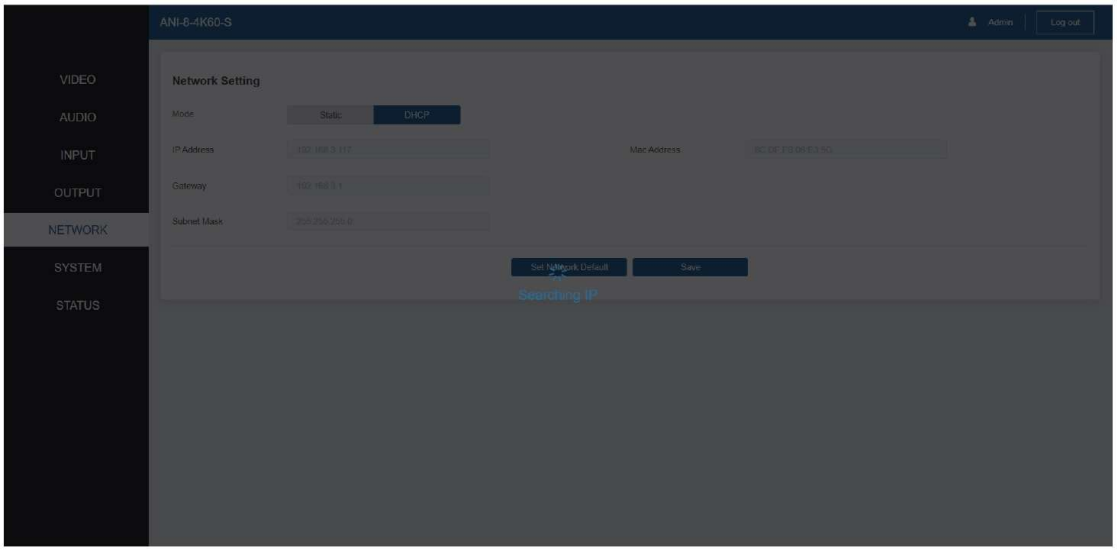


Set the Default Network:

Click **"Set Network Defaults"**, there will be a prompt, as shown in the following figure.

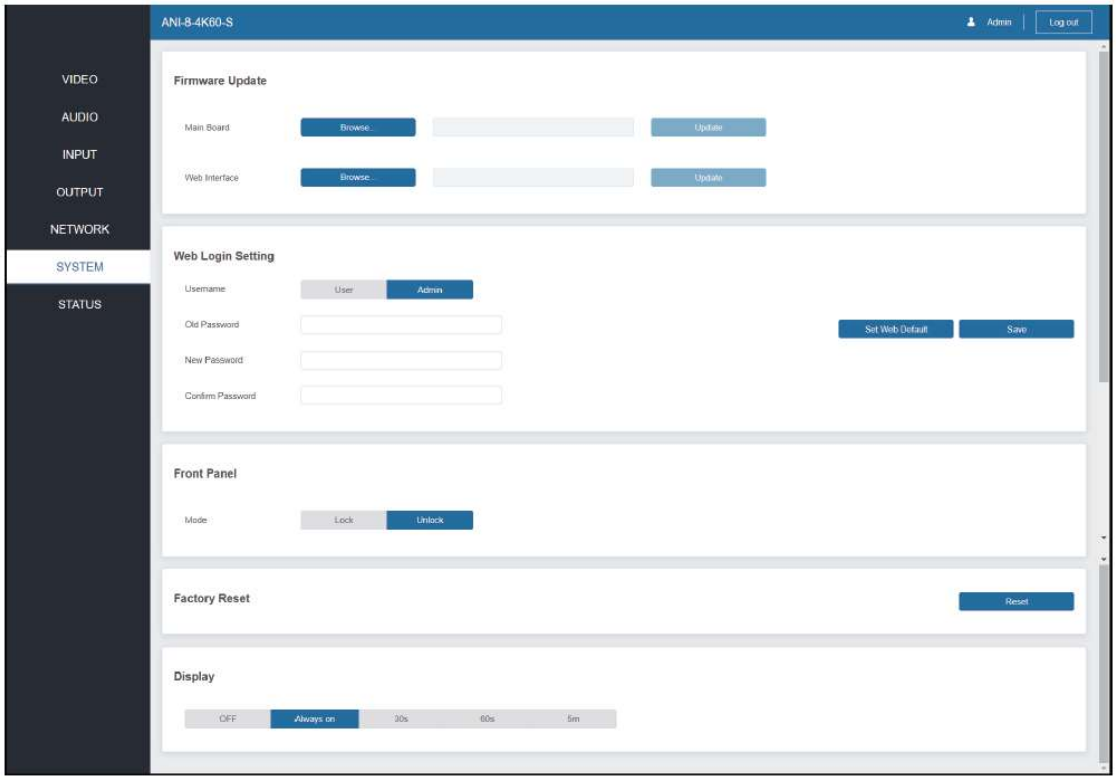


Click **"OK"** to search the IP Address again, as shown in the following figure:



After searching is completed, it will switch to the login page, the default network setting is completed.

SYSTEM PAGE

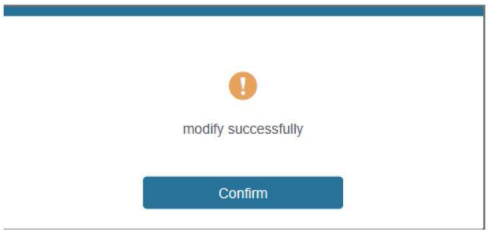


FIRMWARE UPDATE

Click the **"Browse"** button to select the update file for Main Board or Web Interface, then click **"Update"**.

MODIFY WEB LOGIN SETTING

Click the **"User"** button, enter the correct Old Password, New Password, and Confirm Password, then click **"Save"**. After successful modification, there will be a prompt, as shown in the following figure:



NOTE: Input rules for changing passwords:

1. The password can't be empty.
2. New Password can't be the same as Old Password.
3. New Password and Confirm Password must be the same.

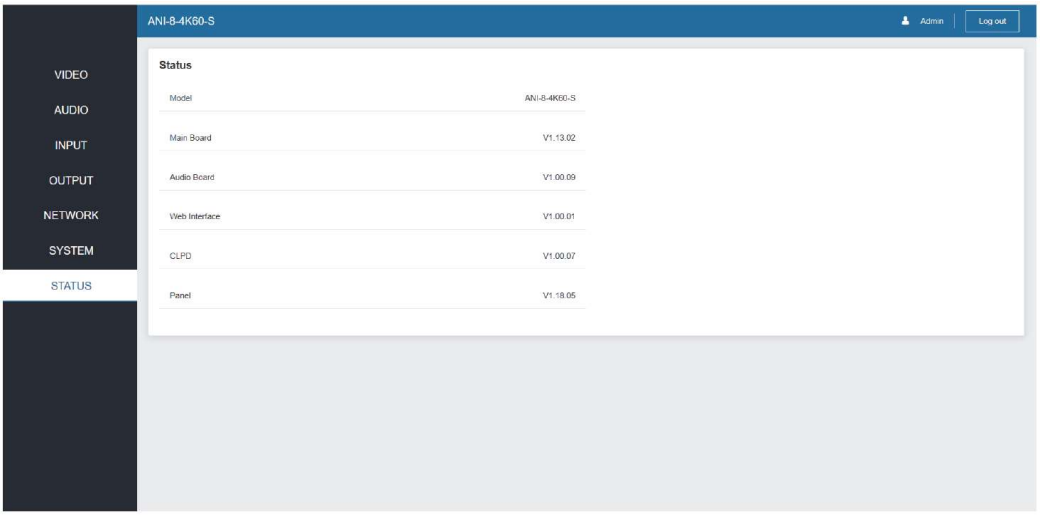
Front Panel: Click to lock/unlock panel buttons. **"Lock"** indicates that panel buttons are unavailable; **"Unlock"** indicates panel buttons are available.

Factory Reset: You can reset the unit to factory defaults by clicking **"Reset"**. *(Note: After reset, it will switch to the login page.)*

Display: You can turn on/off the LCD, and set the turn-on time (30s/60s/5m).

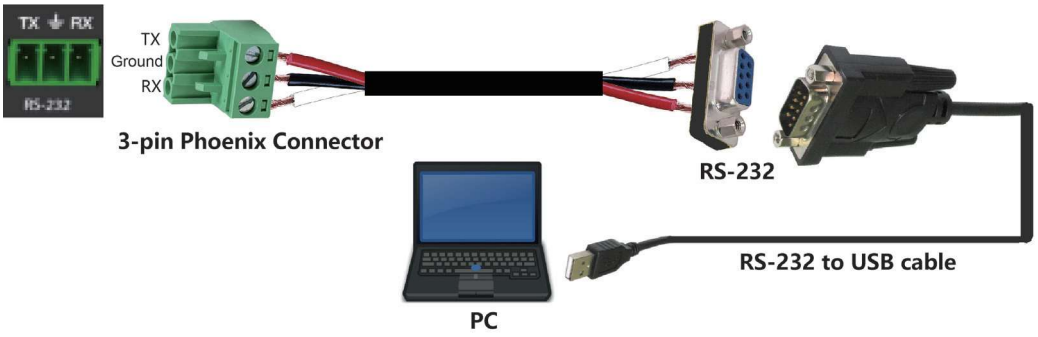
STATUS PAGE

The STATUS page provides information about the Model, and the firmware version of Main Board / Audio Board / Web Interface / CLPD / Panel.



RS-232 CONTROL COMMAND

The Matrix also supports RS-232 command control. Connect the RS-232 port of the Matrix to a PC with the included RS-232 serial cable (DP9 female head to 3pin Phoenix Connector), as shown in the figure below.



Then, open a Serial Command tool on PC to send RS-232 command to control the Matrix. The RS-232 command list about the product is shown as below.

RS-232 COMMAND
Communication parameters: Baud rate: 9600, Data bits: 8bit, Parity: none, Stop bits:1
General guidelines: 1. All command strings are started with a "**>** " (hex 3E and 20) character sequence; all feedback strings are started with a "**<** " (hex 3C and 20) character sequence. 2. All command strings are ended with Carriage Return and Line Feed characters (hex 0D and 0A). 3. All strings are written entirely in capital letters. 4. Feedbacks are sent regardless the control interface from which the function was called. ***Notes:*** - Each Input Port is represented by a decimal number. - The decimal number 0 represents a virtual input equivalent to the cable disconnection. - Each Output Port is represented by a letter. - The # character represents the equivalent of all Inputs or Outputs globally.

SYSTEM FUNCTIONS				
FUNCTION	**COMMAND STRING**	**FEEDBACK STRING**	**VARIABLES**	**EXAMPLE**
Unknown command feedback		< UNKNOWN COMMAND		> SQT A: 1 < UNKNOWN COMMAND
Command error feedback		< COMMAND ERROR		> EDD 1: L1 < COMMAND ERROR
Switching Video Status		< SWT Y: X	Y: OUTPUT NUMBER (A ~ H) X: INPUT NUMBER (0 ~ 8)	> SWT B: 4 < SWT B: 4
Switching Audio Status		< SWA Y: X	Y: OUTPUT NUMBER (A ~ H) X: INPUT NUMBER (0 ~ 8)	> SWA C: 5 < SWA C: 5
Input Connection Status		< INP X: CON B	X: INPUT NUMBER (1 ~ 8) B: BOOLEAN STATUS (F / T)	(CHANGE IN THE CONNECTION STATUS OF INPUT 1) < INP 1: CON F
Input Signal Status		< INP X: SGN B	X: INPUT NUMBER (1 ~ 8) B: BOOLEAN STATUS (F / T)	(CHANGE IN THE SIGNAL STATUS OF INPUT 1) < INP 1: SGN F
Output Connection Status		< OUT Y: CON B	Y: OUTPUT NUMBER (A ~ H) B: BOOLEAN STATUS (F/T)	(CHANGE IN THE CONNECTION STATUS OF OUTPUT A) < OUT A: CON T

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Output Signal Status		< OUT Y: SGN B	Y: OUTPUT NUMBER (A ~ H) B: BOOLEAN STATUS (F/T)	(CHANGE IN THE SIGNAL STATUS OF OUTPUT A) < OUT A: CON T
Network Connection Status		< NET: CON B	B: BOOLEAN STATUS (F / T)	(CHANGE IN THE CONNECTION STATUS OF NETWORK CABLE) < NET: CON T
GENERAL				
FUNCTION	**COMMAND STRING**	**FEEDBACK STRING**	**VARIABLES**	**EXAMPLE**
Set Power	> PWR: B	< PWR: B	B: BOOLEAN STATUS (F / T)	> PWR: T < PWR: T
Front Panel	> LCK: B	< LCK: B	B: BOOLEAN STATUS (F / T)	> LCK: T < LCK: T
Get Status (Basic)	> STA	< SWT: AX BX CX DX EX FX GX HX < INP 1: CON B; SGN B < INP 2: CON B; SGN B < INP 3: CON B; SGN B < INP 4: CON B; SGN B < INP 5: CON B; SGN B < INP 6: CON B; SGN B < INP 7: CON B; SGN B < INP 8: CON B; SGN B < OUT A: CON B; SGN B < OUT B: CON B; SGN B < OUT C: CON B; SGN B < OUT D: CON B; SGN B < OUT E: CON B; SGN B < OUT F: CON B; SGN B < OUT G: CON B; SGN B < OUT H: CON B; SGN B < SWA: AX BX CX DX EX FX GX HX < AUD A: VOL $$; MUT B < AUD B: VOL $$; MUT B < AUD C: VOL $$; MUT B < AUD D: VOL $$; MUT B < AUD E: VOL $$; MUT B < AUD F: VOL $$; MUT B < AUD G: VOL $$; MUT B < AUD H: VOL $$; MUT B	X: INPUT NUMBER (0 ~ 8) B: BOOLEAN STATUS (F / T) $$: VOLUME LEVEL 00~60 = VOLUME LEVEL	
Get Status (Complete)	> STA ALL	< SWT: AX BX CX DX EX FX GX HX < INP 1: CON B; SGN B < INP 2: CON B; SGN B < INP 3: CON B; SGN B < INP 4: CON B; SGN B... < OUT A: CON B; SGN B < OUT B: CON B; SGN B < OUT C: CON B; SGN B < OUT D: CON B; SGN B... < EDD 1: P$ < EDD 2: P$ < EDD 3: P$ < EDD 4: P$ < EDD 5: P$ < EDD 6: P$ < EDD 7: P$ < EDD 8: P$	X: INPUT NUMBER (0 ~ 8) B: BOOLEAN STATUS (F / T) $$: VOLUME LEVEL 00~60 = VOLUME LEVEL P$: PRESET NUMBER M: SCALER MODE A = AUTO B = BYPASS C = COMPRESS FOR HDBT D = DOWNSCALE TO 1080P P: DE-EMBEDDING MODE I = INDEPENTEND O = FOLLOW OUTPUT	

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Get Status (Complete)		< SCA A: M < SCA B: M < SCA C: M < SCA D: M < SCA E: M < SCA F: M < SCA G: M < SCA H: M < SWA: AX BX CX DX EX FX GX HX < AUD A: VOL $$; MUT B < AUD B: VOL $$; MUT B < AUD C: VOL $$; MUT B < AUD D: VOL $$; MUT B < AUD E: VOL $$; MUT B < AUD F: VOL $$; MUT B < AUD G: VOL $$; MUT B < AUD H: VOL $$; MUT B < AEX: P < NET: MM < NET: IP XXX.XXX.XXX.XXX < NET: MK XXX.XXX.XXX.XXX < NET: GW XXX.XXX.XXX.XXX < NET: MC XX:XX:XX:XX:XX:XX	MM: DM = DYNAMIC MODE SM = STATIC MODE	
Get Firmware Version	> STA: DEV	< MODEL: MODEL < MCU BOOT: V$$$$ < MCU APP: V$$$$ < AUDIO: V$$$$ < CLPD: V$$$$ < WEB GUI: V$$$$	MODEL: DEVICE MODEL $: FIRMWARE VERSION	
Get HDCP Status	> STA: DCP	< DCP 1: B < DCP 2: B < DCP 3: B < DCP 4: B < DCP 5: B < DCP 6: B < DCP 7: B < DCP 8: B < DCP A: B < DCP B: B < DCP C: B < DCP D: B < DCP E: B < DCP F: B < DCP G: B < DCP H: B		

OPERATIONAL FUNCTIONS

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Perform the indicated HDMI switching operation	> SWT O: I	< SWT O: I	O - OUTPUT IDENTIFIER A~H = TARGET OUTPUT # = ALL OUTPUTS I - INPUT IDENTIFIER 1~8 = TARGET INPUT	> SWT A: 1 < SWT A: 1
Cut the HDMI stream on the indicated HDMI Output	> SWT O: 0	< SWT O: 0	O - OUTPUT IDENTIFIER A~H = TARGET OUTPUT # = ALL OUTPUTS	> SWT A: 0 < SWT A: 0

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Perform the indicated audio switching operation	> SWA O: I	> SWA O: I	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS I - INPUT IDENTIFIER 1~8 = TARGET INPUT	(CHANGE IN THE SIGNAL STATUS OF OUTPUT A) < OUT A: CON T
Cut the audio stream on the indicated Audio Output	> SWA O: 0	> SWA O: 0	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS	> SWA A: 0 < SWA A: 0
Set the volume of the target Audio Output to the indicated level	> VOL O: $$	> VOL O: $$	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS $$ - VOLUME LEVEL 00~60 = VOLUME LEVEL	> VOL A: 30 < VOL A: 30
Increase the volume level of the target Audio Output	> VOL O: +	< VOL O: $$	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS $$ - VOLUME LEVEL 00~60 = VOLUME LEVEL	> VOL A: 30 < VOL A: 30
Decrease the volume level of the target Audio Output	> VOL O: -	< VOL O: $$	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS $$ - VOLUME LEVEL 00~60 = VOLUME LEVEL	> VOL A: 30 < VOL A: 30
Enable or disable Mute on the target Audio Output	> MUT O: B	> MUT O: B	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS B - BOOLEAN STATE T/F = TRUE OR FALSE	> MUT A: T < MUT A: T
SWITCHING PRESETS				
FUNCTION	**COMMAND STRING**	**FEEDBACK STRING**	**VARIABLES**	**EXAMPLE**
Save Preset	> PRE #: CALL	> PRE #: CALL	# - PRESET 1~8 = PRESET INPUT	> PRE 1: CALL < PRE 1: CALL
Recall Preset	> PRE #: SAVE	> PRE #: SAVE	# - PRESET 1~8 = PRESET INPUT	> PRE 1: SAVE < PRE 1: SAVE
Set Preset Defalt	> PRE #: DFLT	> PRE #: DFLT	# - PRESET 1~8 = PRESET INPUT	> PRE 1: DFLT < PRE 1: DFLT
DEVICE SETTINGS				
FUNCTION	**COMMAND STRING**	**FEEDBACK STRING**	**VARIABLES**	**EXAMPLE**
Set the audio de-embedding mode globally for the device's audio outputs	> AEX: P	> AEX: P	P - DE-EMBEDDING MODE I = INDEPENTEND O = FOLLOW OUTPUT	> AEX: I < AEX: I
Set the lip-sync for each of device's audio output	> LIP O: $$$	> LIP O: $$$	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT $$$ - DELAY TIME 000~150 = MILISECONDS	> LIP A: 100 < LIP A: 100
Set the scaler mode for each HDMI Output	> SCA O: P	> SCA O: P	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT # = ALL OUTPUTS P - SCALER MODE A = AUTO B = BYPASS C = COMPRESS FOR HDBT D = DOWNSCALE TO 1080P	> SCA A: B < SCA A: B

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Set the HDCP compliance mode for each HDMI Output	> DCP O: P	> DCP O: P	O - OUTPUT IDENTIFIER A-H = TARGET OUTPUT P - BOOLEAN STATE T/F = TRUE OR FALSE # = ALL OUTPUTS	> SWT A: 0 < SWT A: 0
Set the EDID using Preset for each HDMI Input	> EDD I: P$	> EDD I: P$	I - INPUT IDENTIFIER 1~8 = TARGET INPUT $ - PRESET IDENTIFIER 1~8 = PRESET IDENTIFIER	> EDD 1: P1 < EDD 1: P1
Copy the EDID from a connected display and set as EDID for the target Input	> EDD I: LO	> EDD I: LO	I - INPUT IDENTIFIER 1~8 = TARGET INPUT O - OUTPUT IDENTIFIER A~H = TARGET OUTPUT	> EDD 1: P1 < EDD 1: P1
Set the EDID using User File for each HDMI Input	> EDD I: U$	< EDD I: U$	I - INPUT IDENTIFIER 1~8 = TARGET INPUT $ - USER FILE IDENTIFIER 1~2 = FILE IDENTIFIER	> EDD 1: U1 < EDD 1: U1
Get Network Status	> STA: NET	< NET: CON B < NET: P < NET: IP $$$.$$$.$$$.$$$ < NET: MK $$$.$$$.$$$.$$$ < NET: GW $$$.$$$.$$$.$$$ < NET: MC $$:$$:$$:$$:$$:$$	B: BOOLEAN STATUS (F / T) P - DM = DYNAMIC MODE SM = STATIC MODE $$$.$$$.$$$.$$$ IP ADDRESS $$$.$$$.$$$.$$$ NETWORK MASK $$$.$$$.$$$.$$$ GATEWAY	> STA: NET < NET: CON T < NET: DM < NET: IP 192.168.1.100 < NET: MK 255.255.255.0 < NET: GW 192.168.1.1 < NET: MC 1C:C5:86:10:00:01
Adjust Network Mode DHCP or Static	> NET: P	> NET: P	P - DM = DYNAMIC MODE SM = STATIC MODE	> NET: DM < NET: DM
Adjust the unit IP Address	> NET: IP $$$.$$$.$$$.$$$	< NET: IP $$$.$$$.$$$.$$$	$$$.$$$.$$$.$$$ IP ADDRESS	> NET: IP 192.168.0.15
Adjust the unit Network Mask	> NET: MK $$$.$$$.$$$.$$$	< NET: MK $$$.$$$.$$$.$$$	$$$.$$$.$$$.$$$ NETWORK MASK	> NET: MK 255.255.255.0
Adjust the unit Default Gateway	> NET: GW $$$.$$$.$$$.$$$	< NET: GW $$$.$$$.$$$.$$$	$$$.$$$.$$$.$$$ GATEWAY	> NET: GW 192.168.0.1
Reboot Network	> RBT: NET	< RBT: NET REBOOTING < RBT: NET REBOOT DONE		
Reboot	> RBT	< REBOOTING < REBOOT DONE		
Reset	> RST	< RESETING < RESET DONE		

CEC FUNCTIONS

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Set Display On / Off	> CEC O: PWR B	> CEC O: PWR B	O - OUTPUT IDENTIFIER B - BOOLEA STATUS (F/T)	> CEC A: PWR T < CEC A: PWR T
Set Display Mute audio Output	> CEC O: MUTE	> CEC O: MUTE	O - OUTPUT IDENTIFIER	> CEC A: MUTE < CEC A: MUTE
Increase Display HDMI Output volume	> CEC O: VOL +	> CEC O: VOL +	O - OUTPUT IDENTIFIER	> CEC A: VOL + < CEC A: VOL +
Decrease Display HDMI Output volume	> CEC O: VOL -	> CEC O: VOL -	O - OUTPUT IDENTIFIER	> CEC A: VOL - < CEC A: VOL -

FUNCTION	COMMAND STRING	FEEDBACK STRING	VARIABLES	EXAMPLE
Set Display the active HDMI Input	> CEC O: ACTIVE	> CEC O: ACTIVE	O - OUTPUT IDENTIFIER	> CEC A: ACTIVE < CEC A: ACTIVE
Set Source On/Off	> CEC I: PWR B	> CEC I: PWR B	I - INPUT IDENTIFIER B - Boolea Status (F/T)	> CEC 1: PWR T < CEC 1: PWR T
Set Source Menu	> CEC I: MENU	< CEC I: MENU	I - INPUT IDENTIFIER	> CEC 1: MENU < CEC 1: MENU
Set Source Back	> CEC I: BACK	> CEC I: BACK	I - INPUT IDENTIFIER	> CEC 1: BACK < CEC 1: BACK
Set Source UP	> CEC I: UP	> CEC I: UP	I - INPUT IDENTIFIER	> CEC 1: UP < CEC 1: UP
Set Source Down	> CEC I: DOWN	> CEC I: DOWN	I - INPUT IDENTIFIER	> CEC 1: DOWN < CEC 1: DOWN
Set Source Left	> CEC I: LEFT	> CEC I: LEFT	I - Input identifier	> CEC 1: LEFT < CEC 1: LEFT
Set Source Right	> CEC I: RIGHT	> CEC I: RIGHT	I - Input identifier	> CEC 1: RIGHT < CEC 1: RIGHT
Set Source Enter	> CEC I: ENTER	> CEC I: ENTER	I - Input identifier B - Boolea Status (F/T)	> CEC 1: ENTER < CEC 1: ENTER
Set Source Play	> CEC I: PLAY	> CEC I: PLAY	I - INPUT IDENTIFIER	> CEC 1: PLAY < CEC 1: PLAY
Set Source Pause	> CEC I: PAUSE	> CEC I: PAUSE	I - INPUT IDENTIFIER	> CEC 1: PAUSE < CEC 1: PAUSE
Set Source Stop	> CEC I: STOP	> CEC I: STOP	I - INPUT IDENTIFIER	> CEC 1: STOP < CEC 1: STOP
Set Source Rewind	> CEC I: REW	> CEC I: REW	I - INPUT IDENTIFIER	> CEC 1: REW < CEC 1: REW
Set Source Mute	> CEC I: MUTE	> CEC I: MUTE	I - Input identifier	> CEC 1: MUTE < CEC 1: MUTE
Set Increase Source Volume	> CEC I: VOL +	> CEC I: VOL +	I - Input identifier	> CEC 1: VOL + < CEC 1: VOL +
Set Decrease Source Volume	> CEC I: VOL -	> CEC I: VOL -	I - Input identifier	> CEC 1: VOL - < CEC 1: VOL -
Set Source Fast Forward	> CEC I: FF	> CEC I: FF	I - Input identifier	> CEC 1: FF < CEC 1: FF
Set Source Previous	> CEC I: PREV	> CEC I: PREV	I - Input identifier	> CEC 1: PREV < CEC 1: PREV
Set Source Next	> CEC I: NEXT	> CEC I: NEXT	I - Input identifier	> CEC 1: NEXT < CEC 1: NEXT

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