

Simplifying
Complexity

NETVIO



USER GUIDE

MX-H2-0404-10 V2

AUDIO | VIDEO | SOFTWARE



4x4 Matrix MX-H2-0404-10

NETVIO

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GRAB & GO



- IP Settings: DHCP (auto assigned without DHCP)
- Serial Settings: 115200 Baud, 8n1
- Default User Name/Password: admin/password
- Factory reset: Press & hold output 2 for 40 seconds (front panel LEDs will flash)
- Network settings reset: Press & hold output 1 for 40 seconds (front panel LEDs will flash).
- Netvio 360 download: www.netvio.co.uk
- Netvio GO APP download: www.netvio.co.uk
- Product instruction videos: www.netvio.co.uk/matrix/mx-h2-0404-10

Support: support@netvio.co.uk | Instant Chat | UK (0870) 448 7001



Watch the latest instructional videos for the MX-H2-0404-10 at www.netvio.co.uk/products/mx-h2-0404-10



Read safety information & installation guidelines. Find a safe home for your matrix device.



Read cabling recommendations & connector termination requirements. Test cabling before connecting Netvio devices.



Download the Netvio360 configuration software from www.netvio.co.uk



Connect Netvio device and PC/MAC to the same network.



Download the Netvio GO free AV control application for each end-user device using the following QR codes.



Safety Information



Attempts to remove product casings could result in electrical shock. Please do not attempt to repair the device. In the event of product service requirements, please contact Netvio Ltd or an authorised reseller for service procedures. Any unauthorised attempt to repair the product or attempts to replace components with non-approved parts will invalidate the product warranty. For full warranty conditions, please visit www.netvio.co.uk

Quick Start Guide

Thank you for purchasing this Netvio product. The quick-start-guide is designed to provide all required information to install your product successfully, ensuring correct installation standards, therefore guaranteeing performance in accordance with published features and specifications. Netvio therefore greatly appreciates your time in reviewing the provided information and following our recommended guidelines.

MX-H2-0404-10

Compact yet powerful 4x4 HDMI Matrix delivering 4K/60 4:4:4 HDR capability over 18Gbps pure HDMI outputs. The H2-0404 includes a host of free-on-board features including onboard scaling, audio distribution outputs, ARC capture as well as compatibility with Netvio's 360 embedded configuration utility and Netvio GO end-user full spectrum AV control applications.

NETVIO 360



Before starting the installation, we recommend that you download the Netvio 360 utility software from www.netvio.co.uk. This provides easy configuration of the H2 matrix. In addition, 360 provides the gateway to the Netvio GO AV control application for Apple and Android devices. You will require the product serial & product part number as a part of the software validation process.

Warranty

- 3-year standards parts & labour warranty.
- Additional 2-years subject to online registration within 90-days of installation.
- Safeguard 10-Year | 10% option available.
- Full warranty terms & conditions & online registration available at www.netvio.co.uk

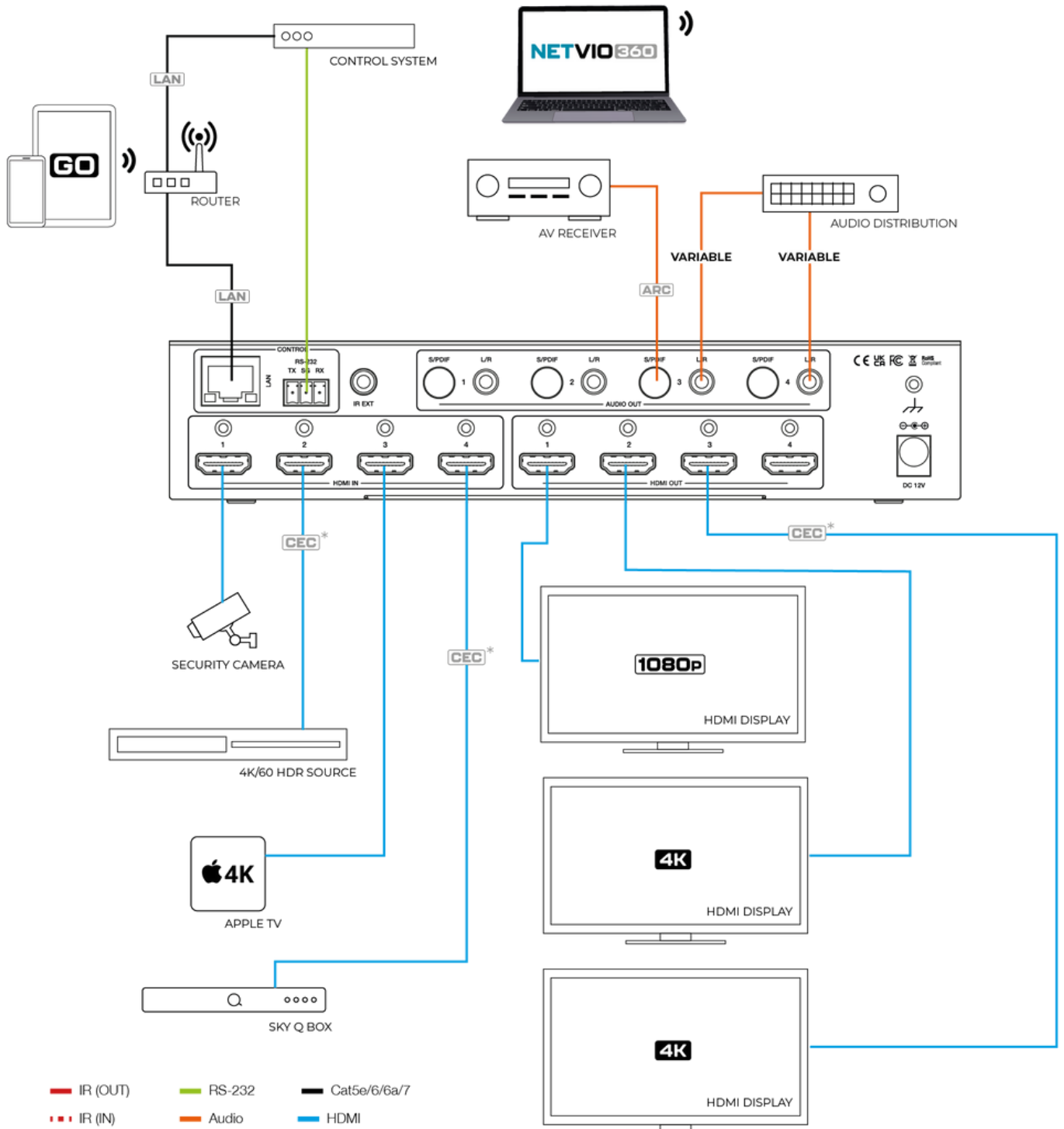
In the box

- 1no. Netvio matrix device
- 1no. Regionalised power supply
- 1 pair of 19" mounting brackets
- 1no. IR receivers
- 1no. 3-Pin serial connector
- 1no. master remote

Important Installation Guidelines

- Prior to configuration, please ensure the matrix is properly seated on a flat, secure surface or housed in a suitable rack shelf with ample space for airflow and heat dissipation. Avoid direct contact with sources of heat such as heating systems or audio amplifiers. Operating environment should not exceed stipulations of 0°C / +40°C | 20% - 90% RH
- A suitable wired or wireless network with a router supporting DHCP (Dynamic Host Configuration Protocol) is required where both Matrix and computer are connected to the same network.
- If a suitable router or DHCP server is not available, a direct network connection between computer and Matrix is supported, with both computer and Matrix set to auto assign IP addresses, where Netvio360 will discover the device and guide you through the set-up.

System wiring suggestion



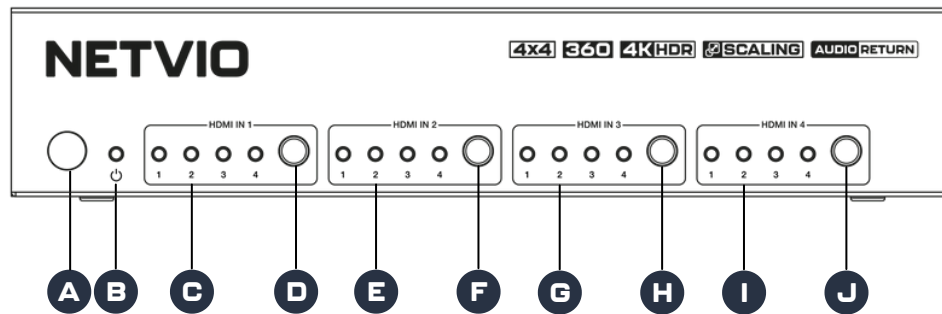
* CEC control subject to device function and compatibility

Product Features

- 4x4 HDMI multi-functional audio, video & control matrix.
- Compatible with all latest standards including HDMI2.0b & HDCP2.2.
- Supporting latest (18Gb) digital audio & video standards including HDR-10, HLG, Dolby Vision, DTS-X and Dolby Atmos.
- Accepts popular high bandwidth HDMI media sources & displays.
- All outputs support 4K/1080p scaling.
- ARC capture and extract from all connected displays to both analog & digital zoned outputs.
- Control via RS-232 or LAN. 3rd Party control drivers available.
- Cost effective SafeGuard enhanced product protection for up to 10-years for 10% additional cost.
- Netvio GO - Free full spectrum AV control APP for Apple and Android devices. Supports full API including video switching, volume, media source and display control. Control methods include bi-directional CEC & IP, without the need for additional system hardware.
- Netvio 360 – Free cross platform discovery, configure, optimise & design software.

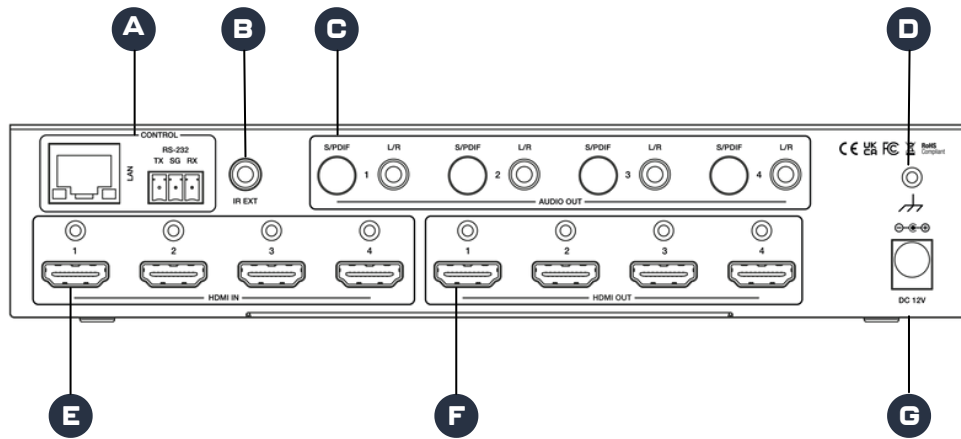


Front Panel



- | | | |
|----------|----------------------|--|
| A | Power Button | Use any of the output numbers to select a display, followed by a video input button below, to initiate a manual video switch. |
| B | Power LED | LED Power On |
| C | HDMI OP-1 Status | Use any of the output numbers to select a display, followed by a video input button below, to initiate a manual video switch. |
| D | Input Selection OP-1 | Dual purpose function. In normal operation with short presses, it allows you to cycle through input sources for the connected display . However if this button is pressed and held for 40s it will reset all network settings , returning to factory default. The LEDs on the front of the unit will flash to confirm. |
| E | HDMI OP-2 Status | LED display showing status of input/output, current IP settings, RS-232 settings & EDID input status for each output. Use the MENU button to scroll through options, using arrows to navigate. Use MENU to return to home position. |
| F | Input Selection OP-2 | Dual purpose function. In normal operation with short presses, it allows you to cycle through input sources for the connected display . However if this button is pressed and held for 40s it will reset all settings , returning to factory default. The LEDs on the front of the unit will flash to confirm. |
| G | HDMI OP-3 Status | Red LED indicates that standby mode is active. |
| H | Input Selection OP-3 | Use any of the input selection buttons after selecting the required output to initiate a manual video switch. |
| I | HDMI OP-4 Status | One button press to initiate output 1 to input 1, output 2 to input 2 etc. |
| J | Input Selection OP-4 | Area to focus direct IR commands |

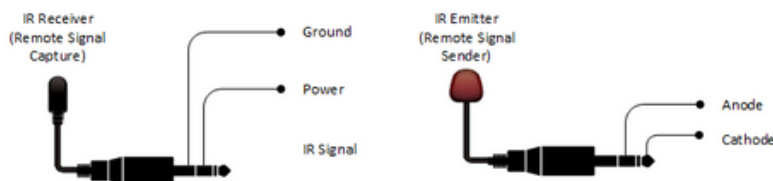
Rear Panel



- | | | |
|----------|----------------------|--|
| A | Communication Ports | RJ-45 network connection for IP control. DHCP (auto assigned without DHCP). Required connection for use with Netvio 360 configuration utility. RS-232 serial communication via 3-pin connector. |
| B | Global IR Input Port | Provides overall basic control limited to switching & routing video inputs and outputs. Can be used in conjunction with basic IR remote which is included. |
| C | Audio Outputs | Zone dedicated analog and digital outputs. S/PDIF supporting multi-channel. 3.5mm jack socket supporting L/R stereo audio. Both outputs can operate simultaneously. Volume controlled through API or Netvio GO applications for iOS, iPadOS and Android. |
| D | Ground Connection | Ground screw for 3mm tag. |
| E | HDMI Media Inputs | Capable of accepting latest 18Gb 4K/60 HDR sources. Connection should be made with good quality HDMI leads (not supplied) |
| F | HDMI Outputs | Capable of supporting latest 18Gb 4K/60 HDR sources. Connection to displays should be made with good quality HDMI leads (not supplied). For longer transmission distances consider active-optical-fiber cables. |
| G | Power Input | Connection of supplied 12v power supply. Netvio does not support non-approved PSU. Please contact your distributor or Netvio should a replacement be required. |

IR Accessories

- Netvio strongly recommends the use of provided IR accessories. Netvio does not support 3rd party IR components because certain voltage requirements can not be guaranteed. Positioning of IR devices is critical to satisfactory performance. It is often a 2-person task. 1-person firing remote commands from the display area. 2-person finding the best position on media source. Moving the IR emitter around maybe needed to find the sweep spot.
- IR devices that use the same IR commands will likely receive the commands from other outputs emitters, even if placed on a different shelf. IR bounces off surfaces, so even if there is no direct line of site, multiple units may respond to each command. Netvio recommends the use of IR emitter shields to prevent this from happening.
- Although we do not recommend the process, Netvio understands that cable modifications maybe needed to connect to some 3rd party devices. Please see the following schematics.
- A basic IR remote is provided to testing purposes or to provide IR frequencies for a learning remote. Basic operation includes the selecting of the required output, followed by the input selection.



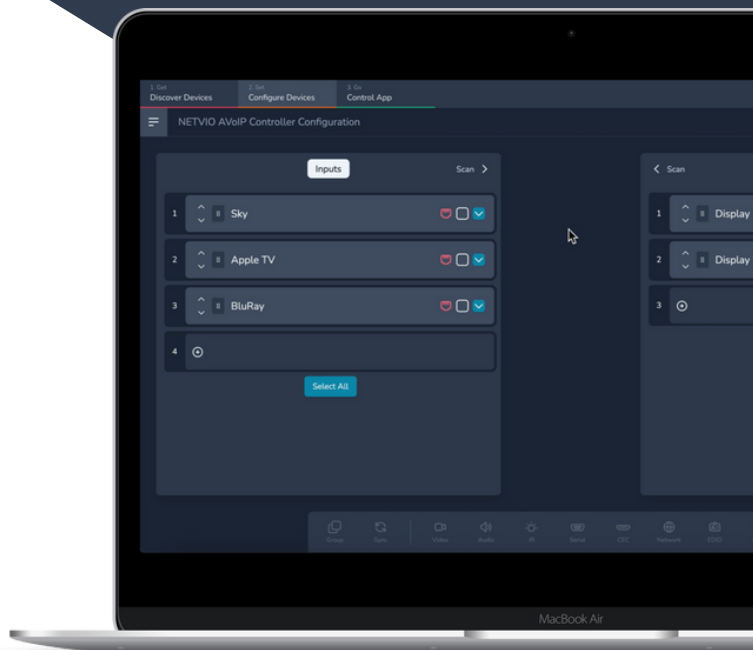


NETVIO 360 | NEXT LEVEL DEALER INTERFACE

Netvio 360 is a brand new dealer interface for multiple technologies which provides auto discovery, configuration and product optimization. Connect PC or Mac and Netvio device to the same network, start the 360 application, hit auto-discovery, and then sit back and see devices populate the screen.

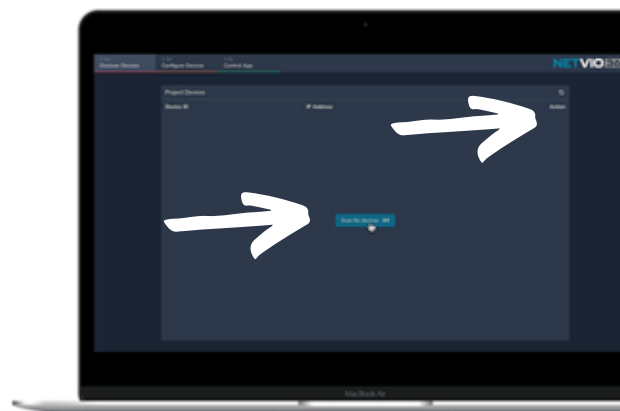
The 360 dealer utility provides all configurations, in an easy to follow user-interface. Advanced settings includes:

- Video functions including scaling settings per output.
- EDID configuration.
- Powerful Audio menu including ARC
- Advanced security settings.



Getting started.

- Ensure you have downloaded the latest version of Netvio 360 from www.netvio.co.uk/download - software is available for both Mac and PC.
- You may get a series of warnings flagged by anti-virus software. As long as you have downloaded the 360 software direct from the Netvio website, there is no security risk to your PC or MAC.
- A suitable wired and wireless network with a router supporting DHCP (Dynamic Host Configuration Protocol) is required where both matrix and computer are connected to the same network.
- A direct cabled connection between computer and matrix is supported, with both computer and matrix set to auto assign IP addresses, where Netvio 360 will auto discover the matrix and guide you through the set-up.
- Once you have downloaded the Netvio 360 utility and established the matrix and computer on the same network, launch the 360 utility and **Scan for devices**. Once discovered, hit **configure**.
- Netvio 360 is an intuitive software platform, with many settings easily on hand. In most cases product default settings will be sufficient, but further settings are available and highlighted at the bottom of the screen.



More in-depth instructional videos on how to use Netvio 360 including more advanced set-ups can be found at www.netvio.co.uk/products/mx-h2-0404-10



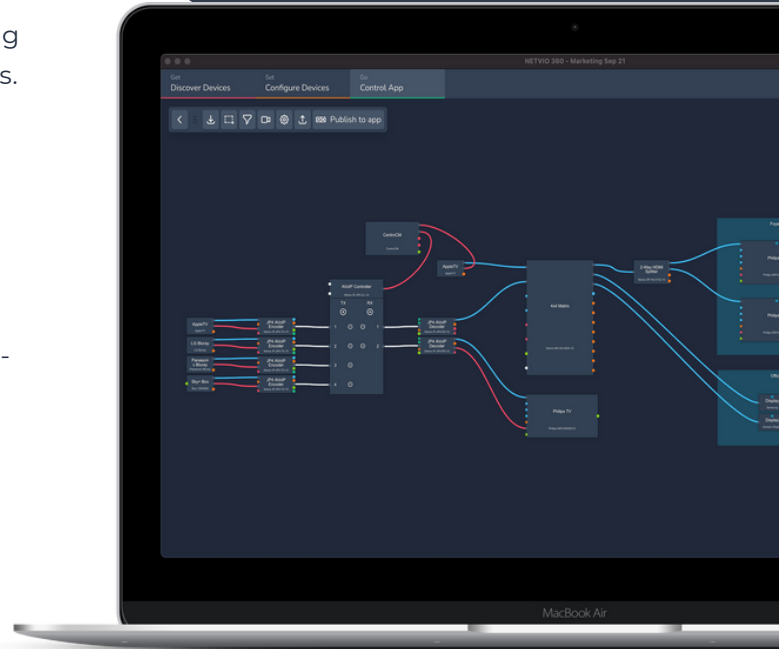
360

From a doodle to onscreen AV system design

How many times does a system design start out as a sketch or doodle on a notepad? Netvio 360's visual design tool is an extension of precisely that. Add, drag and drop displays, media sources and audio products.

Finger-draw AV connections, control paths for each device selecting from IP and CEC, then group displays into single or expanded zones, add custom images to area/zone buttons.

What seems to be an innocent line between your on-screen system components is actually automating complex micro drivers which form all coding elements, ready for end-user control via smart phones and tablets. You are now entering into the world of Netvio GO.



- Once you have finished configuring the matrix you can exit the Netvio 360 platform and download relevant drivers for your 3rd party control system. Available drivers are available at www.netvio.co.uk
- Alternatively, you can you proceed and create a Netvio GO project by pressing 'Create APP Project'.
- You will enter a drag 'n' drop configuration environment which will be pre-populated with your Netvio device in the center of the screen together with some other devices to get you started.



More in-depth instructional videos on how to use Netvio 360 including more advanced set-ups can be found at www.netvio.co.uk/products/mx-h2-0404-10

Control4

CRESTRON

RTI

ELAN

Drivers available at www.netvio.co.uk



Full spectrum AV control experience



- Netvio GO is your end-user AV control application, intrinsically linked with 360 software. Working with Netvio integrated product I/Os, it is possible to remove dedicated control processors from many applications.
- Compatible with iOS, iPadOS and Android, Netvio GO can control any AV device via CEC and IP to manage signal distribution, media sources, displays and audio products. Simply add each smart user device by scanning a 360 software generated QR code or download the uploaded project directly from the matrix.
- Netvio GO can be used as a simple AV control platform, or complement a traditional control system by adding secondary zones at effectively zero cost. Simply with your phones camera to start the process.



More in-depth instructional videos on how to use Netvio GO be found at www.netvio.co.uk/products/mx-h2-0404-10

Specifications

VIDEO

- Encoding Data Rate
 - HDMI: Max 17.82Gbs
- Max Video Transmission
 - 3840x2160 60fps 4:4:4 8b
- HDMI (Inputs/Outputs)
 - Supporting HDMI 2.0b resolutions including 3840x2160 60fps HDR.
- Max Pixel Clock
 - 600MHz / 600Mcsc
- HDR Compatibility
 - HDR10, HDR10+, Hybrid Log-Gamma, Dolby Vision
- Scaler Function
 - 4K to 1920x1080 progressive,
 - Modes include, pass-through (no scaling), Fixed 4K → 2K, Automatic
- HDCP
 - Inclusive up to 2.2

AUDIO

- Audio Formats:
 - LPCM 2ch, LPCM 5.1, LPCM 7.1, Dolby Digital, Dolby Digital Plus, Dolby TrueHD, DTS, DTS Master
- Audio Outputs:
 - 4no. 2ch variable line level stereo analog audio jack sockets.
 - 4no. S/PDIF audio via female RCA socket, S/PDIF digital audio supporting uncompressed PCM and non-linear PCM-encoded bitstreams.
- Audio Return Channel:
 - ARC capture from compatible display. Output through described audio outputs.

Storage • 20°C / +60°C | 20% - 90% RH

Operating • 0°C / +40°C | 20% - 90% RH

COMMUNICATION & CONTROL

- HDMI:
 - CEC, DDC
- RS-232:
 - Supports direct via 3-pin socket on the rear panel.
- LAN:
 - Local discovery and API console via Netvio 360 & Netvio Go APP,
 - 3rd-party integration via public API
- Drivers & Control
 - Drivers available for control systems including C4, Crestron, RTi & Elan.
 - Discovery, configure, optimise, design via Netvio 360 utility.
 - Full spectrum AV control via FREE Netvio application for Apple & Android devices.
- EDID
 - Automatic, Onboard pre-sets, Copy sync (RX)

OTHER INFORMATION

- Power Supply:
 - External 12v PSU. supporting worldwide AC voltages (e.g. 120V/60 USA, 230V/50 UK)
- FREE Software & Control
 - Netvio 360 utility - discovery, configure, optimise, design, control
 - Netvio GO - Full spectrum AV control
- Weights & Dimensions:
 - Rack Units: Compact 1U
 - Height: 44mm
 - Width: 220mm
 - Depth: 105mm
 - Weight: 0.8kg
- REGULATIONS
 - Safety Approvals: CE, UKCA, FCC, RoSH

Contact Info

www.netvio.co.uk

Support:

E: support@netvio.co.uk

UK: +44 (0) 870-448-7001

US: + (001) 716.817.4770

Sales:

E: sales@netvio.co.uk

UK: +44 (0) 870-448-7001 | +44 (0) 7444 807 836

Netvio Ltd

InfoLab21

Lancaster University

Bailrigg Road

Lancaster, UK, LA1 4WA

