



# QUICK START GUIDE

# The MXNet Ecosystem consists of two major components:

1 - The MXNet hardware platform.

2 - The MXNet MENTOR setup, testing, and diagnostics app



The MXNet hardware platform, and the MXNet MENTOR web app were designed with the goal of providing an easy to setup “plug-n-play” AV-over-IP system. The MENTOR web app utilizes a feature rich collection of useful tools for making MXNet easy to configure, test and manage.

This QUICK START GUIDE was written with the first time MXNet integrator in mind. It is a basic introduction to the MXnet Ecosystem. The objective of this guide is to get you, and your MXNet system up and running in a matter of minutes.

**Next page - setting up the MXNet Hardware . . .**



# THE MXNET HARDWARE PLATFORM

**FIRST, YOU WILL NEED ONE OF THESE:**



**MXNET CONTROL BOX REV. 1**

OR



**MXNET CONTROL BOX REV. 2**

**NEXT, YOU WILL NEED A MIX OF THESE:**



**AC-MXNET-1G-T or AC-MXNET-1G-E ( ENCODER/TRANSMITTER )**



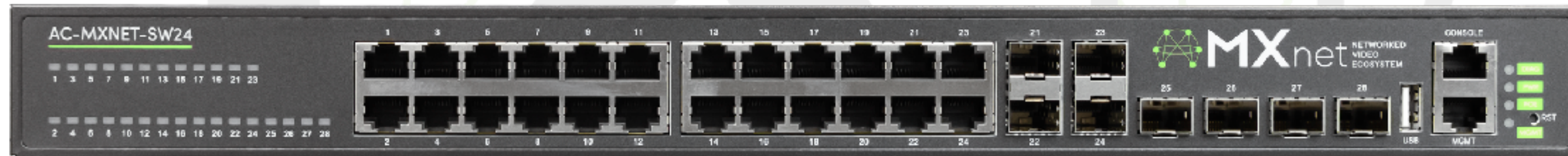
**AC-MXNET-1G-R or AC-MXNET-1G-D ( DECODER/RECEIVER )**

**FINALLY, YOU WILL NEED ONE OR MORE OF THESE:\***  
( DEPENDING ON SYSTEM SIZE )

**\*ALL MXNET SWITCHES ARE PRECONFIGURED OUT-OF-THE-BOX FOR AV over IP APPLICATIONS. TRUE "PLUG AND PLAY"**



**AC-MXNET-SW10**



**AC-MXNET-SW24**

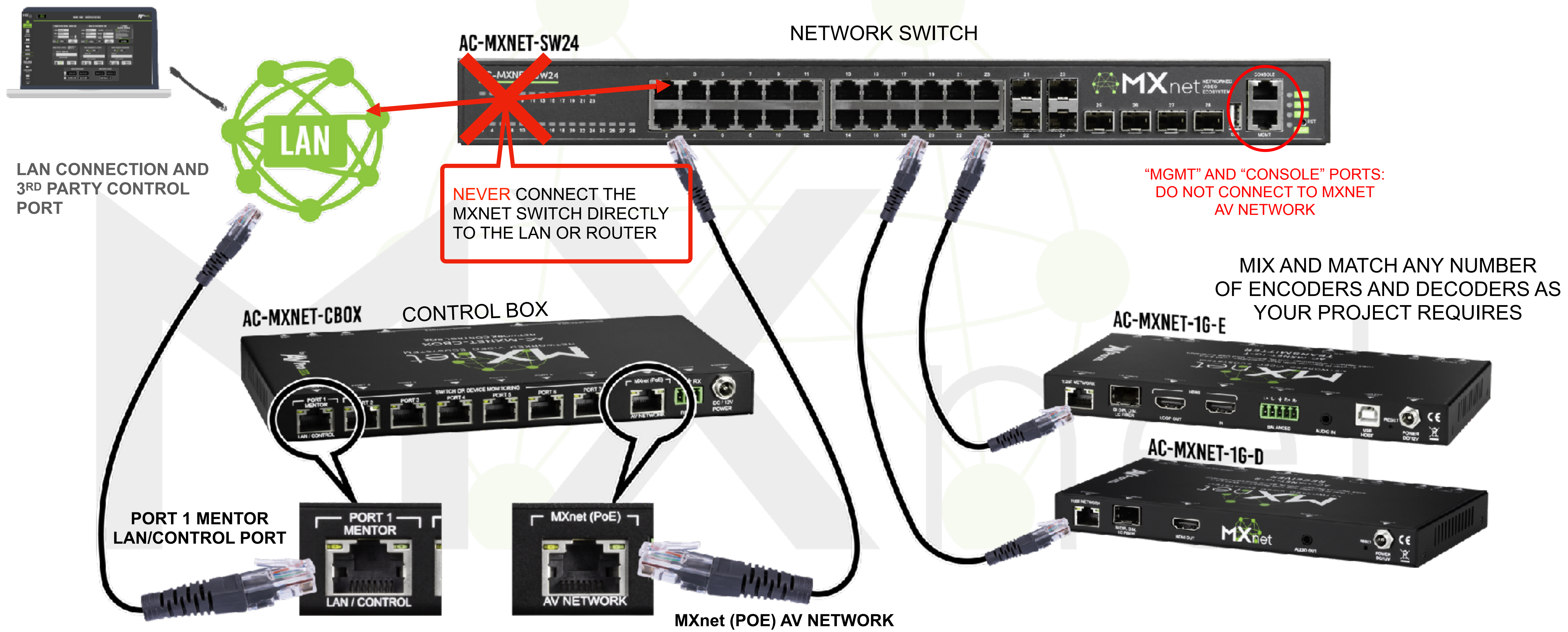


**AC-MXNET-SW48**



# MXNET EASY CONNECTION SETUP

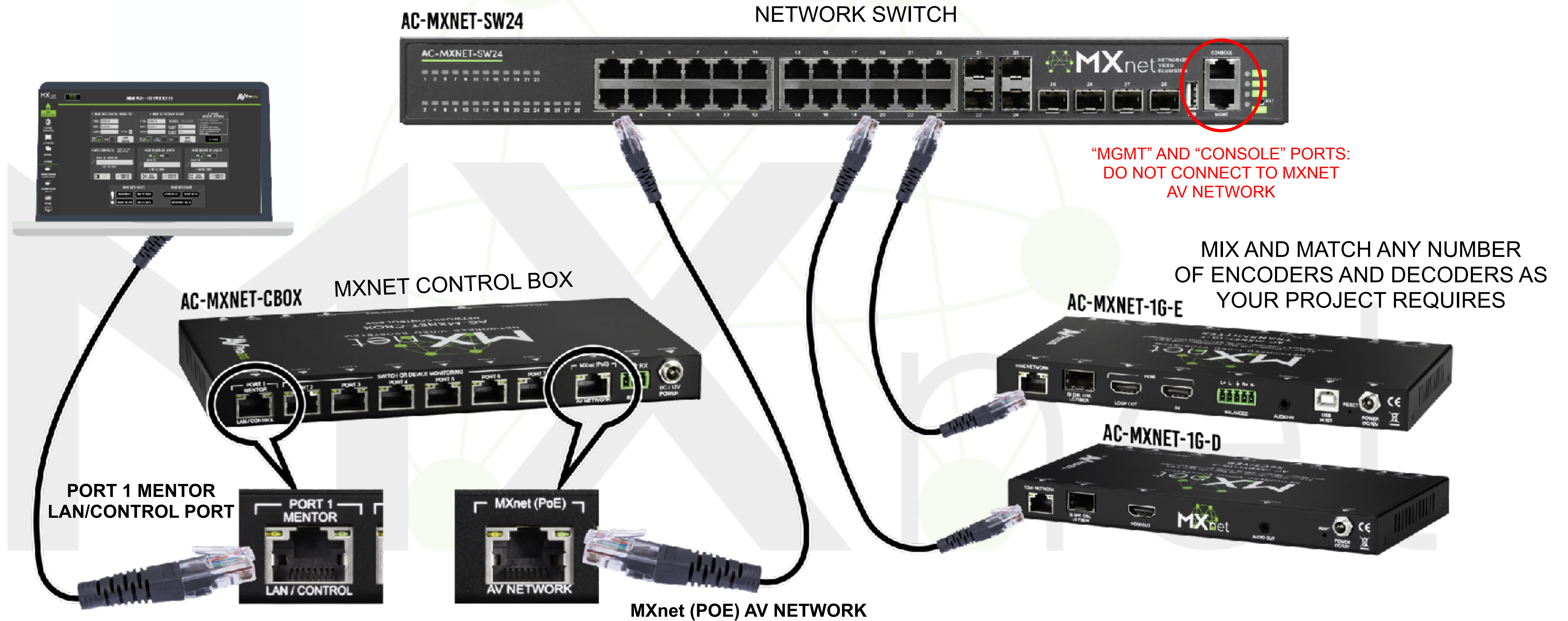
## EXAMPLE 1: NETWORK CONNECTION TO PC WITH A LAN SWITCH OR ROUTER





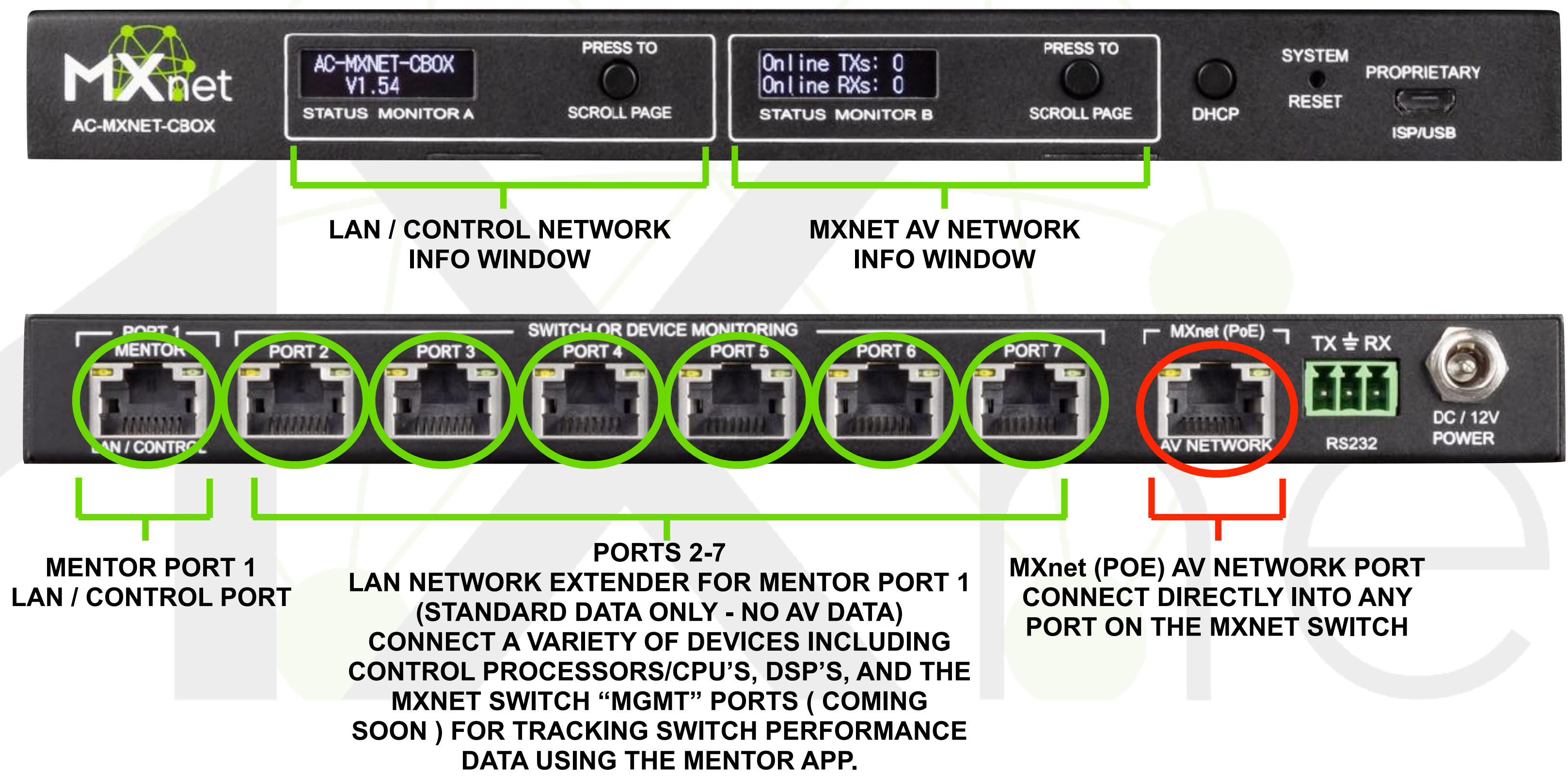
# MXNET EASY CONNECTION SETUP

## EXAMPLE 2: PEER-TO-PEER NETWORK CONNECTION TO CONTROL BOX





# THE MXNET CONTROL BOX REV. 2 A CLOSER LOOK . . .





Construct, Configure, Diagnose, Test, Control

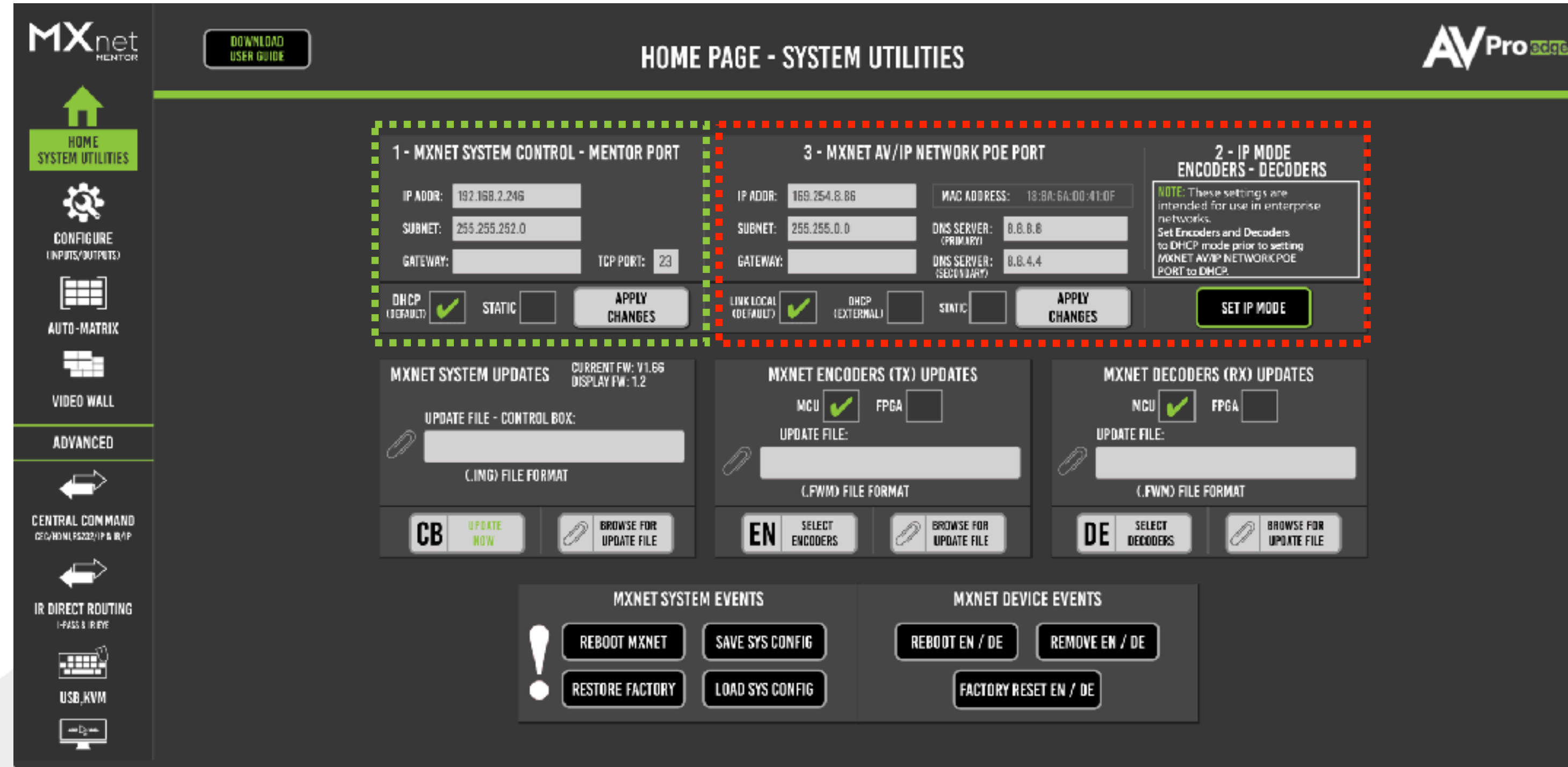
## BASIC SETUP

To access nearly all of MXNet’s features and functions, simply use a modern web browser.\* The MXNet MENTOR web app comes pre-installed on the MXNet Control Box. MENTOR is an easy to use, yet very powerful collection of tools that aid with the setup, configuration, testing and diagnostic processes.

\* For best results, consider using the Chrome or Edge (Windows Only) web browser - ( available for PC, Mac, LINUX, iOS, and Android ) . . .



### GETTING CONNECTED TO THE MXNET CONTROL BOX AND THE MXNET MENTOR APP

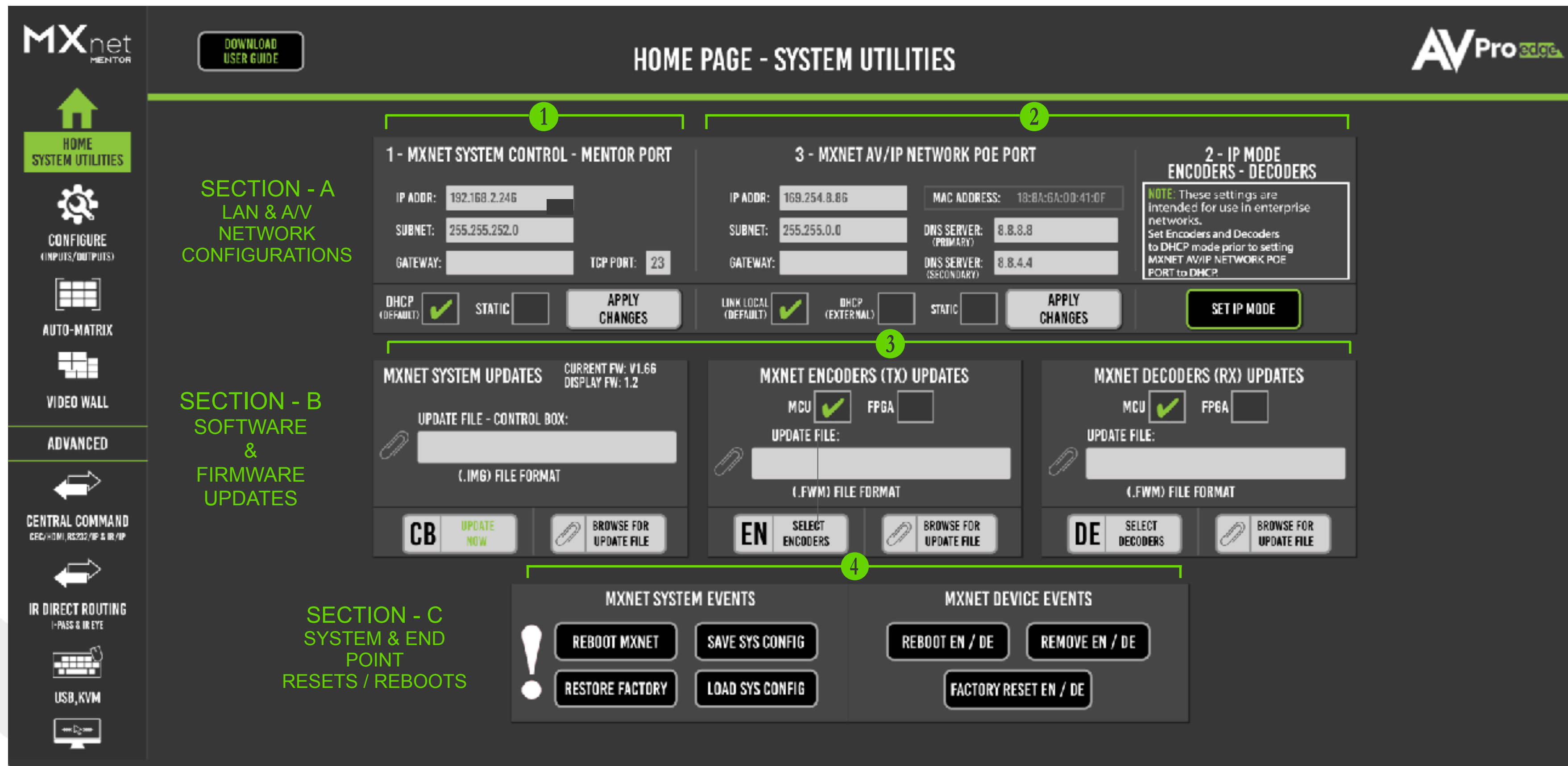


**1 - MXNET SYSTEM CONTROL - MENTOR PORT:** The MENTOR port’s factory **default IP MODE** setting is **DHCP**. However, we recommend that you change that setting to an appropriate **STATIC** address once you have successfully connected to the Control Box, and have access the MXNet MENTOR HOME page. The MXNet Control Box provides an easy method for changing the IP MODE between DHCP to STATIC and back - ( **the factory set STATIC IP address is: 192.168.1.239** - **simply press and hold the DHCP button on the front of the unit ( circled below ) for 12 seconds.** ) To verify the IP address setting, press the **“STATUS MONITOR A”** button ( **circled below** ) two or three times to scroll through all of the network settings.



**3 - MXNET AV/IP NETWORK POE PORT & 2 IP MODE ENCODER - DECODERS** — Unless this system is being installed into a large enterprise or corporate network where an I.T. Department will manage all network nodes, it should never be necessary to make any changes to this section. **LEAVE IT AT** the default “LINK LOCAL” setting.





**SECTION - A: LAN & A/V NETWORK CONFIGURATIONS**

This section provides network connection settings. It is divided into two segments:

- 1 **MXNET SYSTEM CONTROL - MENTOR PORT** - used for setting an IP address for LAN and control system processor / CPU connections. The default setting is DHCP but can be changed to STATIC once you have established communication with the Control Box and the MXnet MENTOR setup configuration WEB GUI.
- 2 **MXNET AV/IP NETWORK POE PORT** - used for changing the IP MODE for the Encoders / Transmitters and Decoders / Receivers. It is also used for setting the IP MODE for the AV/IP NETWORK POE PORT. You have three choices: LINK LOCAL (DEFAULT), DHCP (EXTERNAL) and STATIC.  
**NOTE:** Changing the IP MODE from DEFAULT to DHCP or STATIC should not be changed unless your corporate network's IT department requires it. There are also other configuration settings that **MUST** be made to the network switch prior to making this change. Please contact AVPro Technical Support for more information.

3 **SECTION - B: SOFTWARE & FIRMWARE UPDATES**

This section focuses on updating firmware for the Control Box, Transmitters / Encoders, and Receivers / Decoders. Current firmware updates can found by visiting our AVPro Edge Knowledge Base / Firmware Updates: ( <https://support.avproedge.com/portal/en/kb/avpro-edge> )

4 **SECTION - C: SYSTEM & END POINT RESETS / REBOOTS**

This section is for the most part self explanatory. MXNET SYSTEM EVENTS are system wide or global commands, whereas MXNET DEVICE EVENTS pertain to commands which are sent to the Encoders / Transmitters and Decoders / Receivers and no effect on the rest of the system.

The screenshot displays the 'ENCODER & DECODER CONFIGURATIONS' page. The 'INPUTS/ENCODERS/SOURCES' tab is active. The table below shows the configuration for four encoders:

CUSTOM NAME	DESCRIPTION	EDID MGMT	CHANNEL	IP ADDRESS(AUTO)	MAC ADDRESS(AUTO)	FIRMWARE VERSION	ENCODERS LIGHTS-ALL
BLU-RAY		User_EDID	0003	169.254.5.240	0245FBFA250A	3.21	ON
FOKU		1080P_3D_2CH	0002	169.254.4.69	188A6A003F62	3.21	ON
APPLETV-4K		User_EDID	0004	169.254.5.31	022B60528B3D	3.21	ON
ALLCNIS-V6		1080P_3D_2CH	0005	169.254.5.14	188A6A003E8B	3.21	ON

### CONFIGURE PAGE - ENCODER & DECODER CONFIGURATIONS - ( INPUTS/ENCODERS/SOURCES )

- 1 **CUSTOM NAME** - enter a CUSTOM NAME for an INPUT / SOURCE that will make it easy to identify by type of a/v source. function, etc. Press **ENTER** to save name.
- 2 **DESCRIPTION** - a field to enter additional information about the input / source device that was assigned a custom name.
- 3 **EDID MGMT** - provides the input / source with specific playback capabilities of the display at the end of the connection chain.
- 4 **CHANNEL** - multicast broadcast channel. The channel is automatically generated by the MXNet system.
- 5 **IP ADDRESS (AUTO)** - system assigned unique (LINK Local) default IP address for each Encoder.
- 6 **MAC ADDRESS (AUTO)** - unique MAC address for each Encoder's ethernet port.
- 7 **FIRMWARE VERSION** - currently installed firmware version for each Encoder.
- 8 **ENCODER LIGHTS** controls - control the lights for individual or ALL installed Encoders. There are three lighting options: FLASH (helps to locate), On, or Off.



CUSTOM NAME	DESCRIPTION	OUTPUT RESOLUTION	RETAIN HDR METADATA	IP ADDRESS(AUTO)	MAC ADDRESS(AUTO)	OSD - ALL	FIRMWARE VERSION	DECODERS LIGHTS-ALL
VIZIO-TL		4K30	YES	169.254.3.162	82D7CB431703	OFF	3.20	ON
VIZIO-BL		4K30	YES	169.254.5.126	821323E5156D	OFF	3.20	ON
VIZIO-TH		4K30	YES	169.254.5.142	826C500A34B7	OFF	3.20	ON
VIZIO-BR		4K30	YES	169.254.7.17	829DFA1DE220	OFF	3.20	ON
VIZIO-MB3		4K30	YES	169.254.7.119	820B63AE1FD3	ON	3.20	ON

### CONFIGURE PAGE - ENCODER & DECODER CONFIGURATIONS - ( OUTPUTS/DECODERS/DISPLAYS )

- 1 **CUSTOM NAME** - enter a CUSTOM NAME for an OUTPUT / DISPLAY that will make it easy to identify by type of display device, etc. **Press ENTER to save.**
- 2 **DESCRIPTION** - a field to enter additional information about the input /source device that was assigned a custom name.
- 3 **OUTPUT RESOLUTION** - choose from an extensive list of scaling resolutions starting with 720P/50 all the way up to 4K/60 . When the scalers are turned on, switching times are greatly reduced.
- 4 **RETAIN HDR METADATA** - setting this option to "YES" will cause any source to load the content metadata immediately following resolution sink.
- 5 **IP ADDRESS (AUTO)** - system assigned unique (LINK Local) default IP address for each Decoder.
- 6 **MAC ADDRESS (AUTO)** - unique MAC address for each Decoder's ethernet port.
- 7 **OSD** - the "ON" setting forces a screen data overlay including the name of the Encoder source, Decoder, MAC address, and IP address of the Decoder.
- 8 **FIRMWARE VERSION** - currently installed firmware version for each Decoder.
- 9 **DECODER LIGHTS** controls - control the lights for individual or ALL installed Encoders. There are three lighting options: FLASH (helps to locate), On, or Off.

HOME SYSTEM UTILITIES

CONFIGURE (INPUTS/OUTPUTS)

AUTO-MATRIX

VIDEO WALL

ADVANCED

CENTRAL COMMAND  
CEC / HDMI / RS232 / IP & IR / IP

INPUTS/ENCODERS/SOURCES OUTPUTS/DECODERS/DISPLAYS SYSTEM DIAGNOSTICS

SAVE CONFIG REFRESH CLOSE X

CUSTOM NAME	DESCRIPTION	NETWORK CONNECTION	CONNECTION SPEED	BANDWIDTH SETTINGS	HDMI VIDEO	HDR	COLOR DEPTH	HDMI AUDIO	HOT-PLUG DETECT/RESET	HDCP VERS	ENCODERS LIGHTS-ALL
BLU-RAY		GOOD	1G	AUTO					RESET		ON
HOKU		GOOD	1G	200M	1920X1080p/60Hz	NO	8Bit	PCM	RESET	HDCP 2.2	ON
APPLETV-4K		GOOD	1G	AUTO	3840X2160p/60Hz	YES	8Bit	PCM	RESET	HDCP 2.2	ON
ALLONIS-VE		GOOD	1G	200M	1920X1080p/60Hz	NO	8Bit	NON PCM	RESET	OFF	ON

< 1 >

### CONFIGURE PAGE - ENCODER DIAGNOSTICS

- 1 **CUSTOM NAME** - reference to the CUSTOM NAME previously entered in the CONFIGURE pages.
- 2 **DESCRIPTION** - reference to the DESCRIPTION previously entered in the CONFIGURE pages.
- 3 **NETWORK CONNECTION** - indicates the quality of the network category cable connection: Green = Good, Yellow = Marginal, and Red = NO SIGNAL
- 4 **CONNECTION SPEED** - if the NETWORK CONNECTION is GOOD the speed indicator light will be green in color. A MARGINAL signal displays as yellow. A bad signal will display as FAILED and red in color.
- 5 **BANDWIDTH SETTING** - set the Encoded throughput to as low as 200Mb or set it to AUTO which increases bandwidth to a maximum 850 Mb throughput.
- 6 **HDMI VIDEO** - displays the resolution of the source video.
- 7 **HDR** - indicates whether the source signal is sending HDR metadata or SDR metadata which is indicated as a "NO".
- 8 **COLOR DEPTH** - SDR = 8 bit, Dolby Vision = 8 bit, and HDR10 = 10bit.
- 9 **HDMI AUDIO** - indicates if the source signal is NON PCM, PCM or BIT STREAM. FLASH (helps to locate), On, or Off.
- 10 **HOT PLUG DETECT/RESET** - click on RESET to forces a sink refresh between the source and encoder HDMI connection.
- 11 **HDCP VERS** - indicates whether the signal contains HDCP 1.4, 2.2 or NONE.
- 12 **ENCODER LIGHT** controls - as previously detailed in the CONFIGURE page outline.



HOME  
SYSTEM UTILITIES

CONFIGURE  
(INPUTS/OUTPUTS)

AUTO-MATRIX

VIDEO WALL

ADVANCED

CENTRAL COMMAND  
DEC/ HDMI/ RS232/ IP B/ IR/ IP

INPUTS/ENCODERS/SOURCES

**OUTPUTS/DECODERS/DISPLAYS**

SYSTEM DIAGNOSTICS

SAVE CONFIG

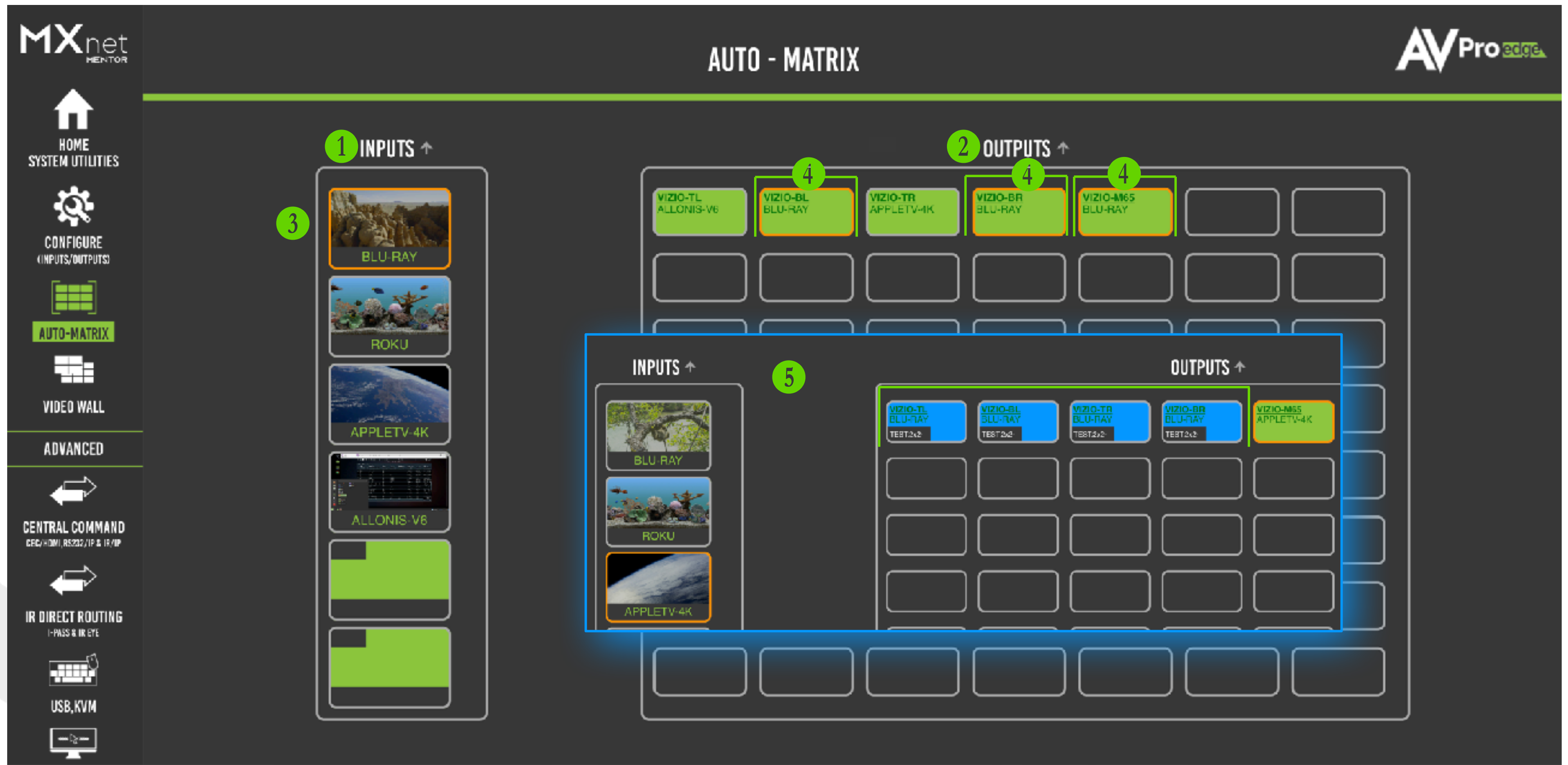
REFRESH

CLOSE X

CUSTOM NAME	DESCRIPTION	NETWORK CONNECTION	CONNECT SPEED	HDMI VIDEO	HDR	COLOR DEPTH	HDMI AUDIO	HOT-PLUG DETECT/RESET	HDCP VERS	CONNECTED SINK/DISPLAY	SOURCE ENCODERS	DECODERS LIGHTS-ALL
VIZIO-TL		GOOD	1G	3840X2160p/29Hz	NO	8Bit	NON PCM	RESET	HDCP 1.4	E43-F1	APPLETV-4K	ON
VIZIO-UL		GOOD	1G	3840X2160p/29Hz	NO	8Bit	NON PCM	RESET	HDCP 1.4	E43-F1	APPLETV-4K	ON
VIZIO-TR		GOOD	1G	3840X2160p/29Hz	NO	8Bit	NON PCM	RESET	HDCP 1.4	E43-F1	APPLETV-4K	ON
VIZIO-BH		GOOD	1G	3840X2160p/29Hz	NO	8Bit	NON PCM	RESET	HDCP 1.4	E43-F1	APPLETV-4K	ON
VIZIO-M65		GOOD	1G	3840X2160p/29Hz	NO	8Bit	NON PCM	RESET	HDCP 1.4	M657-G0	ALLONIS-V6	ON

### CONFIGURE PAGE - DECODER DIAGNOSTICS

- 1 **CUSTOM NAME** - reference to the CUSTOM NAME previously entered in the CONFIGURE pages.
- 2 **DESCRIPTION** - reference to the DESCRIPTION previously entered in the CONFIGURE pages.
- 3 **NETWORK CONNECTION** - indicates the quality of the network category cable connection: Green = Good, Yellow = Marginal, and Red = NO SIGNAL
- 4 **CONNECT SPEED** - if the NETWORK CONNECTION is GOOD the speed indicator light will be green in color. A MARGINAL signal displays as yellow. A bad signal will display as FAILED and red in color.
- 5 **HDMI VIDEO**- displays the incoming video resolution of the source.
- 6 **HDR** - whether the source signal contains HDR metadata.
- 7 **COLOR DEPTH** - indicates whether the source signal is sending HDR metadata or SDR metadata which is indicated as a "NO".
- 8 **HDMI AUDIO** - indicates if the source signal is NON PCM or PCM.
- 9 **HOT PLUG DETECT/RESET** - click on RESET to force a sink refresh between the Decoder signal and HDMI connection.
- 10 **HDCP VERS** - indicates whether the signal contains HDCP 1.4, 2.2 or NONE.
- 11 **CONNECTED SINK/DISPLAY** - the system reads the EDID display information and shows the brand or model number of the target display.
- 12 **SOURCE ENCODERS** indicates the Encoder transmitter the source signal.
- 13 **DECODER LIGHT** controls - as previously detailed in the CONFIGURE page outline.



### AUTO-MATRIX PAGE

- 1 **INPUTS COLUMN** – All connected Encoders will be displayed vertically within the column. MENTOR provides a preview image of the source signal which auto-refreshes every ten seconds.. If there are more than six Encoders installed in the system, a scroll bar will auto-appear just to the right of the input tiles.
- 2 **OUTPUTS GRID** – All connected Decoders will be displayed in horizontal rows across the output matrix border. If there are more than 56 installed Decoders, a vertical scroll bar will auto-appear on the right side of the matrix border.

### A/V SWITCHING

- 3 **SELECTING AN INPUT SOURCE: FIRST**, click on one of the “INPUTS” tiles to select the source. Notice an orange border surrounding the INPUTS tile will appear indicating that the INPUT/Encoder has been selected.
- 4 **SETTING AN OUTPUT(S) – NEXT**, click on one or more of the “OUTPUTS” tiles to set the A/V switch. Notice that an Orange border will surround all OUTPUT tiles to indicate their INPUT-OUTPUT routing.
- 5 **OUTPUTS – BLUE TILES**- indicate OUTPUTS that are members of a Video Wall array. The name of the Video Wall appears in the lower left corner of each blue tile.





The CONFIGURE and DIAGNOSTICS pages will prepare your MXNet system for integration with your chosen 3<sup>rd</sup> party control system.

The ADVANCED pages are not covered by this QUICK START GUIDE because they are strictly intended for configuring and testing of MXNet's additional features and functions prior to implementation into your project.

Please keep in mind that MXNet MENTOR ( although very powerful ) is not intended as a replacement for a dedicated control system.