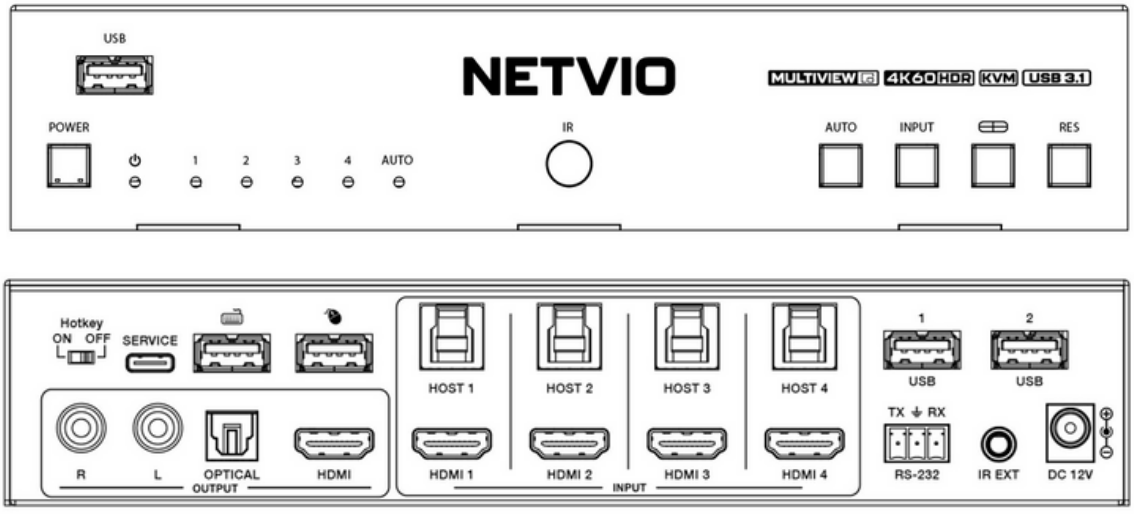
MV-H2-0401-10

NETVIO



Netvio Ltd
www.netvio.co.uk

support@netvio.co.uk

UK +44 (0) 800 464 7445
US +1-833 720 0637

Safety Information

Do not attempt to remove the product casing, as this may result in electrical shock. Repairs should not be attempted by anyone other than qualified personnel. For any service or repair needs, please contact Netvio Ltd or an authorized reseller to follow the proper service procedures. Any unauthorized repairs or the use of non-approved components will void the product warranty. For complete warranty terms and conditions, please visit: www.netvio.co.uk.

MV-H2-0401-10 – Dual-Function MultiView and KVM Solution

- The MV-H2-0401-10 is a flexible, dual-purpose device designed for both KVM operation and seamless integration with Netvio's JP4 AVoIP systems.
- KVM Mode
  - In KVM mode, it connects up to four PCs to a single display, enabling unified control via one keyboard and mouse. Users can effortlessly switch between PCs using simple hotkey commands—ideal for streamlined desktop setups.
- AVoIP Mode
  - When paired with Netvio's JP4 AVoIP series, the MV-H2-0401-10 delivers full MultiView functionality, displaying up to four source inputs on a single screen in a range of layout configurations. It integrates natively with Netvio's AppBuilder platform and is fully controllable through the NetvioGo app for an intuitive drag-and-drop user experience.
- Wider Control Compatibility
  - Drivers are also available for popular third-party control systems, ensuring broad compatibility across complex AV environments.

IN-THE-BOX

- H2 MultiView Unit
- 1 IR Remote (CR2025 not included)
- 3Pin RS-232 Connectors
- IR receiving cable.
- Wall mounted brackets
- 19" Rack mount kit
- USB to 3Pin RS-232 Cable
- 4x USB3.0 cables (PC to Multiview)
- 12V/2.5A Locking Power Supply

WARRANTY

- Standard 5-Year warranty. Details available at www.netvio.co.uk/warranty

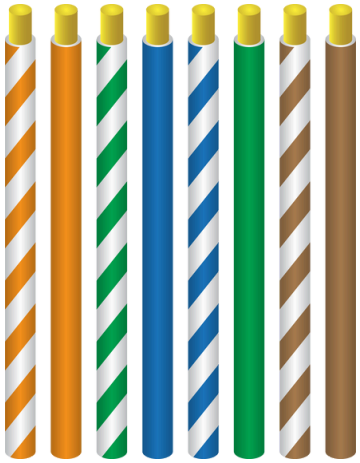
The terms HDMI and HDMI High-Definition Multimedia interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

CABLE & CONNECTIONS

Important Notice on Cable Installation and Performance

- Advertised cable distances are for reference only. Transmission distances can be influenced by various factors, including cable construction, quality, installation standards, patch panels, faceplates, and external elements such as electromagnetic interference (EMI).

- This product is designed to operate over unshielded twisted pair (UTP) Cat5e, Cat6, and Cat7 cables. When using shielded (STP) category cables, ensure that all drain wires and shielding are properly grounded.



- **COrrect Cable Wiring (568B) for 8-W RJ45 Connector**

- **RJ45 Termination Standards:**
  - Follow the EIA/TIA-568-B termination standard. Do not simply wire pin-to-pin (e.g., Pin 1-1, Pin 2-2). The 568-B standard requires splitting the green pair between Pins 3 and 6.
  - Maintain the twists in the Cat5e/Cat6/Cat7 cable pairs as close as possible to the point of termination.

- **Cable Installation Guidelines:**
  - Avoid sharp bends or twists. Use gradual bends, with a minimum bend radius of 25mm wherever possible.
  - Ensure that cables are not pulled too tightly or stretched. Excess tension can damage the cable. The maximum pulling force should not exceed 11kgf.
  - Dress the cable with moderate to low pressure, ensuring the cable jacket is not pinched.
  - Never splice, join, or bridge the cable, as this can cause significant transmission issues.

- **Electromagnetic Interference (EMI):**
  - Keep category cables at least 300mm away from sources of EMI, such as electrical cables, transformers, and light fixtures. If necessary, cross electrical cables at right angles to minimize interference.

- **Testing and Certification:**
  - After installation, ensure that the cable is thoroughly tested. A basic continuity check may not be sufficient to identify issues or certify performance.
  - Finally, always verify compliance with local building and fire codes before installation.

FEATURES

- Fully compliant with HDMI 2.0b, HDCP 2.2, and HDCP 1.x
- Supports 18Gbps video bandwidth for uncompressed 4K content
- Resolutions up to 4K@60Hz (4:4:4) supported on both input and output
- Compatible with LPCM, AC3, DD+, DTS, DTS-HD — up to 7.1 channels of high-definition audio
- Seamless input switching with multi-image display on a single UHD monitor
- One Keyboard user controlling up to 4 PCs
- Offers 8 versatile display modes:

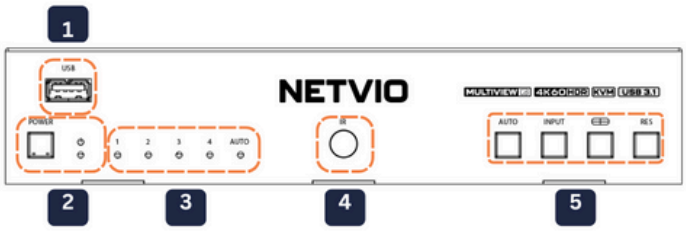


- Seamless switching in single-screen mode; fast switching in Multiview mode
- On-screen display (OSD) menu for advanced configuration
- Comprehensive EDID management for device compatibility
- Multiple control options:
  - Front panel buttons
  - IR remote
  - OSD menu
  - RS-232
  - API commands
  - NetvioGo (as part of a JP4 Series AVoIP solution)
  - Crestron & Q-SYS Drivers
- Built-In USB3.1 Gen1 Hub for peripherals connection.
- Supports wired and wireless keyboard/mouse array
- Comes with 19" 1U adaptor brackets.

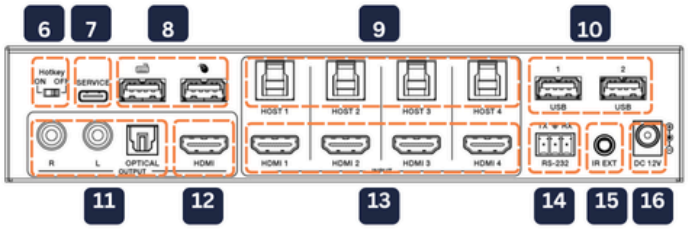
Get Prepared

Downloads available from Netvio product page:

- Software for configuration and KVM control
- Netvio360 software suite, including AppBuilder
- Drivers for Crestron & Q-SYS

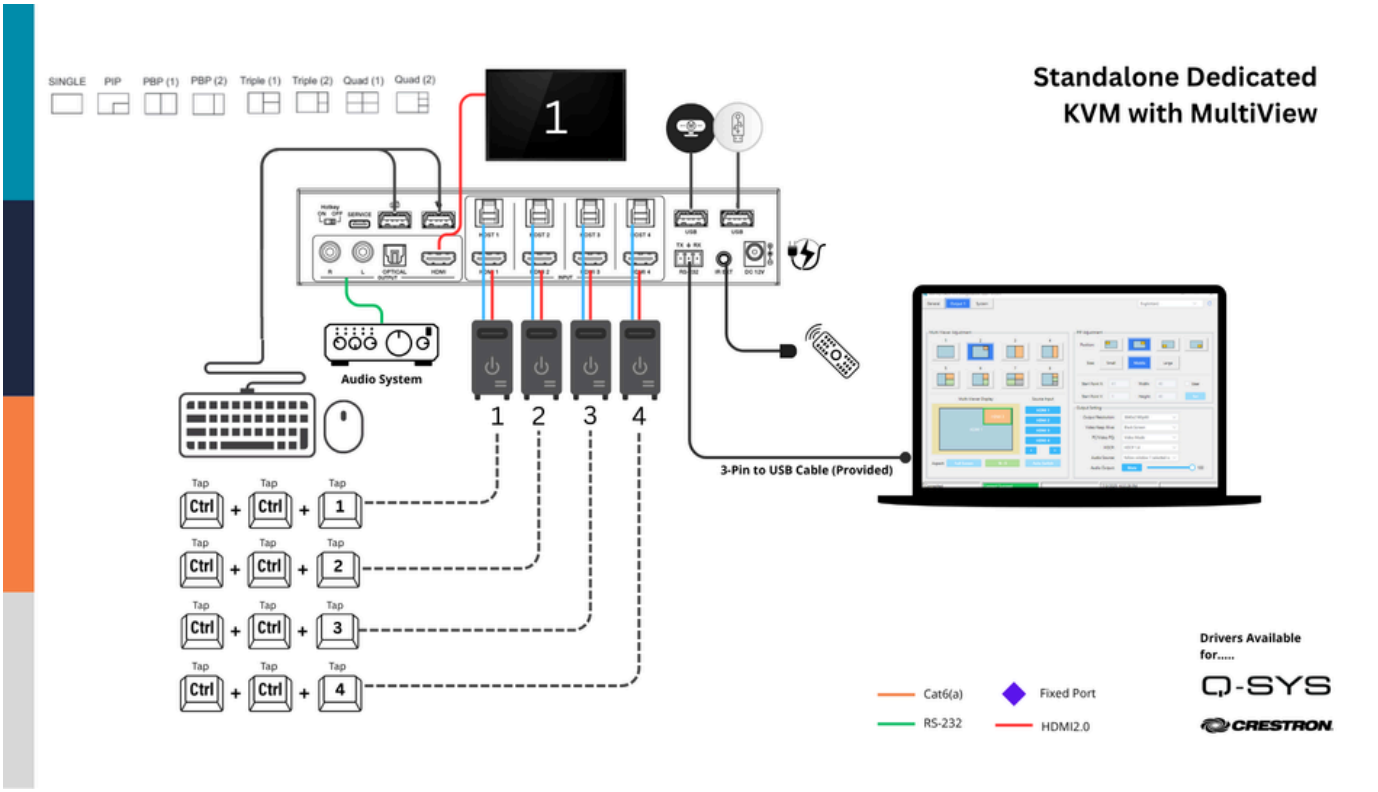


1	USB3.0 Device Input
2	Power button & Status Light | RED Standby | GREEN On
3	SIngle Screen Output Status. Auto will select last input connected.
4	IR Receiving Window
5	**AUTO** | last Input Detect (Single Screen Mode Only) **INPUT** | Sequencing between inputs (Single Screen Mode Only) **MULTIVIEW** | Sequencing between different multi-view screen formats. **RESOLUTION** | SHORT PRESS: Displays current resolution: LONG PRESS: Changes resolution, for example 1280x782 60Hz

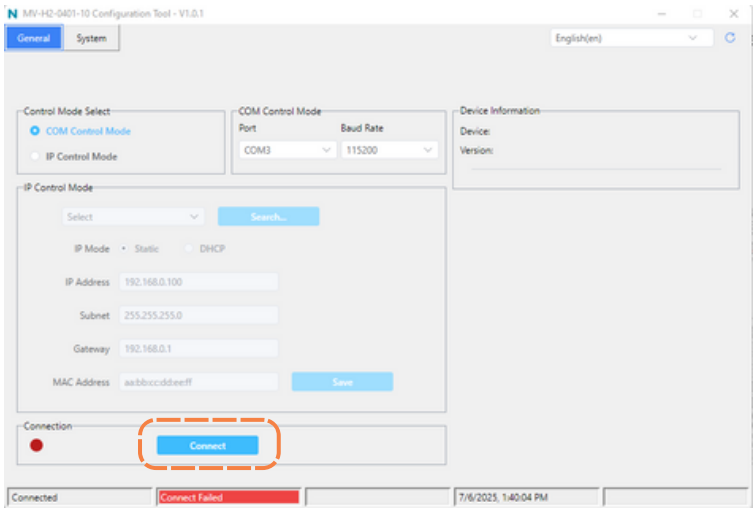


6	HOT KEY FUNCTION On/Off
7	Service Upgrade
8	USB2.0 Keyboard & Mouse Connection
9	USB3.0 Host ports. Requires additional connection of corresponding HDMI
10	USB3.1 Gen1 devices for memory, cameras, printers
11	Analog & Digital outputs for Single screen & Input 1, when if multiview mode.
12	HDMI Output (to display).
13	HDMI Input upto 18Gb 4K60. Correspondence with host ports above.
14	RS-232 port, required for software control (provided) or 3rd party control.
15	Connection for IR Extension cable (provided).
16	Locking PSU connection (12V/2.5A)

KVM MODE



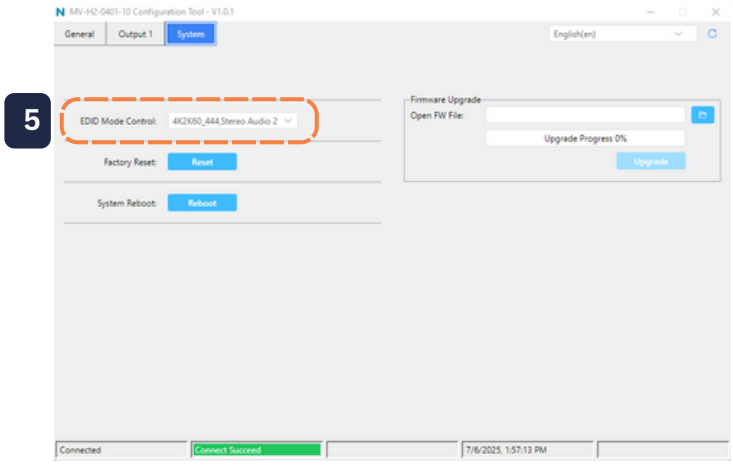
- The MV-H2-0401-10 can function as a standalone KVM/Multiview device, with control available via hotkey functions, PC software, third-party control systems, or the included remote control.
- Netvio provides basic configuration software, available for download from the product page.
- To configure the unit, use the included 3-pin (green) to USB cable to connect your PC to the MultiView device.
- Once connected, install and launch the software, then simply click the Connect button at the bottom of the window.



PLEASE NOTE:
NetvioGo functionality is unavailable in KVM mode.

MV-H2-0401-10



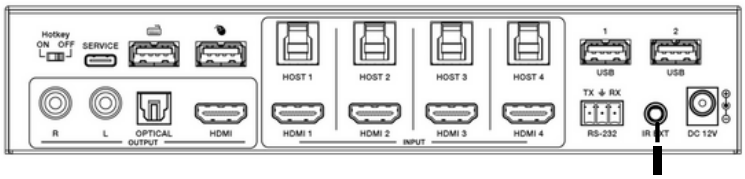


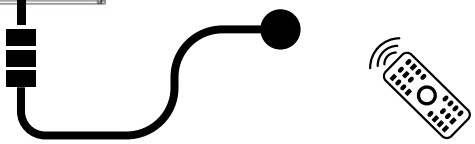
1. Changing inputs to display, including full screen or 16:9 formats
2. MultiView screen format selection.
3. Changing PiP size and positioning. ONLY compatible with PiP (option 2 mode).
4. Output settings including resolution, HDCP version and audio mode.
5. EDID adjustment according to display capability

CONTROLLING BY INFRARED (IR)









- If you have direct access to the MV-H2-0401-10, you can operate it using the included remote control.
- If the MV-H2-0401-10 is installed out of sight, you can use the included 1.5m IR extension cable, positioning the IR receiver in a convenient location that remains within line of sight of the remote control.

When using IR extension kits to control your AV sources and displays, proper setup and environmental factors can significantly affect performance. Here are some key tips and common issues to check:

- **Emitter Placement (IR Emitter on Source Device):**
  - Ensure the IR emitter is securely placed directly over the IR sensor window of the source device (e.g., Blu-ray player, set-top box). This window is often near the front panel and may be difficult to see. If unsure, refer to the device's manual or test positioning while pressing remote buttons.

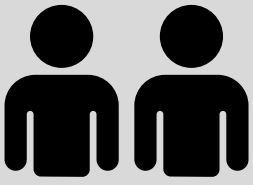
- **Receiver Position (IR Receiver or Transmitter Facing Remote):**
  - The IR receiver must be positioned in a location that has clear line-of-sight to the remote control. Avoid placing it behind TV bezels, inside cabinets, or near dark glass that might block or reflect IR signals.

- **Sunlight and Bright Lighting:**
  - Direct sunlight or strong fluorescent lighting can interfere with IR signals. Try to position the IR receiver away from windows or bright light sources. In rooms with excessive natural light, consider using a receiver with better shielding or IR filtering.

- **Signal Distance and Interference:**
  - IR extension kits typically work best within the recommended cable length. Excessive cable runs or using low-quality extension cables can degrade the signal. Also, avoid running IR cables alongside high-voltage power lines or network cables to reduce potential interference.

- **Double Check Input/Output:**
  - IR kits have specific ports for "IR IN" (receiver) and "IR OUT" (emitter). Connecting these incorrectly can prevent the system from working.

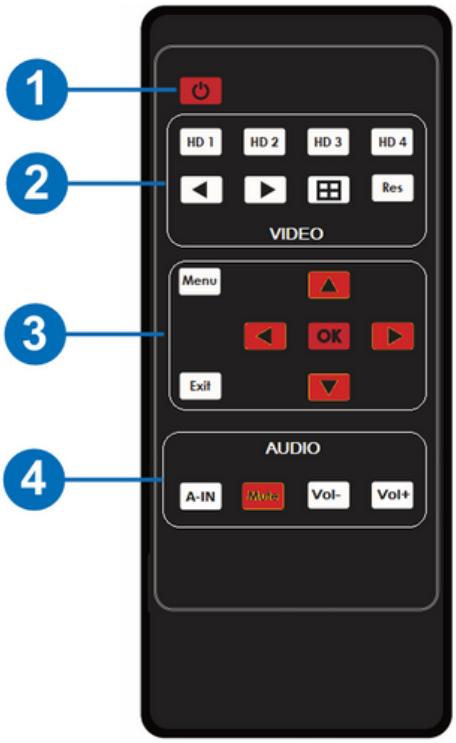
- **Test with Direct Remote Access:**
  - Before troubleshooting the IR extension, confirm the source device responds to the remote when used directly. If not, the issue may be with the remote or the device itself.



Much Easier with two people

Have one person point the remote control at the IR receiver device. They other people can be moving the IR emitter around the front panel of the source input device.

Together, you should be able to find the most responsive area. Once found secure both the receiver and emitter devices, try to avoid any movement, as this will effect the remote performance.



Safety Information

CR2025 Battery Required.

The CR2025 battery (not included) must be used and handled with care to ensure safety. Always insert the battery with the correct polarity, and avoid mixing old and new batteries.

This type of battery is small and can pose a serious risk if swallowed, particularly to children. Keep all button cell batteries out of reach of children, and seek immediate medical attention if ingestion is suspected.

Do not attempt to recharge, crush, puncture, or expose the battery to heat or open flame, as this may result in leakage or explosion. When the battery is depleted, do not dispose of it in regular household waste. Instead, take it to a certified battery recycling center or follow local regulations for proper hazardous waste disposal.

Before discarding, it is recommended to tape over the terminals to prevent accidental short-circuiting. Proper handling and disposal help protect both personal safety and the environment.

1

Power On or Standby

2

HD1 | HD2 | HD3 | HD4 : Input selection

< Arrow : Previous Input

> Arrow : Next Input in sequence

⊞ : Sequence through Multiview screen formats.

RES : Screen Reset

3

Menu : Activate On-Screen-Display (OSD)

Navigation Arrows & Select Button

Exit from OSD

4

A-IN : OSD for selection of audio source, independent from video.

The sequence of key presses relies on short key presses (tap) as opposed to holding down keys simultaneously.

MultiView Screen Options



Tap Ctrl + Tap Ctrl + Tap 1 — Move to PC 1 Control

Tap Ctrl + Tap Ctrl + Tap 2 — Move to PC 2 Control

Tap Ctrl + Tap Ctrl + Tap 3 — Move to PC 3 Control

Tap Ctrl + Tap Ctrl + Tap 4 — Move to PC 4Control

Tap Ctrl + Tap Ctrl + Tap Page Up — Next Input

Tap Ctrl + Tap Ctrl + Tap Page Down — Previous Input

Tap Ctrl + Tap Ctrl + Tap f1 — Switch to PiP Mode

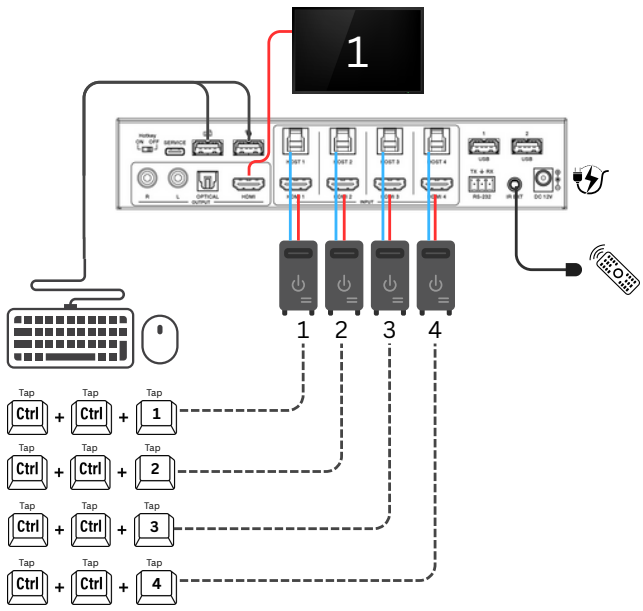
Tap Ctrl + Tap Ctrl + Tap f2 — Switch to PBP Mode

Tap Ctrl + Tap Ctrl + Tap f3 — Switch to 3Win Mode

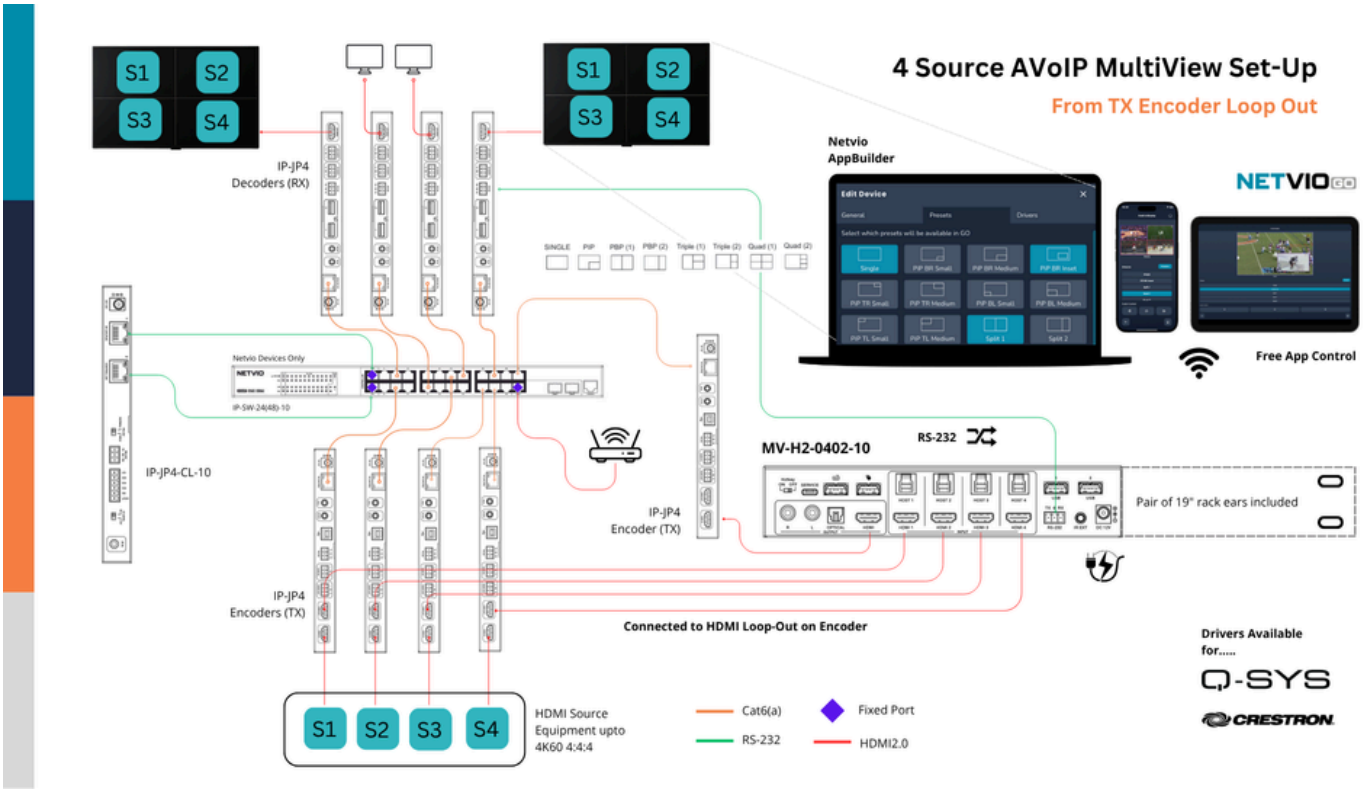
Tap Ctrl + Tap Ctrl + Tap f4 — Switch to Quad Mode

Tap Ctrl + Tap Ctrl + Tap Tab + Tap Enter — OSD

- The hot key function requires the connection of PCs with USB cables, provided in the box.
- Wired or wireless keyboard/mouse devices can be used.
- Wireless devices with a single USB receiver for both keyboard and mouse are compatible.

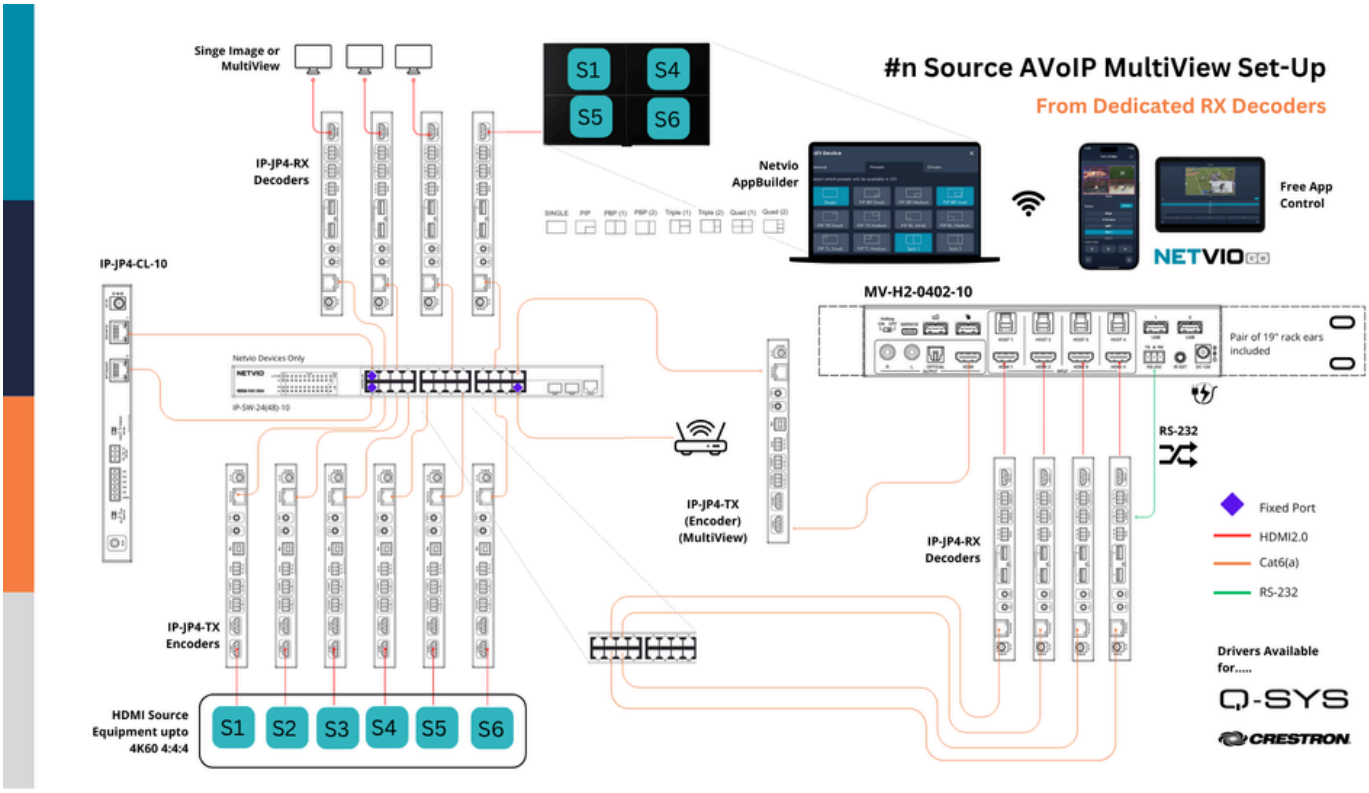


STANDARD AVOIP MODE



- The MV-H2-0401-10 can be seamlessly integrated into Netvio's JP4 AVoIP platform to enable MultiView functionality, allowing up to four video sources to be displayed simultaneously on a single screen.
- If additional input options are required, please follow the "Over 4 Video Sources" workflow instructions.
- For installations requiring up to four dedicated MultiView sources, it is recommended to connect the HDMI loop-outs of JP4 encoders directly to the MV-H2-0401-10 inputs for optimal performance.
- Control integration is supported through Q-SYS and Crestron drivers, and the setup is fully compatible with NetvioGo, Netvio's free control application for managing AV systems.
- NetvioGo provides an intuitive drag-and-drop interface, making it easy for end users to switch between different MultiView display modes.
- To configure the system, download the Netvio360 software, focusing on the AppBuilder module to design and integrate MultiView control within the NetvioGo platform.

ADVANCED AVOIP



- The main difference between a 4-input source MultiView setup and configurations with additional source options is how the inputs are connected. In an extended setup, the MultiView HDMI inputs are connected to JP Series AVoIP decoders (RX). Each decoder provides access to any source available on the network.

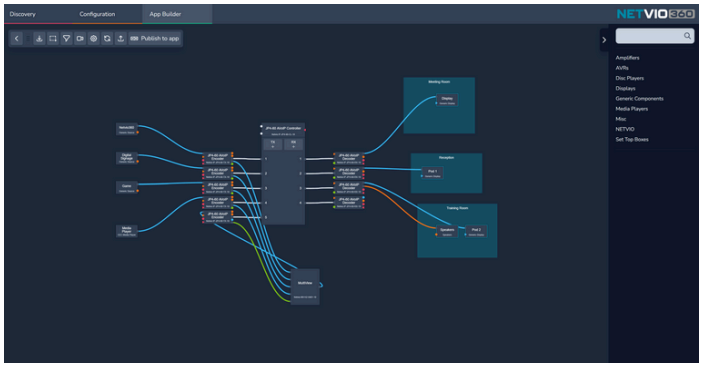
- Please note that even if more than four sources are available on the network, only four images can be displayed simultaneously.

- As mentioned earlier, control options for this scenario include Crestron, Q-SYS, or NetvioGo, with additional manual control available via the remote control or on-screen display (OSD).

APPBUILDER

AppBuilder is a free user interface design tool that allows you to create custom control apps for most Apple and Android devices. To access it, simply download the Netvio360 software suite, which includes AppBuilder as one of its integrated tools.

- The diagram below illustrates an example AppBuilder project, showing the MultiView connected to the HDMI loop-outs of the JP4 Series encoders (TXs).
- With this setup, the four sources can now be displayed on any connected decoder (RX).

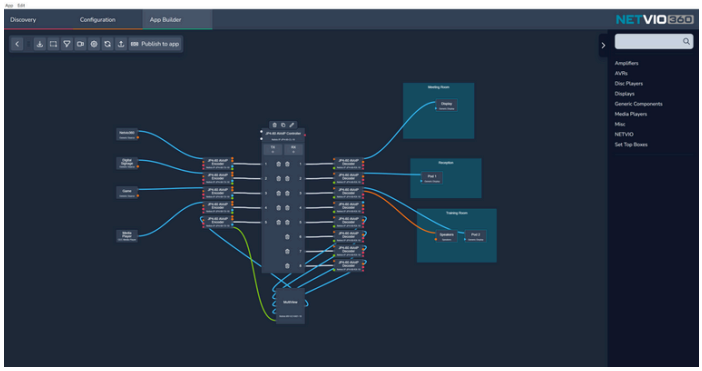


IMPORTANT – RS-232 Information

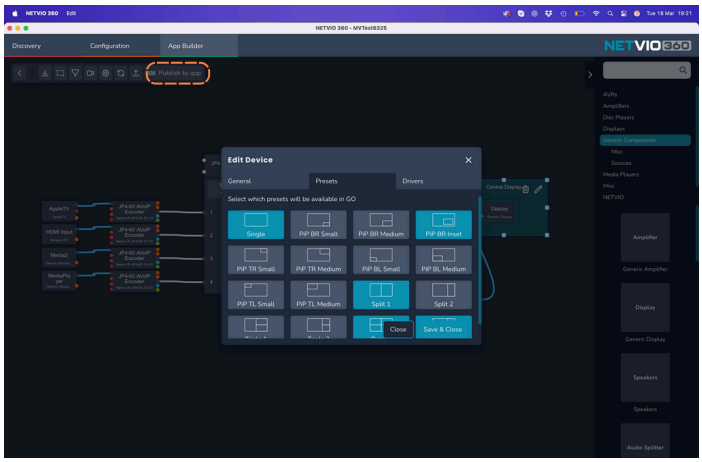
- The RS-232 connection can be made to any JP4 Series encoder or decoder, but it is crucial to correctly identify the specific JP4 endpoint that corresponds to the physical connection within AppBuilder.



- This diagram illustrates an example AppBuilder project, showing the MultiView connected to four dedicated JP4 Series decoders (RXs).
- In this scenario, any number of sources on the network can be made available to the MultiView. However, please note that only four images can be displayed simultaneously at any given time.



- When using AppBuilder, hover over the MultiView element to reveal a pencil icon, which allows you to configure the device.
- In the Presets tab, you can select the layout options you want to make available within the NetvioGo application.
- Once you have completed the selection of MultiView presets and your AppBuilder project is finished, you can press the ‘Publish App’ button at any time.
- This is a good point to ensure you have the NetvioGo application on your user device, then follow the prompts for scanning the on-screen QR code with the App.



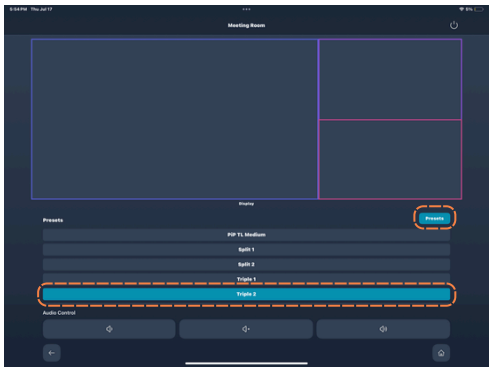
Download NetvioGo Application

You will require the NetvioGo App to complete the following sections. The App is free of charge to both installers and end-users.

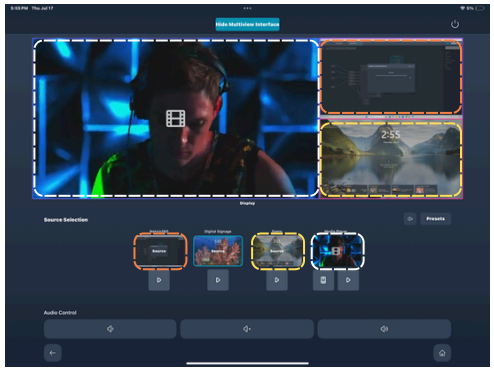
Please use the provided QR codes to download to your respective devices.



- You will see an additional option for MultiView to the left of available sources or inputs.
- Simply ‘touch & tap’ or drag the MultiView icon to the display image above.

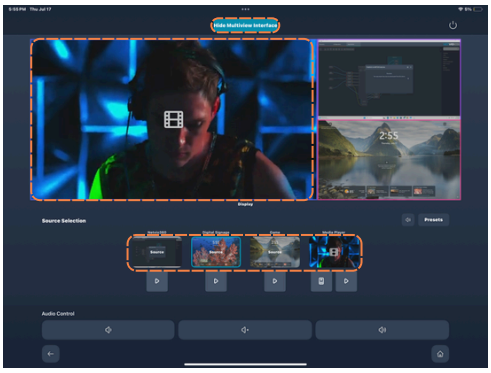


- You will be present with a blank single screen.
- You can now press the ‘Preset’ button, which will present the MultiView options that you selected from the AppBuilder process.
- Select the screen format you require, then press the select button again to close the preset menu.



- You can now select any of the input sources to any screen section. The selection will initiate the change of images on the display.
- If the switch does initiate, please check RS-232 connections and AppBuilder settings.

The RS-232 connection can be made to any JP4 Series encoder or decoder, but it is crucial to correctly identify the specific JP4 endpoint that corresponds to the physical connection within AppBuilder.



- To cancel MultiView and return to normal operation, please follow these steps:
  - Press any source input preview.
  - Press 'Hide MultiView' button at the top of the screen.
  - Pressing the screen below will cancel MultiView, place the MultiView option back to available source inputs.

MECHANICAL

- **Weights & Dimensions**
  - MultiView | 220mm (W)100mm (D) 44mm (H) | Weight 443g
- **Power Supply**
  - Input: AC100 - 240V 50/60Hz Output: 12V 2.5A (US/EU, CE/FCC/UL approvals).
- **Power Consumption**
  - 18.48 W (max)
- **Operating Temperature**
  - 32 - 104°F / 0 - 40°C
- **Storage Temperature**
  - -4 - 140°F / -20 - 60°C
- **Relative Humidity**
  - 20 - 90% RH (no condensation)
- **Product Certifications**
  - CE, UKCA, FCC

Drivers & API

Third-party drivers are available for **Crestron and Q-SYS**. If an additional driver is required, Netvio will review most requests favorably.

A dedicated API document is also available for download on the product page at www.netvio.co.uk.

TERMS OF USE

FCC Statement (U.S. Only – If Device Emits RF)

- This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:
  - (1) This device may not cause harmful interference.
  - (2) This device must accept any interference received, including interference that may cause undesired operation.
- Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CE Compliance Statement (EU Market)

- This product complies with the essential requirements and other relevant provisions of the Radio Equipment Directive (2014/53/EU), EMC Directive (2014/30/EU), and Low Voltage Directive (2014/35/EU), where applicable."

WEEE Directive (EU Market)

- Do not dispose of this product as unsorted municipal waste. Return it to a designated collection facility for the recycling of electrical and electronic equipment."

RoHS Compliance Statement

- This product complies with the Restriction of Hazardous Substances (RoHS) Directive 2011/65/EU, as amended by Directive (EU) 2015/863."

Data Privacy / Network Disclaimer (For IP/Networked Devices)

- This device may store or transmit data over IP networks. It is the user's responsibility to ensure the network environment is secured and configured in accordance with IT policies."

Product Liability Disclaimer

- The manufacturer is not responsible for any loss of data, revenue, or property resulting from the use or misuse of this product. Installation should be performed by qualified personnel."

Environmental and Safety Use Conditions

- This device is intended for use in a pollution degree 2 environment. Operating temperature: 0°C to 40°C. Relative humidity: 10% to 90%, non-condensing."

Limitation of Warranty

- Warranty does not cover damage resulting from accident, misuse, unauthorized modification, or operation outside the product's intended use and environmental conditions. Go to www.netvio.co.uk for full warranty conditions.



Warranty Returns

If you have any concerns regarding the performance of your Netvio product, please contact our support team at **support@netvio.co.uk**.

If troubleshooting does not resolve the issue, we can arrange a replacement either directly or through your regional distributor.

To help us process your request quickly, please include details of where the product was purchased and provide a proof of purchase document.

Subject to fault confirmation, verification that the product has been used within its intended design scope, and confirmation of ownership period, a replacement item will be provided.

The terms HDMI and HDMI High-Definition Multimedia interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.