AVP-DE/EN6K-102

AV Over IP 4K60 System

User Manual

Version: 20250220

Introduction

The AVP-EN/DE6K-102 is an innovative AV over IP device that transforms the distribution and management of audiovisual content across IP networks. This device stands as a beacon of flexibility and high performance, offering a comprehensive suite of features that cater to a wide range of applications.

With the AVP-EN/DE6K-102, users can experience the convenience of connecting devices through a router with the ability to flexibly allocate various functions such as video, audio, USB, RS232, and IR. The device extends its reach by using Cat5e or higher cables to deliver content and power efficiently up to 100 meters, ensuring that high-quality audiovisual experiences are not confined by distance.

The device is not only about connectivity but also about delivering an ultra-high-definition visual experience with support for HDMI and Type-C input resolutions up to 3840 x 2160@60Hz 4:4:4 create expansive video walls, configurable up to a 16x16 monitor array.

In terms of audio, the AVP-EN/DE6K-102 excels with support for multi-channel audio including PCM 7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master, and DTS:X, along with analog audio embedding/de-embedding and S/PDIF audio return. The device also facilitates remote operation of keyboards and mice via USB 1.1 and connects touch devices, cameras, etc., through USB 2.0.
Network adaptability is a key aspect of the AVP-EN/DE6K-102, with features like automatic switching between 1G Optical and 1G BASE-T ports, support for both DHCP and static IP addressing, and Power over Ethernet (POE) to power devices directly through a POE switch.

Lastly, the AVP-EN/DE6K-102 is built with robust communication options in mind, supporting protocols such as Telnet, SSH, HTTP, and HTTPS, ensuring that it can integrate seamlessly into any professional AV setup.

The AVP-EN/DE6K-102 is the epitome of an AV over IP solution that promises not just flexibility and control but also an exceptional performance that meets the demands of modern audiovisual environments.

Features

- Device connection is through to the router, video、audio、USB、RS232 and IR, Can be single or whole flexible allocation of various functions.
- Using Cat5e or above Cable, video, audio, USB, IR, RS232 and power to be delivered up to 100m.
- Supports HDMI input resolutions up to 3840 x 2160@60Hz 4:4:4.
- Supports Type-C input resolutions up to 3840 x 2160@60Hz 4:4:4.
- Supports output resolutions up to 3840 x 2160@60Hz 4:4:4.
- Supports Video wall up to 16x16 monitor.
- Supports HDR10/10+ and Dolby Vision.
- HDCP 2.2/2.3 compliant.
- Supports one-to-many, many-to-one, many-to-many applications.
- The screen can support 90°, 180° and 270° rotations and can be flexibly used in different scenarios.
- Supports USB 1.1 for keyboard and mouse remote operation.
- Supports USB 2.0 can be used for touch devices, cameras, etc.
- Supports multi-channel audio up to PCM 7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master and DTS:X
- Supports analog audio embedding and de-embedding.
- Supports S/PDIF audio return from decoder to encoder.
- Supports HDMI ARC
- Supports CEC one-touch-play and standby commands to power on and off the display
- Supports bi-directional IR pass-through, allowing control of remote source and display devices between encoders and decoders.
- Supports bi-directional serial (RS232) communication, allowing control of remote RS232 devices between encoders/decoders, or between encoders and decoders.
- Supports automatic switching of 1G Optical port or 1G BASE-T port.
- Supports DHCP and static ip address.
- Support POE, provide power to equipment through POE switch.
- Supports communications protocols of Telnet, SSH, HTTP, HTTPS.

Specification

Encoder

Video	
HDMI Input Video	HDMI 2.1, HDCP 2.2/2.3
Type-C Input Video	DP 1.2
Input Resolutions	3840 x 2160p@60Hz 4:4:4,3840 x 2160p@50Hz 4:4:4, 3840 x 2160p@30Hz 4:4:4,3840 x 2160p@24Hz 4:4:4, 1920 x 1200@60Hz,1920 x 1080p@60Hz,1920 x 1080p@50Hz, 1920 x 1080p@25Hz,1920 x 1080p@24Hz,1920 x 1080i@60Hz, 1680 x 1050@60Hz,1600 x 1200@60Hz,1600 x 900@60Hz, 1440 x 900@60Hz,1400 x 1050@60Hz,1366 x 768@60Hz, 1280 x 1024@60Hz,1280 x 960@60Hz,1280 x 800@60Hz 1280 x 768@60Hz,1280 x 720@60Hz,1280 x 720p@50Hz 1024 x 768@60Hz,800 x 600@60Hz,720 x 576p@50Hz 720 x 480p@60Hz,640 x 480p@60Hz, ,
Output Video Port	1 x female RJ-45, 1 x Optical ,1 x HDMI
Output Resolutions	Up to 3840 x 2160p@60Hz 4:4:4
Amount of data transferred	3840 x 2160@60Hz: 650Mbps (avg) / 900Mbps (max)
point-to-point Time Latency	1 frame
Maximum Data Rate	18 Gbps
Maximum Pixel Clock	600 MHz

Audio	
HDMI Input Audio Signal	Fully supports audio formats in HDMI 2.1 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X
Analog Input Audio Signal	3.5 mm stereo jack
HDMI Output Audio Signal	Fully supports audio formats in HDMI 2.1 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X
S/PDIF Output Audio Signal	Digital audio
Other	
USB Type-B/C function	USB 2.0
IR function	20-60KHz
RS232 function	Up to 115200
Power	DC 12V 3A / PoE
Dimensions (W x L x D)	210 x 143 x 32mm
Net Weight	870g

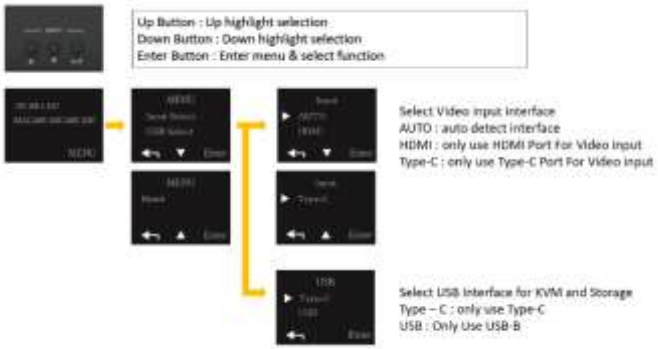
Decoder

Video	
HDMI Input Video	1 x female RJ-45, 1 x Optical
Input Resolutions	3840 x 2160p@60Hz 4:4:4,3840 x 2160p@50Hz 4:4:4, 3840 x 2160p@30Hz 4:4:4,3840 x 2160p@24Hz 4:4:4, 1920 x 1200@60Hz,1920 x 1080p@60Hz,1920 x 1080p@50Hz, 1920 x 1080p@25Hz,1920 x 1080p@24Hz,1920 x 1080i@60Hz, 1680 x 1050@60Hz,1600 x 1200@60Hz,1600 x 900@60Hz, 1440 x 900@60Hz,1400 x 1050@60Hz,1366 x 768@60Hz, 1280 x 1024@60Hz,1280 x 960@60Hz,1280 x 800@60Hz 1280 x 768@60Hz,1280 x 720@60Hz,1280 x 720p@50Hz 1024 x 768@60Hz,800 x 600@60Hz,720 x 576p@50Hz 720 x 480p@60Hz,640 x 480p@60Hz, ,
Output Video Port	1 x HDMI (HDMI 2.1, HDCP 2.2/2.3)
Output Resolutions	Up to 3840 x 2160p@60Hz 4:4:4
Amount of data transferred	3840 x 2160@60Hz: 650Mbps (avg) / 900Mbps (max)
point-to-point Time Latency	1 frame
Maximum Data Rate	18 Gbps
Maximum Pixel Clock	600 MHz

Audio	
LAN/Optical Input Audio Signal	Fully supports audio formats in HDMI 2.1 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X
HDMI Output Audio Signal	Fully supports audio formats in HDMI 2.1 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X;
Analog Output Audio Signal	3.5 mm stereo jack
S/PDIF Input Audio Signal	Digital audio
Other	
USB Type-A function	USB 2.0、USB 1.1
IR function	20-60KHz
RS232 function	Up to 115200
Power	DC 12V 3A / PoE
Dimensions (W x L x D)	210 x 143 x 32mm
Net Weight	870g

FEATURES OF THE INTERFACE

Encoder

No.	Interface Name	Functional Description
❶	Power LED	The red light is always on and the device is powered on. It is off when it is not powered on.
	STATUS LED	When the green light is flashing, it is waiting to connect to the Encoder. When it is always on, the device is connected.
❷	LCD	Show device information.
❸	SELECT	Menu selection button 
❹	IR	IR IN: Connect this port to an IR receiver for IR communication with an IR emitter at the decoder side on the network.
		IR OUT: Connect this port to an IR emitter for IR communication

		with an IR receiver at the decoder side on the network.
❺	AUDIO IN	Connect 3.5mm analog audio input.
❻	DC IN	Connect this port to the 12V 3A power adapter.
❼	RJ45	The LAN RJ45 is connected to the switch via a Cat.5E or higher cable for device control, and the equipment supports POE (Power Over Ethernet). RJ45 and FIBER cannot be used at the same time, which may cause errors in device judgment.
❽	FIBER	Connect the Optical port to the Ethernet switch using a single-mode or multi-mode SFP module, The transmission. RJ45 and FIBER cannot be used at the same time, which may cause errors in device judgment.
❾	HDMI OUT	Source local output, can be used for near-end image output monitoring
❿	HDMI IN	Connect this port to an HDMI source device.
⓫	USB-C IN	Connect this port to an USB-C source device.
⓬	S/PDIF OUT	Connect this optical S/PDIF connector for digital audio output.
⓭	USB-B Host	Connect a type A male to type B male USB cable between this port and the USB port of a computer for transmitting USB 2.0 data, or for KM over IP HID seamless switching and roaming.
⓮	RS-232	RS232 serial port for bidirectional serial communication.
⓯	RESET	Press and hold for 5 seconds, the device will reboot and return to

		factory settings.

Decoder

No.	Interface Name	Functional Description
❶	Power LED	The red light is always on and the device is powered on. It is off when it is not powered on.
	STATUS LED	When the green light is flashing, it is waiting to connect to the Encoder. When it is always on, the device is connected.
❷	LCD	Show device information.
❸	SELECT	OSD selection button 
❹	USB-A	Connect to a USB device for transmitting USB 2.0 data.

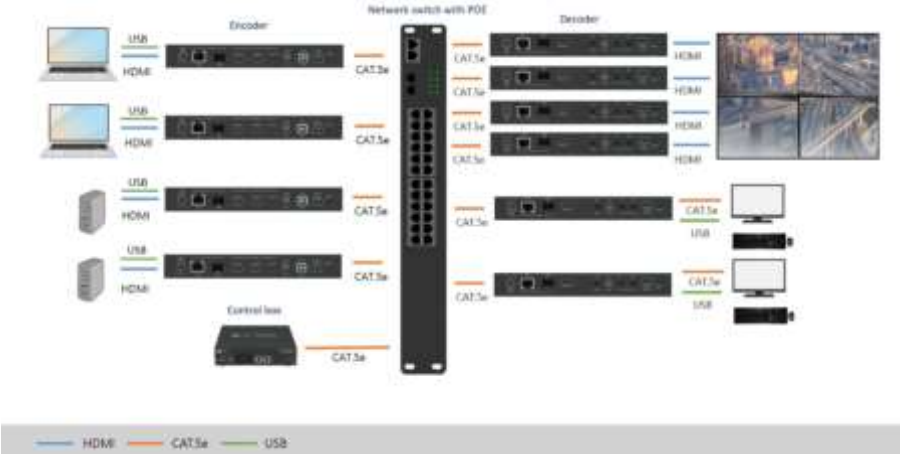
	2.0	
❺	USB-A 1.1	Connect to USB devices like a mouse and a keyboard
❻	DC IN	Connect this port to the 12V 3A power adapter.
❼	RJ45	The LAN RJ45 is connected to the switch via a Cat.5E or higher cable for device control, and the equipment supports POE (Power Over Ethernet). RJ45 and FIBER cannot be used at the same time, which may cause errors in device judgment.
❽	FIBER	Connect the Optical port to the Ethernet switch using a single-mode or multi-mode SFP module, The transmission. RJ45 and FIBER cannot be used at the same time, which may cause errors in device judgment.
❾	HDMI OUT	Connect this port to an HDMI display device
❿	AUDIO OUT	Connect 3.5mm analog audio output.
⓫	S/PDIF IN	Connect this optical S/PDIF connector for digital audio input.
⓬	IR	IR IN: Connect this port to an IR receiver for IR communication with an IR emitter at the decoder side on the network.
		IR OUT: Connect this port to an IR emitter for IR communication with an IR receiver at the decoder side on the network.
⓭	RS-232	RS232 serial port for bidirectional serial communication.
⓮	RESET	Press and hold for 5 seconds, the device will reboot and return to

		factory settings.

Operating the Devices

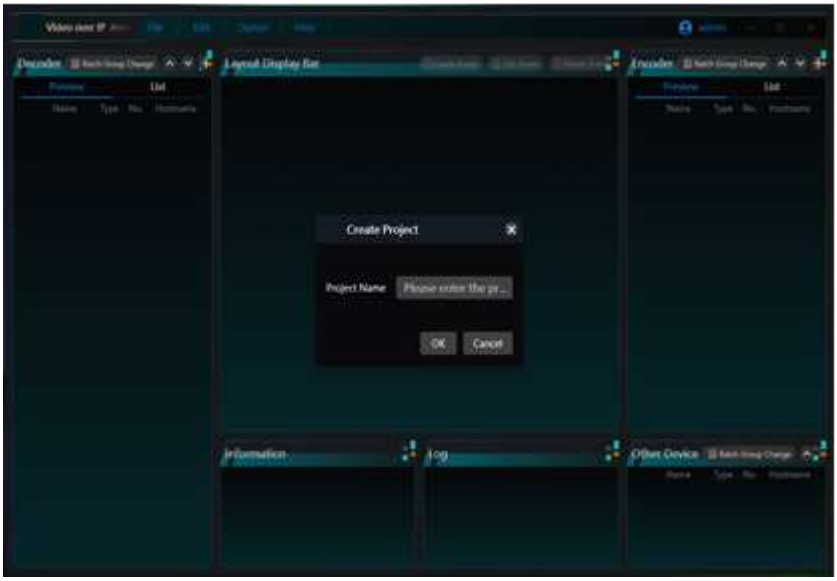
The AVP-EN/DE6K-102 series equipment requires management and control through a controller (AVP-Controller-100/101) in conjunction with software. The software supports Windows, Mac OS, and WEB UI, and allows for configuration of functions such as video, audio, USB, and more.

Typical ways of connecting

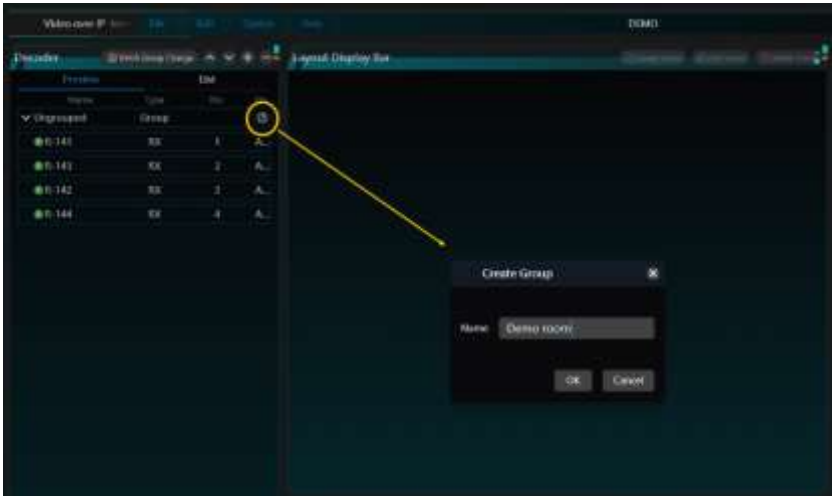


Device Connection & Software Setup How-To Guide

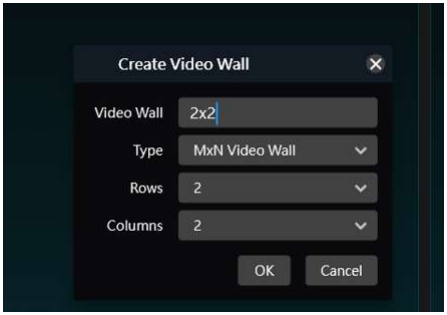
1. Connect the computer's video output to the Encoder using an HDMI Cable, then connect to the switch via Cat.5e.
2. Connect the display to the Decoder using an HDMI Cable, then connect to the switch via Cat.5e.
3. Launch the over_ip_console.exe program.
4. Log in as a user *(default account: admin, default password: admin).*
5. Create a new project.



6. Create group

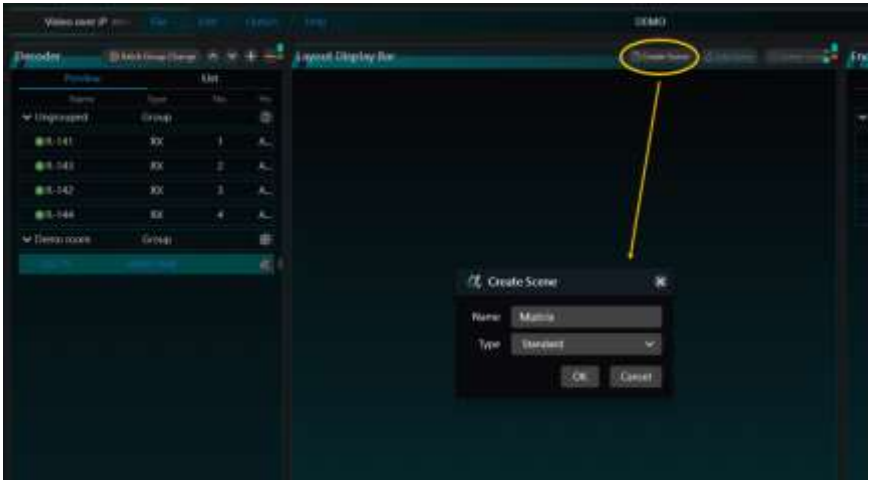


7. Create Video Wall



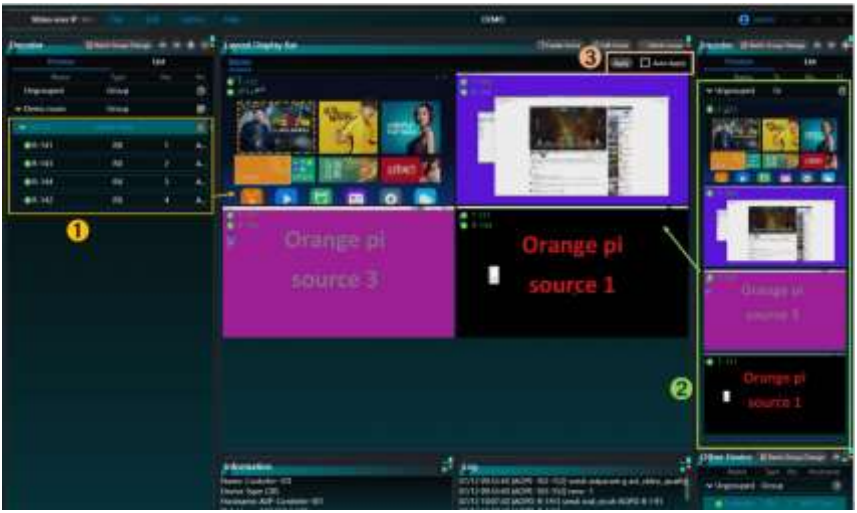
8. Create Scene

Type: Standard



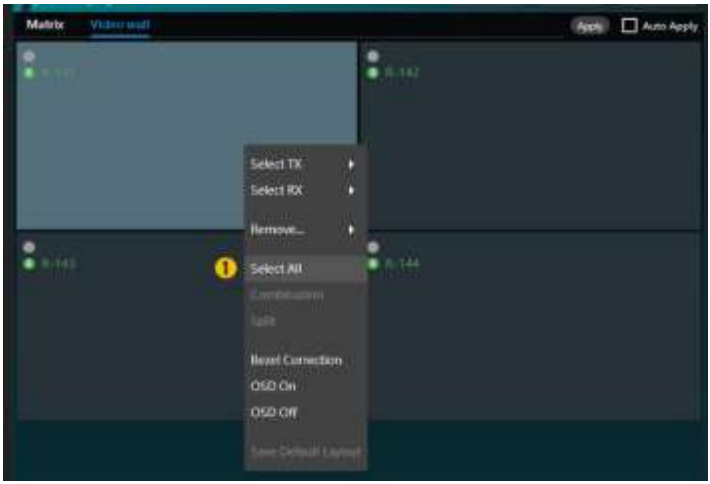
9. Matrix function settings control

Drag and place the corresponding decoder for the display into the middle layout bar. Drag and place the source encoder to be played into the corresponding display position in the middle. Click 'Apply' to complete the settings.

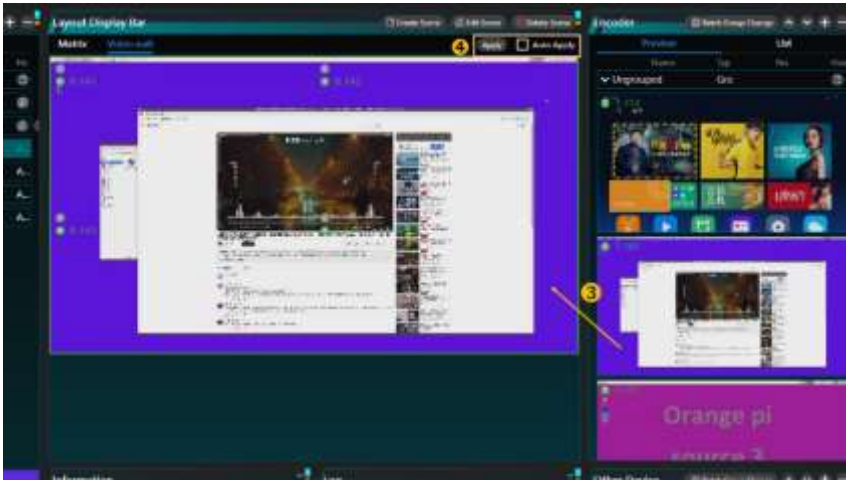


10. Video wall function settings control

You can create a new layout (repeat step 8). Right-click on the layout wall and select 'Select All', then choose 'Combination'. Once completed, you can drag and drop the video source onto the combined display.



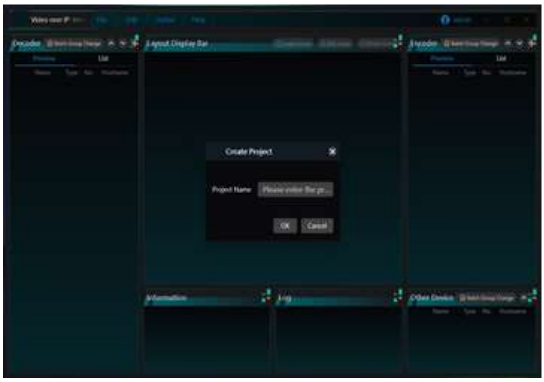

Layout Display Bar
Matrix
Video wall
Apply
Auto Apply
Select TX
Select RX
Remove...
Select All
2
Combination
Split
Reset Correction
OSD On
OSD Off
Save Default Layout


Layout Display Bar
Matrix
Video wall
4
Apply
Auto Apply
3
Orange pi

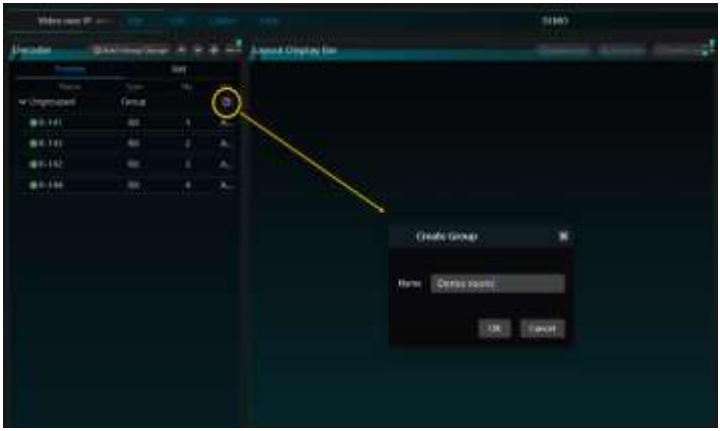
Configuring Mouse Roaming

AVP-EN/DE6K-102 series products support Mouse Roaming. With configuration you can move the mouse to the edge of the screen to control different computers in a system. They support one set of mouse and keyboard to control up to 16 host computers. The following are the setup instructions.

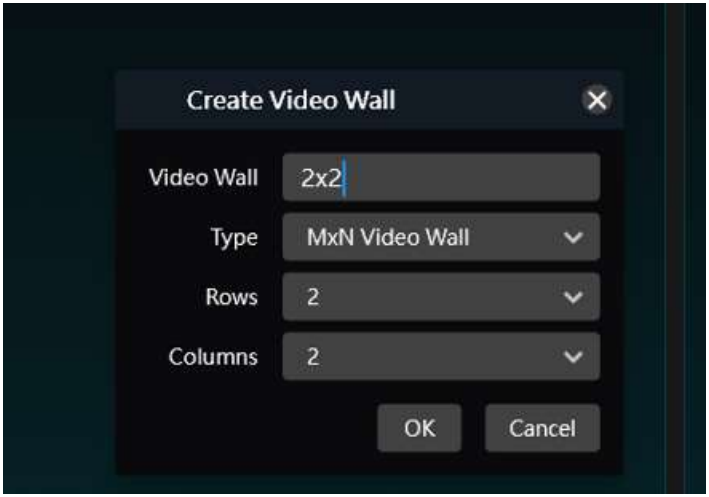
1. Connect the computer's video output to the Encoder using an HDMI Cable, then connect to the switch via Cat.5e.
2. Connect the display to the Decoder using an HDMI Cable, then connect to the switch via Cat.5e.
3. Launch the over_ip_console.exe program.
4. Log in as a user *(default account: admin, default password: admin).*
5. Create a new project.



6. Create group

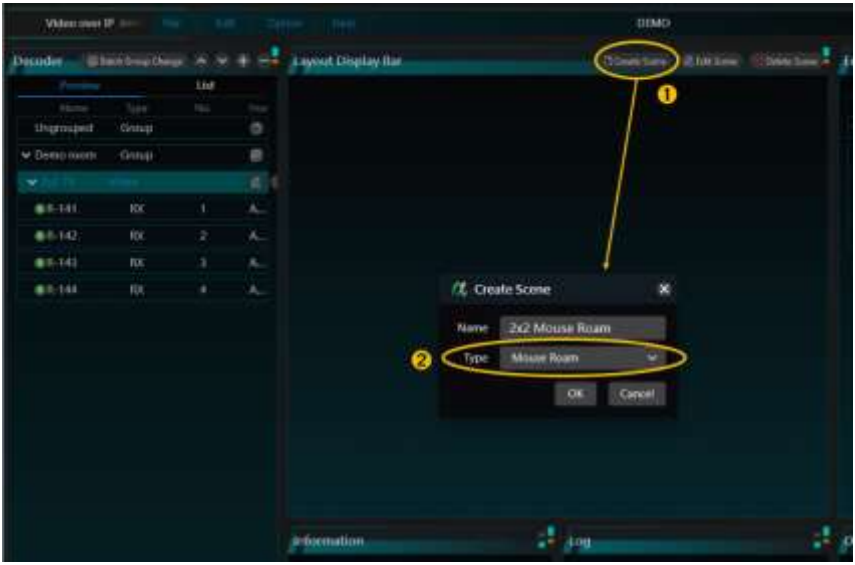


7. Create Video Wall

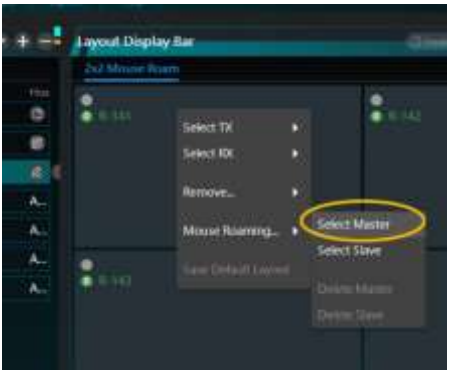


8. Create Scene

   Type:Mouse Roam



9. Configure Master and Slave.
   9.1 Right click the Decoder to which the mouse and keyboard are connected and choose Select Master.
   9.2 Right click the other Decoder and choose Select Slave.



10. Restarting the decoder will apply the settings. After rebooting, you can start controlling multiple computers