

BLACKBIRD™



Blackbird™ by Monoprice™ Pro 4K60
4 × 1 MULTIVIEWER: SEAMLESS UHD VIDEO SWITCHER

P/N **44554**
User Manual

SAFETY WARNINGS AND GUIDELINES

Please read this entire manual before using the Blackbird™ Pro 4K60 4 × 1 Multiviewer Switcher, paying extra attention to these safety warnings and guidelines. Please keep this manual in a safe place for future reference.

- This device is intended for indoor use only.
- Do not expose this device to water or moisture. Do not place drinks or other containers with moisture on or near the unit. If moisture does get in or on the unit, immediately unplug it from the power source and allow it to fully dry before reapplying power.
- Do not touch this device, the power cord, or any other connected cables with wet hands.
- Do not expose this device to excessive vibration, extreme force, shock, or fluctuations in temperature or humidity.
- Do not expose the unit to excessively high temperatures. Do not place it in, on, or near heat sources, like a fireplace, stove, radiator, etc. Do not leave it in direct sunlight.
- Do not place or install the unit in an area where it can be exposed to excessive amounts of dust, humidity, oil, smoke, or explosive vapors.
- Before operation, check the unit and power cord for physical damage. Do not use if physical damage has occurred.
- Before plugging the unit into a power outlet, ensure that the outlet provides the same type and level of power required by the device.
- Unplug this transceiver from the power source when not in use.
- Take care to prevent damage to the power cord. Do not allow it to become crimped, pinched, walked on, or become tangled with other cords. Ensure that the power cord does not present a tripping hazard.
- Never unplug this device by pulling on the power cord. Always grasp the connector head or adapter body.
- Ensure power is turned off and disconnected before making any electrical connections.
- Do not use chemical cleaners or solvents to clean these mounts. Use only a soft cloth that's slightly moistened with warm water.
- This device has no user-serviceable parts. Do not attempt to open, service, or modify it.

⚠ WARNING	
• INGESTION HAZARD: This product contains a button cell or coin battery • DEATH or serious injury can occur if ingested. • A swallowed button cell or coin battery can cause Internal Chemical Burns in as little as 2 hours. • KEEP new and used batteries OUT OF REACH of CHILDREN • Seek immediate medical attention if a battery is suspected to be swallowed or inserted inside any part of the body.	

- Remove and immediately recycle or dispose of used batteries according to local regulations and keep them away from children. Do NOT dispose of batteries in household trash or incinerate them.
- Even used batteries may cause severe injury or death.
- Call a local poison control center for treatment information.
- Identification of compatible battery type: CR2025
- Nominal battery voltage: 3V
- Non-rechargeable batteries are not to be recharged.
- Do not force discharge, recharge, disassemble, heat above (manufacturer's specified temperature rating), or incinerate. Doing so may result in injury due to venting, leakage, or explosion resulting in chemical burns.
- Ensure the batteries are installed correctly according to polarity (+ and -).
- Do not mix old and new batteries, different brands, or types of batteries, such as alkaline, carbon-zinc, or rechargeable batteries.
- Remove and immediately recycle or dispose of batteries from equipment not used for an extended period according to local regulations.
- Always completely secure the battery compartment. If the battery compartment does not close securely, stop using the product, remove the batteries, and keep them away from children.

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INTRODUCTION

The Blackbird™ 4K60 4 × 1 Multiviewer: Seamless UHD Video Switcher by Monoprice™ was developed to support higher output resolution (4K @ 60 Hz) for multiple sources on a single screen. It can combine up to four video signals onto a single UHD or HD display. The user can manage each input and create combinations of the four inputs on a single display, as well as adjust the position of any input.

This product supports 8 display modes, within the mode range, users can freely switch 4-channel HD input signals. It can realize single-screen display and multiview display on a single screen.

This device supports a full range of input video resolutions up to 4K @ 60 Hz (RB) and audio RCA /Optical de-embedding supported for external audio distribution systems. This device can be controlled via front panel buttons, IR remote, OSD menu navigation, Controller software, and RS-232 commands.

FEATURES

- HDMI 2.0b, HDCP 2.2, and HDCP 1.x compliant
- Support 18 Gbps video bandwidth
- Input and output resolutions support up to 4K @ 60 Hz
- Support LPCM, AC3, DD+, DTS, DTS-HD, up to 7.1 audio channel
- Seamless switching between input channels and multiple images on a single UHD monitor
- Up to 8 display modes: SINGLE, PIP, PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2)
- Seamless switching in single-screen display mode and fast switching in multiview display mode

- Audio de-embedding via analog and optical fiber audio ports
- Support volume control and independent audio selection
- Support OSD navigation for advanced setting
- EDID management
- Control via front panel buttons, IR remote, OSD menu navigation, Controller software, RS-232 commands
- Compact design for easy and flexible installation

PACKAGE CONTENTS

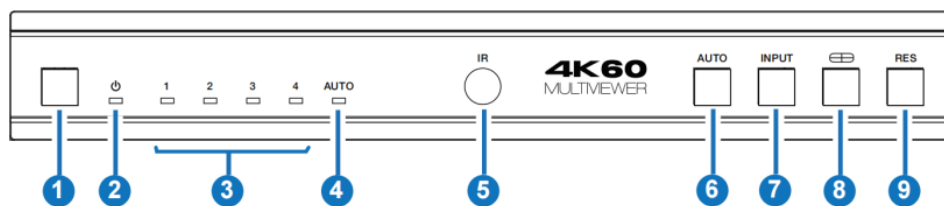
Take an inventory of the package contents to make sure you have all the items listed below.

Please contact Monoprice Customer Service for a replacement if anything is missing or damaged.

- **1x** 4K60 4 × 1 Multiviewer Video Switcher
- **1x** IR Remote Control
- **1x** 3-pin 3.81 mm Phoenix Connector (male)
- **1x** 38 kHz IR Wideband Receiver Cable (1.5 meters)
- **2x** Mounting Ears
- **4x** Machine Screws (KM3*4)
- **4x** Rubber Feet
- **1x** 12V/2.5A Locking Power Adapter
- **1x** User Manual

PRODUCT OVERVIEW

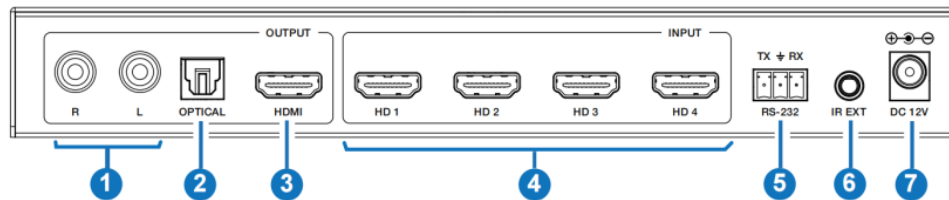
A. FRONT PANEL



1	POWER BUTTON	• Short press this button to power on the device. • Long press this button for 1 second to enter standby mode.
2	POWER LED	The Power LED will light in green when the product is powered on, and red when the product is on standby.
3	INPUT 1-4 LEDS	Input signal indicator lights. In single-screen display mode, the corresponding green LED will be on when the HDMI OUTPUT port outputs the signal from the HD 1/2/3/4 port. In multiview mode, all input signal LEDs will light in green.
4	AUTO LED	When the device is in AUTO mode, the AUTO LED will light in green, and HDMI is automatically identified. When the currently displayed source signal is disconnected, the switcher will automatically identify the next connected HDMI input port.
5	IR WINDOW	IR signal receiving window.
6	AUTO BUTTON	Automatic switching button, only available in single-screen display mode.
7	INPUT BUTTON	Input source switching button, only available in single-screen display mode.

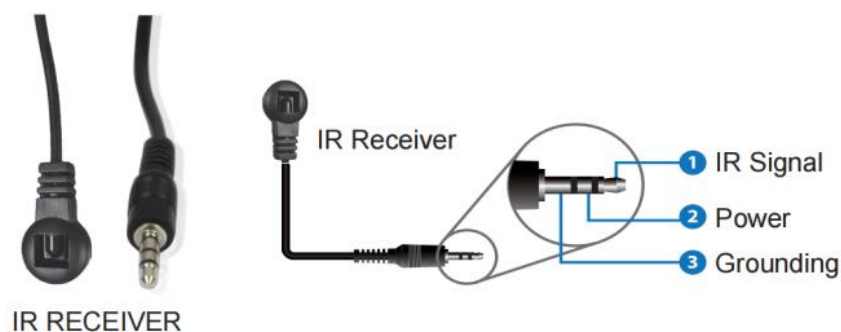
8	MULTIVIEW BUTTON	Multiview display mode switching button. - Short press this button to circularly select: SINGLE - PIP - PBP (1) - PBP (2) - Triple (1) - Triple (2) - Quad (1) - Quad (2). - Long press this button for 3 seconds to select the aspect ratio for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2).
9	RES BUTTON	Output resolution switching button. - Short press the RES button, and the OSD will display the current output resolution of the HDMI OUTPUT port. Short-press the RES button again before the OSD disappears to switch the output resolution circularly (Please refer to the output resolution list of "8. Video & Audio"). - Long press the RES button for 3 seconds to switch the output resolution to 720p60.

B. REAR PANEL



1	L/R PORT	PCM2.0 Analog audio output port.
2	OPTICAL PORT	Optical fiber digital audio output port.
3	HDMI OUTPUT PORT	HDMI signal output port, connected to HDMI display device such as TV or Monitor with HDMI cable.
4	HD 1-4 INPUT PORTS	HDMI signal input ports, connected to HDMI source devices such as DVD or Set-top box with HDMI cable.
5	RS-232 PORT	3-pin Phoenix connector, connected to a PC or control system for serial port upgrade or RS-232 command control.
6	IR E × T 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 the infrared line of sight, the IR receiver cable can be inserted into the "IR E × T" port to receive the IR remote signal.
7	DC 12V	DC 12V/2.5A power input port.

C. IR PIN DEFINITION



D. IR REMOTE

1	POWER ON OR STANDBY	Press this button to power on the switcher or set it to standby mode.
2	HD 1/2/3/4	Press these buttons to select the input source in single-screen display mode, and the corresponding input LED on the front panel will light green. ◀ ▶ : Press these buttons to circularly select the last or next input source in single-screen display mode. ⌂ : 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). • 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 of "8. Video & Audio"). • Long press the RES button for 3 seconds to switch the output resolution to 720P60.
3	MENU, EXIT, LEFT, RIGHT, UP, DOWN, OK	OSD Menu navigation buttons.
4	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.) • Mute: Press this button to mute/unmute the audio. • VOL-, VOL+: Press these buttons to increase/decrease the audio output volume.

EDID SETTINGS

Users can select the following EDID modes via RS-232 command, OSD menu navigation, or Controller software.

No.	EDID Mode	No.	EDID Mode
1	4K60-2.0CH	11	1680 × 1050p-2.0CH
2	4K60-5.1CH	12	1600 × 1200p-2.0CH
3	4K60-7.1CH	13	1440 × 900p-2.0CH
4	4K30-2.0CH	14	1360 × 768p-2.0CH
5	4K30-5.1CH	15	1280 × 1024p-2.0CH
6	4K30-7.1CH	16	1024 × 768-2.0CH
7	1080p-2.0CH	17	720p-2.0CH
8	1080p-5.1CH	18	AUTO
9	1080p-7.1CH	19	USER1
10	1920 × 1200p-2.0CH		

VIDEO & AUDIO

The switcher supports multiple resolution video input up to 3840 × 2160 @ 60 Hz, and supports multiple audio formats such as LPCM, AC3, DD+, DTS, DTS- HD, up to 7.1 channel pass-through function via HDMI cable. Users can control the volume of audio in LPCM format.

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

No.	Output Resolution	No.	Output Resolution
1	4096 × 2160p 60 Hz	8	1920 × 1080p 60 Hz
2	4096 × 2160p 50 Hz	9	1920 × 1080p 50 Hz
3	3840 × 2160p 60 Hz	10	1360 × 768p 60 Hz
4	3840 × 2160p 50 Hz	11	1280 × 800p 60 Hz
5	3840 × 2160p 30 Hz	12	1280 × 720p 60 Hz
6	3840 × 2160p 25 Hz	13	1280 × 720p 50 Hz
7	1920 × 1200p 60 Hz RB	14	1024 × 768p 60 Hz

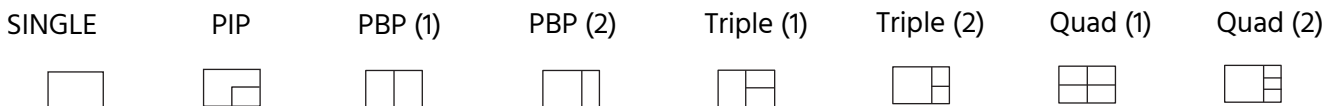
MULTIVIEW

The switcher supports 8 categories of multiview display modes: SINGLE, PIP, PBP (1), PBP (2), Triple (1), Triple (2), Quad (1), Quad (2)

Users can select different operations for different multiview modes as follows:

- **SINGLE:** Inputs selection
- **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

The multiview window distributions are as follows:



Users can select multiview display modes via RS-232 commands, OSD menunavigation or Controller software.

OSD MENU NAVIGATION

- A total of seven buttons on the IR Remote are used for OSD menu navigation, including Menu, E × it, UP, DOWN, LEFT, RIGHT, and OK. Menu contents are as follows:

Output	Resolution	3840 × 2160p60	4096 × 2160p 60 Hz / 4096 × 2160p 50 Hz / 3840 × 2160p 60 Hz / 3840 × 2160p 50 Hz / 3840 × 2160p 30 Hz / 3840 × 2160p 25 Hz/ 1920 × 1200p60 Hz RB / 1920 × 1080p 60 Hz/ 1920 × 1080p 50 Hz / 1360 × 768p 60 Hz/ 1280 × 800p 60 Hz / 1280 × 720p 60 Hz / 1280 × 720p 50 Hz / 1024 × 768 60 Hz
	VKA	BLACKSCREEN	BLACK SCREEN, BLUE SCREEN
	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, Medium, Large
	PBP	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
		Win2 Select	HDMI1, HDMI2, HDMI3, HDMI4
		MODE	1, 2
		ASPECT	Full, 16:9
	3 × 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
	4 × 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, 1920 × 1200p-2.0CH, 1680 × 1050p-2.0CH, 1600 × 1200p-2.0CH, 1440 × 900p-2.0CH, 1360 × 768p-2.0CH, 1280 × 1024p-2.0CH, 1024 × 768p-2.0CH, 720p-2.0CH, AUTO, USER1
	Baud Rate	115200	115200, 57600, 38400, 19200, 9600
	Reset	Reset	Reset
	FW Version		Read Only

- A total of four buttons on the IR Remote are used for audio settings on OSD menu navigation, including A-IN, Mute, VOL-, and 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

CONTROLLER SOFTWARE OPERATION GUIDE

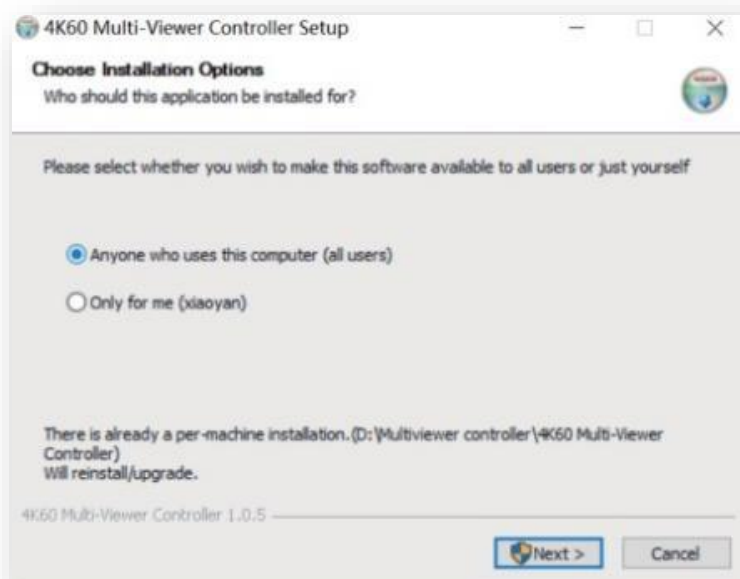
A. INSTALLATION & CONNECTION

Follow the steps below to install the Controller software:

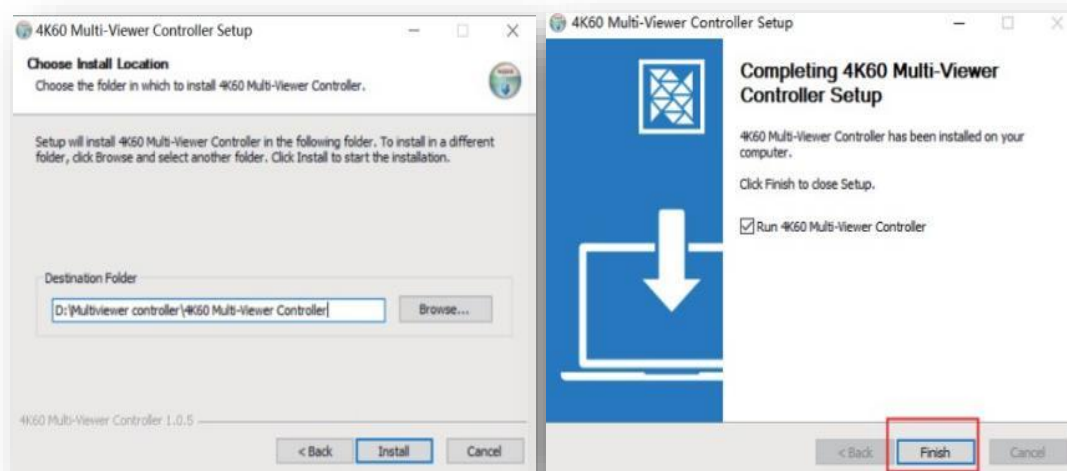
- Double-click the following driver to install the Controller software.



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

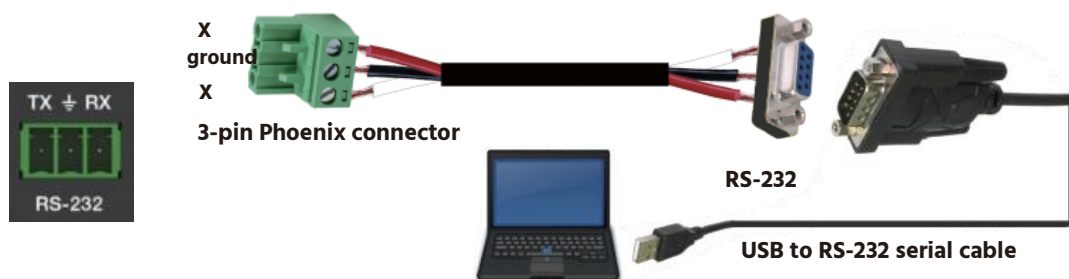


3. Select the installation path and click “Install”. After the installation is completed, click “Finish” to start using the Controller software.

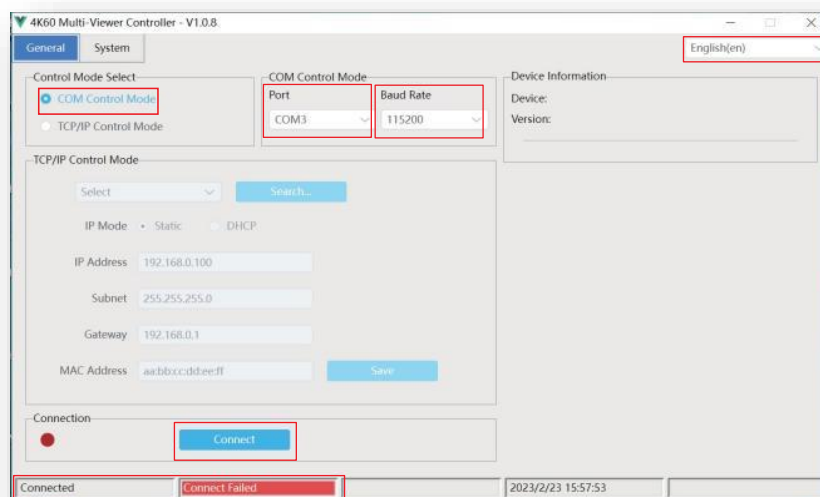


Follow the steps below to connect the Controller software and the device:

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

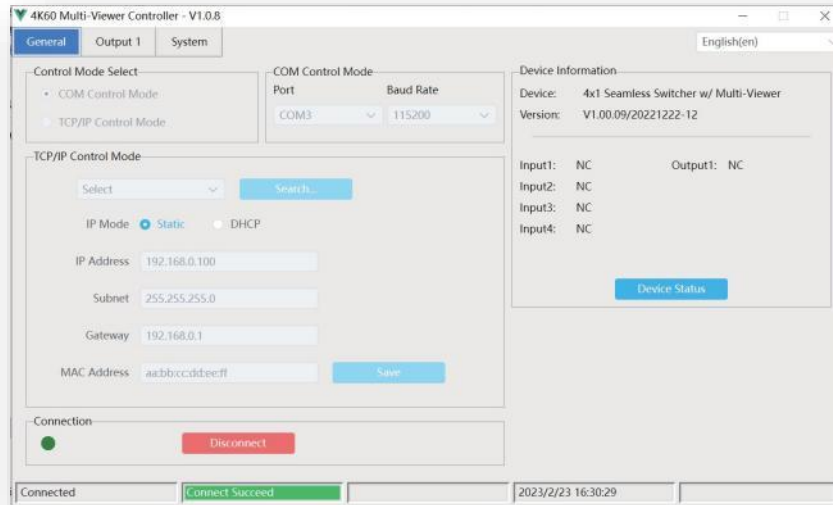


2. Launch the installed Controller software. (The default language is English, and you can set the language on the upper right corner of the main page.) Select “COM Control Mode” on the “General” page, then select the Port number and Baud Rate (default: 115200), and finally click “Connect”. After successful connection, the “General” page will display the relevant information of the connected device, and the status bar at the bottom will display “Connected”.



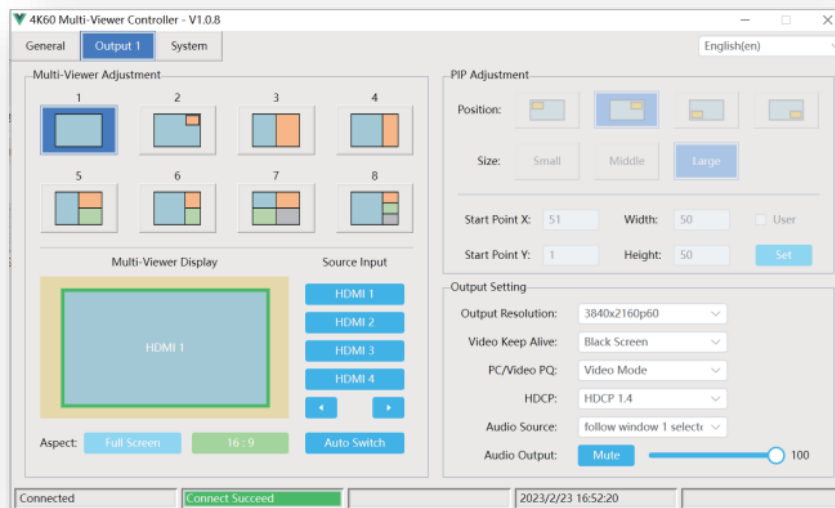
B. MAIN CONTROLLER INTERFACE

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 to set the connection status.
5. **Connected:** Display the connection status.

You can do the following operations on the **Output** page:



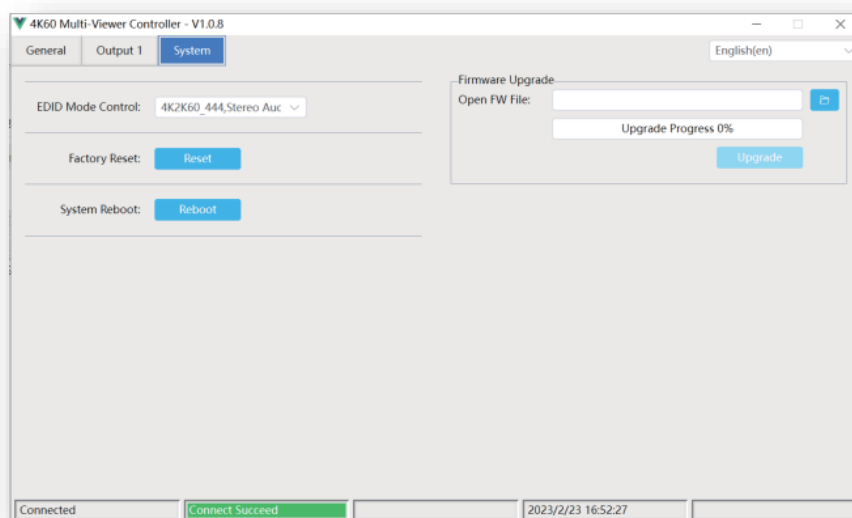
1. **Multi-View Adjustment:** Click to select the desired screen display mode. There are eight modes available: SINGLE-PIP-PBP(1)-PBP(2)-Triple(1)- Triple(2)-Quad(1)-Quad(2).

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: 71Start Point Y: 71	Width: 30, Height: 30
Middle	Start Point X: 61Start Point Y: 61	Width: 40, Height: 40
Large	Start Point X: 51Start Point Y: 51	Width: 50, Height: 50
User	Start Point X: 1-100Start Point Y: 1-100	Width: 1-100, Height: 1-100

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

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 an RS-232 to USB serial cable. Then open a Serial Command tool on PC to send ASCII commands to control the product.

The ASCII command list about the product is shown 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 Code	Function Description	Example	Feedback	Default
SYSTEM SETTING				
help!	List all commands	help!		
r type!	Get device model	r type!	4x1 HDMI Multiviewer	
r fw version!	Get Firmware version	r fw version!	MCU FW version x.xx.xx SCALER 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 System Initializing... Initialization Finished! MCU FW version x.xx.xx SCALER FW version x.xx.xx	
r power!	Get current power state	r power!	power on/power off	
reboot!	Reboot the device	reboot!	Reboot... System Initializing... Initialization Finished! MCU FW version x.xx.xx SCALER FW version x.xx.xx	
reset!	Reset to factory defaults	reset!	Reset to factory defaults System Initializing... Initialization Finished! MCU FW version x.xx.xx SCALER FW version x.xx.xx	

Command Code	Function Description	Example	Feedback	Default
OUTPUT SETTING				
s output res x!	Set Output Resolution (x=1~14) 1. 4096x2160p60, 2. 4096x2160p50, 3. 3840x2160p60, 4. 3840x2160p50, 5. 3840x2160p30, 6. 3840x2160p25, 7. 1920x1200p60RB,	s output res 3!	out resolution: 3840x2160p60	3840 × 2160p60

	8. 1920x1080p60, 9. 1920x1080p50, 10.1360x768p60, 11.1280x800p60, 12.1280x720p60, 13.1280x720p50, 14. 1024x768p60,			
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. HDCP OFF	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	
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	

Command Code	Function Description	Example	Feedback	Default
EDID SETTING				
s input EDID x!	Set HDMI input EDID mode (x=1~19) 1. 4K2K60_444,Stereo Audio 2.0 2. 4K2K60_444,Dolby/DTS 5.13. 4K2K60_444,HD Audio 7.1 4. 4K2K30_444,Stereo Audio 2.0 5. 4K2K30_444,Dolby/DTS 5.16. 4K2K30_444,HD Audio 7.1 7. 1080P,Stereo Audio 2.0 8. 1080P,Dolby/DTS 5.1 1080P,HD Audio 7.1 10.1920 × 1200,Stereo Audio 2.0 11.1680 × 1050,Stereo Audio 2.0 12.1600 × 1200,Stereo Audio 2.0 13.1440 × 900,Stereo Audio 2.0 14.1360 × 768, Stereo Audio 2.0 15.1280 × 1024,Stereo Audio 2.0 16.1024 × 768, Stereo Audio 2.0 17.720p,Stereo Audio 2.0 18.copy from HDMI out 19.USER1	s input EDID 1!	input EDID:4K2K 60_444, Stereo Audio 2.0	4K2K60_ 444,Stereo Audio 2.0

r input EDID!	Get input EDID mode	r input EDID!	input EDID:4K2K60 _444, Stereo Audio 2.0	
s edid user1 00 FF FF ...!	Set user1 EDID data	s edid user1 00 FF FF FF FF ...!	s edid user1 00 FF FF FF FF ...!	
r edid user1!	Get user1 EDID data	r edid user1!	r edid user1!	
AUDIO SETTING				
s output audio x!	Set output audio source (x=0~4) follow window 1 selected source HDMI 1 input audio HDMI 2 input audio HDMI 3 input audio HDMI 4 input audio	s output audio 0!	output audio: follow window 1	output audio: follow window 1 selected source
r output audio!	Get output audio source	r output audio!	selected source	
s output audio vol+!	Increase output audio volume	s output audio vol+!	output audio: follow window 1 video	
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: 50	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	
SINGLE SCREEN MODE SETTING				
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	s in source 1!	HDMI 1	HDMI 1

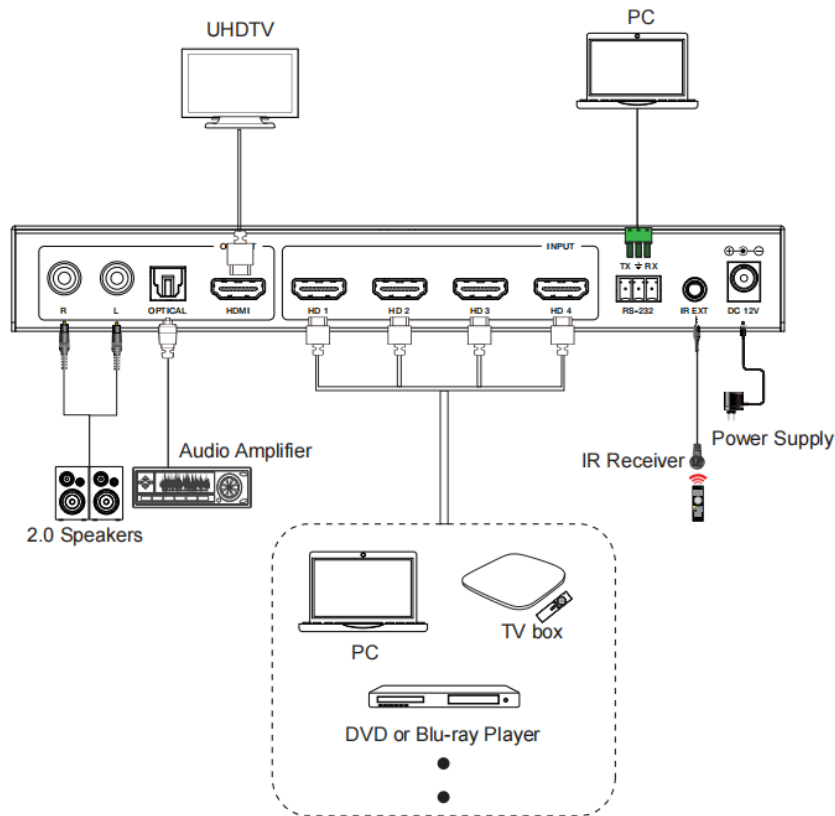
	3. HDMI 3 4. HDMI 4			
r in source!	Get output selected input source	r in source!	HDMI 1	

MULTIVIEWER MODE SETTING				
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) 5. HDMI 1 6. HDMI 2 7. HDMI 3 8. HDMI 4	s window 1 in 1!	window 1 select HDMI 1	
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 window x border y!	Set the border mode of the specified window. (x=1~4) 1. window 1 2. window 2 3. window 3 4. window 4 (y=0~1) 1. off 2. on	s window 1 border 1!	window 1 border on	off
r window x border!	Get the border mode of windows (x=0~4) 0. ALL 1. window 1	r window 1 border!	window 1 border on	

	2. window 2 3. window 3 4. window 4			
s window x border color y!	Set the border color of the specified window. (x=1~4) 1. window 1 2. window 2 3. window 3 4. window 4 (y=1~9) 5. BLACK 6. RED 7. GREEN 8. BLUE 9. YELLOW 10. MAGENTA 11. CYAN 12. WHITE 13. GRAY	s window 1 border color 1!	window 1 border color: BLACK	YELLOW
r window x border color!	Get the border color of windows (x=0~4) 0. ALL 1. window 1 2. window 2 3. window 3 4. window 4	r window 1 border color!	window 1 border color: BLACK	
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 position x!	Set PIP window position (x=1~5) 1. Left Top 2. Left Bottom 3. Right Top 4. Right Bottom 5. user			
r PIP position!	Get PIP window position			
s PIP size x!	Get PIP window size (x=1~4) 1. small 2. middle 3. large 4. user			
r PIP size!	Get PIP window size			

s PBP mode x!	Set PBP windows display mode (x=1~2) 1. PBP mode 1 2. PBP mode 2			
r PBP mode!	Get PBP windows display mode			
s PBP aspect x!	Set PBP windows display aspect ratio (x=1~2) 1. Full screen 2. 16:9			
r PBP aspect!	Get PBP windows display aspect ratio			
s triple mode x!	Set triple windows display mode (x=1~2) 1. triple mode 1 2. triple mode 2			
r triple mode!	Get triple windows display mode	r triple mode!	triple mode 1	
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!		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!		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	

CONNECTION DIAGRAM



TECHNICAL SPECIFICATION

P/N	44554
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 / 1. ×
Video Bandwidth	18 Gbps
Video Resolution	Up to 4K @ 60 Hz
IR Level	5Vp-p
IR Frequency	38KHz
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8-bit
Audio Formats	HDMI: PCM2.0/5.1/7.1CH, Dolby Digital/Plus, DTS, DTS High Res Analog audio [3.5mm L/R]: PCM2.0 SPDIF (OPTICAL): Dolby Digital, DTS 5.1, PCM2.0 Note: It does not support HBR audio.
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

CONNECTION	
Input Ports	4 × HDMI IN (Type A, 19-pin female)
Output Ports	1 × HDMI OUT (Type A, 19-pin female), 1 × L/R OUTPUT (RCA), 1 × OPTICAL OUTPUT (S/PDIF)
Control Ports	1 × RS-232 (3pin-3.81mm phoenix connector), 1 × IR E × T (3.5mm Stereo Mini-jack)
MECHANICAL	
Housing	Metal Enclosure
Color	Black
Dimensions	220mm (W) × 100mm (D) × 30mm (H)
Weight	620 g
Power Supply	Input: AC 100 - 240V 50/60Hz Output: DC 12V/2.5A (US/EU standard, CE/FCC/UL certified)
Power Consumption	10W (Max)
Operating Temperature	32 - 104°F / 0 - 40°C
Storage Temperature	-4 - 140°F / -20 - 60°C
Relative Humidity	20 - 90% RH (no-condensing)

CUSTOMER SERVICE

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TECHNICAL SUPPORT

Monoprice™ is pleased to provide free, live, online technical support to assist you with any questions you may have about installation, setup, troubleshooting, or product recommendations. If you ever need assistance with your new product, please come online to talk to one of our friendly and knowledgeable Tech Support Associates. Technical support is available through the online chat button on our website **www.monoprice.com** or through email by sending a message to **tech@monoprice.com**. Check the website for support times and links.

To download the latest drivers, firmware, manuals, etc., go to **www.monoprice.com** and type **44554** into the search bar. If available, support files are linked at the bottom of the product page.

REGULATORY COMPLIANCE

NOTICE FOR FCC

 This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Modifying the equipment without Monoprice's authorization may result in the equipment no longer complying with FCC requirements for Class B digital devices. In that event, your right to use the equipment may be limited by FCC regulations, and you may be required to correct any interference to radio or television communications at your own expense.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTICE FOR ISED CANADA

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

DISPOSAL AND RECYCLING INFORMATION



The symbol indicates that this product should be disposed of separately from regular household waste streams. It is your responsibility to dispose of this and other electrical and electronic products via designated collection facilities appointed by the government or local authorities. Correct disposal and recycling will help prevent potential negative consequences to the environment and human health. For more detailed information about the disposal of your unwanted product, please contact your local authorities, waste disposal service, or the shop where you purchased the product.

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