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OREI UHDS-404VW

OREI 4K 4x4 Seamless HDMI Matrix Switch Video Wall Controller User Manual

Model: UHDS-404VW

Brand: OREI

1. INTRODUCTION

The OREI UHDS-404VW is a versatile 4K 4x4 Seamless HDMI Matrix Switch and Video Wall Controller. This device allows you to connect up to four HDMI source devices and distribute their signals to up to four HDMI displays. It functions both as a seamless HDMI matrix, enabling any input to be routed to any output, and as a video wall controller, supporting various display configurations including 2x2, 1x4, 1x2, and 4x1.

Designed for both residential and commercial applications, the UHDS-404VW supports resolutions up to 4K@60Hz 4:4:4 8-bit and offers advanced control options via front panel buttons, IR remote, RS-232, and TCP/IP. Its seamless switching capability ensures smooth transitions between sources without black screens or delays.



Image 1.1: OREI UHDS-404VW HDMI Matrix Switch with included remote control, demonstrating its primary function as a video wall controller displaying a single image across four screens.

2. PACKAGE CONTENTS

Please verify that all items are included in your package:

- 1x UHDS-404VW HDMI Matrix Video Wall Controller
- 1x Power Adapter
- 1x IR Remote Control
- 1x RS-232 Phoenix Connector
- 1x IR Receiver Cable
- 1x User Manual (this document)

Note: HDMI cables are not included and must be purchased separately.



Includes 1x UHDS-404VW, 1x IR Remote, 1x RS-232 Phoenix Connector, 1x IR Receiver Cable, 1x Power Adapter, User Manual

Image 2.1: Visual representation of the items included in the UHDS-404VW package: the main unit, power adapter, remote, RS-232 connector, IR receiver, and user manual.

3. KEY FEATURES

- **4x4 HDMI Matrix + 2x2 Video Wall:** Functions as both a seamless HDMI 4x4 matrix and a 2x2 video wall controller.
- **Multiple Display Modes:** Supports various video wall configurations including 2x2, 1x2, 2x1, 1x3, 3x1, 1x4, and 4x1. Also supports 1x4 Splitter/Matrix Mode.
- **High Resolution Support:** Input and output resolutions up to 4K@60Hz 4:4:4 8-bit. Compatible with 480i, 576i, 1080i (interlaced) and 480p, 576p, 720p, 1080p, 4K@24/25/30Hz, 4K@50/60Hz (progressive).
- **Seamless Switching:** Provides smooth, instantaneous switching between HDMI sources without black screens.
- **Advanced Control:** Controllable via front panel buttons, IR remote control, RS-232, and TCP/IP.
- **Upscale/Downscale:** HDMI outputs support automatic upscale or downscale to any resolution up to 4096x2160 @ 60Hz 4:4:4.
- **Audio Format Support:** Supports PCM, DD, DD+, DTS, Dolby TrueHD, DTS HD-master pass-through.
- **Advanced EDID Management:** Ensures optimal compatibility between sources and displays.
- **Compact and Robust Design:** Features a heavy-duty metal enclosure for durability.



KEY FEATURES



- 4 In 4 Out Seamless Switching
- 9 Video Wall Configurations
- RS-232 & TCP/IP Control
- Upscale or Downscale to any resolution up to 4K@60Hz

Image 3.1: Overview of the UHDS-404VW's key features, highlighting 4K Ultra HD compatibility, 4-in 4-out seamless switching, 9 video wall configurations, RS-232 & TCP/IP control, and resolution up/downscaling.

4. SPECIFICATIONS

Attribute	Value
Product Dimensions	10.75 x 6.6 x 1.25 inches (approx. 27.3 x 16.8 x 3.2 cm)
Item Weight	2 pounds (approx. 0.91 kg)
Model Number	UHDS-404VW
Color	Black

Attribute	Value
Connector Type	HDMI
Compatible Devices	Gaming Console, Laptop, Television, Blu-Ray/DVD player, Satellite Receiver, Roku, Chromecast, PC, Projectors
HDMI Version	HDMI 2.0
HDCP Version	HDCP 2.2
Bandwidth	18 Gbps
Max Resolution	4K@60Hz 4:4:4 8-bit
Audio Formats	PCM, Dolby TrueHD, DTS HD-master pass-through



Image 4.1: Detailed view of the UHDS-404VW's compact size and dimensions (10.6" length, 6.5" width, 1.18" height), with a weight of 2.5 lbs.

5. SETUP AND INSTALLATION

Follow these steps to set up your OREI UHDS-404VW:

- 1. Power Off Devices:** Before making any connections, ensure all HDMI source devices (e.g., Blu-ray player, gaming console, PC) and display devices (TVs, monitors) are powered off.
- 2. Connect HDMI Sources:** Connect your HDMI source devices to the HDMI INPUT ports (HD 1, HD 2, HD 3, HD 4) on the UHDS-404VW using high-quality HDMI 2.0 cables.
- 3. Connect HDMI Displays:** Connect your HDMI display devices to the HDMI OUTPUT ports (OUT 1, OUT 2, OUT 3, OUT 4) on the UHDS-404VW. Ensure that the displays are arranged in the desired physical layout for video wall configurations.
- 4. Connect Power Adapter:** Plug the included power adapter into the DC 12V port on the UHDS-404VW, then plug the adapter into a power outlet.
- 5. Power On Devices:** Power on the UHDS-404VW, then power on your display devices, and finally power on your HDMI source devices.
- 6. Initial Configuration:** The device will typically default to a matrix or basic video wall mode. You can then use the front panel buttons, IR remote, or advanced control methods (RS-232, TCP/IP) to select your desired input/output routing or video wall configuration.



Matrix Configuration

Image 5.1: Example of a 4x4 Matrix Configuration, illustrating how four distinct HDMI input sources (gaming console, laptop, media player, Blu-ray player) can be routed to four separate display outputs.



Image 5.2: Example of a 2x2 Video Wall Configuration, demonstrating how a single HDMI input source can be expanded and displayed across four synchronized screens to form one large image.

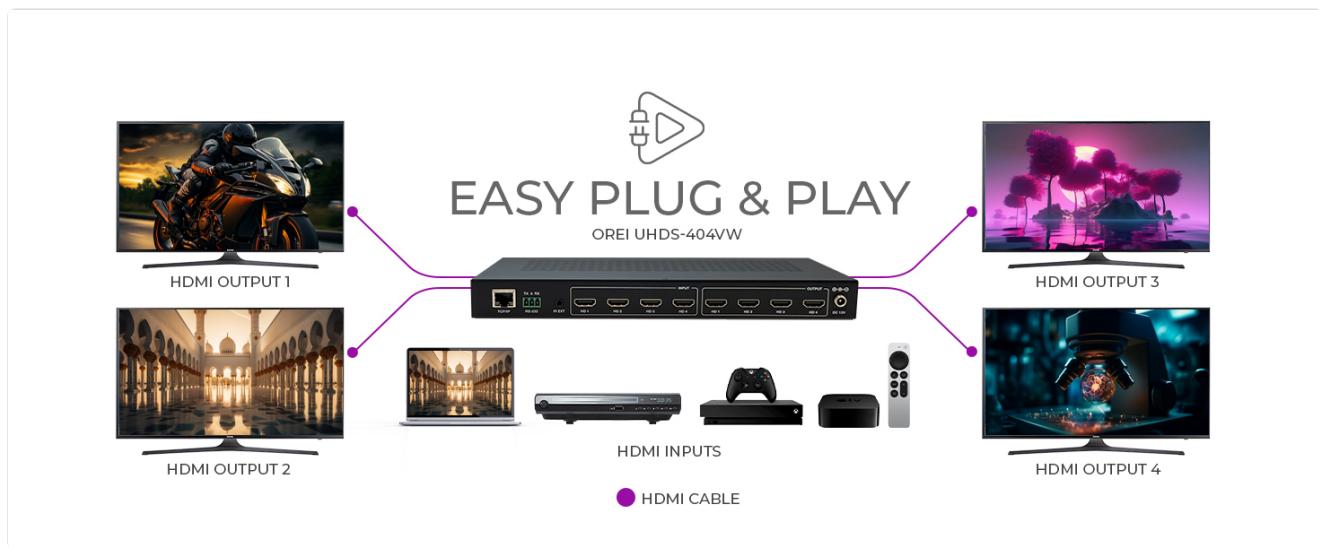


Image 5.3: Simplified connection diagram showing HDMI inputs from various devices connecting to the UHDS-404VW, and outputs connecting to four displays, illustrating the "Easy Plug & Play" aspect.

6. OPERATION

6.1 Control Methods

The UHDS-404VW can be controlled using several methods:

- **Front Panel Buttons:** Basic input/output selection and mode changes can be performed directly on the device.
- **IR Remote Control:** The included IR remote provides full control over input/output routing, video wall modes, and other settings. Ensure the IR receiver cable is connected if using the remote.
- **RS-232 Control:** For professional installations and integration with control systems, the RS-232 port allows command-line control. Refer to the detailed RS-232 command set in the full user manual for specific commands.
- **TCP/IP Control:** The device can be controlled over a network using TCP/IP commands. This method is suitable for remote management and integration into IP-based control systems.

6.2 Video Wall Configurations

The UHDS-404VW supports various video wall display modes. These modes can be selected via the IR remote, Web GUI (if available via TCP/IP), or RS-232 commands.

- **2x2 Video Wall:** A single source is displayed across four screens arranged in a 2x2 grid.
- **1x2, 1x3, 1x4:** Horizontal video wall configurations where one source is spread across 2, 3, or 4 displays horizontally.
- **2x1, 3x1, 4x1:** Vertical video wall configurations where one source is spread across 2, 3, or 4 displays vertically.
- **Matrix Mode:** Each display can show a different source, allowing for independent routing.
- **Mixed Modes:** Combinations such as 1x2 (2 sources on 2 displays each, horizontal) or 2x1 (2 sources on 2 displays each, vertical) are also supported.

10 OUTPUT MODE SETTINGS



2x2
Single source on all displays



1x2-2
2 sources on 2 displays each (Horizontal)



1x2
One source on 2 horizontal displays, other displays show a different source



Matrix
Each display shows a different source



2x1-2
2 sources on 2 displays each (Vertical)



2x1
One source on 2 vertical displays, other displays show a different source



1x3
3 displays spread horizontally



1x4
4 displays spread horizontally



3x1
3 displays spread vertically



4x1
4 displays spread vertically

Image 6.1: Visual representation of the 10 distinct output mode settings available, including 2x2 single source, 1x2 horizontal, 2x1 vertical, and various matrix configurations.

2x2 Video Wall or 4x4 Matrix



Switch between Video Wall presets, inputs & outputs and adjust the bezel between the displays for an enhanced viewing experience.

ULTRA HD COMPATIBLE

4K@60Hz

Seamless Switching

10 Output Modes

Upscale or Downscale up to 4K

RS-232 & TCP/IP Control

Compact & Robust

Image 6.2: Illustrates the flexibility between 2x2 Video Wall and 4x4 Matrix modes, emphasizing Ultra HD compatibility and the ability to adjust bezel for enhanced viewing.

6.3 Seamless Switching and Bezel Adjustment

The UHDS-404VW features seamless switching, providing instant transitions between different video sources without any noticeable delay or black screen. For video wall applications, the device also supports horizontal and vertical bezel adjustment to compensate for the display bezels, creating a more cohesive large image.



Image 6.3: The UHDS-404VW unit with its remote control, indicating the capability for horizontal and vertical bezel adjustment, crucial for seamless video wall displays.

7. MAINTENANCE

To ensure the longevity and optimal performance of your OREI UHDS-404VW, follow these maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the unit. Do not use liquid cleaners, aerosols, or abrasive solvents, as they may damage the surface or internal components.
- **Ventilation:** Ensure the unit is placed in a well-ventilated area. Do not block the ventilation openings on the device. Proper airflow prevents overheating.
- **Power:** Always use the provided power adapter. Disconnect the power adapter from the wall outlet if the unit will not be in use for an extended period.

be used for an extended period.

- **Environment:** Keep the device away from direct sunlight, heat sources, excessive humidity, and dust.
- **Handling:** Handle the unit with care. Avoid dropping or subjecting it to strong impacts.

8. TROUBLESHOOTING

If you encounter issues with your UHDS-404VW, please refer to the following common problems and solutions:

Problem	Possible Cause / Solution
No video output on display(s)	<ul style="list-style-type: none">○ Check all HDMI cable connections. Ensure they are securely plugged into both the source, the matrix, and the display.○ Verify that the correct input is selected on the matrix and the correct input is selected on your display.○ Ensure all devices (source, matrix, display) are powered on.○ Try a different HDMI cable.○ Check if the source device is outputting a compatible resolution. The matrix supports up to 4K@60Hz.○ Power cycle all connected devices (unplug, wait 10 seconds, plug back in).
Image flickering or unstable video	<ul style="list-style-type: none">○ Use shorter, high-quality HDMI 2.0 cables, especially for 4K resolutions.○ Ensure cables are not bent sharply or damaged.○ Check for electromagnetic interference from other electronic devices.○ Verify that the power adapter is securely connected and providing stable power.
Remote control not working	<ul style="list-style-type: none">○ Ensure the IR receiver cable is properly connected to the "IR EXT" port on the matrix.○ Point the remote directly at the IR receiver.○ Replace the batteries in the remote control.○ Ensure there are no obstructions between the remote and the IR receiver.
Video wall image is misaligned or distorted	<ul style="list-style-type: none">○ Ensure all displays are of the same size and resolution for optimal video wall performance.○ Use the bezel adjustment feature to compensate for display bezels. Refer to the full manual for detailed instructions on bezel correction.○ Verify that the displays are physically aligned correctly.
No audio	<ul style="list-style-type: none">○ Check audio settings on your source device and display.○ Ensure the audio format is supported by the matrix and your display (PCM, DSD, DD+, DTS, Dolby TrueHD, DTS HD-master pass-through).○ Try a different HDMI cable.

If the problem persists after trying these solutions, please contact OREI customer support for further assistance.

9. WARRANTY AND SUPPORT

OREI provides comprehensive support for its products:

- **Manufacturer's Warranty:** The OREI UHDS-404VW comes with a 12-Month Manufacturer's Warranty from the date of purchase. This warranty covers defects in materials and workmanship under normal use.
- **Lifetime Technical Support:** OREI offers lifetime technical support for this product. If you have any questions regarding setup, operation, or troubleshooting, please do not hesitate to contact our support team.

For warranty claims or technical assistance, please visit the official OREI website or contact their customer service directly. Please have your product model number (UHDS-404VW) and proof of purchase ready when contacting support.



OVER 10 YEARS
EXPERIENCE

FULL 1 YEAR
MANUFACTURING
SUPPORT

BASED IN THE
U.S.A
WE OFFER LIFETIME
LOCAL SUPPORT

Image 9.1: OREI's commitment to customer support, highlighting over 10 years of experience, 1-year manufacturing support, and lifetime local support based in the USA.