# User Manual

# AC-MX1616-AUHD

18 Gbps True 4K60 4:4:4 16x16 HDMI Matrix

w/ Audio De-Embedding & Routing.


AVProconnect

HDMI™

HIGH-DEFINITION MULTIMEDIA INTERFACE



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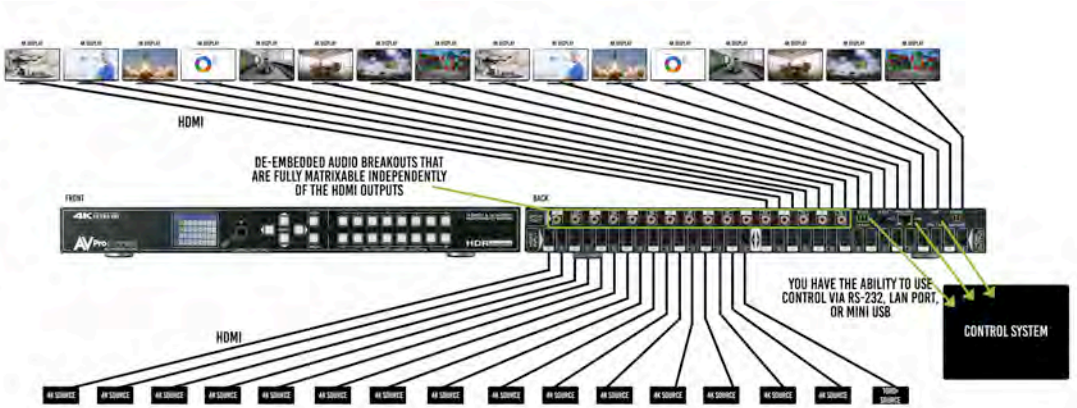
# Common Usage Diagram





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## Specifications:

| | |
|---|---|
| **Video:** | |
| Video Resolutions | Uo to 4K 60Hz 4:4:4 |
| VESA Resolutions | Up to DCI 4K (4096x2160) |
| HDR Formats/Resolutions | 420, 422, 444 (10 and 12 Deep Color) HDR10, HDR10+, Dolby Vision, HLG, BBC, NHK |
| Color Space | YUV (Component), RGB (CSC: Rec. 601, Rec. 709, BT2020, DCI, P3 D6500) |
| Chroma Subsampeling | 4:4:4, 4:2:2, 4:2:0 Supported |
| Deep Color | Up to 16 bit (1080), Up to 12 bit (4K) |
| **Audio:** | |
| Audio Formats Supported HDMI | PCM 2.0 Ch, LPCM 6CH & 7CH , Dolby Digtal, DTS 5.1, Dolby Digital Plus, Dolby TrueHD, DTS-HD Master Audio, DTS-X, Dolby Atmos |
| Audio Formats Supported Extracted (Coax) | PCM 2 Ch, LPCM 6 Ch, Dolby Digital, DTS |
| Audio Extraction Location | Bind to Input, Bind to Output or Matrix (Independent) |
| **Distance:** | |
| HDMI In/Out (4K60 4:4:4) | Up to 50 Feet (Bullet Train HDMI) |
| HDMI In/Out (w/ AOC Cable) (4K60 4:4:4) | Up to 130 Feet (w/ Bullet Train AOC) |
| **Other:** | |
| Bandwidth | 18 Gbps |
| HDCP | HDCP 2.2 and Earlier |
| **Control:** | |
| Ports | LAN, RS232, IR |
| Drivers | C4, RTI, ELAN, Crestron, URC (and more, see Drivers Page) |
| PC Software | YES |
| LAN WebOS | YES |
| **Ports:** | |
| HDMI | Type A |
| LAN | RJ45 w/ Web Interface/Control |
| Audio (Extracted Digital) | SPDIF - Coax |
| IR Rx | 3.5mm Stereo (3 Conductor) |
| RS232 | 3 pin terminal block |
| USB | Mini - For UART Communication/Control |
| **Environmental:** | |
| Operating Temprature | 23 to 125°F (-5 to 51°C) |
| Storage Temperature | -4 to 140°F (-20 to 60°C) |
| Humidity Range | 5-90% RH (No Condensation) |
| **Power:** | |
| Power Consumption (Total) | 92 Watts Max |
| Power Supply - Matrix | Input: AC 100-240V ~ 50/60Hz Output: DC 48V 3A |
| **Dimensions:** | |
| Dimensions (Unit Only Height/Depth/Width) | mm: 50.8 x 260.35 x 441.33 inch: 2 x 10.25 x 17.375 |
| Dimensions (Packaged Height/Depth/Width) | mm: 88.9 x 444.5 x 495.3 inch: 3.5 x 17.5 x 19.5 |
| Rack Units | 1 Unit |
| Weight (Unit) | 11 lbs/5 kg |
| Weight (Packaged) | 15 lbs/7 kg |
| *Specifications subject to change without notice. Mass & dimensions are approximate | |


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# AC-MX1616-AUHD

The AC-MX1616-AUHD is a true high bandwidth powerhouse. Supporting the full HDMI 2.0a/b specification and supporting every flavor of HDR, this matrix will ensure you can get the most out of any system. This unit supports uncompressed HDR formats Including HDR, HDR10, HDR10+, Dolby Vision, HLG, BBC and NHK. All of them are supported in up to 4K 60Hz and up to 12 Bit Deep Color. All color space compression is compatible.

Our unique design has allowed us to improve high bandwidth switching speeds. Average speeds of less than 3 seconds – this is an industry best for this advanced level of actual uncompressed, high bandwidth w/ HDR switching. Maximum compatibility and speed improve the customer experience immensely.

The sleek, low-profile and high-density design make for a sleek machine that saves you valuable space in the rack room. This combined with a OLED setup screen on the front that makes setup and management a breeze will make this a staple in your large demanding installations!

## Features:

- HDMI 2.0(a/b)
- 18Gbps Bandwidth Support
- 4K60 4:4:4 Support
- Ultimate HDR Support (HDR 10 & 12 Bit)
- Dolby Vision, HDR10+ and HLG Support
- HDCP 2.2 (and all earlier versions supported)
- Simple setup with front panel control screen
- WebOS for simple connectivity and control/management
- Ultra-Low Profile (1U)
- Fast Switching
- Advanced EDID Management
- IR, RS-232 and LAN Control Options
- Digital Coax Audio Out (6CH PCM, DD, DTS)
- Driver Support for Crestron, C4, RTI, ELAN and more!!!
- Extracted Audio Now Has 3 Operating Modes. Bound to Input, Bound to Output, or Independent Matrix

## Easy to use:

- Feature rich
- Fast Switching
- Setup screen
- IR Remote
- IR & RS-232 Control
- LAN Control

## In The Box:

- AC-MX1616-AUHD Matrix
- IR Remote Control
- IR Extension Cable
- 12V/5A Locking Power Supply
- Rack Ears & Phoenix Connectors
- Instruction Manual

## Applications:

- Bars and Restaurants are absolutely perfect. Low downtime and robust implementation make for happy owners and repeat work.
- In medical facilities for multiview point to point training environments
- For classrooms with lots of displays and presenters
- For security applications to view 4-9 HD video cameras
- For transportation management systems for monitoring camera feeds in hi-def.
- Large homes that want the ultimate control experience


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## Device Feature Overview:

Uncompressed ~ Uncompressed base-band video means that what you put in it what comes out. This allows the integrator ultimate control to use any infrastructure they want. Use pure fiber like Cleerline, Bullet Train Cables (Long Haul, Shout Haul), or 18Gbps HDBaseT Extenders (AC-EX40-444) to get the full bandwidth and full picture!

Ultimate HDR Support ~ This matrix supports all flavors of HDR in all formats. Including HDR, HDR10, HDR10+, Dolby Vision, HLG, BBC and NHK. All of them are supported in up to 4K 60Hz and up to 12 Bit Deep Color. All color space compression are compatible.

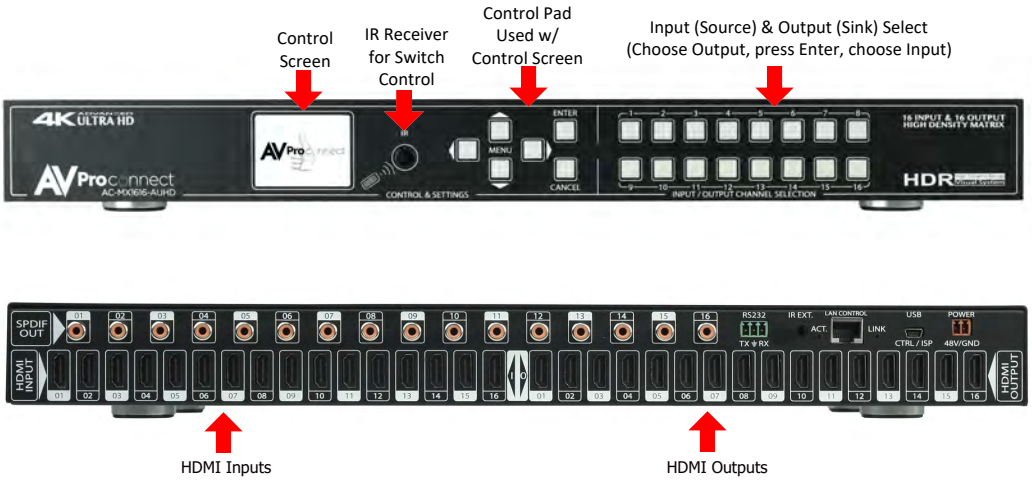
Extreme EDID Management ~ With 29 on board EDID's, including HDR EDID's, not getting a picture is simply a thing of the past. You can manage the input side of the switch by selecting a preloaded EDID. It also has the ability to INSTANTLY read an EDID from any connected display and apply it to the desired input, all with the push of a button. Goodbye EDID problems...

Front Panel Screen ~ Make setup a breeze! The front panel allows you to do basic setup including; EDID, Audio, Matrixing and network. All without connecting a PC or hooking anything up. This additional mode of control is a welcome resource on the job site.

WebOS~ Full matrix control is available on the internal WebOS - Simply plug the matrix into the network and punch in the default IP (192.168.1.239) or use DHCP to connect to a full control system! The WebOS is designed with mobile devices in mind, so feel free to use you phone or tablet for real-time control.

Fast Switching ~ Our unique design has allowed us to improve high bandwidth switching speeds. Average speeds of less than 3 seconds – this is an industry best for this advanced level of actual uncompressed, high bandwidth w/ HDR switching.

Audio De-Embedding ~ Our unique Audio De-Embedding allows 3 modes - Bind to Input, Bind to Output, or Matrix.





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## Basic Setup:

Quick Setup:

1. Connect the HDMI input sources (Blu-ray, Set Top Box, etc...) to the AC-MX1616-AUHD
2. Connect the HDMI output devices (AVR, Display, Distribution Amplifier, Extender) to the AC-MX1616-AUHD
3. Power on the sources
4. Connect the power supply's into the AC-MX1616-AUHD (You need to plug in both supply's)
5. Turn on output devices/displays
6. You may now use the front panel controls, supplied IR remote or free PC software to control the switch.

## ***Front Panel Control***

## Switching:

The AC-MX1616-AUHD can be switched from the front panel by selecting the OUTPUT, Press ENTER, then select the INPUT:

1. Press the button (1 through 16) that corresponds with the OUTPUT (Display, or Sink Device) you would like to send a source.
2. Press ENTER
3. Now select the desired INPUT on (1 through 16)
4. The route is now set.
5. You may also navigate to the "Switch" Menu on the Control Screen to manage the routes (See "Switch Routing" below)

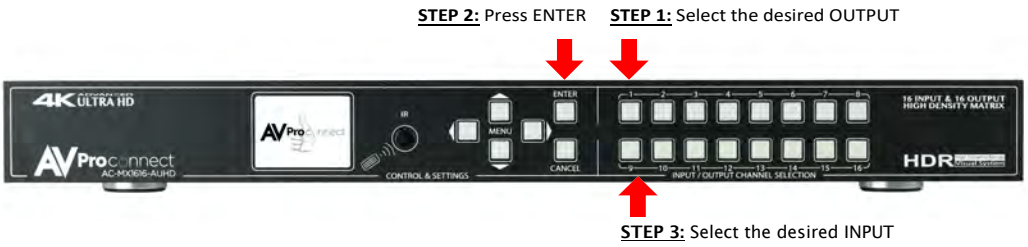


*Figure 1 – Switching with the front panel controls. NOTE: Select the OUTPUT and then press ENTER, then select the INPUT*


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## Navigating the Control Screen:

Home Screen


You can use the control screen to setup/control several key features including:

- **Matrix Switch Routing** ~ Control switching or view the current routing
- **EDID Management** ~ View, adjust EDID Configuration
- **Audio Setup & Routing** ~ Set the default extracted audio mode to Bind to Input, Bind to Output or Matrix - When in Matrix, audio route can be selected.
- **Network Setup** ~ View/Setup IP Address (Host/device, Gateway, Subnet), Toggle DHCP, set port number and view MAC Address

To navigate the control screen you have a 6-button control panel that control the "Control" Screen.

- **"Menu"** area consists of UP, DOWN, LEFT and RIGHT - These are your navigation buttons. Press these buttons to move through them menus to your desired selections. Your desired selection will be bordered or highlighted
- **"Enter"** Selects the highlighted item and advances to the next set of options or sets your selection
- **"Cancel"** Stops what you are doing and takes you back one menu or to the home screen.

Control Screen Navigation Buttons

Control Screen


## Control Screen - Switch Routing:

Once you select the "Matrix" option, you have 2 primary functions:

1. View the current rout settings so you can verify that your system is working properly and the routes are correct
2. Set new matrix routes. You can change the matrix routes here as well, this is good for demonstrating switching.
   NOTE: When setting a new route, select OUTPUT first then INPUT

Select "Matrix"



Then Choose Input

Select Output First



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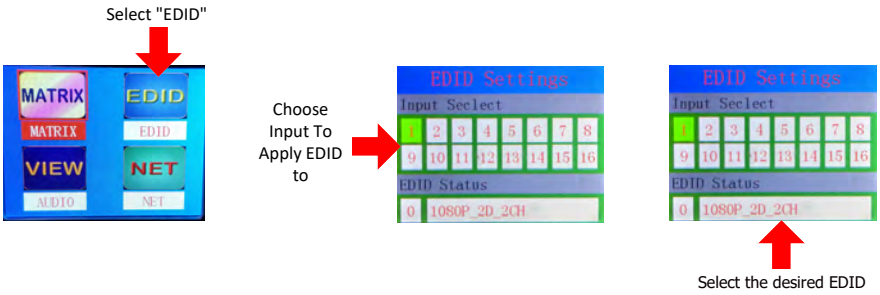
## Control Screen - EDID Management:

Instantly and easily set and manage EDID functions right from the front screen. EDID management will help you get the right signal from the source device adding additional security that nothing unsupported will be mistakenly fed into the system.

EDID effectively tells the source what the system is capable of handling, devices without robust EDID control just have to hope the source behaves how we want it to. With the AC-MX1616-AUHD you control the sources:

To Set the EDID, just choose EDID from the "Home Screen" and then select the INPUT you want to set. Finally toggle through the EDIDs until you get the one you want. For the most plug and play compatibility, we recommend using "1080P 2CH" (Which is the default setting). This is ideal for bars, restaurants, and homes. There is also the ability to upload a custom EDID is desired (Has to be done in Serial Control Software).

Available EDID options are listed below. Additionally, you can copy an EDID from a display using Serial (more later in this manual) - This is recommended for advanced users doing HDR distribution.




**Available EDID's:**

0. 1080P_2CH
1. 1080P_6CH
2. 1080P_8CH
3. 1080P_3D_2CH
4. 1080P_3D_6CH
5. 1080P_3D_8CH
6. 4K30HZ_3D_2CH
7. 4K30HZ_3D_6CH
8. 4K30HZ_3D_8CH
9. 4K60HzY420_3D_2CH
10. 4K60HzY420_3D_6CH
11. 4K60HzY420_3D_8CH
12. 4K60HZ_3D_2CH
13. 4K60HZ_3D_6CH
14. 4K60HZ_3D_8CH
15. 1080P_2CH_HDR
16. 1080P_6CH_HDR
17. 1080P_8CH_HDR
18. 1080P_3D_2CH_HDR
19. 1080P_3D_6CH_HDR
20. 1080P_3D_8CH_HDR
21. 4K30HZ_3D_2CH_HDR
22. 4K30HZ_3D_6CH_HDR
23. 4K30HZ_3D_8CH_HDR
24. 4K60HzY420_3D_2CH_HDR
25. 4K60HzY420_3D_6CH_HDR
26. 4K60HzY420_3D_8CH_HDR
27. 4K60HZ_3D_2CH_HDR
28. 4K60HZ_3D_6CH_HDR
29. 4K60HZ_3D_8CH_HDR
30. User EDID 1
31. User EDID 2
32. User EDID 3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## Control Screen - Audio Settings

Audio Settings has two functions:

***Function 1*** - Set the default extracted audio mode. There are three options:

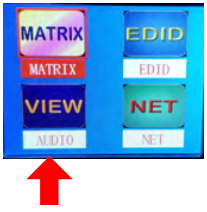
- Bind to output (extracted audio witches with the video, this is the default mode)
- Bind to input (extracted audio is fixed to the corresponding input by the same number)
- Independent/Matrix (extracted audio can be routed however you like and there are commands to allow it to function as a separate matrix)


Choose "VIEW AUDO"


Highlight this area and press "ENTER". You can now toggle up and down to select the mode.

***Function 2*** - View/Route Extracted Audio Matrix. (NOTE: you can only route the audio if "MATRIX" mode is selected above. To route audio, follow the same logic as video switching in this menu:

1. Select the extracted audio OUTPUT first by pressing the number or navigating to it
2. Press ENTER to set the selection
3. Select the desired INPUT by toggling to it with UP/DOWN or simply selecting the number on the keypad.
4. Press ENTER (This only applies if you used up/down to toggle to your desired input)

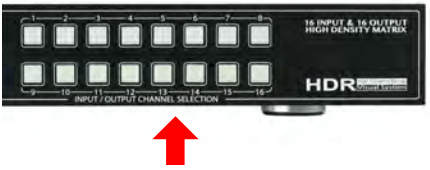



Choose "VIEW AUDO"


Make sure this area says MATRIX


Press the desired extracted audio OUTPUT number

Press Enter


Press the desired INPUT number



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## Control Screen - Network (IP) Setting

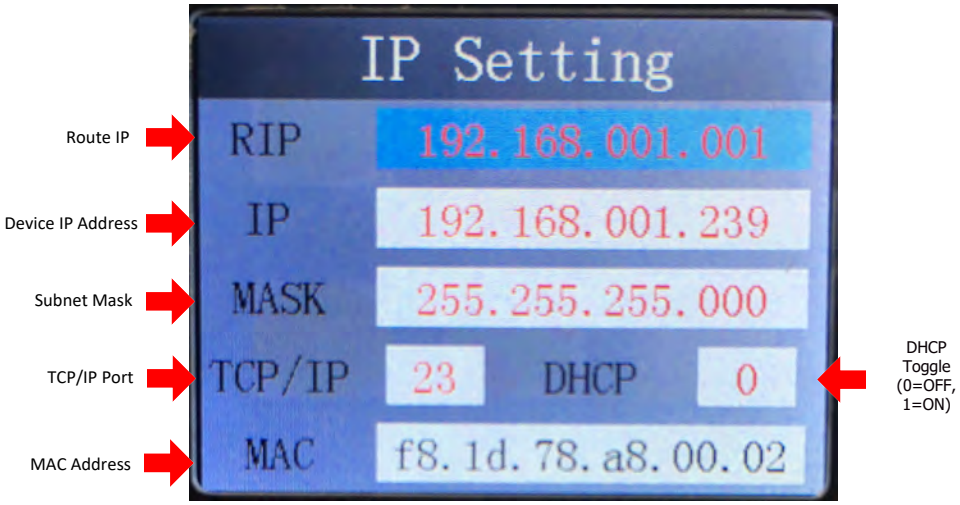
Here you can setup the Matrix with your preferred network settings. From the front panel you can:

- View the current IP Settings and MAC address
- Set static Route IP (Default is 192.168.001.001)
- Set static Device IP **(Device Default is 192.168.001.239)**
- Set Static Net Mask (Default is 255.255.255.0)
- Change the TCP/IP Port (Default is Port 23)
- Toggle DHCP (Default condition is DHCP OFF) (0=OFF, 1=ON)

To navigate the IP Setting Screen:

1. Navigate up and down to select (Use Enter Button) the option you want to address (RIP, IP, Mask, TCP.IP, DHCP)
2. Once selected you can use up and down to to change the first number or press enter to skip it and continue to the next.
3. Once you set the last possible number (Or complete the IP) it will back you to the main screen to make another selection

NOTE: You can send **Telnet** commands to the machine by IP, the commands are the same commands used for RS232 listed in the "Command List"





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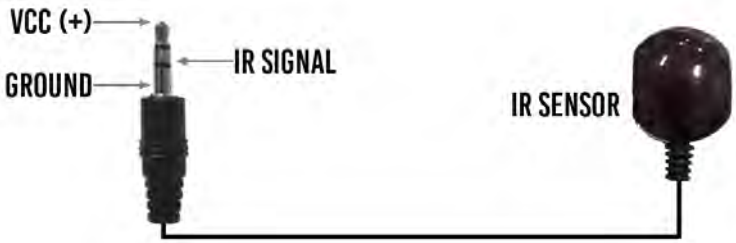
## *IR Details:*

IR IN on this machine is for controlling the AC-MX1616-AUHD, RS232 or IP Control are the recommended methods, but IR can be used in some circumstances. The IR INPUT is for an IR Receiver EYE only. The IR Receiver Eye below can plug into the IR Ext. port.




## IR Remote Control:

The Matrix can be switched with IR Commands (Remote or other) in several ways:

1. Use the supplied IR Remote (Pictured) and select the OUTPUT then INPUT
2. Lear IR Codes from the supplied remote
3. Use discreet NEC/HEX IR Codes to program a 3rd party control system or IR remote. Check www.avproconnect.com for discreet IR codes or contact us to get them.



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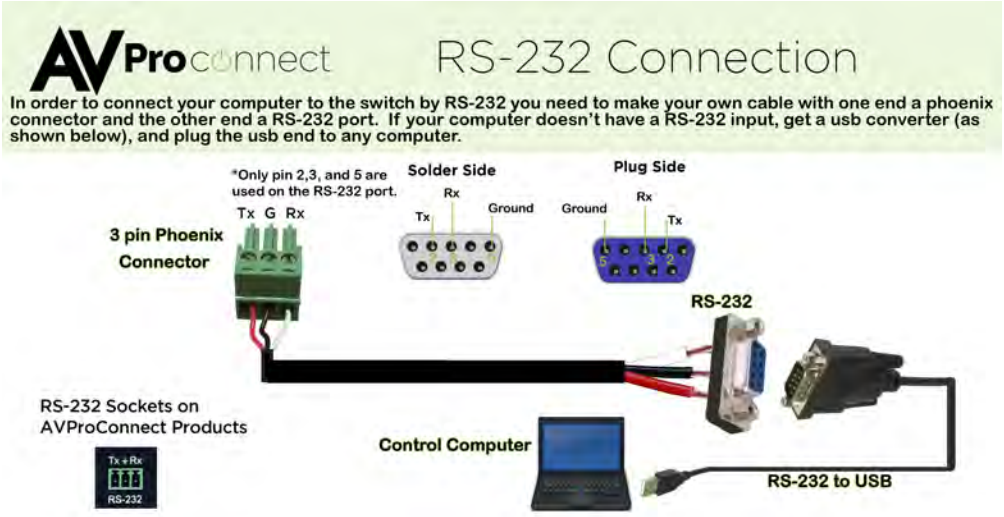
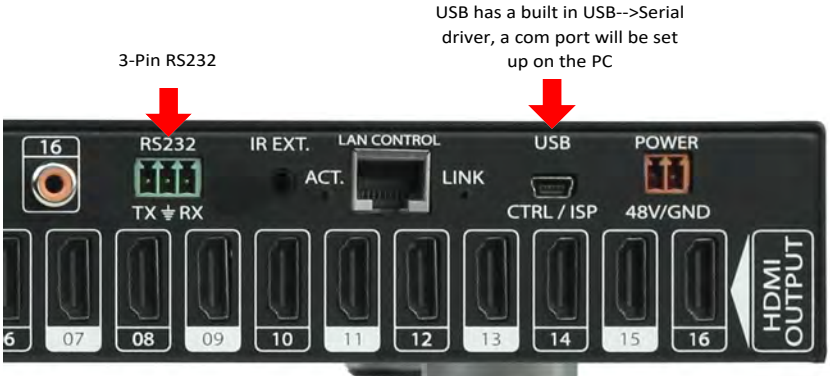
## *RS232 Details:*

Here is a sample cable. in this example you can see how to connect or build and RS232 cable to use to control the Matrix. The pin configuration is shown here as well.




**You can send serial commands in the 3-Pin port or the USB port**





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## Serial Command List & Settings

Settings: Baud Rate 57600, Data Bits 8, No Parity, 1 Stop Bit

NOTE - Visit www.avproconnect.com to get the Notepad version of the command list for easy copy/past access.

```
== Azz : All Commands start by Prefix System Address zz, if [01~99]                  ==
==-------------------------------------------------------------------------------------==
== System Control Setup Commands:                                                    ==
== H                : Help                                                  ==
== STA              : Show Global System Status                           ==
== SET RST          : Reset to Factory Defaults                           ==
== SET ADDR xx      : Set System Address to xx {xx=[00~99](00=Single)}          ==
== SET CAS EN/DIS   : Set Cascade Mode Enable/Disable                     ==
== SET LCD ON Tx    : Set LCD Remain On Time{x=[0~3](0=Always ON,1=15,2=30,3=60Sec)  ==
== SET KEY LOCK ON/OFF  : Set Key Lock On/Off                             ==
== GET ADDR         : Get System Address                                  ==
== GET CAS          : Get Cascade Mode Status                             ==
== GET STA          : Get System System Status                            ==
== GET INx SIG STA  : Get Input x Signal Status{x=[0~16](0=ALL)}              ==
== GET LCD ON T     : Get LCD Remain On Time                              ==
== GET KEY LOCK     : Get Key Lock Status                                 ==
==-------------------------------------------------------------------------------------==
== Output Setup Command : (Note:output number(x)=HDMI(x),x=1-16)                  ==
== SET OUTx VS INy  : Set Output x To Input y {x=[0~16](0=ALL), y=[1~16]}        ==
== SET OUTx EXA EN/DIS  : Set Ex-Audio Output Enable/Disable{x=[0~16](0=ALL)}       ==
== SET EXAMX MODEx  : Set Ex-Audio Matrix Mode                            ==
==                  {x=[0~2](0=Bind To Output,1=Bind To Input,2=Matrix}          ==
== SET OUTx AS INy  : Set Ex-Audio Output x To Input y{x=[0~16](0=ALL), y=[1~16]}  ==
== SET OUTx STREAM ON/OFF: Set Output x Stream ON/OFF{x=[0~16](0=ALL)}            ==
== GET OUTx VS      : Get Output x Video Route{x=[0~16](0=ALL)}                   ==
== GET OUTx EXA     : Get Ex-Audio Output Enable/Disable Status{x=[0~16](0=ALL)}  ==
== GET OUTx EDID DATA   : Get Output x EDID DATA{x=[1~16]}                    ==
== GET EXAMX MODE   : Get Ex-Audio Matrix Mode                            ==
== GET OUTx AS IN   : Get Output x  Ex-Audio Route{x=[0~16](0=ALL)}           ==
== GET OUTx STREAM  : Get Output x Stream ON/OFF Status{x=[0~16](0=ALL)}        ==
==-------------------------------------------------------------------------------------==
```


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## Command List cont:

Settings: Baud Rate 57600, Data Bits 8, No Parity, 1 Stop Bit

NOTE - Visit www.avproconnect.com to get the Notepad version of the command list for easy copy/past access.

```
== Input Setup Command: (Note:input number(x)=HDMI(x),x=1-16)                    ==
== SET INx EDID y      : Set Input x EDID{x=[0~16](0=ALL), y=[0~32]}              ==
==                                                                               ==
==  0:1080P_2CH(PCM)            1:1080P_6CH            2:1080P_8CH              ==
==  3:1080P_3D_2CH(PCM)         4:1080P_3D_6CH         5:1080P_3D_8CH           ==
==  6:4K30Hz_3D_2CH(PCM)        7:4K30HZ_3D_6CH        8:4K30HZ_3D_8CH          ==
==  9:4K60Hz(Y420)_3D_2CH(PCM)  10:4K60Hz(Y420)_3D_6CH  11:4K60Hz(Y420)_3D_8CH   ==
==  12:4K60HZ_3D_2CH            13:4K60HZ_3D_6CH       14:4K60HZ_3D_8CH         ==
==  15:1080P_2CH(PCM)_HDR       16:1080P_6CH_HDR       17:1080P_8CH_HDR         ==
==  18:1080P_3D_2CH(PCM)_HDR    19:1080P_3D_6CH_HDR    20:1080P_3D_8CH_HDR      ==
==  21:4K30Hz_3D_2CH(PCM)_HDR   22:4K30Hz_3D_6CH_HDR   23:4K30Hz_3D_8CH_HDR     ==
==  24:4K60Hz(Y420)_3D_2CH(PCM)_HDR 25:4K60Hz(Y420)_3D_6CH_HDR 26:4K60Hz(Y420)_3D_8CH_HDR ==
==  27:4K60Hz_3D_2CH(PCM)_HDR   28:4K60Hz_3D_6CH_HDR   29:4K60Hz_3D_8CH_HDR ==
==  30:USER1_EDID               31:USER2_EDID          32:USER3_EDID            ==
== SET INx EDID CY OUTy : Copy Output y EDID To Input x(USER1 BUF)               ==
==                {x=[0~16](0=ALL), y=[1~16]}                                    ==
== SET INx EDID Uy DATAz: Write EDID To  User y Buffer  of Input x               ==
==                {x=[0~16](0=ALL), y=[1~3],z=[EDID Data]                        ==
== GET INx EDID       : Get Input x EDID Index                                   ==
==                {x=[0~16](0=All)}                                              ==
== GET INx EDID y DATA  : Get Input x EDID y Data                                ==
==                {x=[1~16],y=[0~32}                                             ==
==-------------------------------------------------------------------------------------==
== IR  Code Setup:                                                               ==
== SET IR SYS xx yy      : Set IR System Code                                    ==
==                {xx=[00~FFH],yy=[00~FFH]                                       ==
== SET IR OUTx INy CODE zz : Set IR Data Code                                    ==
==                {x=[1~16],y=[1~16],zz=[00~FFH]}                                ==
== GET IR SYS          : Get IR System Code                                      ==
== GET IR OUTx INy CODE    : Get IR Data Code                                    ==
==                {x=[0~16](0=All),y=[1~16]}                                     ==
==-------------------------------------------------------------------------------------==
== Network Setup Command: ( xxx=[000-255], zzzz=[0001~9999]                      ==
== SET RIP xxx.xxx.xxx.xxx : Set Route IP Address to xxx.xxx.xxx.xxx             ==
== SET HIP xxx.xxx.xxx.xxx : Set Host IP Address to xxx.xxx.xxx.xxx              ==
== SET NMK xxx.xxx.xxx.xxx : Set Net Mask to xxx.xxx.xxx.xxx                     ==
== SET TIP zzzz          : Set TCP/IP Port to zzzz                               ==
== SET DHCP y            : Set DHCP {y=[0~1](0=Dis,1=Enable)}                    ==
== GET RIP             : Get Route IP Address                                    ==
== GET HIP             : Get Host IP Address                                     ==
== GET NMK               : Get Net Mask                                          ==
== GET TIP             : Get TCP/IP Port                                         ==
== GET DHCP              : Get DHCP Status                                       ==
== GET MAC               : Get MAC  Address                                      ==
=====================================================================================
```



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## ***Using Multiple Units In One System:***

## Device Addresses When Using Serial Communication:

*NOTE: Only set device address when cascading multiple units together and using RS232 as your control method! You also have to send the device address when doing advanced routing while sending commands by serial (next page) even if it is default "A00". You NEVER use device addresses when using IP control or TELNET*

When using serial communication it is good to be aware of the devices "Address" You will want to know the device address as this will determine which Cloud 9 will receive a command. All of the drivers are built so that if you use serial communication you will use ONE instance of the driver and select the size. i.e 9x18, 9x27 etc...

All Cloud 9's are address "A00" by default and if you are using just one device you do not need to place this in front of the serial command.

EX1: If you have a standalone unit and are using serial control you can just send a command without the address:

**"SET OUT5 VS IN3"** ----This will set Output 5 to Input 3

EX2: If you have two units in a system you have to label them A01 and A02, so a command will look like:

**"A02SET OUT5 VS IN3"** ----This will set Output 5 to Input 3 ON SWITCH TWO. Also, please note that there is no "space" between the address and the command

To set and device address you can use the PC Control Software or send the command "SET ADDR xx" (xx = 01 through 99)

## Cascading with IP Control:

With IP you have to have a direct IP connection to each unit, and regard them as individual matrices. So for a 9 units in a system with IP control, you have to connect Ethernet to all 9 matrices. If you are using a 3rd party control driver, install 9 instances of the drivers, and regard them all as individual 16x16 matrices.

When using IP DO NOT use serial system addresses, as the IP addresses will serve the same purpose While it can be done if one so desires, it complicates the programming.

A best practice is to set a static IP address for each unit, rather than DHCP.


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## Extracted Audio:

The extracted audio ports have distinct operating modes. Your desired mode can be set to suite your particular installation. The 3 modes are:

**From Input** ~ This is the default configuration. In this mode the audio port number corresponds to the INPUT signal. This is ideal for systems where audio is matrixed separately in a zoned amplifier.

**From Output** ~ This configuration will automatically have the audio follow OUTPUT, so the audio from the extracted port always matches the HDMI output. This is ideal for systems that use local AVR's for some of the zones.

**Independent/Matrix** ~ This mode allows you matrix the extracted audio outputs independent of HDMI. In this mode a new set of commands becomes available to be able to route audio however you want. This can be used as a separate zoned audio matrix with only using an amplifier.

**Setting up Extracted Audio Routing:**

You can set up Extracted Audio Routing in the PC Software, Driver or by sending the following command:

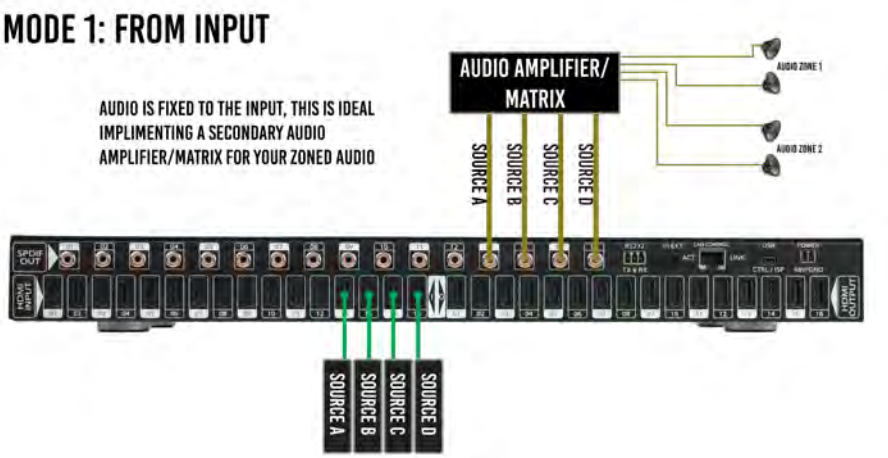
**SET EXA MODEy** -- Where (y=0-2) 0=From Input, 1=From Output, 2=Independent.

If you set to "Independent" a new set of commands is available to you to matrix the ports:

**SET OUTx EAS INy** -- Where (x=0-16) 0=ALL, 1-16=Desired Output & (y=1-16) 1-16=Desired Input

*NOTE: Extracted Audio Ports are PCM 2CH audio up to LPCM 6 CH, Dolby Digital 5.1 & DTS. No down-mix.*

**Audio Diagrams:**





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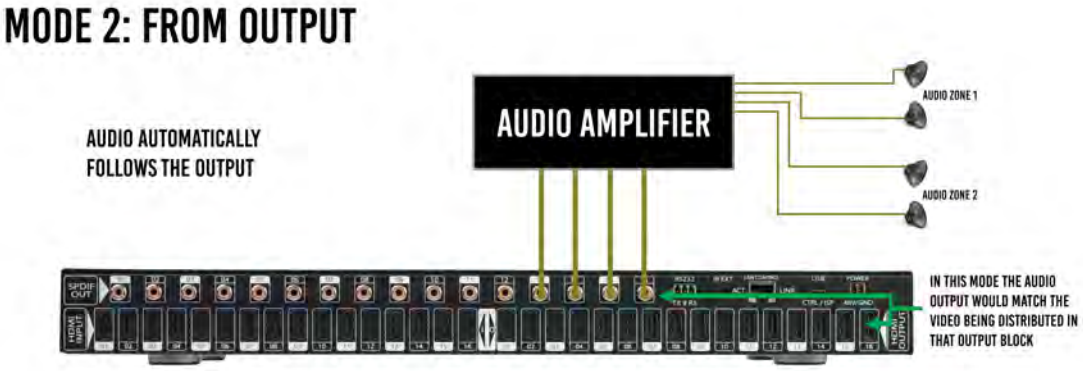
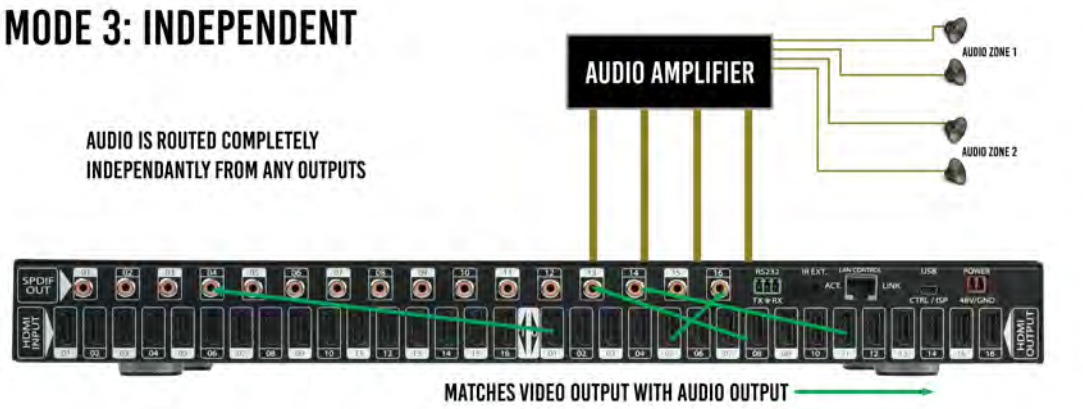
## Extracted Audio cont:

**Audio Diagrams:**





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## PC Control Software - Side Bar:

*Note: PC Control Software can be used when connected to the RS232 or Mini USB Port.*

**Connection Area** - Use the drop down to select the COM Port or press "Search Machine" to search your computer for open COM Ports. The light will be red if there is a successful connection.

**Select/Manage Addresses** - Use the drop down to select the Address of the device you want to control (If cascading multiple units). Press "Address Management" to set the Addresses. View "Address Management' Tab later for more.



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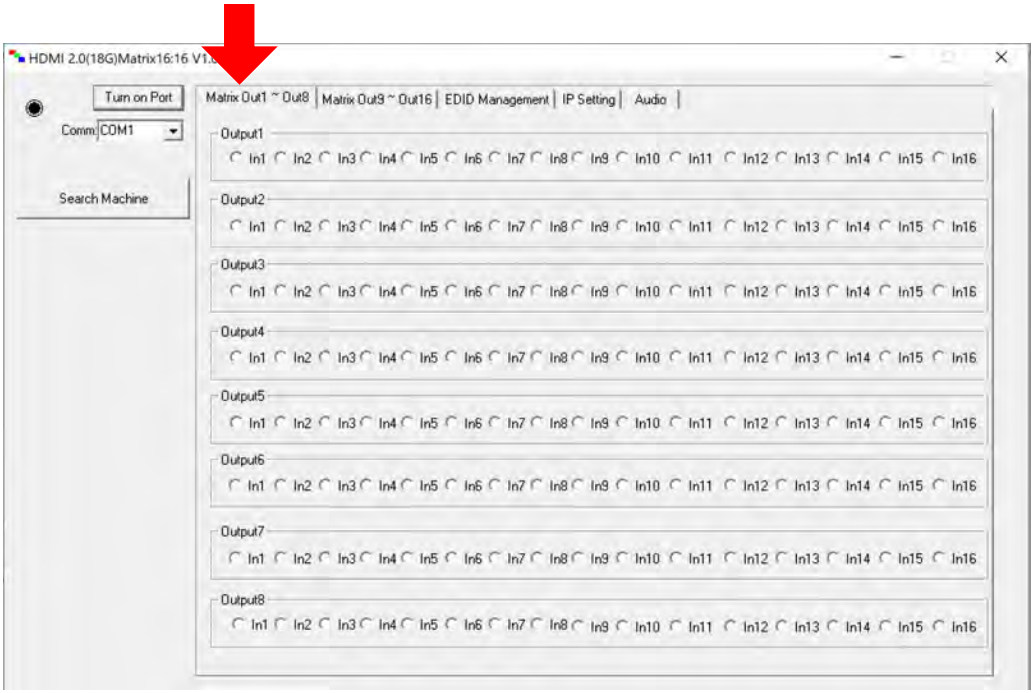
## PC Control Software - Matrix Tab (OUTPUT 1-8):

*Note: PC Control Software can be used when connected to the RS232 or Mini USB Port.*

**Switching** - Simply choose the INPUT radio button you want to see on each output.





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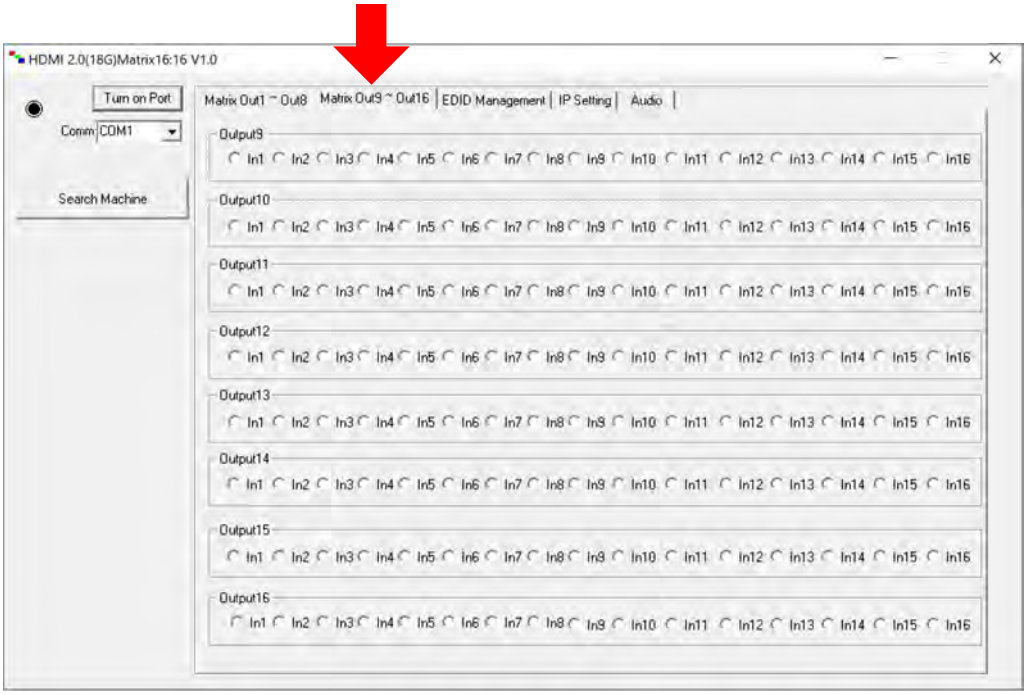
## PC Control Software - Matrix Tab (OUTPUT 9-16):

*Note: PC Control Software can be used when connected to the RS232 or Mini USB Port.*

**Switching** - Simply choose the INPUT radio button you want to see on each output.





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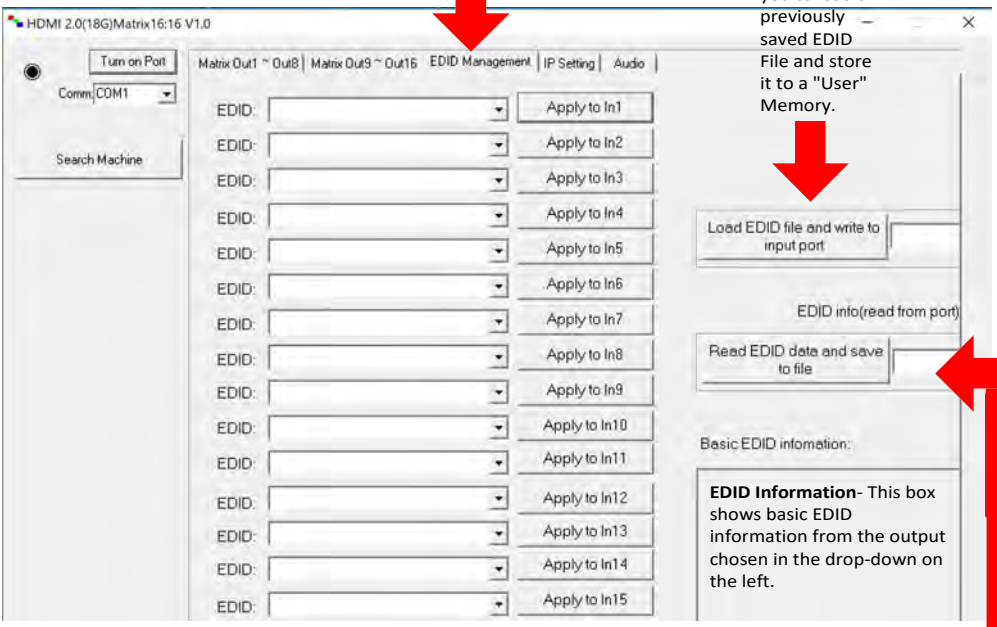
## PC Control Software - EDID Tab:

*Note: PC Control Software can be used when connected to the RS232 or Mini USB Port.*

**Set EDID -** Choose the EDID you want to use from the drop down and press "Apply to Input x" to set it.

**Load EDID**- This allows you to load a previously saved EDID File and store it to a "User" Memory.




**EDID Information**- This box shows basic EDID information from the output chosen in the drop-down on the left.

**Read EDID and save as file**- Select the Output from the drop-down and click the button to save the EDID as a file, you can upload the EDID later and apply it to one of the "USER" EDIDs. You can then apply that USER EDID to one or more of the inputs.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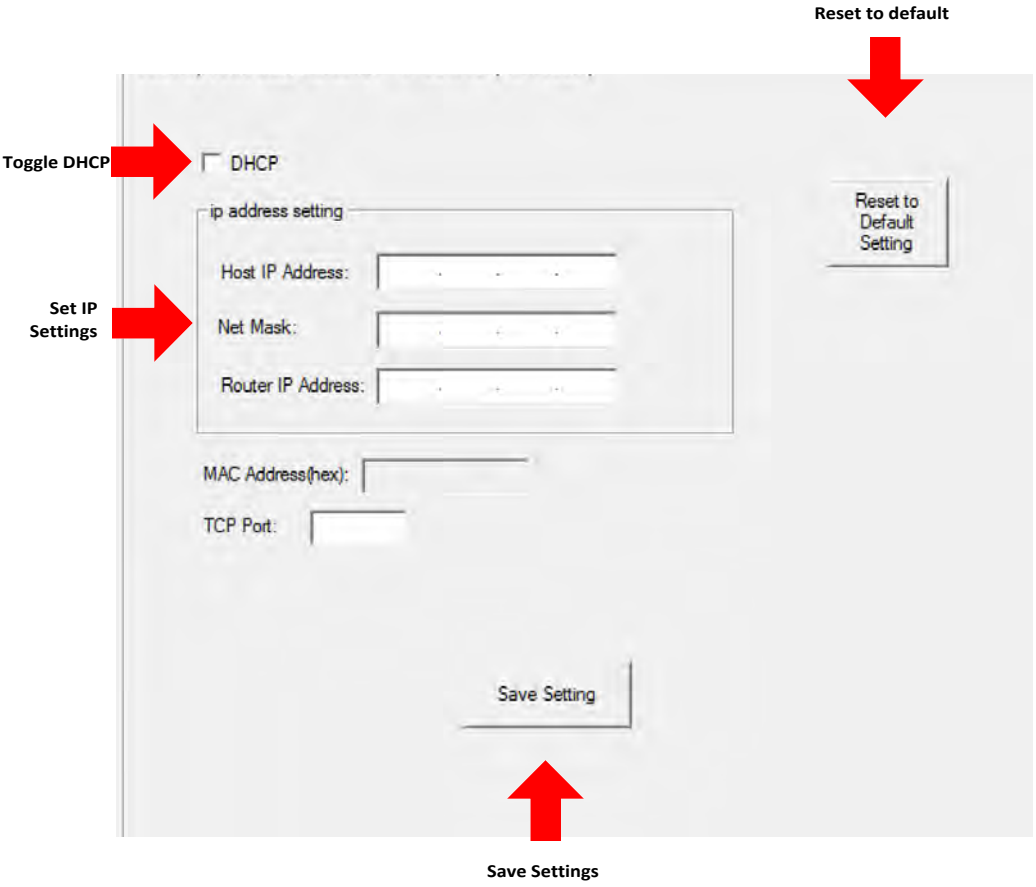
## PC Control Software - IP Config Tab:

*Note: PC Control Software can be used when connected to the RS232 or Mini USB Port.*





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## Web Interface: Sense Switch

To access the Web Interface, simply type in the IP address of the device. The default IP address 192.168.001.239, if you have setup a different IP or are not sure simply view the "Net" section on the control screen on the front panel. If you enable DHCP, you will want to find the IP address by looking on the setup screen.

The Sense Switch page is the main page of the Web Interface. Here you can easily control switching of the matrix.

NOTE: The inputs and outputs can be labeled in the "System Config" Tab.



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## Web Interface: Audio Matrix

The Audio Setting tab allows to:

**1 - Select the Ex-Audio Matrix Mode**:

- Bind To Output (Default) ~ Extracted audio will switch with the corresponding HDMI Output of the same number
- Bind To Input ~ Extracted audio will be fixed to the corresponding HDMI Input of the same number (Audio will never switch)
- Matrix ~ Extracted audio can be routed independently of the HDMI Matrix (NOTE: You can only use the "Audio Matrix" control grid when this mode is selected.

**2 - Audio Matrix** ~ This grid allows you to control the extracted audio route independently of the HDMI route. This function is only available if the Ex-Audio Mode is "Matrix".

**3 - Audio Status ~** You can turn each extracted audio port ON or OFF (Mute)



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## Web Interface: EDID Manage

The EDID Manage tab allows you to set the EDID for each input. To set the EDID:

1. Select the desired EDID form the drop down menu of the input you want.
2. Press Apply

**Available EDID's:**

0. 1080P_2CH
1. 1080P_6CH
2. 1080P_8CH
3. 1080P_3D_2CH
4. 1080P_3D_6CH
5. 1080P_3D_8CH
6. 4K30HZ_3D_2CH
7. 4K30HZ_3D_6CH
8. 4K30HZ_3D_8CH
9. 4K60HzY420_3D_2CH
10. 4K60HzY420_3D_6CH
11. 4K60HzY420_3D_8CH
12. 4K60HZ_3D_2CH
13. 4K60HZ_3D_6CH
14. 4K60HZ_3D_8CH
15. 1080P_2CH_HDR
16. 1080P_6CH_HDR
17. 1080P_8CH_HDR
18. 1080P_3D_2CH_HDR
19. 1080P_3D_6CH_HDR
20. 1080P_3D_8CH_HDR
21. 4K30HZ_3D_2CH_HDR
22. 4K30HZ_3D_6CH_HDR
23. 4K30HZ_3D_8CH_HDR
24. 4K60HzY420_3D_2CH_HDR
25. 4K60HzY420_3D_6CH_HDR
26. 4K60HzY420_3D_8CH_HDR
27. 4K60HZ_3D_2CH_HDR
28. 4K60HZ_3D_6CH_HDR
29. 4K60HZ_3D_8CH_HDR
30. User EDID 1
31. User EDID 2
32. User EDID 3



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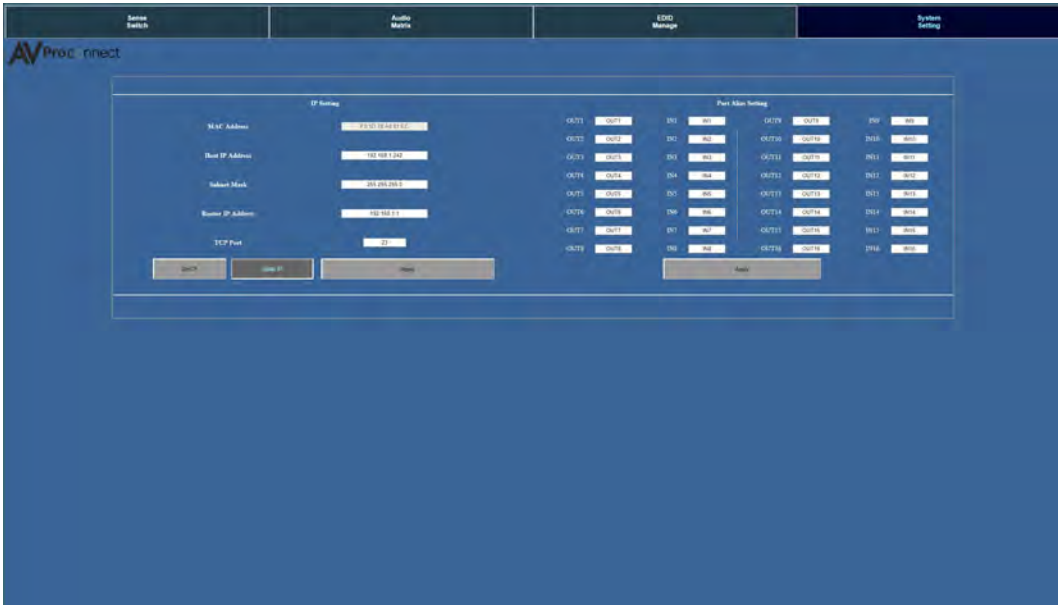
## Web Interface: System Config

The System Config tab let you achieve two functions.

1. Setting up your network (IP) settings
2. Labeling the Inputs and Outputs for the "Sense Switch" Tab

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Please contact us with any questions, we are happily at your service!

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