



**4x1 Seamless 4K KVM  
Switch with USB 3.0 and  
Multiview Functionality**

**USER MANUAL**

**UKM-401MV**

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## 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 - [www.orei.com/register](http://www.orei.com/register)

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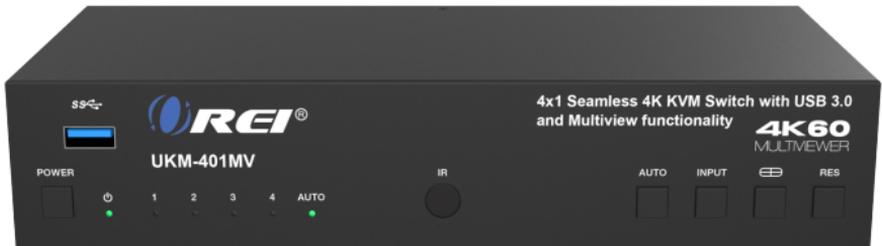
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# Introduction

The UKM-401MV is a KVM Switch with 4 inputs, allowing you to access 4 computers using just one set of keyboard, mouse, and display. This device is HDMI 2.0b and HDCP 2.2 compliant, with a video bandwidth of 18Gbps and resolutions up to 4K@60Hz. It also functions as a multi-viewer with 7 different display modes. Audio extraction is available through its optical and L/R ports. It features a built-in 3-port USB 3.1 Gen 1 hub for super-fast data transfer rates up to 5Gbps. Control the device via panel buttons, an IR remote, Keyboard and Mouse hotkeys, the OSD menu, or RS-232 commands. This device is compatible with both Windows and Mac, with no additional drivers needed for a simple plug-and-play setup. Its compact design makes it perfect for both commercial and personal uses.



# Features

1. HDMI 2.0b & HDCP 2.2 compliant
2. Video resolution up to 4K@60Hz
3. 18Gbps video bandwidth
4. Connect 4 computers and control them using a single set of Keyboard, mouse and display.
5. Built-in 3-port USB 3.1 Gen 1 hub with SuperSpeed 5Gbps data transfer rates, allowing you to share USB peripherals like printer, scanner, webcam, and hard disk between computers
6. Multiview functionality with 7 different modes
7. Easily switch between PCs using the keyboard/mouse hotkeys
8. Audio extraction through Optical and L/R outputs
9. Select which input the audio comes from and control the volume as well.
10. OSD navigation for advanced setting
11. EDID management
12. Control via front panel buttons, IR remote, keyboard/mouse hotkeys, OSD menu navigation, control software, RS-232 commands
13. Compatible with Windows and Mac
14. No drivers required
15. Compact design for easy and flexible installation

# Package Contents

1.	UKM-401MV Switcher	1 pcs
2.	IR Remote	1 pcs
3.	3pin-3.81mm Phoenix Connector (male)	1 pcs
4.	IR Receiver Cable (1.5 meters)	1 pcs
5.	Mounting Ears	2 pcs
6.	Machine Screws (KM3*4)	4 pcs
7.	USB Cable (USB 3.0 A to B, 1.8 meters)	4 pcs
8.	12V/2.5A Locking Power Adapter	1 pcs
9.	User Manual	1 pcs

# Specifications

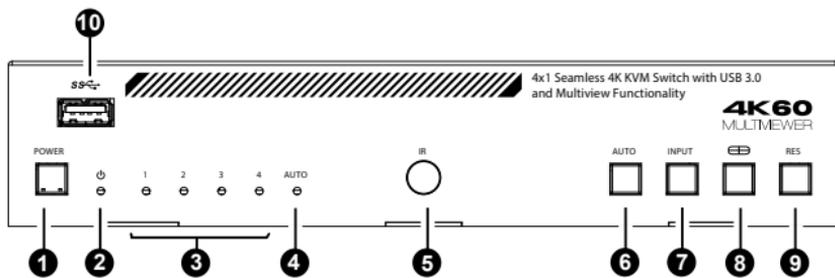
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2
Video Bandwidth	18Gbps
Video Resolution	Up to 4K@60Hz 4:4:4
IR Level	5Vp-p
IR Frequency	Fixed frequency 38KHz
Color Depth	8/10/12-bit
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Audio Formats	<b>HDMI:</b> PCM 2.0/5.1/7.1, Dolby Digital/Plus/EX, DTS, DTS-96/24, DTS High Res, DSD <b>Analog audio [3.5mm L/R]:</b> PCM 2.0 <b>SPDIF (OPTICAL):</b> Dolby Digital, DTS 5.1, PCM 2.0 <b>Note:</b> It does not support HBR audio.
ESD Protection	IEC 61000-4-2: ±8kV (Air-gap discharge) & ±4kV (Contact discharge)
Connection	
Input	4 x HDMI [Type A, 19-pin female]
Output	1 x HDMI [Type A, 19-pin female] 1 x L/R [Stereo, RCA] 1 x OPTICAL [S/PDIF]
Control	1 x RS-232 [3pin phoenix connector] 1 x IR EXT [3.5mm Stereo Mini-jack] 4 x USB 3.0 HOST [USB Type B] 2 x USB 2.0 DEVICE [USB Type A] 3 x USB 3.0 DEVICE [USB Type A]

# Specifications

Mechanical	
Housing	Metal Enclosure
Silkscreen Color	Black
Dimensions	L: 220mm / 8.66in W: 100mm / 3.93in H: 44mm / 1.73in
Weight	443g / 15.62oz
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 12V/2.5A (US/EU standard, CE/FCC/UL certified)
Power Consumption	18.48W (Max)
Operating Temperature	32 - 104°F / 0 - 40°C
Storage Temperature	-4 - 140°F / -20 - 60°C

# Operation Controls and Functions

## Front Panel



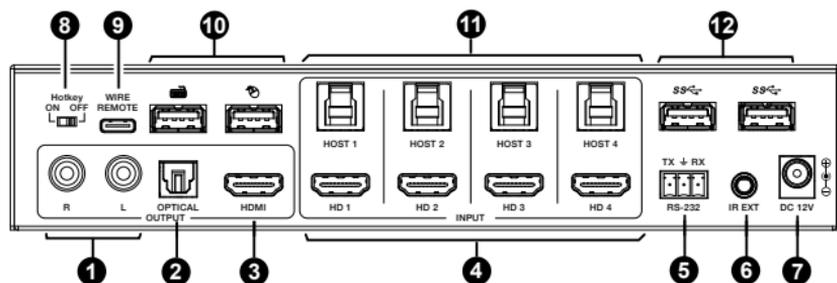
No.	Name	Function Description
1.	Power button	<ul style="list-style-type: none"><li>• Short press the button to power on the device.</li><li>• Long press the button for 1 seconds to enter the standby mode.</li></ul>
2.	Power LED	The power LED will light up Green when the product is powered on, and Red when the product is on standby.
3.	Input LED (1-4)	Input signal indicator lights. In single screen display mode, when the HDMI OUTPUT port outputs the signal from the HD 1/2/3/4 port, the corresponding Green LED will be on. In multiview mode, all input signal LEDs will light up Green.
4.	AUTO LED	When the device is in the AUTO mode, the AUTO LED will light up Green. The product will automatically switch to the next active input when the current input is disconnected/turned off.
5.	IR Window	IR signal receiving window.

# Operation Controls and Functions

No.	Name	Function Description
6.	AUTO button	Automatic switching button, only works in single screen display mode.
7.	INPUT button	<ul style="list-style-type: none"> <li>▪ In single screen display mode, short press the button to switch the input source.</li> <li>▪ In multiview mode, short press the button to display the yellow border, or when there is already a yellow border, press the button to switch it to the next window with the sequence as following: PIP: WIN1-&gt;WIN2-&gt;WIN1 PBP: WIN1-&gt;WIN2-&gt;WIN1 Triple: WIN1-&gt;WIN2-&gt;WIN3-&gt;WIN1 Quad: WIN1-&gt;WIN2-&gt;WIN3-&gt;WIN4-&gt;WIN1</li> </ul> <p><b>Note:</b> The yellow border indicates the position of keyboard, mouse or USB devices. It is displayed on WIN1 by default.</p> <ul style="list-style-type: none"> <li>▪ Long press the button, then the OSD on the window will display the corresponding input source.</li> </ul>
8.	Multiview button	<p>Multiview display mode switching button.</p> <ul style="list-style-type: none"> <li>▪ Short press the button to circularly select: SINGLE - PIP - PBP (1) - PBP (2) - Triple (1) - Triple (2) - Quad (1) - Quad (2).</li> <li>▪ Long press the button for 3 seconds to select the aspect ratio for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2).</li> </ul>
9.	RES button	<p>Output resolution switching button.</p> <ul style="list-style-type: none"> <li>▪ Short press the RES button, the OSD will display the current output resolution of the HDMI OUTPUT. Short press the RES button again before the OSD disappears to circularly switch the output resolution (Please refer to the output resolution list on Page 18 Video &amp; Audio section.)</li> <li>▪ Long press the RES button for 3 seconds to switch the output resolution to 720p60.</li> </ul>
10.	USB 3.0 port	USB 3.0 port to connect devices such as Printers, USB drives. Also, supports USB 3.1 Gen 1

# Operation Controls and Functions

## Rear Panel



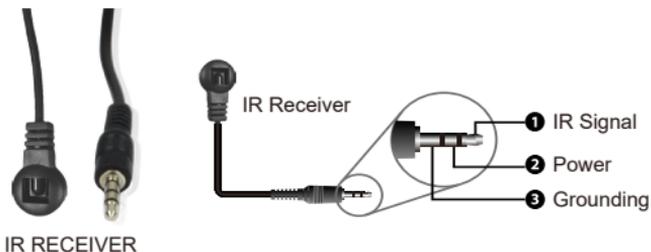
No.	Name	Function Description
1.	L/R port	PCM 2.0 stereo audio output port.
2.	OPTICAL port	Optical digital audio output port.
3.	HDMI OUTPUT port	Connect a display device such as a TV, Projector, etc.
4.	INPUT port (1-4)	Connect a media device such as a DVD Player, set-top box, etc.
5.	RS-232 port	Connect to a PC or control system for firmware upgrade or RS-232 command control.
6.	IR EXT port	IR signal receiving port, connected with 38KHz IR Receiver cable. If the IR signal receiving window of the unit is blocked or the unit is installed in a closed area out of infrared line of sight, the IR receiver cable can be inserted to the "IR EXT" port to receive the IR remote signal.
7.	DC 12V	DC 12V/2.5A power input port.

# Operation Controls and Functions

No.	Name	Function Description
8	Hotkey ON/OFF switch	Use the switch to enable/disable the hotkey switching mode. <ul style="list-style-type: none"><li>• Switch to "ON": The connected keyboard and mouse support hotkey switching.</li><li>• Switch to "OFF": The connected keyboard and mouse don't support hotkey switching.</li></ul>
9.	WIRE REMOTE port	Reserved port for KVM upgrade or connecting customized keyboard.
10.	Keyboard and Mouse ports	Two USB 2.0 ports to connect a keyboard and Mouse.
11.	HOST 1/2/3/4 ports	Four USB 3.0 HOST ports, connected to the PC 1/2/3/4 that is connected to the HD 1/2/3/4 INPUT port respectively.
12.	USB 3.0 ports	USB 3.0 port to connect devices such as Printers, USB drives. Also, supports USB 3.1 Gen 1

## IR Pin Definition

IR Receiver pin's definition is as below:



# IR Remote



 : Power on the product or set it to standby mode.

## HD 1/2/3/4:

Press these buttons to select the media source in single screen display mode, and the corresponding input LED on the front panel will light up Green.

- ◀ : In single screen display mode, press this button to switch to the previous input;  
In multiview mode, press this button to switch to the HOST of the previous window.
- ▶ : In single screen display mode, press this button to switch to the next input;  
In multiview mode, press this button to switch to the HOST of the next window.

 : Multiview display mode switching button.

- Short press this button to circularly select: SINGLE - PIP - PBP (1) - PBP (2) - Triple (1) - Triple (2) - Quad (1) - Quad (2) - Single.
- Long press this button for 3 seconds to select the aspect ratio for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2).

**Res:** Output resolution switching button.

- Short press the RES button to circularly switch the output resolution of the HDMI OUTPUT port (Please refer to the output resolution list on Page 18 Video & Audio section.)
- Long press the RES button for 3 seconds to switch the output resolution to 720p60.

**MENU, EXIT, LEFT, RIGHT, UP, DOWN, OK :** OSD Menu navigation buttons.

**A-IN:** Press this button to pop up the audio channel selection OSD, then press the UP / DOWN button to select the audio output channel. (The output audio follows the video source by default.)

# Hotkey Switch Function

## (IR Remote Continued)

**Mute:** Press this button to mute / unmute the audio.

**VOL-, VOL+:** Press these buttons to increase / decrease the volume.

## Hotkey Switch Function

The Hotkey switch on the back panel allows you to enable/disable the hotkey switch function.

(1) When Hotkey switch is set to OFF, the hotkey switch function is disabled.

(2) When Hotkey switch is set to ON, the hotkey switch function is enabled.

# Hotkey Switch Function

When the hotkey mode is enabled, you can use keyboard and mouse hotkeys to operate and control the product.

(1) Keyboard hotkeys are as following:

- |   |   |   |   |   |   |   |                                       |
|---|---|---|---|---|---|---|---------------------------------------|
|    | + |    | + |    | Switch to HDMI INPUT 1 and USB HOST 1.  |   |                                       |
|    | + |    | + |    | Switch to HDMI INPUT 2 and USB HOST 2.  |   |                                       |
|    | + |    | + |    | Switch to HDMI INPUT 3 and USB HOST 3.  |   |                                       |
|    | + |    | + |    | Switch to HDMI INPUT 4 and USB HOST 4.  |   |                                       |
|    | + |    | + |    | +   |  | Select INPUT 1 for the audio channel. |
|    | + |    | + |    | +   |  | Select INPUT 2 for the audio channel. |
|    | + |    | + |    | +   |  | Select INPUT 3 for the audio channel. |
|    | + |    | + |    | +   |  | Select INPUT 4 for the audio channel. |
|    | + |    | + |    | Switch to the PIP mode or switch the PIP position circularly in the PIP mode.                             |   |                                       |
|   | + |   | + |   | Switch to the PBP mode or switch the PBP (1) / PBP (2) display mode circularly in the PBP mode.           |   |                                       |
|  | + |  | + |  | Switch to the 3xWIN mode or switch the Triple (1) / Triple (2) display mode circularly in the 3xWIN mode. |   |                                       |
|  | + |  | + |  | Switch to the 4xWIN mode or switch the Quad (1) / Quad (2) display mode circularly in the 4xWIN mode.     |   |                                       |

# Hotkey Switch Function

 +  +  Enable/Disable the buzzer.

 +  +  +  Enable the mouse hotkey function (default).

 +  +  +  Disable the mouse hotkey function.

 +  +  +  Enable the mouse roaming function.

 +  +  +  Disable the mouse roaming function.

 +  +  +  Unmute the audio.

 +  +  +  Mute the audio.

 +  + 

In single screen display mode: Switch to the next input.

In multiview mode: Switch to the HOST of the next window.

 +  + 

In single screen display mode: Switch to the previous input.

In multiview mode: Switch to the HOST of the previous window.

 +  + 

Switch to the previous selection, including the display mode switching or the input switching in single screen display mode.

 +  +  + 

Open the OSD menu to control and operate the OSD through the keyboard.

Tap the “↑”, “↓”, “←”, “→” buttons to operate “up”, “down”, “left”, “right”;

Tap the “Backspace” button to return to the previous level;

Tap “Enter” button to confirm the operation;

Tap “Esc” button to exit the OSD menu.

# Hotkey Switch Function

(2) Mouse hotkeys are as following:

**Hotkey:** Double-Click Middle-Right (Double-click the mouse scroll wheel, and then click the right button):

**Function:**

In single screen display mode: Switch to the next input.

In multiview mode: Switch to the HOST of the next window.

**Hotkey:** Double-Click Middle-Left (Double-click the mouse scroll wheel, and then click the left button):

**Function:**

In single screen display mode: Switch to the previous input.

In multiview mode: Switch to the HOST of the previous window.

**Hotkey:** Triple-Click Middle (Triple-click the mouse scroll wheel):

**Function:**

Switch to the previous selection, includes mode switching in Multiview mode or input switching in single screen display mode.

# EDID Settings & Video & Audio

User can select following EDID modes via RS-232 command, OSD menu navigation or control software.

No.	EDID Mode (Video-Audio)	No.	EDID Mode (Video-Audio)
1.	4K@60Hz-2.0	11.	1680x1050-2.0
2.	4K@60Hz-5.1	12.	1600x1200-2.0
3.	4K@60Hz-7.1	13.	1440x900-2.0
4.	4K@30Hz-2.0	14.	1360x768-2.0
5.	4K@30Hz-5.1	15.	1280x1024-2.0
6.	4K@30Hz-7.1	16.	1024x768-2.0
7.	1080p-2.0	17.	720p-2.0
8.	1080p-5.1	18.	AUTO
9.	1080p-7.1	19.	USER1
10.	1920x1200-2.0		

## Video & Audio

The product supports multiple resolution video input up to 3840x2160@60, and supports multiple audio formats such as LPCM, AC3, DD+, DTS, DTSHD, up to 7.1 channel pass through via the HDMI ports. User can control the volume in LPCM format.

The switcher supports following video output resolutions via a powerful scaling engine.

(Continued)

No.	Output Resolution	No.	Output Resolution
1.	4096x2160p 60Hz	9.	1920x1080p 50Hz
2.	4096x2160p 50Hz	10.	1360x768p 60Hz
3.	3840x2160p 60Hz	11.	1280x800p 60Hz
4.	3840x2160p 50Hz	12.	1280x720p 60Hz
5.	3840x2160p 30Hz	13.	1280x720p 50Hz
6.	3840x2160p 25Hz	14.	1024x768 60Hz
7.	1920x1200p 60Hz RB	15.	AUTO
8.	1920x1080p 60Hz		

## Multiview

The product supports 7 different multiview display modes:

PIP, PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2)

Users can select different operations for different Multiview modes as following:

SINGLE: Inputs selection (4x1 Switch mode)

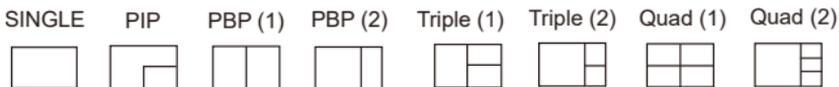
PIP: Inputs selection, Sub window size and position selection

PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2): Inputs selection, Display mode selection, Display aspect selection

Multiview window distributions are as following:

# Multiview & OSD Menu Navigation

(Continued)



User can select multiview display modes via RS-232 commands, OSD menu navigation or control software.

## OSD Menu Navigation

(1) A total of seven buttons on the IR Remote are used for OSD menu navigation: MENU, EXIT, UP, DOWN, LEFT, RIGHT, OK.

Menu contents are as follows:

Output	Resolution	3840x2160p60	4096x2160p 60Hz/ 4096x2160p 50Hz/ 3840x2160p 60Hz/ 3840x2160p 50Hz/ 3840x2160p 30Hz/ 3840x2160p 25Hz/ 1920x1200p60Hz RB/ 1920x1080p 60Hz/ 1920x1080p 50Hz/ 1360x768p 60Hz/ 1280x800p 60Hz/ 1280x720p 60Hz/ 1280x720p 50Hz/ 1024x768 60Hz
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# OSD Menu Navigation

Output	VKA	BLACKSCREEN,	BLACKSCREEN, BLUESCREEN
	ITC	OFF	ON, OFF
Multiview	Single	Input select	HDMI1, HDMI2, HDMI3, HDMI4
	PIP	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win2 Select	HDMI1, HDMI2, HDMI3, HDMI4
		PIP Position	Right Bottom, Right Top, Left Bottom, Left Top
		PIP Size	Small, Middle, Large
	PBP	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win2 Select	HDMI1, HDMI2, HDMI3, HDMI4
		MODE	1, 2
		Aspect	Full, 16:9
	3 x WIN	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win2 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win3 Select	HDMI1, HDMI2, HDMI3, HDMI4
		MODE	1, 2
		Aspect	Full, 16:9

# OSD Menu Navigation

Multiview	4 x WIN	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win2 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win3 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win4 Select	HDMI1, HDMI2, HDMI3, HDMI4
		MODE	1, 2
		Aspect	Full, 16:9
AUDIO	Audio Select	WIN1	HDMI1, HDMI2, HDMI3, HDMI4
	Volume	100	0..100
	AUDIO-MUTE	OFF	ON, OFF
System	Language/语言	English	English, 中文
	EDID	4K60-2.0	4K60-2.0, 4K60-5.1CH, 4K60-7.1CH, 4K30-2.0CH, 4K30-5.1CH, 4K30-7.1CH, 1080P-2.0CH, 1080P-5.1CH, 1080P-7.1CH, 1920x1200-2.0CH, 1680x1050-2.0CH, 1600x1200-2.0CH, 1440x900-2.0CH, 1360x768-2.0CH, 1280x1024-2.0CH, 1024x768-2.0CH, 720P-2.0CH, AUTO, USER1
	Baud rate	115200	115200, 57600, 38400, 19200, 9600
	Reset	Reset	Reset
	FW Version		Read only

# Control Software Operation Guide

(2) A total of four buttons on the IR Remote are used for audio settings on OSD menu navigation: A-IN, Mute, VOL-, VOL+.

Menu contents are as follows:

A-IN	Audio Input	WIN1	WIN1, HDMI1, HDMI2, HDMI3, HDMI4
Mute	Audio Mute	OFF	ON, OFF
VOL-/VOL+	Audio Volume	100	0..100

## Control Software Operation Guide

### Installation & Connection

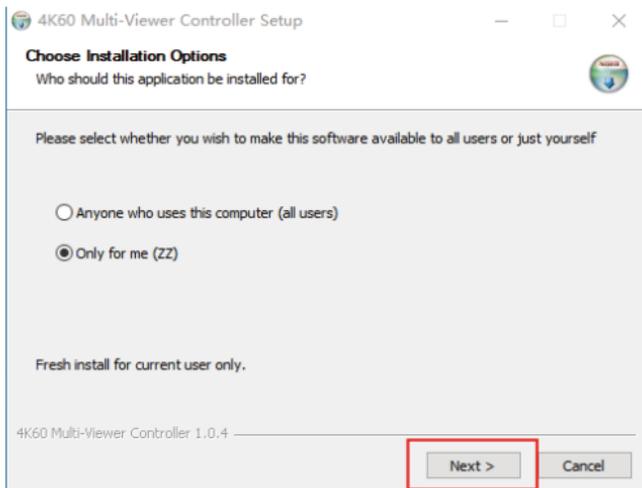
Follow the steps below to install the control software.

**Step 1.** Double-click the following icon to install the control software.

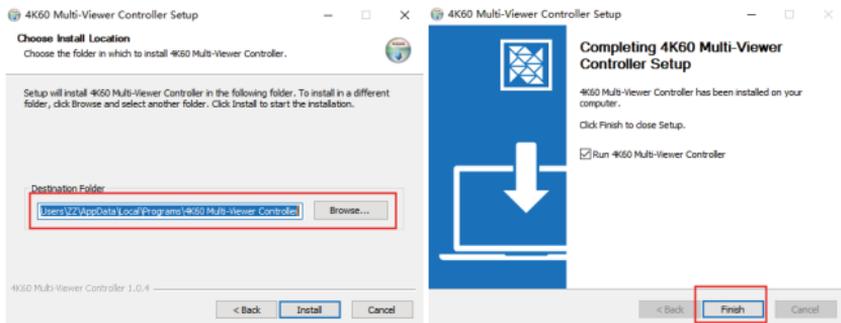


**Step 2.** Select "Anyone who uses this computer (all users)", and then click "Next".

# Control Software Operation Guide



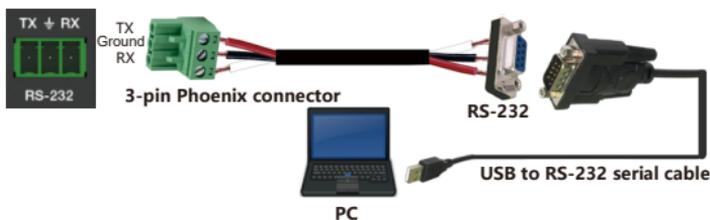
**Step 3.** Select the installation path and click "Install". After the installation is completed, click "Finish" to start using the control software.



# Control Software Operation Guide

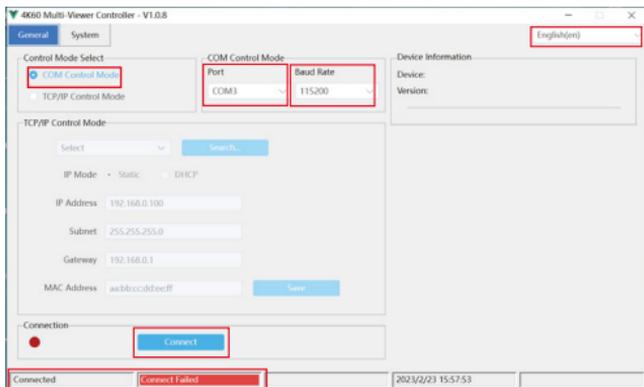
Follow the steps below to connect the control software and the device.

**Step 1.** Connect the RS-232 port of the switcher to a PC with an RS-232 serial cable and a USB to RS-232 serial cable, as shown in the figure below.



**Step 2.** Launch the installed software. (The default language is English, and you can set the language on the upper right corner of the main page.)

Select "COM Control Mode" on the "General" page, then select the Port number and Baud Rate (default: 115200), and finally click "Connect".

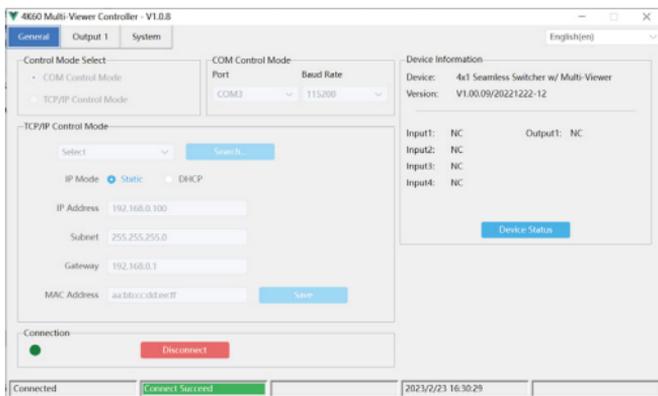


# Control Software Operation Guide

After successful connection, the “General” page will display the relevant information of the connected device, and the status bar at the bottom will display “Connected”.

## Control Main Interface

### ■ General Page

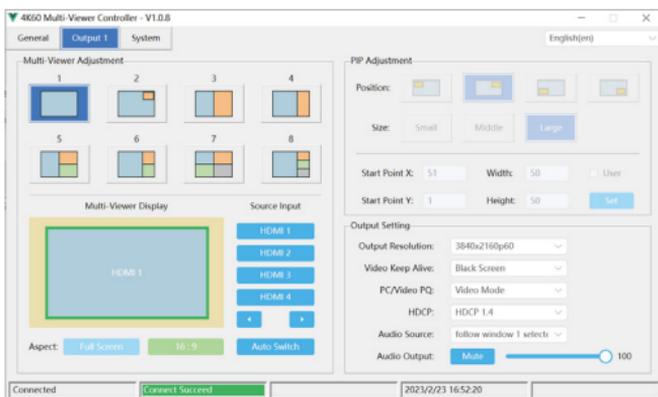


You can do the following operations on the General page:

- ① **Control Mode Select:** Select the “COM Control Mode”. (TCP/IP control is not supported temporarily, so the TCP/IP Control Mode is disabled.)
- ② **COM Control Mode:** Select the Port number and Baud Rate of the device.
- ③ **Device Information:** Display the device name, version and input/output connection status. Click “Device Status” to refresh the device status.
- ④ **Connection:** Click the Connect button to establish connection.
- ⑤ **Connected:** Display the connection status.

# Control Software Operation Guide

## ■ Output Page



You can do the following operations on the Output page:

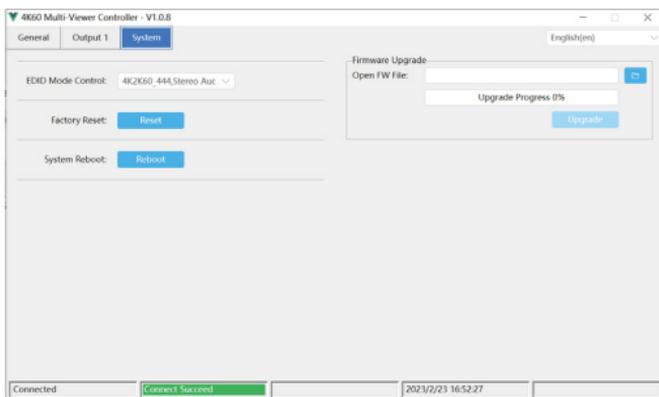
- ① **Multi-View Adjustment:** Click to select the desired screen display mode. There are eight modes available: SINGLE-PIP-PBP(1)-PBP(2)-Triple(1)-Triple(2)-Quad(1)-Quad(2).
- ② **PIP Adjustment:** In the PIP mode, you can switch the location and size of the PIP and set the user-defined PIP, as shown in the following table.

Size	Relative Position (Starting Position)	Height and Width of the Inner Frame
Small	Start Point X: 71 Start Point Y: 71	Width: 30 Height: 30
Middle	Start Point X: 61 Start Point Y: 61	Width: 40 Height: 40
Large	Start Point X: 51 Start Point Y: 51	Width: 50 Height: 50
User	Start Point X: 1-100 Start Point Y: 1-100	Width: 1-100 Height: 1-100

# Control Software Operation Guide

- ③ **Multi-Viewer Display:** Shows which output is currently being displayed.
- ④ **Source Input:** Select the media source. You should select the window in “Multi-Viewer Display” first, and then click “HDMI 1/2/3/4” in “Source Input” to select a media source, or click ◀ / ▶ to select the previous/next signal source.
- ⑤ **Aspect:** Click “Full Screen” or “16:9” to switch the display aspect ratio.
- Only available for the following modes: PBP(1)-PBP(2)-Triple(1)-Triple(2)-Quad(2).
- ⑥ **Auto Switch:** Enable or disable the function of automatic switching, available only in SINGLE mode.
- ⑦ **Output Setting:** Set the output resolution, video keep alive, PC/Video PQ, HDCP, audio source and audio output.

## ■ System Page



# Control Software Operation Guide

You can do the following operations on the System page:

- ① **EDID Mode Control:** Click the drop-down list on the right to select EDID mode.
- ② **Firmware Upgrade:** Click the folder icon on the right to import the firmware upgrade file, then click "Upgrade" to start upgrade. There will be a progress bar prompt during the upgrade process. When the progress bar reaches 100%, it indicates the upgrade is successful, and the device will be restarted automatically.
- ③ **Factory Reset:** Click "Reset" to reset the device to factory default settings.
- ④ **System Reboot:** Click "Reboot" to reboot the device.

# RS-232 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. Then, open a Serial Command tool on PC to send ASCII commands to control the product.

The ASCII command list of the product is as below.

ASCII Commands				
Serial port protocol. Baud rate: 115200 (default), 57600, 38400, 19200, 9600; Data bits: 8bit; Stop bits:1; Check bit: 0				
x - Parameter 1; y - Parameter 2; ! - Delimiter				
Command	Function Description	Example	Feedback	Default
<b>System Setting</b>				
help!	Lists all commands	help!		
r type!	Get device model	r type!	HDC-SWB41 MVK	
r fw version!	Get Firmware version	r fw version!	MCU FW version x.xx.xx SCALER FW version x.xx.xx SUB_MCU FW version x.xx.xx KVM_MCU FW version x.xx.xx	
power z!	Power on/off the device,z=0-1(z=0 power off, z=1 power on)	power 1!	power on	
r power!	Get current power state	r power!	power on /power off	
reboot!	Reboot the device	reboot!	Reboot...	
reset!	Reset to factory defaults	reset!	Reset to factory defaults	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
<b>Output Setting</b>				
s output res x!	Set Output Resolution (x=1-15) 1. 4096x2160p60, 2. 4096x2160p50, 3. 3840x2160p60, 4. 3840x2160p50, 5. 3840x2160p30, 6. 3840x2160p25, 7. 1920x1200p60RB, 8. 1920x1080p60, 9. 1920x1080p50, 10.1360x768p60, 11.1280x800p60, 12.1280x720p60, 13.1280x720p50, 14. 1024x768p60, 15. AUTO	s output res 3!	out resolution: 3840x2160p60	3840x2160p60
r output res!	Get output resolution	r output res!	out resolution: 3840x2160p60	
s output hdcp x!	Set output hdcp(x=1-3) 1. HDCP 1.4 2. HDCP 2.2 3. USER MODE	s output hdcp 2!	output HDCP: HDCP 1.4	HDCP 1.4
r output hdcp!	Get output hdcp status.	r output hdcp!	output HDCP: HDCP 1.4	
s output vka x!	Set output video keep active pattern (x=1-2) 1. black screen 2. blue screen	s output vka 1!	output VKA pattern: black screen	black screen
r output vka!	Get output video keep active pattern.	r output vka!	output VKA pattern: black screen	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
s output itc x!	Set output video mode(x=1~2) 1: video mode 2: pc mode	s output itc 1!	output ITC: video mode	video mode
r output itc!	Get output video mode	r output itc!	output ITC: video mode	
<b>EDID Setting</b>				
s input EDID x!	Set HDMI input EDID mode (x=1~19) 1. 4K2K60_444,Stereo Audio 2.0 2. 4K2K60_444,Dolby/DTS 5.1 3. 4K2K60_444,HD Audio 7.1 4. 4K2K30_444,Stereo Audio 2.0 5. 4K2K30_444,Dolby/DTS 5.1 6. 4K2K30_444,HD Audio 7.1 7. 1080P,Stereo Audio 2.0 8. 1080P,Dolby/DTS 5.1 9. 1080P,HD Audio 7.1 10. 1920x1200,Stereo Audio 2.0 11. 1680x1050,Stereo Audio 2.0 12. 1600x1200,Stereo Audio 2.0 13. 1440x900,Stereo Audio 2.0 14. 1360x768, Stereo Audio 2.0 15. 1280x1024,Stereo Audio 2.0 16. 1024x768, Stereo Audio 2.0 17. 720p,Stereo Audio 2.0 18. copy from HDMI out 19. USER1	s input EDID 1!	input EDID:4K- 2K60_444,Ste- reos Audio 2.0	4K2K60_444,Ste- reos Audio 2.0
r input EDID!	Get input EDID mode	r input EDID!	input EDID:4K- 2K60_444,Ste- reos Audio 2.0	
s edid user1 00 FF FF ...!	Set user1 EDID data	s edid user1 00 FF FF FF FF ...!	user1 EDID data: 0 0 FF FF FF FF FF FF 00 .....	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
r edid user1!	Get user1 EDID data	r edid user1!	user1 EDID data: 00 FF FF FF FF FF FF 00 .....	
<b>Audio Setting</b>				
s output audio x!	Set output audio source (x=0~4) 0. follow window 1 selected source 1. HDMI 1 input audio 2. HDMI 2 input audio 3. HDMI 3 input audio 4. HDMI 4 input audio	s output audio 0!	output audio: follow window 1 selected source	output audio: follow window 1 selected source
r output audio!	Get output audio source	r output audio!	output audio: follow window 1 video source	
s output audio vol+!	Increase output audio volume	s output audio vol+!	output audio volume: 50	
s output audio vol-!	Decrease output audio volume	s output audio vol-!	output audio volume: 50	
s output audio vol x!	Set output audio volume value (x=0~100)	s output audio vol 30!	output audio volume: 30	100
r output audio vol!	Get output audio volume	r output audio vol!	output audio volume: 30	
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	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
<b>Single Screen Mode Setting</b>				
s auto switch x!	Enable/disable auto switch feature (x=0-1) 0. Disable auto switch 1. Enable auto switch	s auto switch 0!	auto switch off	auto switch off
r auto switch!	Get auto switch feature	r auto switch!	auto switch off	
s in source x!	Route input source to output (1-4) 1. HDMI 1 2. HDMI 2 3. HDMI 3 4. HDMI 4	s in source 1!	HDMI 1	HDMI 1
r in source!	Get output selected input source	r in source!	HDMI 1	
<b>Multi-viewer Mode Setting</b>				
s multiview x!	Set multi-viewer display mode (x=1-5) 1. single screen 2. PIP 3. PBP 4. triple screen 5. quad screen	s multiview 1!	single screen	single screen
r multiview!	Get multi-viewer display mode	r multiview!	single screen	
s window x in y!	Select one input for one display window for the current Multiview mode. (x=1-4) 1. window 1 2. window 2 3. window 3 4. window 4 (y=1-4) 1. HDMI 1 2. HDMI 2 3. HDMI 3 4. HDMI 4	s window 1 in 1!	window 1 select HDMI 1	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
r window x in!	Get windows selected input source (x=0~4) 0. ALL 1. window 1 2. window 2 3. window 3 4. window 4	r window 1 in!	window 1 select HDMI 1	
s multiview x roaming switch y!	Set multi-viewer roaming switch (x=0-5) 0. ALL 1. single screen 2. PIP 3. PBP 4. triple screen 5. quad screen (y=0-1) 0. off 1. on	s multiview 1 roaming switch 1!	single screen roaming switch on	single screen roaming switch off PIP roaming switch on PBP roaming switch on triple screen roaming switch on quad screen roaming switch on
r multiview x roaming switch!	Get multi-viewer roaming switch (x=0-5) 0. ALL 1. single screen 2. PIP 3. PBP 4. triple screen 5. quad screen	r multiview 1 roaming switch!	single screen roaming switch on	
s PIP position x!	Set PIP window position (x=1-5) 1. Left Top 2. Left Bottom 3. Right Top 4. Right Bottom 5. user	s PIP position 3!	PIP on right top	PIP on right top
r PIP position!	Get PIP window position	r PIP position!	PIP on right top	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
s PIP Hstart Vstart Hsize Vsize!	Set PIP window to user define mode Hstart=(1~100) Vstart=(1~100) Hsize=(1~100) Vsize=(1~100) NOTE: Hstart+Hsize<=101, Vstart+Vsize<=101	s PIP 10 10 20 20!	PIP 10 10 20 20	
s PIP size x!	Get PIP window size (x=1~4) 1. small 2. middle 3. large 4. user	s PIP size 3!	PIP size: large	PIP size: large
r PIP size!	Get PIP window size	r PIP size!	PIP size: large	
s PBP mode x!	Set PBP windows display mode (x=1~2) 1. PBP mode 1 2. PBP mode 2	s PBP mode 1!	PBP mode 1	PBP mode 1
r PBP mode!	Get PBP windows display mode	r PBP mode!	PBP mode 1	
s PBP aspect x!	Set PBP windows display aspect ratio (x=1~2) 1. Full screen 2. 16:9	s PBP aspect 1!	PBP aspect: full screen	PBP aspect: full screen
r PBP aspect!	Get PBP windows display aspect ratio	r PBP aspect!	PBP aspect: full screen	
s triple mode x!	Set triple windows display mode (x=1~2) 1. triple mode 1 2. triple mode 2	s triple mode 1!	triple mode 1	triple mode 1
r triple mode!	Get triple windows display mode	r triple mode!	triple mode 1	

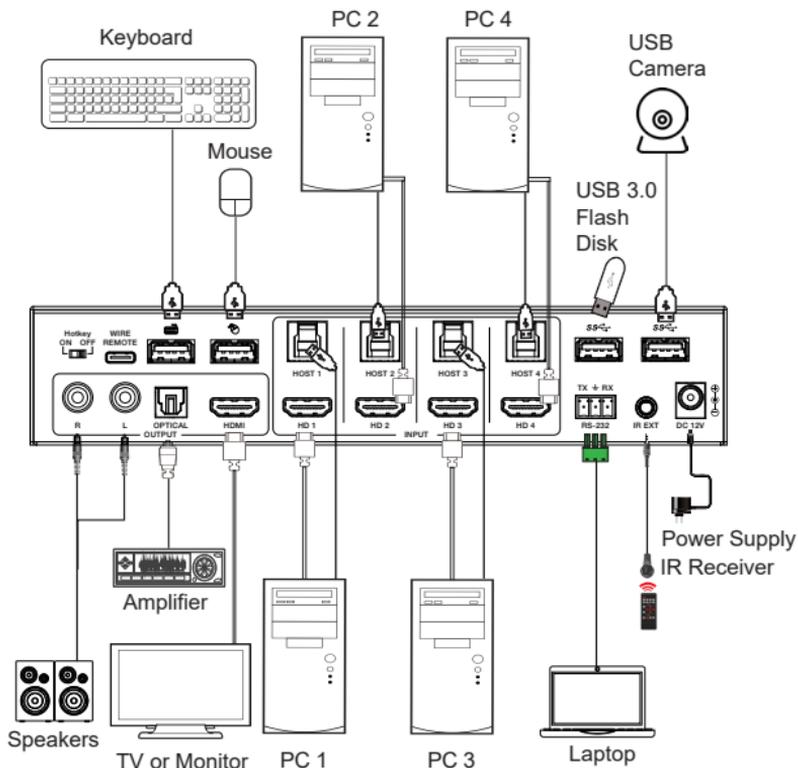
# RS-232 Command

Command	Function Description	Example	Feedback	Default
s triple aspect x!	Set triple windows display aspect ratio (x=1~2) 1. Full screen 2. 16:9	s triple aspect 1!	triple aspect: full screen	triple aspect: full screen
r triple aspect!	Get triple windows display aspect ratio	r triple aspect!	triple aspect: full screen	
s quad mode x!	Set quad windows display mode (x=1~2) 1. quad mode 1 2. quad mode 2	s quad mode 1!	quad mode 1	quad mode 1
r quad mode!	Get quad windows display mode	r quad mode!	quad mode 1	
s quad aspect x!	Set quad windows display aspect ratio (x=1~2) 1. Full screen 2. 16:9	s quad aspect 1!	quad aspect: full screen	quad aspect: full screen
r quad aspect!	Get quad windows display aspect ratio	r quad aspect!	quad aspect: full screen	
s mousekeys x!	Set mouse hotkey switch (x=0~1) 0. Disable mouse hotkey switch 1. Enable mouse hotkey switch	s mousekeys 1!	mousekeys switch: on	mouse hotkey switch on
r mousekeys!	Get triple roaming switch feature	r mousekeys 1!	mousekeys switch: on	
s beep x!	Set buzzer switch (x=0~1) 0. Disable buzzer switch 1. Enable buzzer switch	s beep 1!	beep on	buzzer switch off
r beep!	Get buzzer switch	r beep!	beep on	

# RS-232 Command

Command	Function Description	Example	Feedback	Default
s usb select win x!	Set usb select window (x=1~4) 1. window 1 2. window 2 3. window 3 4. window 4	s usb select win 1!	usb in win 1	
r usb select win!	Get usb select window	r usb select win!	usb in win 1	
s window source osd x!	Set window source osd switch (x=0-1) 0. off 1. on	s window source osd 1!	window source osd: on	window source osd: on
r window source osd!	Get window source osd switch!	r window source osd!	window source osd: on	
s window usb border x!	Set window usb border switch (x=0-1) 0. off 1. on	s window usb border 1!	window usb border: on	window usb border: on
r window usb border!	Get window usb border switch!	r window usb border!	window usb border: on	

# Application Example



**HDMI™**  
HIGH-DEFINITION MULTIMEDIA INTERFACE

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# FAQs & Troubleshooting

## **1. I have a computer with 2 displays, can I have a 2 display setup while using 4 PCs with this product?**

Unfortunately, this product only has one HDMI output so you cannot have a 2 display setup.

## **2. The display keeps flickering.**

1. Check if the HDMI cables are connected properly.
2. All HDMI cables should be under 30 feet.
3. Try lowering the resolution from the media source.
4. Reboot/Reset the device using the Control Software.

## **3. My USB peripherals and the display, keyboard, mouse are placed in a different room. How can I connect them or use this KVM Switch from that location?**

You can use any of our below Extender models to be able to achieve this kind of setup.

UHD-EXB330CU-K  
UHD-EXB330AUR-K  
UHD-EXB350EAU-K  
BK-EXB330EAU-K

### ***Still have some questions?***

Please feel free to contact us at: [info@orei.com](mailto:info@orei.com). OR Fill out the form on the 'Contact Us' page on the website.

Our team will be more than happy to help you.

### **OREI Live Technical Support Hours**

US team (US/Canada/Mexico): Monday-Friday, 9 a.m. - 5 p.m. Central Time **Support Email** - [info@orei.com](mailto:info@orei.com) | **Support Number** - 877-290-5530



**4x1 Seamless 4K KVM Switch with  
USB 3.0 and Multiview functionality**

**UKM-401MV**

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