ICUIXIAN 8x16 Seamless HDMI Matrix Switch Multi-View Video Wall Controller

ICUIXIAN 8x16 Seamless HDMI Matrix Switch and Video Wall Controller User Manual

Model: 8x16 Seamless HDMI Matrix Switch Multi-View Video Wall Controller

1. PRODUCT OVERVIEW

The ICUIXIAN 8x16 Seamless HDMI Matrix Switch and Video Wall Controller is a versatile video processor designed for advanced audio-visual signal management. It functions as both an 8x16 HDMI matrix switch and a 4x4 video wall controller, capable of displaying video wall and matrix outputs simultaneously. Built on a pure hardware FPGA architecture, this device ensures high stability without relying on an operating system.

Key features include seamless switching, multi-view capabilities, and advanced control options, making it suitable for various professional applications.

Figure 1: ICUIXIAN 8x16 HDMI Matrix Switch and Video Wall Controller with a multi-screen display example, showcasing its output capabilities.

1.1 Functional Characteristics

- **Video Image Processing:** Supports any screen window, roaming, and signal screen overlay.
- **Output Port Mapping:** Achieves blind insertion for flexible configuration.
- **Control Options:** Supports Web control, TCP/IP network, and RS232 software control.
- **Automated Operations:** Features automatic timed rounds for scenes and channels.
- **Seamless Switching:** True 60Hz image input and output processing with RGD4:4:4 lossless processing for real image reduction, no color difference, no distortion, no delay, no blue screen, and no black screen.
- **Audio Support:** Embedded audio and 3.5MM independent audio output.
- **Scene Management:** 2000 user-defined scenes with fast scene switching and one-key swap functionality.

Figure 2: Icons illustrating key features such as 8-screen window, screen split, arbitrary splicing, matrix switching, roaming overlay, WEB control, scene polling, industrial control chip, FPGA technology, HD display, multi-terminal control, audio output, plug-in design, RS232 control, and professional technology.

2. SETUP AND CONNECTION

This section details the steps for connecting your ICUIXIAN 8x16 HDMI Matrix Switch and Video Wall Controller to various input and output devices.

2.1 Connection Diagram

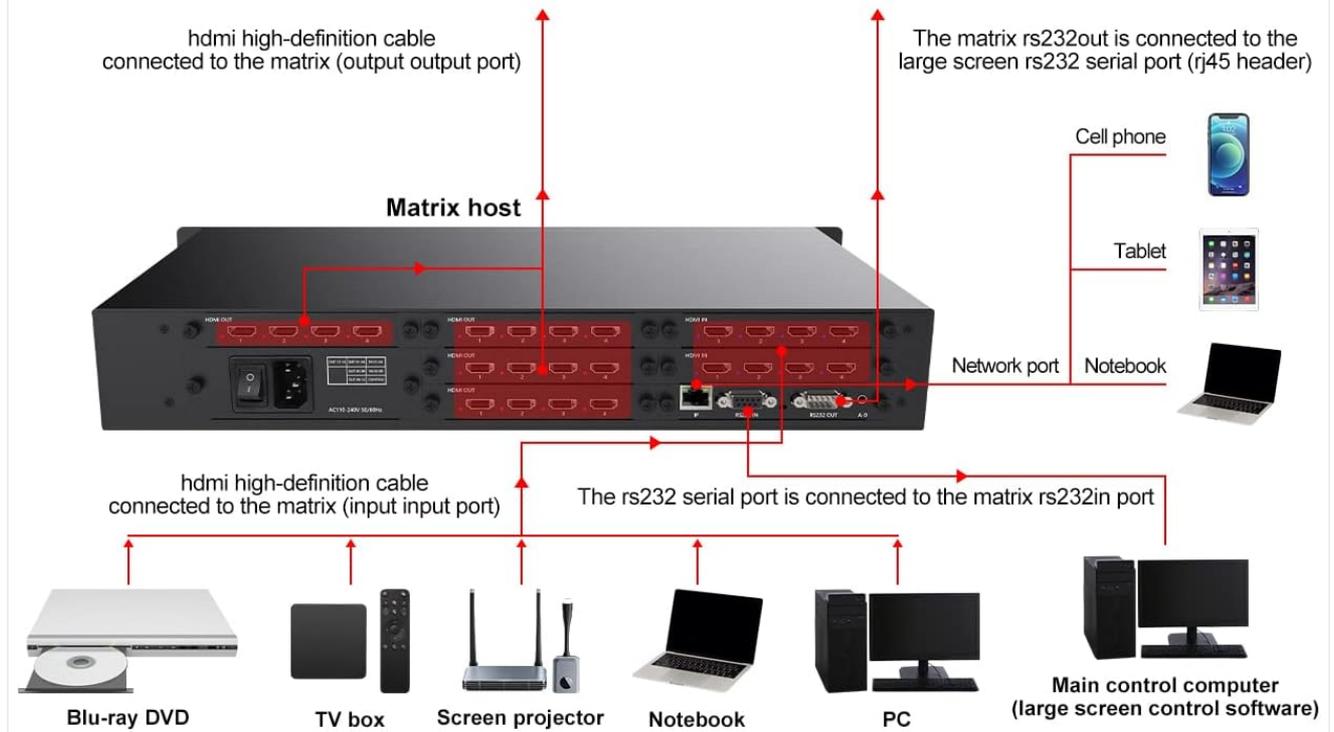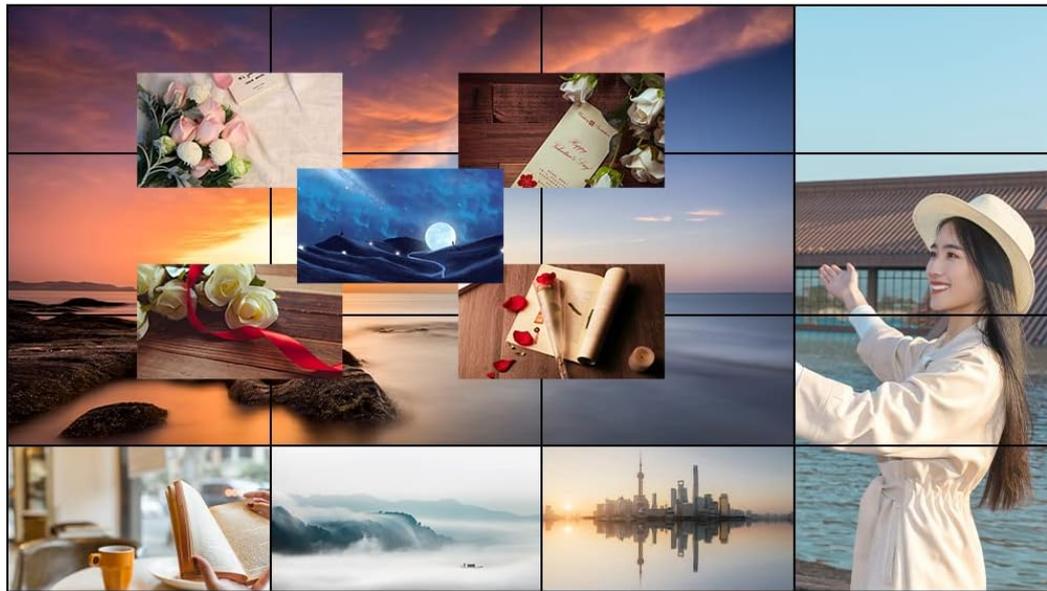Refer to the diagram below for a visual guide on connecting your devices.

Figure 3: System connection diagram illustrating how to connect HDMI input devices (Blu-ray DVD, TV box, screen projector, notebook, PC) to the matrix host's HDMI input ports, and how to connect output displays to the HDMI output ports. Control connections via RS232 and network port are also shown, allowing control from cell phones, tablets, notebooks, and main control computers.

2.2 Step-by-Step Connection

1. **Power Connection:** Connect the power cable to the AC110-240V 50/60Hz input on the rear panel of the matrix host.

2. **HDMI Input Devices:** Connect your HDMI source devices (e.g., Blu-ray players, PCs, laptops, game consoles) to the HDMI IN ports on the matrix host using high-definition HDMI cables.

3. **HDMI Output Displays:** Connect your display devices (e.g., monitors, TVs, projectors) to the HDMI OUT ports on the matrix host using high-definition HDMI cables.

4. **Control Connections:**

   - **RS232 Control:** Connect an RS232 serial cable from your control computer to the RS232 IN port on the matrix host.

   - **Network Control:** Connect an Ethernet cable from your network router or switch to the IP port on the matrix host for web-based control.

5. **Audio Output (Optional):** If using independent audio, connect a 3.5mm audio cable to the dedicated audio output port.

2.3 Compatible Devices

The ICUIXIAN matrix switch is compatible with a wide range of HDMI devices, including:

- Desktop Computers
- Laptops
- Projectors
- Game Consoles
- Satellite Receivers
- Blu-ray / DVD Players
- Advertising Boxes

Figure 4: Examples of compatible HDMI devices including desktop PCs, laptops, projectors, game consoles, Blu-ray players, TV boxes, satellite receivers, and other media players.

3. OPERATING INSTRUCTIONS

This section covers the various display modes, switching functions, and control methods available with your ICUIXIAN device.
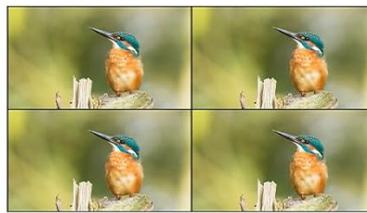
3.1 Display Modes and Video Wall Functions

The device supports multiple display modes, allowing for flexible video wall configurations and multi-view presentations.

Figure 5: Visual representation of various display modes including Video Wall 2x2, Splitter Mode, Matrix Mode, Matrix Splitter Mode, Customized Matrix Video Wall Mode, Multi View Mode, Window Roaming and Round-Robin Mode, and PIP Video Wall Window Overlay Mode.

- **Video Wall Mode:** Configure multiple displays to act as a single large screen (e.g., 2x2, 4x4).
- **Matrix Mode:** Route any of the 8 inputs to any of the 16 outputs independently.
- **Splitter Mode:** Duplicate a single input across multiple outputs.
- **Multi-View Mode:** Display multiple input sources simultaneously on a single screen or across a video wall.
- **PIP (Picture-in-Picture)** / **Window Overlay:** Overlay one video source onto another.
- **Window Roaming:** Move and resize video windows freely across the display area.

Figure 6: Examples of multi-function multi-view display modes, including single screen 8-screen window opening, picture segmentation, picture superposition, open window roaming, video wall mode, and various arbitrary splicing modes.

3.2 Matrix Switching Function

The device provides seamless switching between HDMI inputs and outputs, ensuring a smooth transition without delay or interruption.
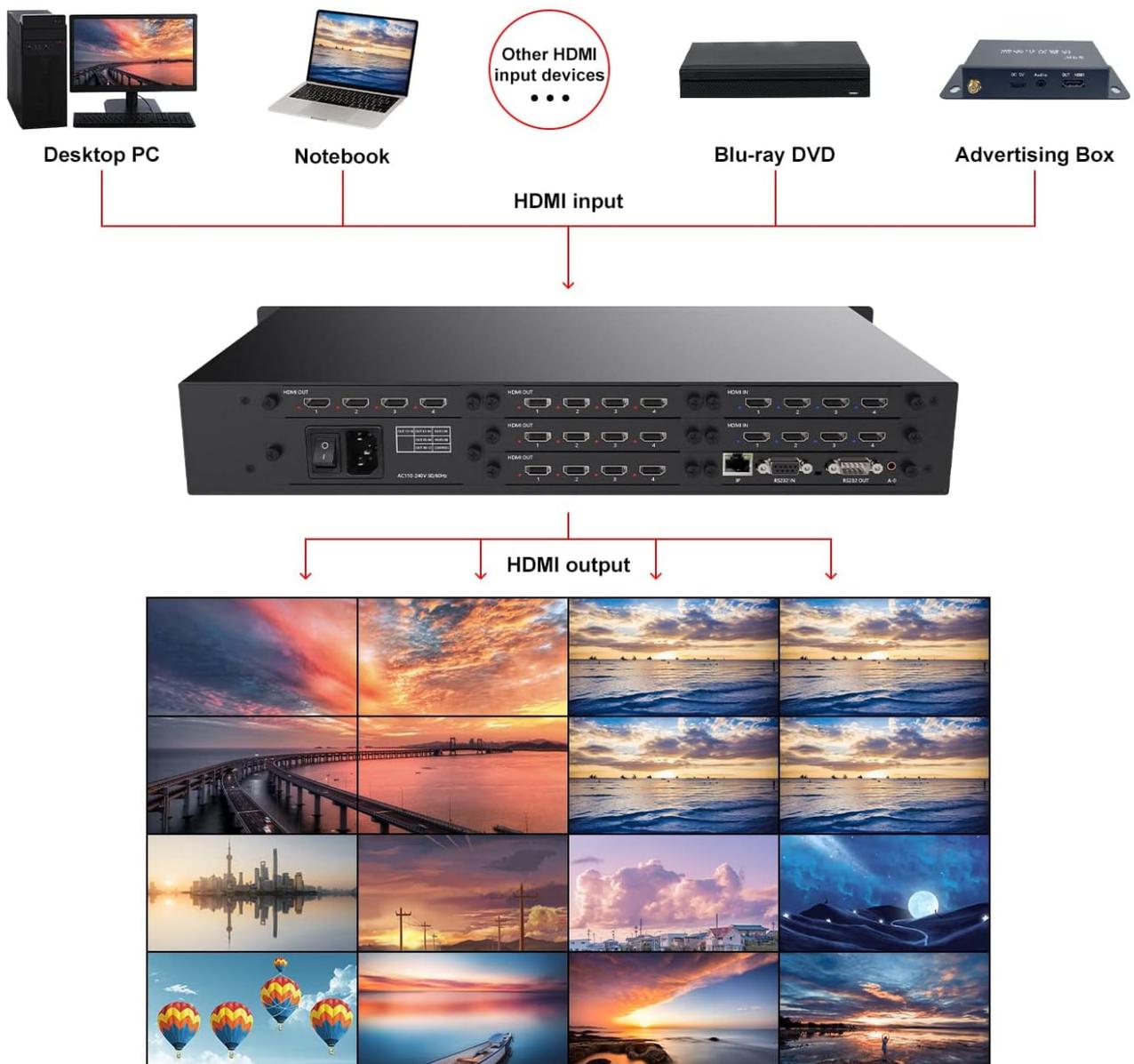
Figure 7: Diagram showing the matrix switching function, where multiple HDMI input devices (Desktop PC, Notebook, Blu-ray DVD, Advertising Box) can be routed to various HDMI output displays, supporting audio and video synchronization lossless switching and distribution.

3.3 Control Methods

The ICUIXIAN matrix switch offers multiple ways to control its functions and configurations.

Figure 8: Control modes include PC control, mobile phone and tablet control, WEB control via a browser, and RS232 serial port control.

- **Web Control:** Access the device's control interface through a web browser on any connected device (PC, tablet, smartphone). This cross-platform control allows for custom logo, software name, automatic rotation of equipment, and multi-terminal real-time synchronous operation.
- **RS232 Software Control:** Utilize dedicated software on a PC connected via an RS232 serial port for comprehensive control.
- **Scene Automation:** Configure scenes to automatically rotate at timed intervals. You can select which scenes participate in the rotation, useful for monitoring or exhibition displays.
- **Channel Automation:** Set multiple inputs to automatically switch at timed intervals within a specific output, without affecting other output interfaces or screen splicing.

4. MAINTENANCE

To ensure the longevity and optimal performance of your ICUIXIAN 8x16 HDMI Matrix Switch and Video Wall Controller, follow these general maintenance guidelines:

- **Cleaning:** Regularly clean the exterior of the device with a soft, dry cloth. Avoid using liquid cleaners or aerosols, which may damage the internal components.
- **Ventilation:** Ensure that the device has adequate ventilation. Do not block any ventilation openings. Overheating can lead to performance issues and reduce the lifespan of the product.
- **Power Supply:** Use only the provided power adapter. Disconnect the power supply during electrical storms or when the device is unused for long periods.
- **Environment:** Operate the device in a clean, dry environment, away from extreme temperatures, humidity, and direct sunlight.
- **Cable Management:** Ensure all cables are securely connected and not under strain. Loose connections can cause signal loss or intermittent issues.

5. TROUBLESHOOTING

If you encounter issues with your ICUIXIAN 8x16 HDMI Matrix Switch and Video Wall Controller, refer to the following common troubleshooting steps:

5.1 No Video Output

- **Check Power:** Ensure the device is powered on and the power indicator light is active.
- **Cable Connections:** Verify that all HDMI input and output cables are securely connected to both the matrix switch and the source/display devices. Try re-seating the cables.
- **Input/Output Selection:** Confirm that the correct input source is selected for the desired output display via the control interface (web, RS232).
- **Display Compatibility:** Ensure your display devices support the resolution and refresh rate being output by the matrix switch.
- **Source Device:** Test the source device directly with a display to confirm it is functioning correctly.

5.2 Intermittent Signal or Flickering

- **Cable Quality:** Use high-quality HDMI cables, especially for longer runs. Inferior cables can cause signal degradation.
- **Cable Length:** Excessive cable length can lead to signal loss. Consider using HDMI extenders or active cables for very long distances.
- **Power Cycle:** Power cycle both the matrix switch and the connected source/display devices.
- **Interference:** Ensure the device is not placed near strong electromagnetic interference sources.

5.3 Control Issues (Web/RS232)

- **Network Connection:** For web control, verify the network cable is connected and the device has a valid IP address. Ensure your control device is on the same network.
- **RS232 Settings:** For RS232 control, confirm the serial port settings (baud rate, data bits, parity, stop bits) match the device's requirements.
- **Software/Browser:** Ensure you are using the correct control software or a compatible web browser.

If problems persist after attempting these steps, please contact ICUIXIAN technical support for further assistance.

6. SPECIFICATIONS

Detailed technical specifications for the ICUIXIAN 8x16 HDMI Matrix Switch and Video Wall Controller.

Figure 9: Technical specifications for the ICUIXIAN UHD 0816-s2, highlighting its compact and lightweight design.

Feature	Detail
Product Dimensions	19.69 x 13.39 x 5.91 inches (L: 482.1mm / 18.98", W: 250mm / 9.84", H: 44mm / 2.67")
Item Weight	10 pounds (5kg / 11.02lbs)
ASIN	B0BKRJLCXM
Manufacturer	XINTEAN
Color	Black
Connector Type	HDMI
Cable Type	HDMI
Architecture	Pure Hardware FPGA

Feature	Detail
Video Processing	True 60Hz, RGD4:4:4 Lossless
Audio Output	Embedded Audio, 3.5MM Independent Audio
Control Interfaces	Web Control, TCP/IP Network, RS232

7. WARRANTY AND SUPPORT

ICUIXIAN is committed to providing high-quality products and excellent customer service.

7.1 Manufacturer's Warranty

This product comes with a **12-Month Manufacturer's Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by misuse, accidents, unauthorized modifications, or improper installation.

7.2 Technical Support

ICUIXIAN offers **Lifetime Technical Support** for this product. If you encounter any issues or have questions regarding the setup, operation, or troubleshooting of your device, please contact our support team. Our professional technical staff are available to provide one-on-one assistance and ensure a satisfactory user experience.

For support, please visit the ICUIXIAN Store on Amazon or refer to the contact information provided with your product packaging.

Related Documents - 8x16 Seamless HDMI Matrix Switch Multi-View Video Wall Controller

The HD HDMI Matrix user's manual	**ICUIXIAN HD HDMI Matrix User Manual - 7100HD Series** Comprehensive user manual for the ICUIXIAN HD HDMI Matrix series, covering installation, operation, technical specifications, and troubleshooting for models 7100HD-0404, 7100HD-0808, 7100HD-0816, and 7100HD-1616.
18Gbps 4x4 Seamless UHD Matrix User Manual VER 2.1	**18Gbps 4x4 Seamless UHD Matrix User Manual VER 2.1** User manual for the 18Gbps 4x4 Seamless UHD Matrix (VER 2.1). This device connects 4 HDMI sources to 4 displays, supporting up to 4K60 4:4:4 resolution. It features seamless switching, video wall processing, IR and audio matrix routing, EDID management, and multiple control options including front panel, RS232, TCP/IP, and web interface.

VISSONIC VIS-UHD0808-VW 8x8 Seamless 4K Ultra HD Matrix and Video Wall Processor User Manual V1.0 VISSONIC ELECTRONICS LIMITED	**VISSONIC VIS-UHD0808-VW 8x8 Seamless 4K Ultra HD Matrix and Video Wall Processor User Manual** Discover the VISSONIC VIS-UHD0808-VW, an 8x8 seamless 4K Ultra HD matrix and video wall processor. This comprehensive user manual details its advanced features, installation, network control, PC software, web interface, and troubleshooting for professional AV applications.
MuxLab HDMI 2.0 4x4 Seamless Matrix with VW & MV User Manual 500428 © MuxLab Inc. 2025 1 94-000347-A/SE-000347-A	**MuxLab HDMI 2.0 4x4 Seamless Matrix with VW & MV User Manual (500428)** User manual for the MuxLab HDMI 2.0 4x4 Seamless Matrix with Video Wall (VW) and Multi-Viewer (MV) functionality. This document details features, specifications, operation controls, front and rear panel descriptions, LCD navigation, IR remote usage, EDID management, web GUI guide, RS-232 control commands, and an application diagram for model 500428.
OREI UHDS-404VW 4K×60Hz 4x4 Seamless Matrix with Video Wall USER MANUAL	**OREI UHDS-404VW 4K@60Hz 4x4 Seamless HDMI Matrix with Video Wall User Manual** This user manual provides detailed information on the OREI UHDS-404VW, a 4K@60Hz 4x4 seamless HDMI matrix switcher with video wall capabilities. It covers features, specifications, operation, control methods (front panel, IR, RS-232, Web GUI), EDID management, video wall configurations, and application examples.
Operating instructions J-TECH DIGITAL Website:www.jtechdigital.com TollFree:1-888-610-2818 Email:support@jtechdigital.com USER MANUAL J-Tech Digital® 4x4 Seamless Switch 4K HDMI Matrix & Video Wall Controller Model: JTECH-VWM04 HDMI FC CE JTD-ID: 593	**J-Tech Digital 4x4 Seamless Switch 4K HDMI Matrix & Video Wall Controller User Manual** Comprehensive user manual for the J-Tech Digital 4x4 Seamless Switch, a 4K HDMI Matrix and Video Wall Controller (Model: JTECH-VWM04). Learn about its features, specifications, operation, connection, and IP control.