

# **BG-UM-88ANS**

**8X8 4K 18Gbps UHD Matrix with IP/RS-2323 Control  
and Audio De-Embedding**

## **User Manual**







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## Statement

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Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

## Safety Precaution

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- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Do not expose the product to rain or moisture.
- Unplug this device during lightning storms
- Clean only with a soft dry microfiber cloth.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGear is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.
- Only use accessories specified by the manufacture
- Product specifications may be subject to technical upgrades without further notice



## Introduction

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The BG-UM-88ANS is an 8x8 4K HDMI matrix switch, supporting resolutions up to 4K@60Hz 4:4:4 is HDCP 1.4 & 2.2 compliant. Featuring 8 HDMI 2.0b inputs and 8 HDMI 2.0b outputs, this device offers 18Gbps uncompressed bandwidth on all HDMI ports.

This matrix can quickly route any of the eight inputs to any of the eight outputs utilizing either the front panel menu, IR remote control, RS-232, or web interface. The control software, connected via RS-232 or the web interface, allows full control with the ability to adjust advanced features including mapping, network settings, and EDID management for easy integration.

Audio de-embed from any of the 8 coax audio outputs, which all provide multi-channel digital audio (up to 7.1-channel). The supported various audio formats include LPCM, Dolby TrueHD, and DTS-HD® Master Audio.

## Features

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- HDMI 2.0b, HDCP 2.2 and HDCP 1.4 compliant
- Up to 4K2K@60Hz (YUV 4:4:4) on all HDMI ports
- Supports pass-through audio up to 7.1 channels of High Definition audio (LPCM, Dolby TrueHD, and DTS-HD Master Audio)
- Audio de-embedded is supported via coax port
- HDR, CEC and smart EDID management supported
- Control is via on-panel Button, IR, RS-232, LAN and Web UI
- 1U rack mounted design with metal enclosure

## Packing List

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- 1x 8x8 HDMI Matrix
- 1x Wideband IR Receiver cable
- 1x 12V/3A Locking Power Adaptor
- 1x User Manual
- 1x IR Remote
- 1x Quick Start Guide



## Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	18Gbps
Video Resolutions	Up to 4K2K@50/60Hz (YUV 4:4:4), 4K2K@30Hz, 1080p@120Hz, and 1080p 3D@60Hz
Color Depth	8-bit, 10-bit, 12-bit
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
HDMI Audio Formats	LPCM 2/5.1/7.1, Dolby Digital, DTS 5.1, Dolby Digital+, Dolby TrueHD, DTS-HD Master Audio, Dolby Atmos, DTS:X
Audio Formats	PCM2.0, 32K/44.1K/48K/88.2K/96K/192K, 16/20/24bit
ESD Protection	Human-body Model: ±8kV (Air-gap discharge), ±4kV (Contact discharge)
Connections	
Inputs	8x HDMI Type A [19-pin female] 1x LAN [RJ45, Control] 1x RS-232 [9-pin D-sub, Control] 1x IR EXT [3.5mm Stereo Mini-jack]
Outputs	8x HDMI Type A [19-pin female] 8x Coaxial Audio [RCA]
Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	19.0" (W) x 1.0" (D) x 1.8" (H) [483mm (W) x 253mm (D) x 44.5mm (H)]
Weight	7.39lbs [3.35kg]
Power Supply	Input: AC100~240V 50/60Hz, Output: DC12V/3A (US/EU standards, CE/FCC/UL certified)
Power Consumption	26.5W (max)
Operating Temperature	32°F ~ 104°F / 0°C ~ 40°C
Storage Temperature	-4°F ~ 140°F / -20°C ~ 60°C
Relative Humidity	20~90% RH (non-condensing)



# Operation Controls and Functions

## Front Panel



No	Name	Function Description
1	OLED display	Display system input/output port status, EDID management and matrix IP address.
2	IR Window	IR receiver window, it receives IR remote control signal to control this device.
3	Left / Right / Up / Down Menu Buttons	<p>After system power up, the OLED screen default displays the input and output status of the last power off.</p> <p>A) On the initial OLED display, first press the 'Left' or 'Right' button to select output port, then press the 'up' or 'down' button to select the input port, then press the 'Menu' button to confirm this operation.</p> <p>B) On the initial OLED display, you can press the 'Up' or 'Down' button to check each input EDID setting, press the 'Menu' button go back to the initial OLED display.</p> <p>C) On the initial OLED display, you can press 'Menu' button to operate the following functions by the combination of these five buttons, press 'Up' or 'Down' button to select function:</p> <ol style="list-style-type: none"> <li>1. Select EDID: Press the 'Right' button, then press the 'Up' or 'Down' button to select EDID as showed in the below table. Once you complete EDID selection, press the 'Right' button then press the 'Left' or 'Right' button to select which input port to copy EDID, press the 'Right' button to confirm this operation.</li> <li>2. PTP Set: Press the 'Right' button to set PTP mode (point to point, means IN1-OUT A, IN2-OUT B, IN3-OUT C...).</li> <li>3. Save Preset: Press the 'Right' button to save current configuration to preset, press 'Up' or 'Down' button to select storage location, press the 'Right' button to confirm this operation.</li> <li>4. Recall Preset: Press the 'Right' button to recall previous preset, press 'Up' or 'Down' button to select preset you want, press the 'Right' button to confirm this operation.</li> <li>5. View IP: Press the 'Right' button to check IP address and DHCP status.</li> <li>6. Select Baud: Press the 'Right' button, then press the 'Up' or 'Down' button to select baud, press the 'Right' button to confirm this operation.</li> <li>7. Factory Reset: Press the 'Right' button to set factory reset status, then press the 'Right' button to confirm this operation or the 'Left' button to quit this operation.</li> </ol>
4	Power button and Power LED	Long press this button to power on/off device. The LED will illuminate in green when the device is power on and show in red when this device is standby

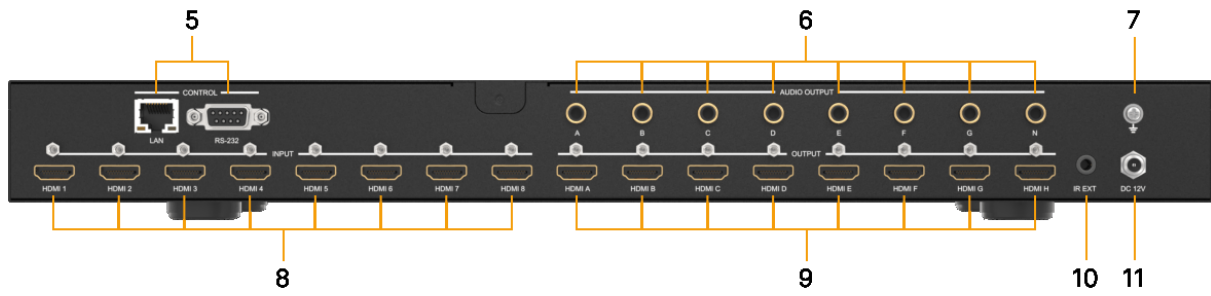
### The EDID table:

EDID Mode	EDID Description
1	720P 2.0 CH
2	1080P 2.0 CH
3	1080P 5.1 CH
4	1080P 7.1CH
5	1080I 2.0 CH
6	1080I 5.1 CH
7	1080I 7.1CH
8	3D 2.0 CH
9	3D 5.1 CH
10	3D 7.1 CH
11	4K*2K@30 2.0 CH
12	4K*2K@30 5.1 CH
13	4K*2K@30 7.1 CH
14	4K60_420 2.0CH

EDID Mode	EDID Description
15	4K60_420 5.1CH
16	4K60_420 7.1CH
17	4K*2K@60 2.0 CH
18	4K*2K@60 5.1 CH
19	4K*2K@60 7.1 CH
20	Copy HDMI Out A
21	Copy HDMI Out B
22	Copy HDMI Out C
23	Copy HDMI Out D
24	Copy HDMI Out E
25	Copy HDMI Out F
26	Copy HDMI Out G
27	Copy HDMI Out H



## Rear Panel

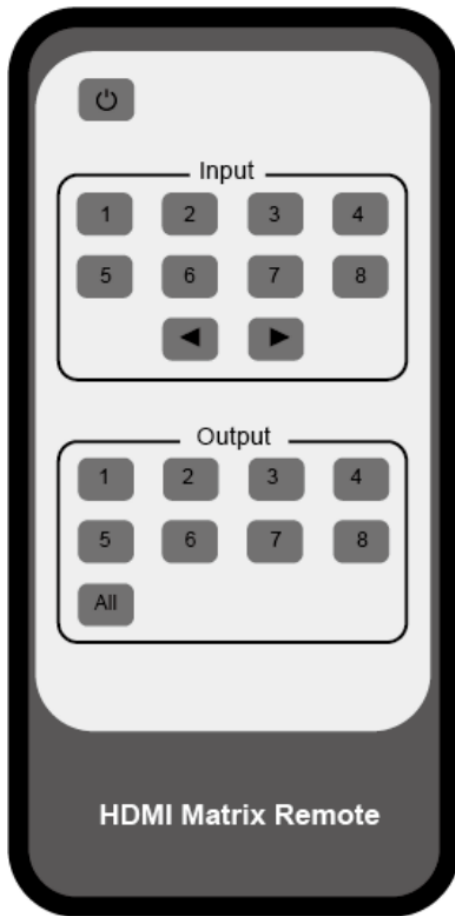


No.	Name	Function Description
5	CONTROL	LAN: connects to an active Ethernet link by an RJ-45 cable. RS-232: Connect to a PC or control system by DSub 9-pin cable to control the matrix with RS-232 commands.
6	AUDIO OUTPUT	Connect to audio amplifiers or speakers.
7	GND	Connect the GND port to the ground.
8	HDMI INPUT	Connect to the HDMI input source devices such as a DVD player or Set-top Box.
9	HDMI OUTPUT	Connect to the HDMI output source devices such as a TV player or monitor.
10	IR EXT	If the front IR sensor of unit is obstructed or the unit is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to this IR EXT port to extend IR signal.
11	DC	12V Plug the 12V/3A adapter to AC wall outlet for power supply.





## IR Remote



1. **Power on or Standby:** Power on the Matrix or set it to standby mode.
2. **Input 1/2/3/4/5/6/7/8:** Select input source button. ◀ ▶ : Select the last or next input source button.
3. **Output 1/2/3/4/5/6/7/8 button:** Select output source button.

**All:** Select all output source simultaneously. For example, when you press the “All” button and then press input “1” button, at this time the input “1” source will output to all display devices.

**Operation instruction:** 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 1 to 8 , including “All” button)

Then press Input-Y

(Y means input button from 1 to 8 )



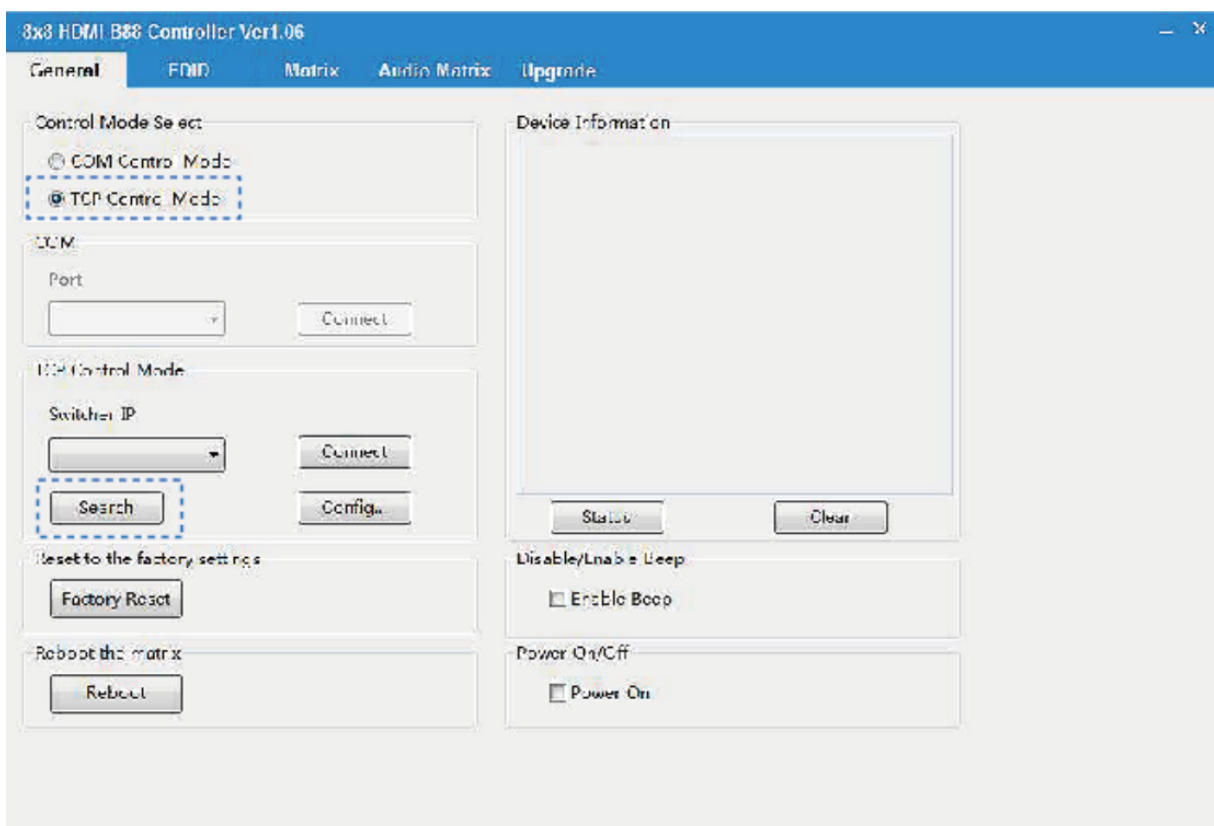
## Web GUI User Guide

The Matrix can be controlled via Web GUI. You must know the current IP address of the matrix. The static IP address is 192.168.1.100. You can connect PC Web GUI through dynamic IP address. Generally speaking, you can get IP address from two ways. The first way gets the IP address via Upper Controller. The second way gets IP address via on-panel button. Then you need set the IP address to your PC or laptop or mobile device is within the same IP address segment with the Matrix. After above, you can enter the Matrix IP address in the web browser to access Web GUI.

**The first way:** The Matrix gets IP address via Upper Controller. The RS-232 port connects USB port on PC. The LAN port and the PC connect via a router.

At this time, you need to open the Upper Computer software of the product.

The page looks as below:



Select "TCP Control Mode" port, then click the "Search" button. At this point you can get current IP address. Enter the IP address in your web browser to enter Web GUI page.

**The second way:** The Matrix gets IP address via on-panel button. On the initial OLED display, you can press the "Menu" button to enter function page.

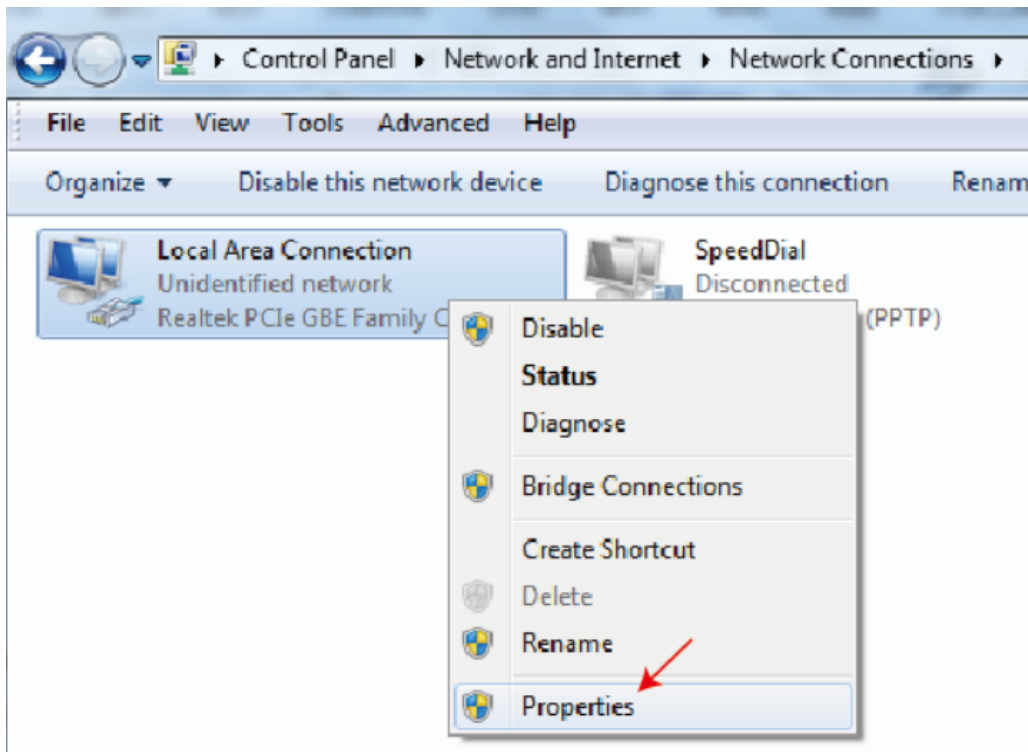
Then press "Up" or "Down" button to select function.

Select the "View IP" function, then press the "Right" button to check current IP address and DHCP status. At this point, you can get the current IP address.

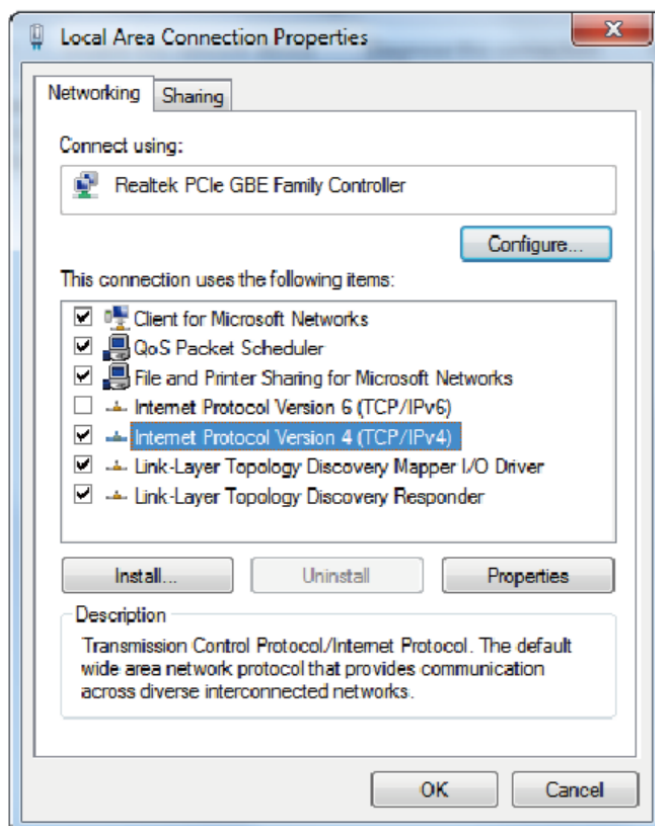
**Step 1:** The LAN port connects directly PC with an UTP cable.



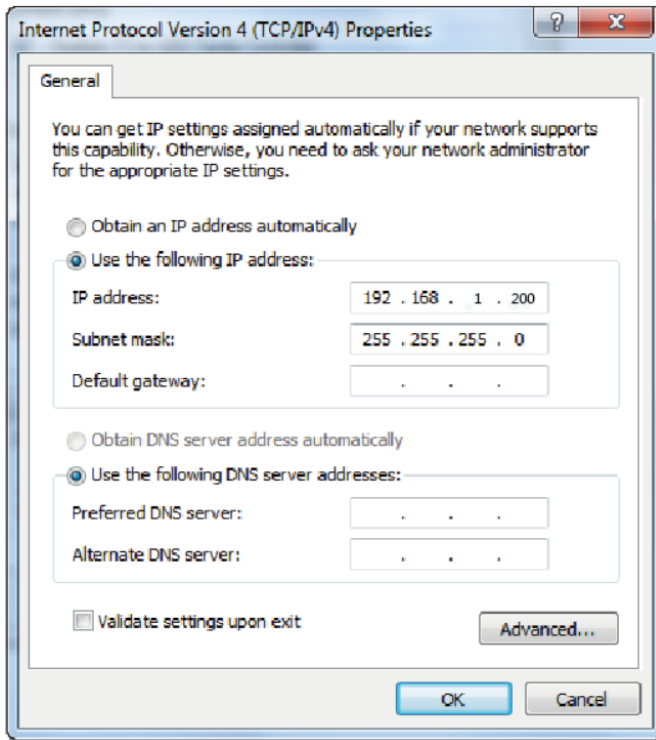
**Step 2:** On the PC, go to Control Panel> Network and Internet>Network Connections> Local Area Connections, right click on it, choose Properties.



Double click Internet Protocol Version 4 (TCP/IPv4)



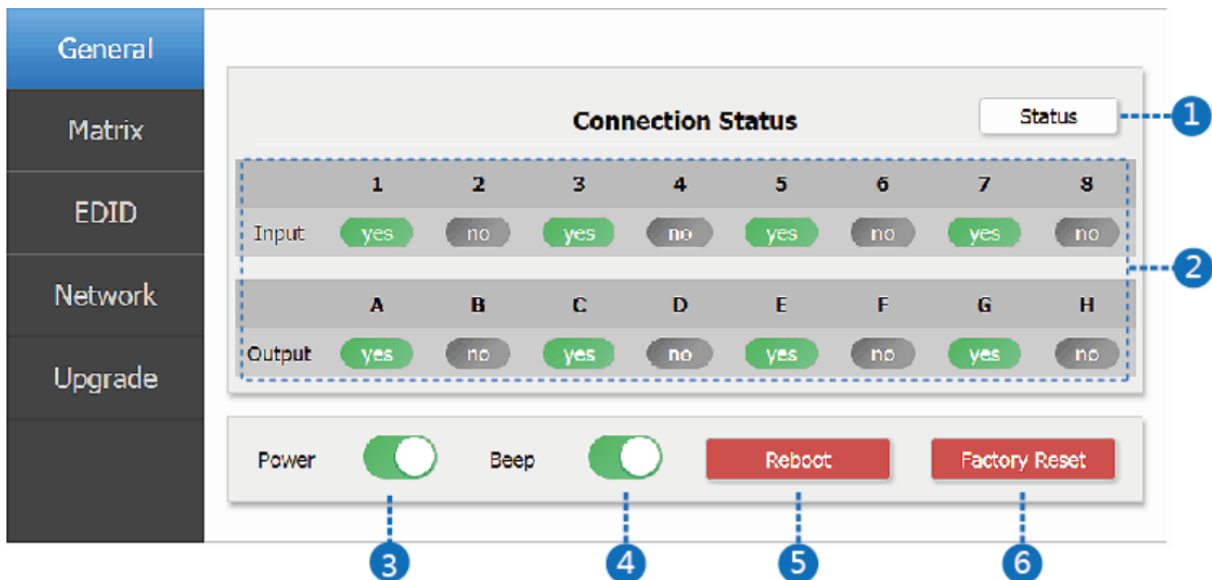
Choose Use the following IP address, input 192.168.1.200 as IP address, 255.255.255.0 as Subnet mask, and then click on OK, click on OK again.



**Note:** The IP address of the computer and matrix should be in the same network segment. As the matrix's IP address is 192.168.10.100, the computer's IP should be 192.168.10.X (X contains 1~255 except 100).

**Step 3.** Input the IP address from front panel into a browser on the PC to enter Web GUI page, The pages like below.

**The Web GUI :**

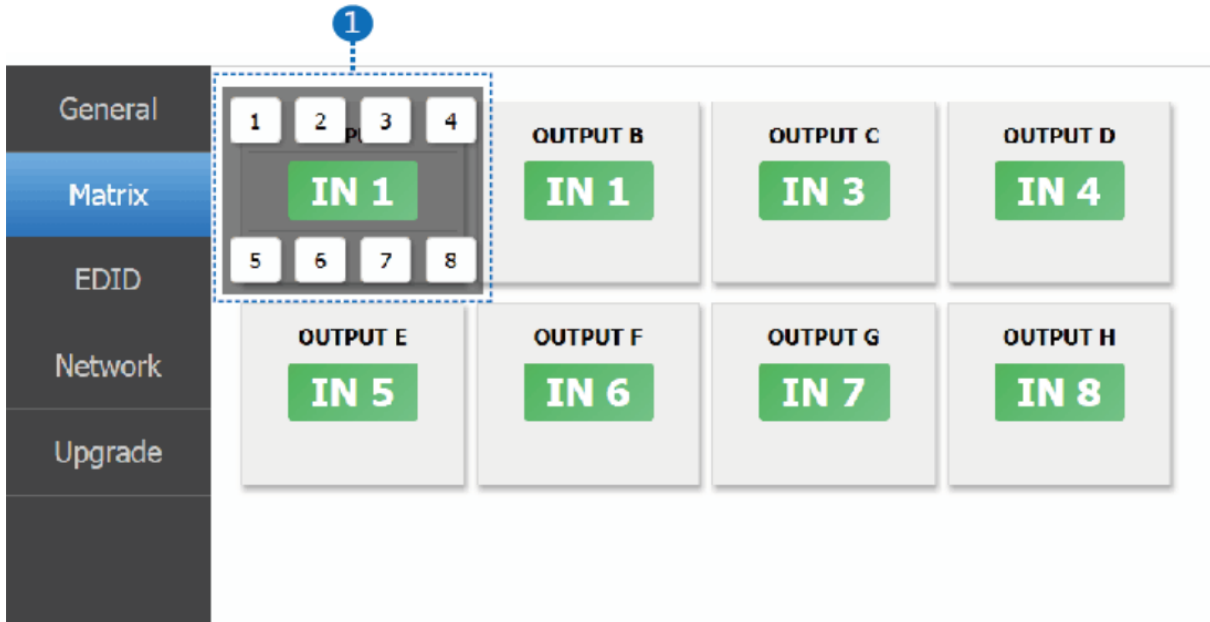


1. Click this button to check current the Matrix connection status.
2. Display currently the Matrix input and output port status. The “yes” have connected input or output source and “no” represent not connection.



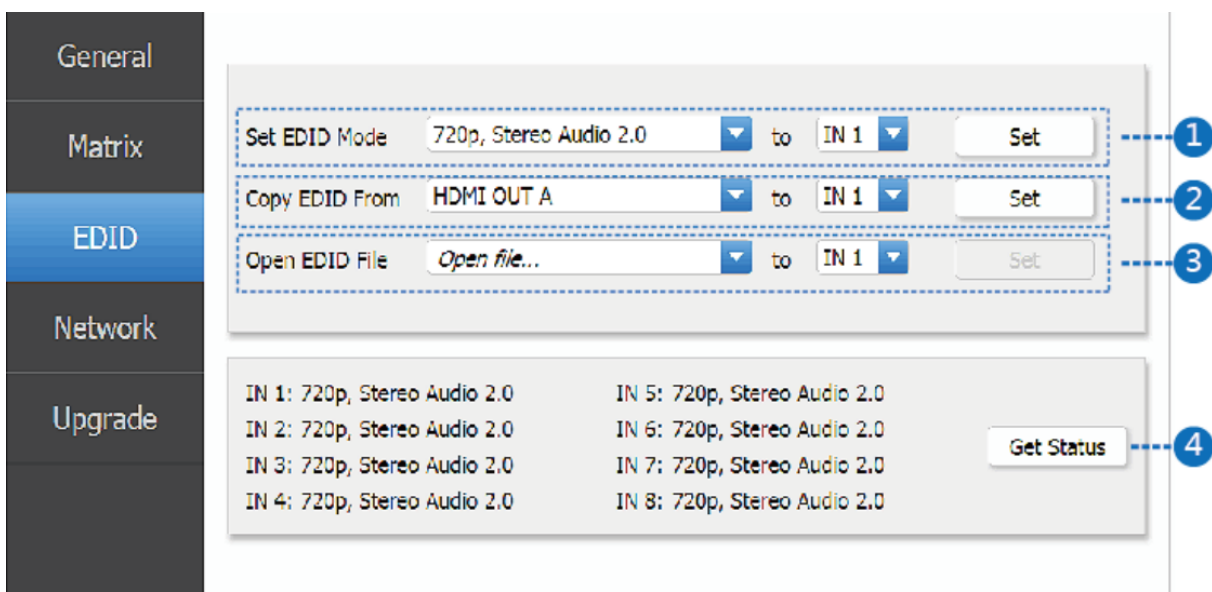
3. Power switch. The Matrix will work when open this switch. Otherwise, the Matrix will standby.
4. Beep switch. Open this switch, press the Matrix on-panel button will have voice. Close this switch, it will mute.
5. Click this button will reboot device.
6. Click this button will set it to factory reset.

### Matrix page



1. You need click green area and then choose one input source to the OUTPUT A port. (The others OUTPUT ports have similar to function about Tab 1.)

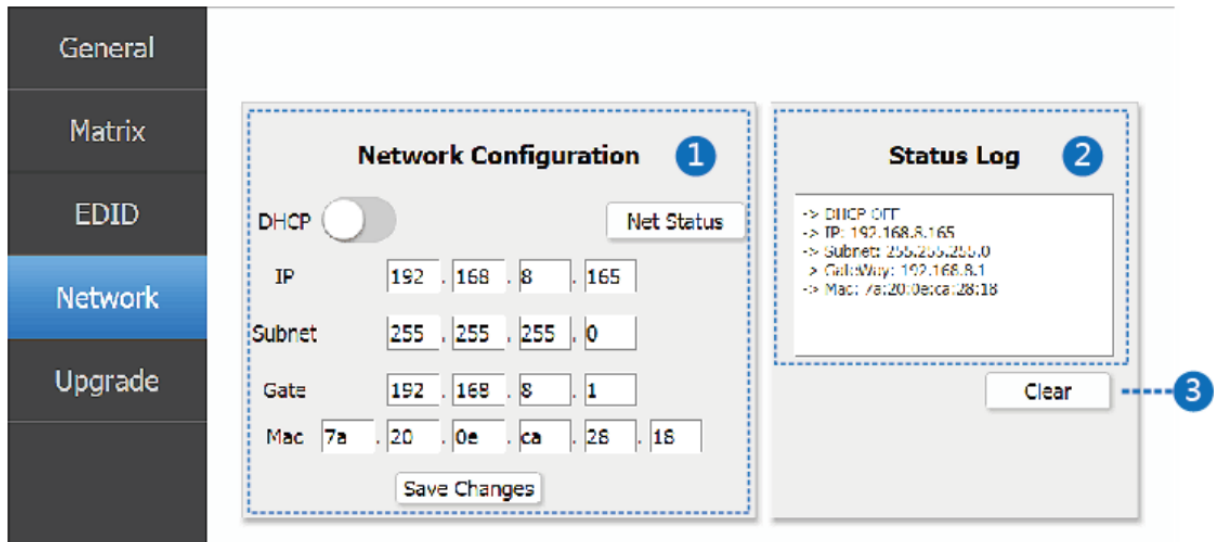
### EDID page





1. Select EDID mode to input source, then click “**Set**” button.
2. Copy EDID from output display to input source, then click “**Set**” button.
3. Open EDID file to input source.
4. Display the input source EDID mode status.

## Network page



### 1. Network Configuration

- **In DHCP open status:**

DHCP switch: Obtain the network configuration information, including IP address, Subnet, Gateway and MAC. Then click “**Set**” button to save DHCP status.

- **In DHCP close status:**

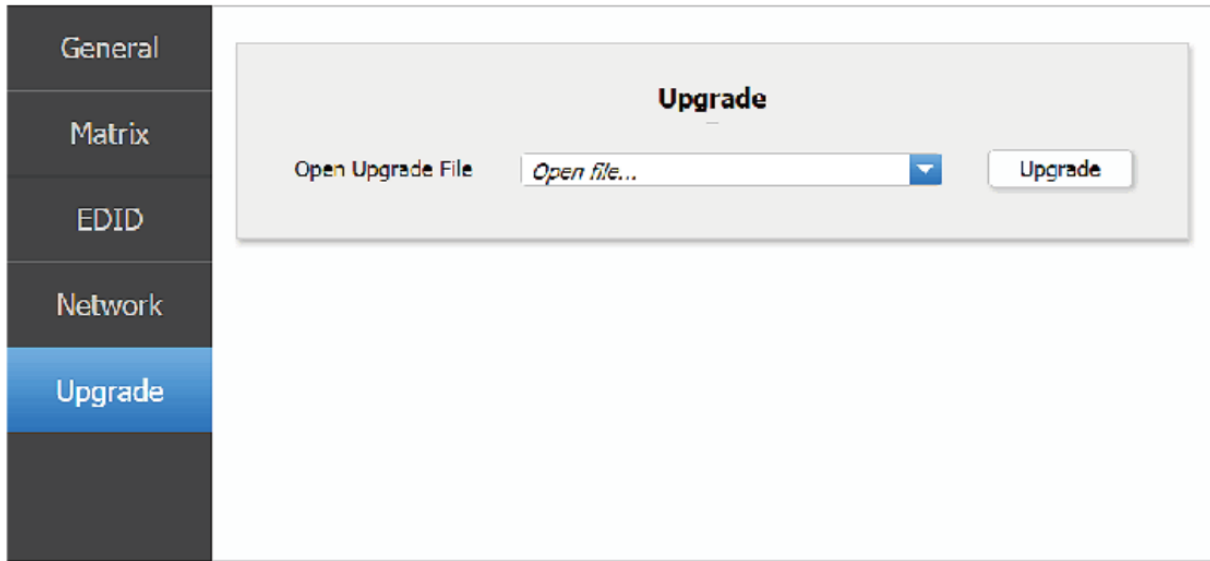
DHCP switch: If the DHCP switch has been closed, user can set IP, Subnet, Gateway and Mac address. In this moment, click the “**Set**” button to save current status information. (Note: If user have set a new IP address and click the “**Set**” button. At this moment, user have changed the IP address.)

Net Status button: Clicking this button will refresh currently network configuration information to display in Status Log.

2. Status Log: Display the Net configuration information.
3. Clear button: Clear the Status Log information.

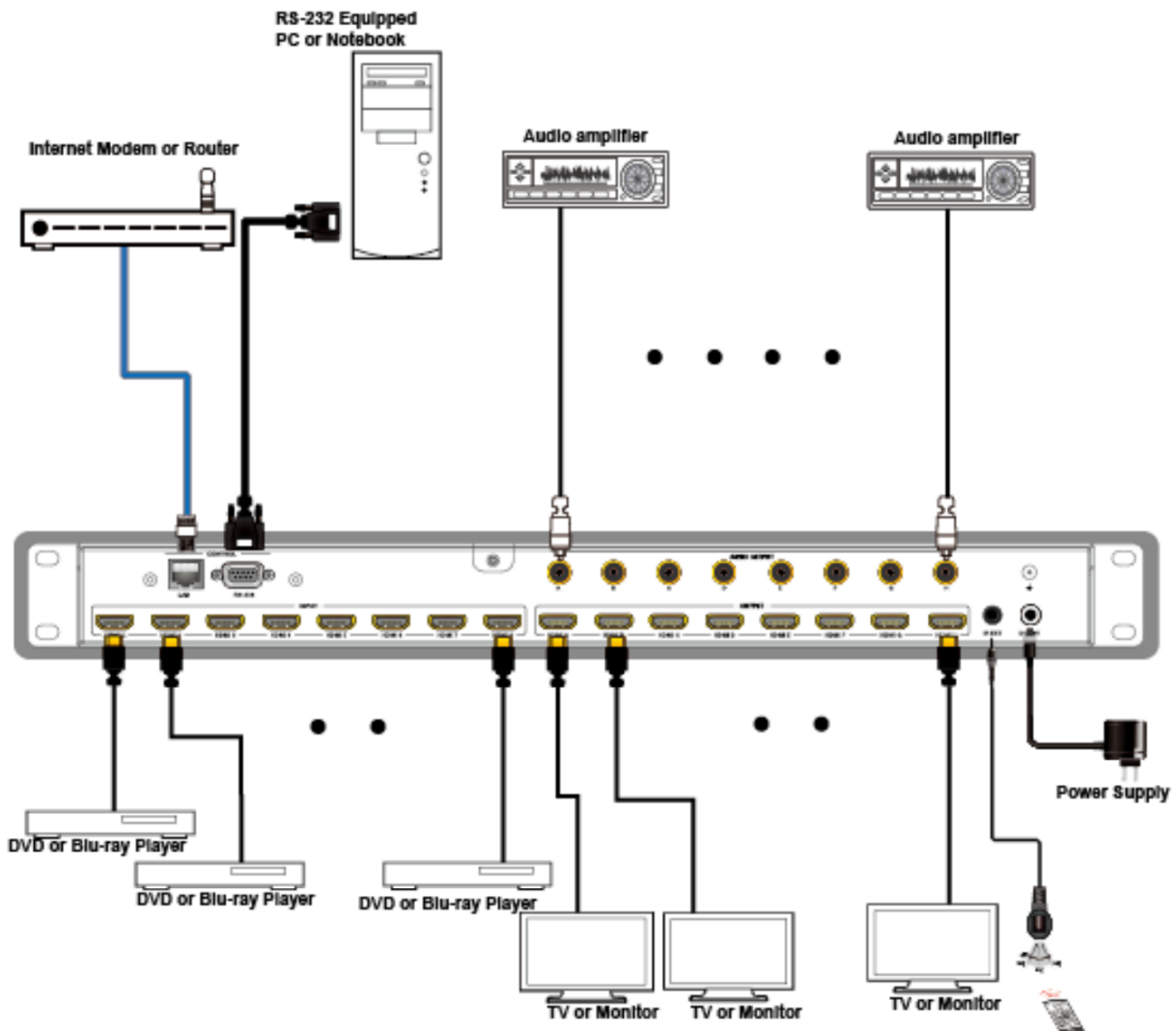


## Upgrade page



- Open upgrade file, then click the “Upgrade” button.

## Application Example





## Tech Support

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Have technical questions? We may have answered them already!

Please visit BZBGear's support page ([bzbgear.com/support](http://bzbgear.com/support)) for helpful information and tips regarding our products. Here you will find our Knowledge Base ([bzbgear.com/knowledge-base](http://bzbgear.com/knowledge-base)) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV ([youtube.com/c/BZBTVchannel](http://youtube.com/c/BZBTVchannel)), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

<u>Phone</u>	<u>Email</u>	<u>Live Chat</u>
1.888.499.9906	<a href="mailto:support@bzbgear.com">support@bzbgear.com</a>	<a href="http://bzbgear.com">bzbgear.com</a>

## Warranty

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BZBGear Pro AV products and cameras come with a three-year warranty. An extended two-year warranty is available for our cameras upon registration for a total of five years.

For complete warranty information, please visit [bzbgear.com/warranty](http://bzbgear.com/warranty).

For questions, please call 1.888.499.9906 or email [support@bzbgear.com](mailto:support@bzbgear.com).

## Mission Statement

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BZBGear is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGear delivers quality products designed with users in mind.

## Copyright

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