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› PORTTA 2x2 HDMI or USB-C Video Wall Controller N24VW User Manual

Portta N24VW

PORTTA 2x2 HDMI or USB-C Video Wall Controller (Model N24VW) User Manual

Comprehensive instructions for setup, operation, and maintenance.

1. INTRODUCTION

The PORTTA 2x2 HDMI or USB-C Video Wall Controller is a versatile device designed to create dynamic video wall displays. It accepts one HDMI or USB-C input and distributes it across up to four HDMI outputs, supporting various display configurations. This controller is ideal for applications requiring multi-screen displays, such as advertising, entertainment, and informational signage.

USB-C or HDMI INPUT 2x2 Video Wall Controller



Image 1.1: PORTTA 2x2 HDMI or USB-C Video Wall Controller.

2. PRODUCT FEATURES

- **11 Display Modes:** Supports 2x2 composition, 1x1 splitter, 1x2, 1x3, 1x4 horizontal, 2x1, 3x1, 4x1 vertical, and 1x2, 1x3, 1x4 PC portrait modes (PC input only).
- **High Resolution Support:** Accepts up to 4K@60Hz input resolution.
- **Scalable Output:** Provides output resolutions including 720p@60Hz, 1080p@60Hz, 4K@30Hz, and XGA (1366x768@60Hz).
- **Audio Extraction:** Features Toslink (5.1 CH) and 3.5mm (2.0 CH) audio extraction.
- **Image Rotation:** Allows 180° rotation for each screen to optimize bezel alignment.
- **Bezel Adjustment:** Offers horizontal and vertical bezel compensation (8-pixel increments) to ensure natural image display.
- **Multiple Control Options:** Manual buttons, IR remote control, and RS232 control.
- **Broad Compatibility:** Compatible with various devices including PCs, gaming consoles (PS4, PS4 Pro), Blu-Ray players, laptops, HDTVs, projectors, and monitors.



Image 2.1: Overview of key product features.

3. PACKAGE CONTENTS

Verify that all items are present in the package:

- USB C & HDMI 2x2 Video Wall Controller x1
- IR Remote Control x1
- Power Adapter x1
- Mounting Ears x2
- 3-pin Phoenix Connector x1
- IR Receiver with a 3.93ft/1.2m Cable x1
- User Manual x1



Image 3.1: Included accessories and main unit.

4. PRODUCT OVERVIEW

4.1 Front Panel

- **Power Indicator:** Illuminates when the device is powered on.
- **IR Receiver:** Receives signals from the IR remote control.
- **HDMI Input Select Indicator:** Shows if HDMI input is selected.
- **USB-C Input Select Indicator:** Shows if USB-C input is selected.
- **Auto Switch ON/OFF Indicator:** Indicates automatic input switching status.
- **HDMI Output 1-4 Ports:** Status indicators for each HDMI output.
- **HDMI Input Select Button:** Cycles through HDMI inputs.
- **USB-C Input Select Button:** Selects USB-C input.
- **Display Mode Select Button:** Cycles through various display modes.
- **HDMI Output Resolution Select Button:** Adjusts output resolution.

4.2 Rear Panel

- **HDMI IN:** Connect your HDMI source device.
- **USB-C IN:** Connect your USB-C source device.
- **OUTPUT 1-4:** Connect to your display screens (TVs, monitors).
- **STEREO (3.5mm) Output:** For 2.0 CH audio output.
- **TOSLINK Output:** For 5.1 CH audio output.
- **RS232 Port:** For serial control via a computer or control system.
- **IR EXT Port:** Connect the IR receiver cable for extended remote control range.
- **DC 5V Power Port:** Connect the included power adapter.
- **Power ON/OFF Switch:** Toggles the device power.



Image 4.1: Front and Rear Panel Descriptions.

5. SETUP INSTRUCTIONS

1. **Power Off Devices:** Ensure all source devices, displays, and the video wall controller are powered off

before making connections.

2. **Connect Input Source:** Connect your HDMI or USB-C source device (e.g., PC, Blu-Ray player) to the HDMI IN or USB-C IN port on the controller using appropriate cables.
3. **Connect Displays:** Connect up to four HDMI displays (TVs, monitors) to the OUTPUT 1-4 ports on the controller using HDMI cables.
4. **Audio Connection (Optional):** If external audio is desired, connect your audio system to the STEREO (3.5mm) or TOSLINK output ports.
5. **IR Extension (Optional):** If using the IR remote from a distance or if the controller is out of sight, connect the IR Receiver cable to the IR EXT port.
6. **Connect Power:** Connect the included power adapter to the DC 5V Power Port on the controller, then plug it into a power outlet.
7. **Power On:** Turn on the video wall controller using the Power ON/OFF switch. Then, power on your displays and source devices.
8. **Initial Configuration:** Use the front panel buttons or IR remote to select the desired input source and display mode.

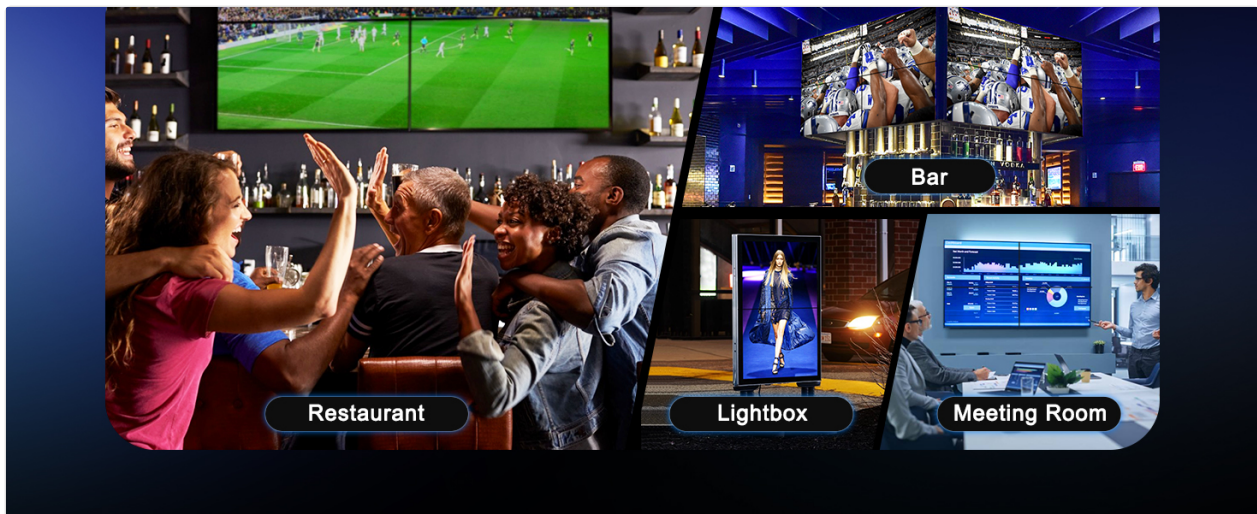


Image 5.1: Basic connection diagram.

6. OPERATING INSTRUCTIONS

6.1 Selecting Input Source

Press the **HDMI** or **USB-C** button on the front panel or IR remote to switch between input sources. The corresponding indicator light will illuminate.

6.2 Display Modes

The controller supports 11 display modes. Press the **MODE** button on the front panel or IR remote to cycle through the available modes:

- **2x2 Composition Mode:** Divides the input across four screens in a 2x2 grid.
- **1x1 Splitter Mode:** Duplicates the input to each of the four screens.
- **Horizontal Modes (1x2, 1x3, 1x4):** Displays the input across 2, 3, or 4 screens horizontally.
- **Vertical Modes (2x1, 3x1, 4x1):** Displays the input across 2, 3, or 4 screens vertically.
- **PC Portrait Modes (1x2, 1x3, 1x4):** Specific portrait display modes for PC input only.

Support up to 11 Display Modes

1 Composition Mode



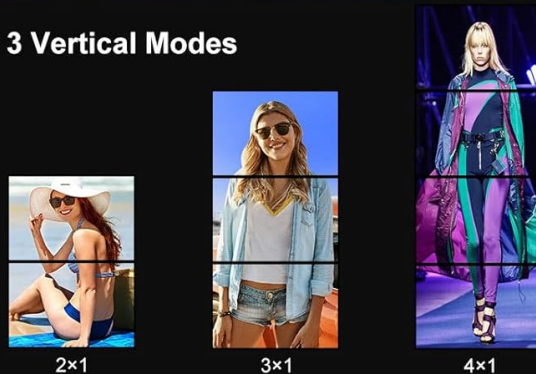
3 Horizontal Modes



1 Splitter Mode



3 Vertical Modes



3 Portrait Modes

PC Portrait Display
Setting Only



Image 6.1: Available display modes.

6.3 Image Rotation (180°)

To adjust the orientation of individual screens and minimize bezel gaps, each screen's image can be rotated by 180°. Use the **180° ROTATE** button on the IR remote to apply this function.

6.4 Bezel Adjustment (Edge Masking)

The bezel adjustment feature allows you to compensate for the physical bezels of your displays, making the image appear continuous across screens. Press the **H-BEZEL** or **V-BEZEL** buttons on the IR remote to add or cut output picture edges in 8-pixel increments. This prevents image deformation and stretching.

Rotate Image 180° Function



Edge Masking Function

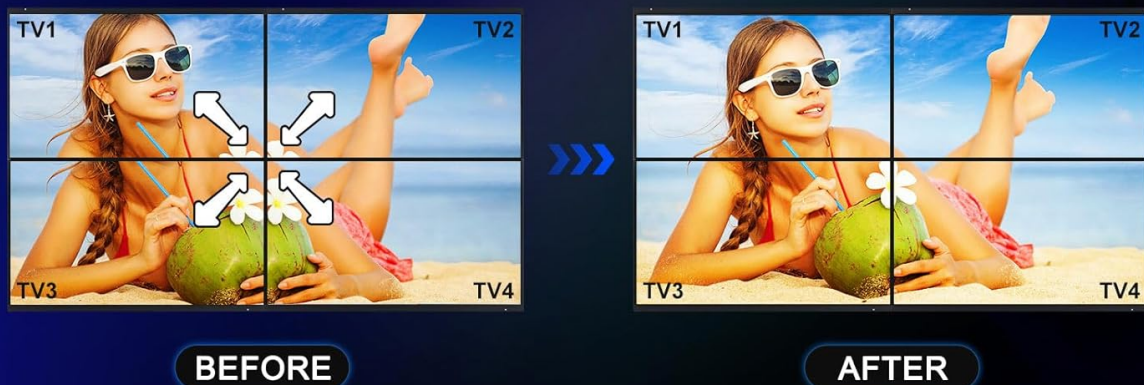


Image 6.2: Image Rotation and Bezel Adjustment.

6.5 Output Resolution Selection

Press the **RES** button on the front panel or IR remote to cycle through available output resolutions (e.g., 720p, 1080p, 4K, XGA).

6.6 Audio Output Selection

Use the audio selection buttons on the IR remote to choose between 2.0 CH (3.5mm) and 5.1 CH (Toslink) audio output, if applicable.

7. MAINTENANCE

- **Cleaning:** Use a soft, dry cloth to clean the device. Do not use liquid or aerosol cleaners.
- **Ventilation:** Ensure the device has adequate ventilation. Do not block ventilation openings.
- **Power:** Always use the provided power adapter. Disconnect power during electrical storms or when unused for long periods.
- **Environment:** Keep the device away from excessive heat, humidity, dust, and direct sunlight.

8. TROUBLESHOOTING

Problem	Possible Cause	Solution
No image on displays.	- Loose cable connections. - Incorrect input source selected. - Displays are off or on incorrect input. - Resolution incompatibility.	- Check all HDMI/USB-C cables are securely connected. - Ensure the correct input (HDMI/USB-C) is selected on the controller. - Verify displays are powered on and set to the correct HDMI input. - Try adjusting the output resolution on the controller using the RES button.
Image is distorted or stretched.	- Incorrect display mode. - Bezel adjustment needed.	- Select the appropriate display mode for your setup. - Use the H-BEZEL/V-BEZEL buttons on the IR remote to adjust bezel compensation.
No audio.	- Audio cables not connected. - Incorrect audio output selected. - Source device audio settings.	- Ensure audio cables (3.5mm/Toslink) are connected correctly. - Verify the audio output settings on the controller and source device.
Remote control not working.	- Batteries are low or dead. - IR receiver blocked or not connected.	- Replace remote control batteries. - Ensure the IR receiver (internal or external) has a clear line of sight to the remote. - Check if the IR receiver cable is securely connected to the IR EXT port.
All displays downscale to lowest resolution.	One of the connected displays has a lower native resolution.	The controller may default to the lowest common resolution supported by all connected displays. Ensure all displays support the desired resolution for optimal performance.

9. SPECIFICATIONS

Feature	Detail
Model Number	N24VW
Input Ports	1x HDMI, 1x USB-C
Output Ports	4x HDMI

Feature	Detail
Max Input Resolution	4K@60Hz
Output Resolutions	720p@60Hz, 1080p@60Hz, 4K@30Hz, XGA (1366x768@60Hz)
Audio Output	3.5mm Stereo (2.0 CH), Toslink (5.1 CH)
Control Methods	Manual buttons, IR Remote, RS232
Image Rotation	180° per screen
Bezel Adjustment	8-pixel increments (H/V)
Item Weight	431 Grams
Color	BLACK

10. WARRANTY AND SUPPORT

This PORTTA Video Wall Controller comes with a hassle-free **2-year warranty**. Additionally, lifetime technical support is provided to assist with any questions or issues you may encounter. For technical assistance or warranty claims, please contact PORTTA customer service.