



UHD-14VW

**1-In-4-Out USB-C & HDMI
Video Wall Controller**

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USER MANUAL



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Thank you for purchasing this product

Thank you for purchasing this product. For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the service life of your equipment.

Registration Page

Please Activate your warranty by registering our product through the link below - <https://www.orei.com/register>

Technical Support

Need Help?

Our experienced Technical Support Team is here for you to answer your questions, give technical advice or help troubleshoot your project to get you installed on time and on budget. Call, email or chat with us now.

OREI Live Technical Support Hours

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Introduction

The UHD-14VW 1-In-4-Out Video Wall Controller is designed to take a single input and distribute it across 4 displays. The device features an HDMI and a USB-C input to connect to your media source. It supports resolutions up to 4K@60Hz 4:4:4. The device can take a media source and spread it across 4 displays creating a 2x2 Video wall. The device also features various other video wall modes such as 1x1, 2x1, 3x1, 4x1, 1x2, 1x3, and 1x4. It also includes an Optical and a 3.5MM output for audio extraction. It can be controlled easily via the buttons on the front, the included remote or RS-232 commands.



Features & Package Contents

1. HDMI 2.0, HDCP 2.2 & DP 1.2a compliant
2. USB-C Input for wider compatibility.
3. Video resolutions up to 4K@60Hz
4. Audio extraction through Optical and L/R outputs
5. 8 different Video wall modes
6. Features 180 degree image rotation
7. Bezel adjustment and EDID management
8. Control via included remote, RS-232 or front panel.
9. Plug & Play setup

Package Contents

1.	UHD-14VW	1 pcs
2.	12V/1A Locking Power Supply	1 pcs
3.	Power Adapter	1 pcs
4.	IR Remote	1 pcs
5.	5V IR Receiver Cable (1.5m)	1 pcs
6.	3pin-3.81 mm Phoenix Connector (male)	1 pcs
7.	Machine Screw (KM3*4)	4 pcs
8.	Mounting Ear	2 pcs
9.	User Manual	1 pcs

Specifications

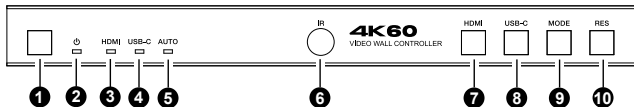
Technical	
HDMI Compliance	HDMI 2.0
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Input: up to 4K@60Hz 4:4:4 Output: 720P60Hz, 1080P60Hz, 4K@30Hz, 1024x768P@60Hz
Color Space	RGB, YCbCr_4:4:4, YCbCr_4:2:2, YCbCr_4:2:0
Color Depth	8/10/12 bit
IR Level	5Vp-p
IR Frequency	38KHz
Audio Formats	HDMI IN/OUT: LPCM 2.0/5.1/7.1, Dolby Digital/Plus/EX, DTS, DTS-EX, DTS-96/24 L/R OUT: PCM 2.0 SPDIF(OPTICAL): Dolby Digital/plus, DTS 5.1, PCM 2.0
Audio Latency	No Latency
Video Latency	No Latency
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) , ±4kV (Contact discharge)

Specifications

Connection			
Input ports	1 × HDMI INPUT [Type A, 19-pin female] 1 × USB-C INPUT [Type C, 24-pin female]		
Output ports	4 × HDMI OUTPUT [Type A, 19-pin female] 1 × OPTICAL AUDIO OUT [S/PDIF] 1 × L/R AUDIO OUT [RCA]		
Control ports	1 × RS-232 [3pin-3.81mm phoenix connector] 1 × IR EXT [3.5mm, Stereo Mini-jack]		
Mechanical			
Housing	Metal Enclosure		
Color	Black		
Dimensions	220mm [L] × 100mm [W] × 30mm [H]		
Weight	590g / 1.3lbs		
Power Supply	Input: AC 100-240V 50/60Hz, Output: DC 12V/1A (US/EU standard, CE/FCC/UL certified)		
Power Consumption	5.5W (Max)		
Operating Temperature	32 - 104°F / 0 - 40°C		
Storage Temperature	-4 - 140°F / -20 - 60°C		
Relative Humidity	20 - 90% RH (no-condensing)		
Video Resolution	4K60	4K24	1080P60
HDMI Cable Length (HDMI IN / OUT)	8m/26ft	10m/32ft	15m/49ft
The use of "Premium High Speed HDMI" cable is highly recommended.			

Operation Controls and Functions

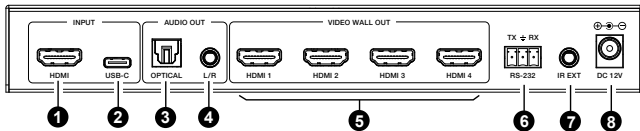
Front Panel



No.	Name	Function Description
1.	Power button	Press once to turn on the device. Press and hold for 3 seconds to enter standby mode.
2.	Power LED	The LED will light up green indicating stable power and light up red when on standby
3.	HDMI LED	The LED will light up green when HDMI input is selected.
4.	USB-C LED	The LED will light up green when USB-C input is selected.
5.	AUTO LED	The LED will light up green when auto switching is enabled
6.	IR window	IR signal receiving window.
7.	HDMI button	Press this button to select the HDMI input as the source
8.	USB-C button	Press this button to select the USB-C input as the source
9.	MODE button	Press this button to switch between the 8 video wall modes.
10.	RES button	Press this button to switch between various resolutions for the outputs

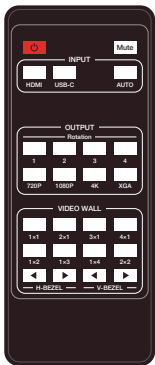
Operation Controls and Functions

Rear Panel



No.	Name	Function Description
1	HDMI INPUT	Connect the source media device such as a DVD player, set-top box, etc.
2	USB-C INPUT	Connect the source media device with a USB-C port such as a laptop or PC.
3	OPTICAL AUDIO OUT	S/PDIF output port for audio
4	L/R AUDIO OUT	3.5mm Analog output port for audio
5	VIDEO WALL OUT (HDMI1~4)	Connect the HDMI display devices such as TV, Monitor, etc.
6	RS-232	3-pin phoenix port for RS-232 control through a PC or Laptop
7	IR EXT	Connect the included IR Receiver cable to control the device from far away
8	DC 12V	Connect the included power supply to power the device

IR Remote



Power on the device or set it to standby mode.

Mute:

Turn off/on the audio output, including HDMI, Optical and L/R audio.

HDMI:

Press to select the HDMI input as the source

USB-C:

Press to select the USB-C input as the source

AUTO:

Press to disable or enable the input auto switching.

Rotation 1/2/3/4:

Press to switch rotation angle between 0° and 180° for the corresponding output channel.

Resolution 720P/1080P/4K/XGA:

Press to switch the resolution for the 4 output channels at the same time.

VIDEO WALL MODE:

There are 8 splicing modes: 1x1, 2x1, 3x1, 4x1, 1x2, 1x3, 1x4, 2x2. Press to select the display mode.

H/V-BEZEL ◀ ▶:

Press to adjust the bezels of the splicing images.

IR Cable Pin Assignment

IR Receiver pin's definition is as below:



Video Wall

Video wall supports 8 modes as shown below:

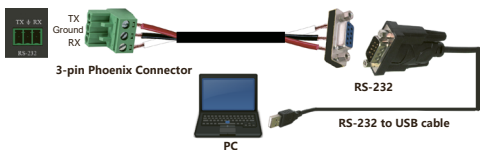


Users can set the display mode via the front panel buttons, included remote, and RS-232 commands.

Note: In the video wall mode (except mode 1x1), only the screens which are selected to perform video wall will display images and their bezels can be adjusted.

RS-232 Control Command

The product also supports RS-232 command control. Connect the RS-232 port of the product to a PC with a 3-pin phoenix connector cable and an RS-232 to USB cable. The connection method is as follows.



Then, open a Serial Command tool on PC to send ASCII command to control the device.

The ASCII command list is shown as below.

ASCII Command				
Serial port protocol. Baud rate: 115200 (Default), Data bits: 8, Stop bits:1, Check bit: 0				
x - Parameter 1, y - Parameter 2, ! - Delimiter				
Command Code	Function Description	Example	Feedback	Default Setting
System Setting				
help!	List all commands	help!		
r status!	Get device current status	r status!	get the unit all status: power, video wall mode, output resolution...	
r type!	Get device model	r type!	1x4 video wall controller	

RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
System Setting				
r fw version!	Get firmware version	r fw version!	mcu fw version : x.xx.xx	
s power z!	Power on/off the device, z=0-1 (z=0 power off, z=1 power on)	s power 1!	power on system initializing... initialization finished! mcu fw version x.xx.xx	
r power!	Get current power state	r power!	power on /power off	
s reboot!	Reboot the device	s reboot!	reboot... 1x4 video wall controller system initializing... initialization finished! mcu fw version : x.xx.xx	
s reset!	Reset to factory defaults	1x4 video wall controller	reset to factory defaults 1x4 video wall controller system initializing... initialization finished! mcu fw version : x.xx.xx	1.HDMI in; 2.EDID: 4K60 4:4:4 2ch; 3.audio mute off; 4.1x1 video wall mode; 5.1080p output; 6.All HDMI out no rotation; 7.H-Bezel=0, V-Bezel=0;

RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
Input Setting				
s input x edid z!	Set input x edid mode (x=0-2, z=1-6) x=0. all input x=1. input1 x=2. input2 z=1. 4k60, 2.0ch z=2. 4k60, 5.1ch z=3. 4k30, 2.0ch z=4. 4k30, 5.1ch z=5. 1080p, 2.0ch z=6. 1080p, 5.1ch	s input 1 edid 1!	input 1 edid: 4k60, 2.0ch	4k60,2.0ch
r input x edid!	Get input x edid mode (x=0-2) x=0. all input x=1. HDMI in x=2. USB-C in	r input 1 edid!	hdmi in edid: 4k60, 2.0ch	
s output in source x!	Route input source to output (x=1-2) x=1. HDMI in x=2. USB-C in	s output in source 1!	output->hdmi in	output->HDMI in
r output in source!	Get output y selected input source	r output in source!	output->hdmi in	
Output Setting				
s tw mode x!	Set tv wall display mode (x=1-8) x=1. 1x1 mode x=2. 2x1 mode x=3. 3x1 mode x=4. 4x1 mode x=5. 1x2 mode x=6. 1x3 mode x=7. 1x4 mode x=8. 2x2 mode	s tw mode 1!	tv wall mode: 1x1	tv wall mode: 1x1

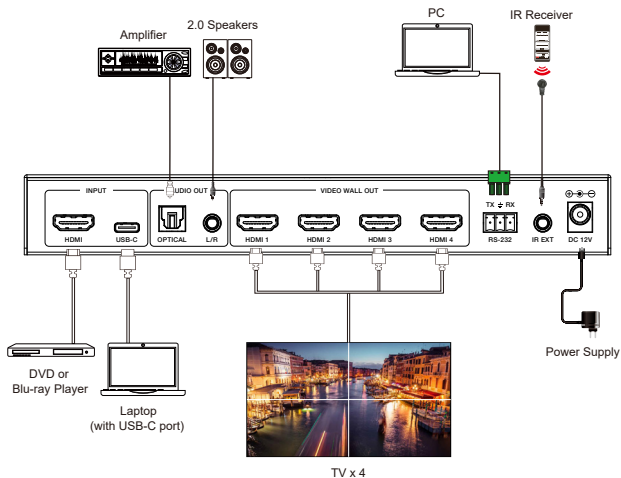
RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
Output Setting				
r tw mode!	Get tv wall display mode	r tw mode!	tv wall mode: 2x2	
s tw h bezel +!	Set tv wall horizontal bezel	s tw h bezel +!	tv wall horizontal bezel: (bezel+1)	tv wall horizontal bezel: 0
s tw h bezel -!	Set tv wall horizontal bezel	s tw h bezel -!	tv wall horizontal bezel: (bezel-1)	tv wall horizontal bezel: 0
s tw h bezel x!	Set tv wall horizontal bezel (x=0-10)	s tw h bezel 0!	tv wall horizontal bezel: 0	tv wall horizontal bezel: 0
r tw h bezel!	Get tv wall row bezel	r tw h bezel!	tv wall horizontal bezel: 0	
s tw v bezel +!	Set tv wall vertical bezel	s tw v bezel +!	tv wall vertical bezel: (bezel+1)	tv wall vertical bezel: 0
s tw v bezel -!	Set tv wall vertical bezel	s tw v bezel -!	tv wall vertical bezel: (bezel-1)	tv wall vertical bezel: 0
s tw v bezel x!	Set tv wall vertical bezel (x=0-10)	s tw v bezel 0!	tv wall vertical bezel: 0	tv wall vertical bezel: 0
r tw v bezel!	Get tv wall vertical bezel	r tw v bezel!	tv wall vertical bezel: 0	
s tw res x!	Set tv wall resolution (x=1-4) 1. 1280x720p60, 2. 1920x1080p60, 3. 3840x2160p30, 4. 1024x768@60 (XGA)	s tw res 2!	tv wall resolution: 1920x1080p60	tv wall resolution: 1920x1080p60
r tw res!	Get tv wall resolution	r tw res!	tv wall resolution: 1920x1080p60	tv wall resolution: 1920x1080p60

RS-232 Control Command

Command Code	Function Description	Example	Feedback	Default Setting
Output Setting				
s output y rotate x!	Set output y mirror (y=1-4, x=0,1) y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4 x=0. 0° rotation x=1. 180° rotation	s output 1 rotate 0!	output1: 0° rotation	output1: 0° rotation output2: 0° rotation output3: 0° rotation output4: 0° rotation
r output y rotation!	Get output y mirror status (y=0-4) y=0. output all y=1. output 1 y=2. output 2 y=3. output 3 y=4. output 4	r output 0 rotation!	output1: 0° rotation output2: 0° rotation output3: 0° rotation output4: 0° rotation	
s output audio mute x!	Set output audio mute on/off (x=0-1) 0. mute off 1. mute on	s output audio mute 0!	output audio mute: off	off
r output audio mute!	Get output audio mute on/off	r output audio mute!	output audio mute: off	

Application Example



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HIGH-DEFINITION MULTIMEDIA INTERFACE

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