MV4 • IP Multiviewer

Simultaneously view and dynamically switch between four input streams in a variety of customizable layouts.

Overview

Visionary's MV4 is a high performance IP Multiviewer with integrated scaling and multi-windowing technology.

The MV4 IP Multiviewer is a 1RU rack-mountable windowing appliance that connects to a network and accepts up to (4) AV over IP streams from PacketAV Matrix Series ultra-low latency 4K encoders. The MV4 is designed for processing these dynamically switchable input streams simultaneously in a variety of layouts. Each input can be scaled and positioned according to default presets (such as quad view, side-by-side, Full, PiP, PaP, 3+1, etc.) or in any user-defined configuration.

With the MV4 users can mix and match input resolutions, scale any video input up to 4K UHD and route any input to any window, combining up to four sources together into a single 4K image. The combined output video is then encoded into a single stream sent to one or more PacketAV Matrix Series Decoders at resolutions up to 4K. Multiple MV4's can be cascaded to provide 7×1, 10×1, 13×1, 16x1 or higher capability.

The MV4 IP Multiviewer enables users to select audio from any of the four sources for playback — even one not currently displayed. Seamless switching ensures no frame loss during window and video transitions. Both 1080p60 (HD) and 4K (UHD) inputs can be displayed without downscaling, taking full advantage of the MV4 IP Multiviewer's remarkable image processing.

MV4 presents a paradigm shift in traditional multi-windowing technology that has until now required a separate HDMI multiviewer at each display. This flexible and scalable method of IP distributed multi-windowing allows the MV4 to be centrally located mounted in an MDF rack or anywhere else on the network, expanding capabilities while reducing installation and maintenance costs.

The MV4 IP Multiviewer is controllable via the front panel buttons along with an intuitive on-screen (OSD) Graphical User Interface, simplifying system configuration. Third-party control is supported via API.

Visionary's MV4 IP Multiviewer is an ideal solution for small and large commercial venues that require monitoring or displaying of multiple sources simultaneously. From the conference room to the control room, to the classroom, the versatile MV4 represents the next evolution in IP Multiviewer technology.

MV4 • IP Multiviewer

Features

4K Multi-viewer / 1080p Multi-viewer

- Displays four windows up to 4K UHD resolution
- Compatible with all PacketAV Matrix Encoders and Decoders
- Supports simultaneous local HDMI output & Streaming Output (LAN Port)

Seamless Independent Matrix Switching

- Simultaneously view and dynamically switch between four PacketAV input sources
- Un-interrupted screen transitions during source selections in both Full Screen and Multiview modes

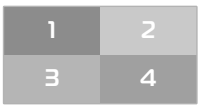
Supported Resolutions:

- Max Input/Output: 4K30 4:4:4 HDR 8 bit (3840x2160 30Hz) / 1080P60 4:4:4 HDR 12 bit (1920x1080 60Hz)
- 4K30 4:4:4 HDR 8 bit (3840x2160 30Hz) output supports up to 2-windows except in Quad Mode
- Independent Video In to Video Out resolution.
- Note: rotation only supports the same input/output resolutions

Display Modes

Supports Quad (2x2), (PIP) Picture In Picture, (PAP) Picture Aside Picture, Full Screen, and Custom Multiview layout configurations

Quad Mode:



- In Quad Mode, the screen is split into four fields of equal size each displaying the entire contents of four different video sources.
- Supports 4K30 & 1080p output

Picture in Picture (PIP) Mode:

- In PIP Mode, the full screen display of one of the four video sources is accompanied by one, two, or three small images of the three other video sources on the right hand margin of the screen allowing simultaneous monitoring.
- Supports 4K30 output (max. 2 windows)
- Supports 1080p output (max. 4 windows)

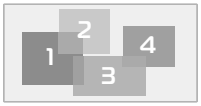
Picture Aside Picture (PAP) Mode:

- In PAP Mode, the screen is split in two fields of equal size displaying dual window side-by-side (portrait).
- Supports 4K30 & 1080p output

Full Screen Mode:

- In Full Screen Mode, one of the four video sources is displayed in full screen size and maximum resolution.
- Supports 4K30 & 1080p output

Custom Mode:



- Each video source is displayed in its own separate, detached window
- Size, position and selection of the windows are customizable
- Rotate each image 90 degrees to the left or right for a vertical mounted display
- Layer windows and adjust transparency of each video source
- 2- and 3-source viewing is possible with this method
- Maintain input aspect ratio if desired - no stretching necessary
- Supports 4K30 output (max. 2 windows)
- Supports 1080p output (max. 4 windows)

MV4 • IP Multiviewer

Features cont.

Cascade multiviewers to display video from any number of video sources on one screen

- Multiple MV4's can be cascaded to provide 7×1, 10×1, 13×1, 16×1, or higher capability
- PacketAV stream inputs and outputs mean the MV4 does not have to be located near the sources or the displays, which often have space limitations

Adjust output video brightness, contrast, color and sharpness

Auto Video Scaler & Image Rotation

- No need to worry about configuring the source resolution
- 4K in/1080P out, 1080P in/4K out
- Ultra HD/4K Up-scaling
- 4K60-to-1080p Downscaling
- The user can easily Rotate/Scale each input/window image 90˚ left and right.

Window Transparency & Border

- Transparency/Opacity/Fading - Alpha blending allows you to view content through each other
- Each window can have a border with a selectable bezel width and color

Control

- Window Scale and Position – Supports easy adjustment of window size, position and layout in the Multiview modes via front panel buttons
- Default pre-configured Multiview window presets can be accessed via front panel push-buttons
- *API providing access to the full range of features on the encoders and decoders offered to qualified System Integrators

Independent Video & Audio

- Listen to any audio source while in quadrant or Multiview modes

Dynamically Optimized (Adaptive) bit-rate compression CODEC w/ built-in AI

- Visionary's highly efficient video compression codec is a modified full frame encoding that dynamically optimizes for fine lines (computer generated graphics) or motion video by using sophisticated AI to analyze the input source content. Actively matching the level of compression to a scene by leveraging periods of low motion video content reduces the stream's size and enhances performance – enabling, without compromising image quality, Visually Lossless transmission of computer generated graphics or full-motion video sources
- Adjustable Video Bitrate: (50 – 200 Mbps or Auto [800Mbps max])

Enterprise Level Security –AES Encryption, 802.1x, HTTPS, SSH

Enterprise applications demand a secure Network AV solution

- AES Stream Encryption - The Advanced Encryption Standard, or AES, is a worldwide standard and was adopted as the standard encryption algorithm by the U.S. government for encrypting classified information
- HTTPS Secure API - Using secure SSL/TLS communications HTTPS provides integrity that a client is communicating with the real API and receiving back authentic data. It also ensures privacy for applications and users using the API
- 802.1x Authentication for Network access control - 802.1X provides a secure authentication mechanism for any device trying to access a network
- SSH Network Protocol - SSH is a network protocol used to remotely access and manage a device through command line communications. The key difference between Telnet (used by other AV over IP manufacturers) and SSH is that SSH uses encryption, which means that all data transmitted over a network is secure

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Features cont.

Dynamic OSD text overlay capabilities

- The ability to overlay dynamic or fixed text on screen enables displaying of alerts, announcements, special instructions, clocks / timers, schedules, and other messaging
- A customized text label can be added for each video window to provide easy input identification

QoS Support

- Quality of Service (QoS) is an advanced feature that prioritizes network traffic resulting in performance improvement for critical network traffic

LLDP Support

- Link Layer Discovery Protocol (LLDP) is a protocol used by network devices for advertising their identity, capabilities, and neighbors on a local area network based on IEEE 802 technology
- Allows for dynamic control of endpoints based on automatic discovery of physical location

1U tall rack-mountable enclosure, rack ears included

HDCP 2.2 Compliant

Benefits

- Locate Anywhere on the Network – PacketAV stream inputs and outputs mean the MV4 does not have to be located near the sources or the displays, which often have space limitations
- Easy Control Integration
- Ultra-low latency
- Low bitrates
- No fiber or 10 Gigabit switch required
- Low-Cost network switches are used
- Scalable / Unlimited Distribution
- Standard network cabling [CAT5e/6]
- Utilize existing network resources
- Rapid deployment
- Single network for AV and IT
- Reduced operating costs

MV4 IP • FRONT

CONTROL BUTTONS PWR

MV4 IP • BACK

ENCODER LAN OUTPUT | HDMI OUT | RESET | DECODER 1 LAN INPUT | DECODER 2 LAN INPUT | DECODER 3 LAN INPUT | DECODER 4 LAN INPUT | PWR

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Specifications

Encoding/Decoding	
Video Codec	JPEG2000 based visually lossless video compression algorithm
Bit Rates	50 to 800 Mbps
Latency	Ultra-low Latency 42ms @ 1080p60 116ms @ 4K30 4:4:4
Streaming Protocols	IP, UDP, TCP, ICMP, IGMP
Copy Protection	HDCP 2.2, AES-128 Encryption

Video	
Maximum Resolutions	High Dynamic Range (HDR) 4K30 4:4:4 HDR 8 bit 1080p60 4:4:4 HDR 12 bit 1080p30 4:4:4 HDR 12 bit
Input Signal Types (Encoder)	Up to (4) AV over IP streams from PacketAV Matrix Series ultralowlatency 4K encoders over Ethernet
Output Signal Types	1x HDMI capable of scaling and outputting video formats up to 4K30 4:4:4 1x AV over IP stream over Ethernet
Scaler	Supports a wide range of resolutions and rates, up to 4K in/1080p out, 1080p in/4K out and image rotation Integrated scaling helps optimize image quality and switching performance

Audio	
Input Signal Types	Embedded in the AV over IP stream from the PacketAV Matrix series encoder source.
Output Signal Types	• 1 Embedded AV over IP stream output. • 1 digital audio output via HDMI Independently Selectable from one of the input streams
Digital Formats	Dolby Digital®, Dolby Digital EX, Dolby Digital Plus, Dolby True HD, Dolby Atmos, DTS ®, DTS-ES, DTS96/24, DTS-HD High Res, DTS-HD Master A udio, DTS:X, LPCM up to 8 channels.

Control	
Front Panel Buttons	Control via buttons along with on-screen (OSD) Graphical User Interface
IP Control	UDP Unicast / Multicast API Control (encoder LAN port)

Connectors	
Decoder LAN 1 - 4	8-pin RJ-45 connector, female; 100BASE-TX / 1000BASE-T Ethernet ports
Encoder LAN	RJ-45 connector, female; 100BASE-TX / 1000BASE-T Ethernet port
HDMI Output	HDMI Type A connector, female; HDMI digital video/audio inputs
Power	One 120 Volt AC power input

Power	
Power Supply, Internal	1.8 Amp @ 115 Volts AC; 100-240 Volts AC power supply
Power Consumption	55 W typical

Environmental	
Cooling	Active – fans (2)
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 85% RH (non-condensing)
Heat Dissipation	up to 188 BTU/hr
Acoustic Noise	15.7 dBA (fan)

Form Factor	
Dimensions	Height: 1.74 in. (44.2 mm) Width: 17 in. (431.8 mm) Depth: 7.5 in. (191 mm)
Weight	5.73 lb.(2.6 kg)

Compliance	
	CE, FCC, C-tick, RoHS, WEEE

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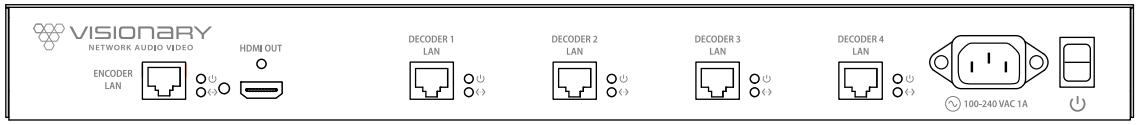
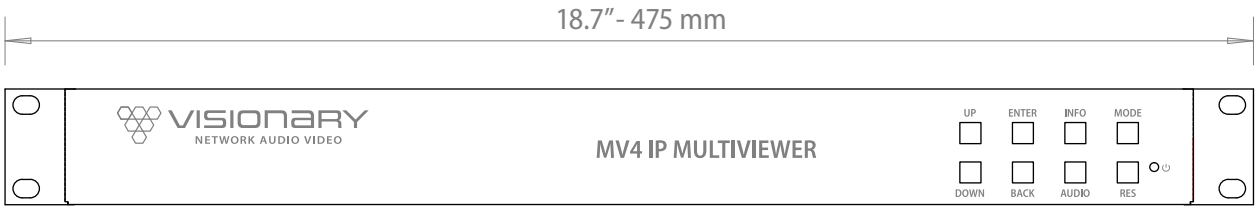
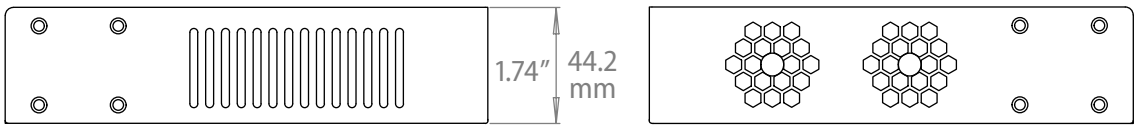
Dimensions



Back



Front



Right Side

Left Side