J-TECH DIGITAL ®

USER MANUAL V1.0

4K60 4X1 SEAMLESS SWITCHER MULTIVIEWER W/

VIDEO ASPECT RATIO CHANGE

JTD-2996 I JTECH-MV41A

HDMI™ HIGH DEFINITION MULTIMEDIA INTERFACE RoHS compliant CE FC

Scan the QR code below or visit
https://resource.jtechdigital.com/products/2996
to view and access detailed digital
resources regarding this unit.

Safety Instructions:

- Before using this product, please carefully read the following safety instructions to ensure its proper use and keep this manual for future reference:
- To prevent electric shock, do not attempt to open the product.
- Only qualified personnel should perform any repairs or maintenance.
- Always place the product on a stable, flat surface to prevent it from falling.
- Do not expose the product to water, moisture, or high-humidity environments to avoid the risk of damage.
- To prevent damage from direct sunlight or high temperatures, do not expose the product to such environments.
- Do no place the product near heat sources like radiators, heat registers, stove, or other heat-producing apparatus.
- Do not place any objects on top of the product to avoid damage.
- Use only the attachments and accessories specified by the manufacturer.
- During lightning storms or prolonged periods of disuse, unplug the power supply to prevent damage.

Table of Contents

1. Introduction

This 4K60 4x1 Multiviewer Seamless UHD Video Switcher was developed for the purpose of supporting higher output resolution (4K@60) for multiple sources on a single screen. It can combine up to four video signals onto a single UHD or HD displayer. 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 full range of input video resolutions up to 4K@60 (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, RS-232 commands.

2. Features

- HDMI 2.0b, HDCP 2.2 and HDCP 1.4 compliant
- Supports 18Gbps video bandwidth
- Input and output resolutions support up to 4K@60Hz
- Support LPCM, AC3, DD+, DTS, DTS-HD, up to 7.1 audio channel
- Seamless switching between input channels and combined multiple images on 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
- 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

3. Package Contents

- 1 x 4K60 4x1 Multiviewer Seamless UHD Video Switcher
- 1 x IR Remote
- 1 x 3pin-3.81mm Phoenix Connector (male)
- 1 x 38KHz IR Wideband Receiver Cable (1.5 meters)
- 2 x Mounting Ears
- 4 x Machine Screws (KM3*4)
- 4 x Rubber Feet
- 1 x 12V/2.5A Locking Power Adapter
- 1 x User Manual

4. Specifications

Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 / 1.4
Video Bandwidth	18Gbps
Video Resolution	Up to 4K@60Hz
IR Level	5Vp-p
IR Frequency	38KHz
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	8bit
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 x HDMI IN [Type A, 19-pin female]
Output ports	1 x HDMI OUT [Type A, 19-pin female] 1 x L/R OUTPUT [RCA] 1 x OPTICAL OUTPUT [S/PDIF]
Control ports	1 x RS-232 [3pin-3.81mm phoenix connector] 1 x IR EXT [3.5mm Stereo Mini-jack]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	220mm [W] x 100mm [D] x 30mm [H]
Weight	620g
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)

5. Operation Controls and Functions

5.1 Front Panel
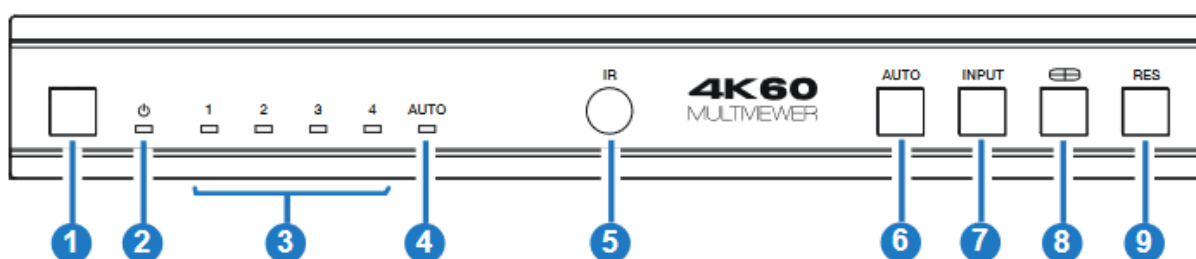
No.	Name	Function Description
1	Power button	• Short press this button to power on the device. • Long press this button for 1 seconds to enter the standby mode.
2	Power LED	The Power LED will light in green when the product is powered on, and red when the product is on standby.

| No.	Name	Function Description
3	Input 1-4 LEDs	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 in green.
4	AUTO LED	When the device is in the AUTO mode, the AUTO LED will light in green, and HDMI is automatically identified, that is, 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. ▪ Short press this button to circularly select input source. ▪ Long press this button, the input source of the window will be displayed on OSD.
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). **Note:** When selecting different multiview modes, the label of the signal sources will be displayed in the upper left corner of the first display window. The label will disappear automatically after 3 seconds. ▪ 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, the OSD will display the current output resolution of the HDMI OUTPUT port. Short press the RES button again before the OSD disappears to circularly switch the output resolution (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.

5.2 Rear Panel
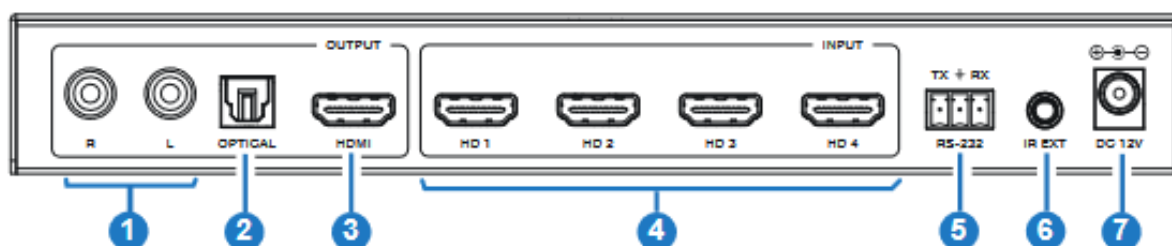
No.	Name	Function Description
1	L/R port	PCM2.0 Analog audio output port.
2	OPTICAL port	Optical fiber digital audio output port.
3	HDMI OUTPUT port	HDMI signal output port, connected to HDMI display device such as TV or Monitor with HDMI cable.
4	HD 1-4 INPUT ports	HDMI signal input ports, connected to HDMI source device 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 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.

5.3 IR Pin Definition

IR Receiver pin's definition is as below:

IR RECEIVER
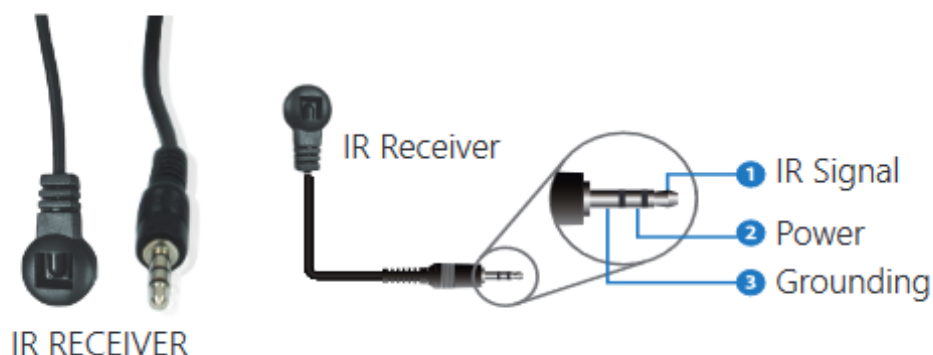
6. IR Remote
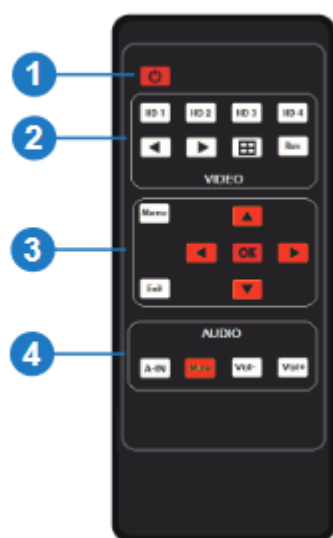
① Power on or Standby: Press this button to power on the switcher or set it to standby mode.

② HD 1/2/3/4: Press these buttons to select input source in single screen display mode, and the corresponding input LED on the front panel will light in green, and the corresponding input source will be displayed on the OSD of the window.

◄ ► : 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, the input source of the window will be displayed on OSD.

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). Finally, pess the A-IN button to switch to the selected audio channel, and the corresponding audio channel name is also displayed on the OSD at the bottom center of the window.
Mute: Press this button to mute / unmute the audio.
VOL-, VOL+: Press these buttons to increase / decrease the audio output volume.
Note: The optical fiber digital audio can only be mute / unmute by the Mute button, and the volume cannot be increased or decreased by the VOL-/VOL+ button.

7. EDID Settings

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

No.	EDID Mode	No.	EDID Mode
1	4K60-2.0CH	11	1680x1050-2.0CH
2	4K60-5.1CH	12	1600x1200-2.0CH
3	4K60-7.1CH	13	1440x900-2.0CH
4	4K30-2.0CH	14	1360x768-2.0CH
5	4K30-5.1CH	15	1280x1024-2.0CH
6	4K30-7.1CH	16	1024x768-2.0CH
7	1080P-2.0CH	17	720P-2.0CH
8	1080P-5.1CH	18	AUTO
9	1080P-7.1CH	19	USER1
10	1920x1200-2.0CH		

8. Video & Audio

The switcher supports multiple resolution video input up to 3840x2160@60, and supports multiple audio formats such as LPCM, AC3, DD+, DTS, DTS-HD, up to 7.1 channel pass through function via HDMI cable. User 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	4096x2160p 60Hz	8	1920x1080p 60Hz
2	4096x2160p 50Hz	9	1920x1080p 50Hz
3	3840x2160p 60Hz	10	1360x768p 60Hz
4	3840x2160p 50Hz	11	1280x800p 60Hz
5	3840x2160p 30Hz	12	1280x720p 60Hz
6	3840x2160p 25Hz	13	1280x720p 50Hz
7	1920x1200p 60Hz RB	14	1024x768 60Hz
		15	AUTO

9. 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 following:

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

Multiview window distributions are as following:
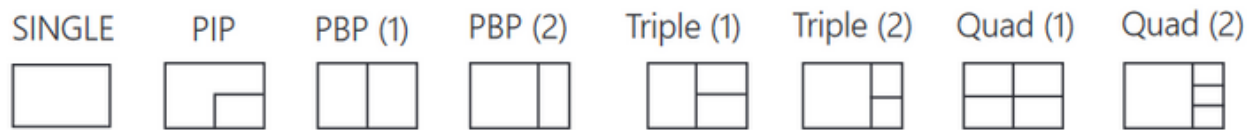
Users can select multiview display modes via RS-232 commands, OSD menu navigation or Controller software.

10. OSD Menu Navigation

(1) A total of seven buttons on the IR Remote are used for OSD menu navigation, including 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

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
	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	HDMI1	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, 1024x 768-2.0CH,720P-2.0CH, AUTO, USER1
	Baud rate	115200	115200,57600,38400, 19200,9600
	Reset	Reset	Reset
	FW Version		Read only

(2) A total of four buttons on the IR Remote are used for audio setting on OSD menu navigation, including A-IN, Mute, VOL-, VOL+. Menu contents are as follows:
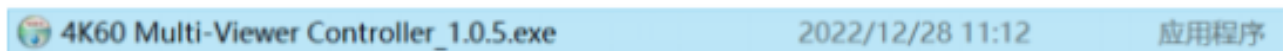
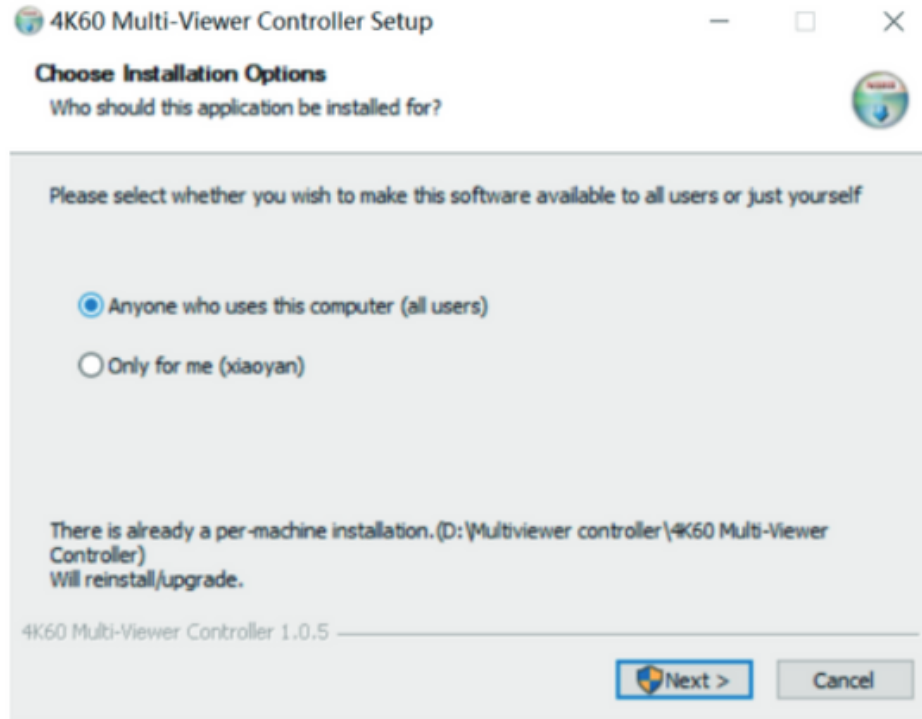| A-IN	Audio Input	HDMI1	HDMI1,HDMI2,HDMI3, HDMI4
Mute	Audio Mute	OFF	ON, OFF
VOL-/VOL+	Audio Volume	100	0..100

11. Controller Software Operation Guide

11.1 Installation & Connection

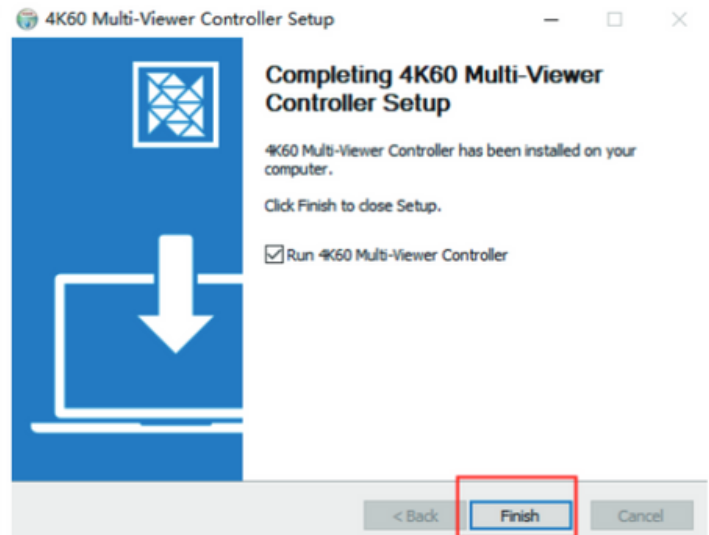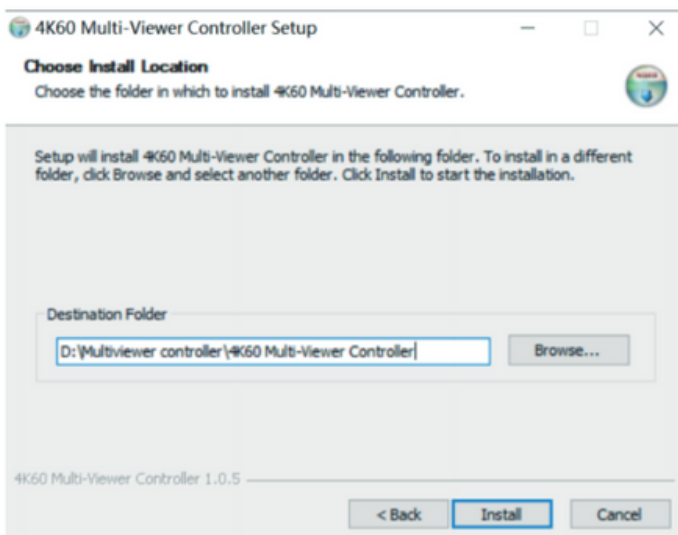Follow the steps below to install the Controller software.

Step 1. Double-click the following driver to install the Controller software.

🌐 4K60 Multi-Viewer Controller_1.0.5.exe	2022/12/28 11:12	应用程序

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

4K60 Multi-Viewer Controller Setup

Choose Installation Options
Who should this application be installed for?

Please select whether you wish to make this software available to all users or just yourself

◉ Anyone who uses this computer (all users)

○ Only for me (xiaoyan)

There is already a per-machine installation.(D:\Multiviewer controller\4K60 Multi-Viewer Controller)
Will reinstall/upgrade.

4K60 Multi-Viewer Controller 1.0.5

[Next >] [Cancel]

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

4K60 Multi-Viewer Controller Setup

Choose Install Location
Choose the folder in which to install 4K60 Multi-Viewer Controller.

Setup will install 4K60 Multi-Viewer Controller in the following folder. To install in a different folder, click Browse and select another folder. Click Install to start the installation.

Destination Folder

D:\Multiviewer controller\4K60 Multi-Viewer Controller   [Browse...]

4K60 Multi-Viewer Controller 1.0.5

[< Back] [Install] [Cancel]

4K60 Multi-Viewer Controller Setup

Completing 4K60 Multi-Viewer Controller Setup

4K60 Multi-Viewer Controller has been installed on your computer.

Click Finish to close Setup.

☑ Run 4K60 Multi-Viewer Controller

[< Back] [Finish] [Cancel]

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

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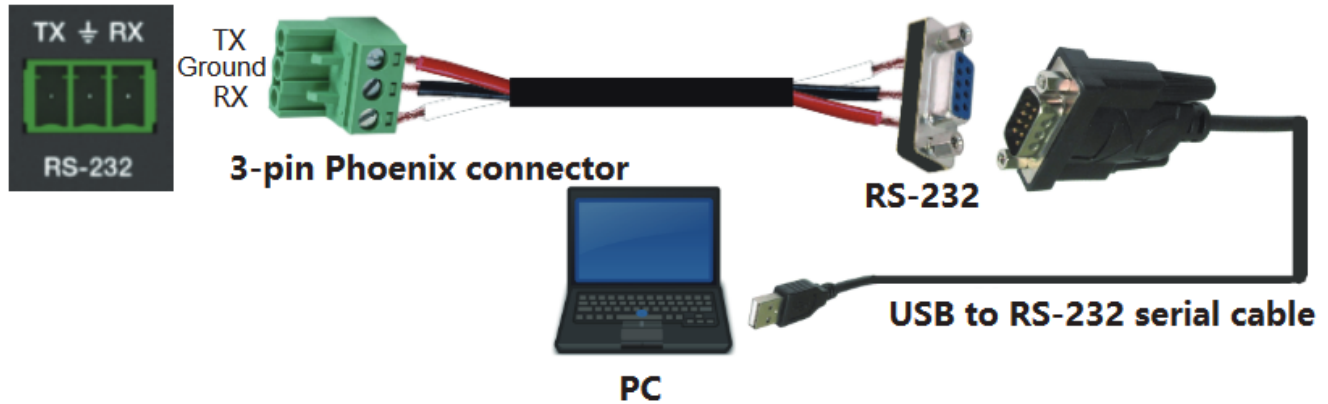
Step 2. Launch the installed Controller software. (The default language is English, and you can set the language on the upper right corner of the main page.) Select "COM Control Mode" on the "General" page, then select the Port number and Baud Rate (default: 115200), and finally click "Connect".
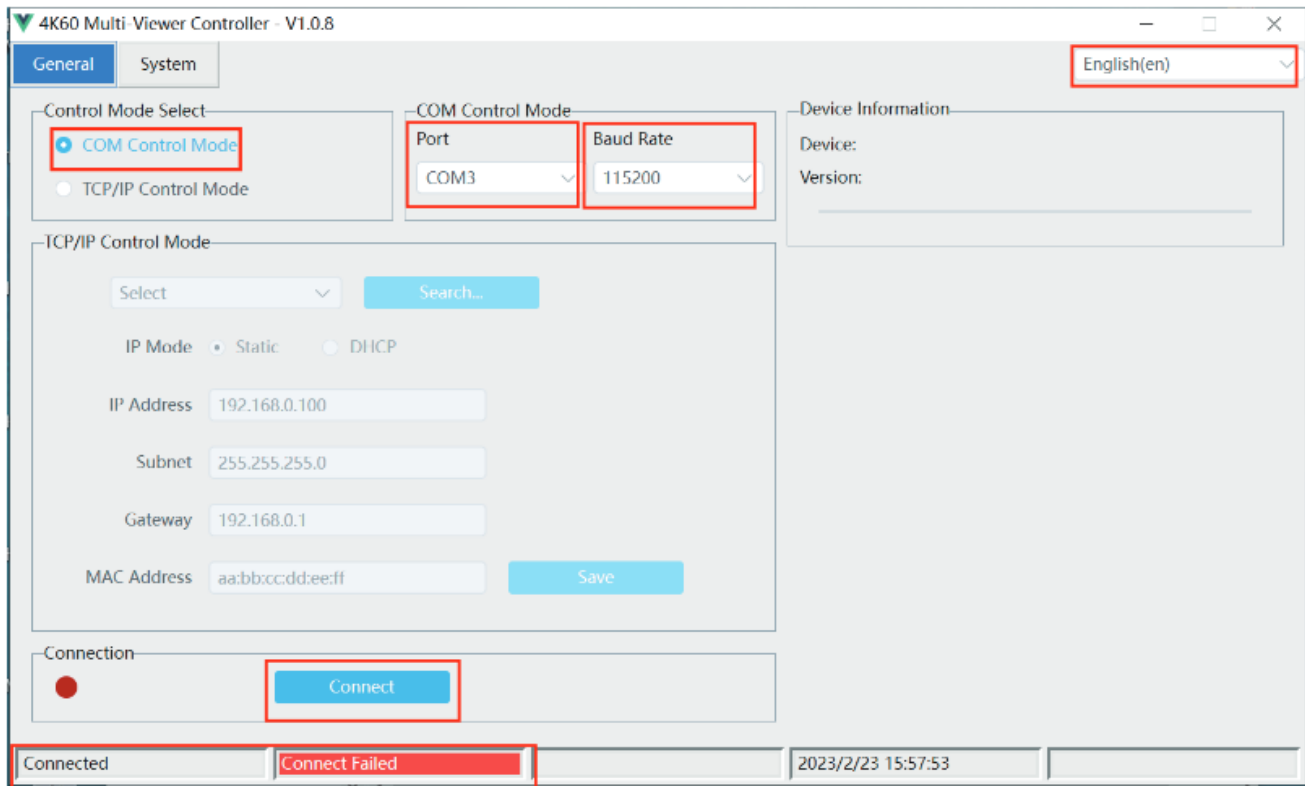
After successful connection, the "General" page will display the relevant information of the connected device, and the status bar at the bottom will display "Connected".

11.2 Controller 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 to set the connection status.

⑤ Connected: Display the connection status.

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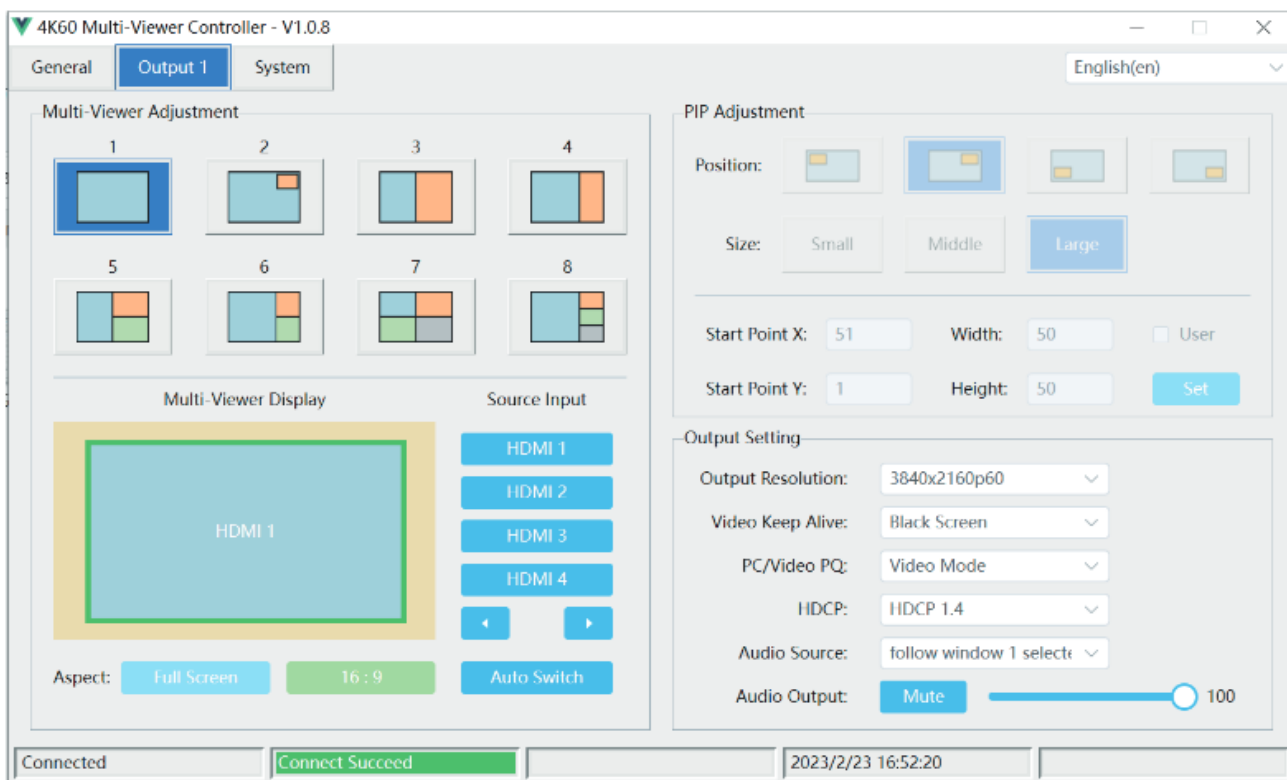
You can do the following operations on the Output page:

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

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.

- **System Page**
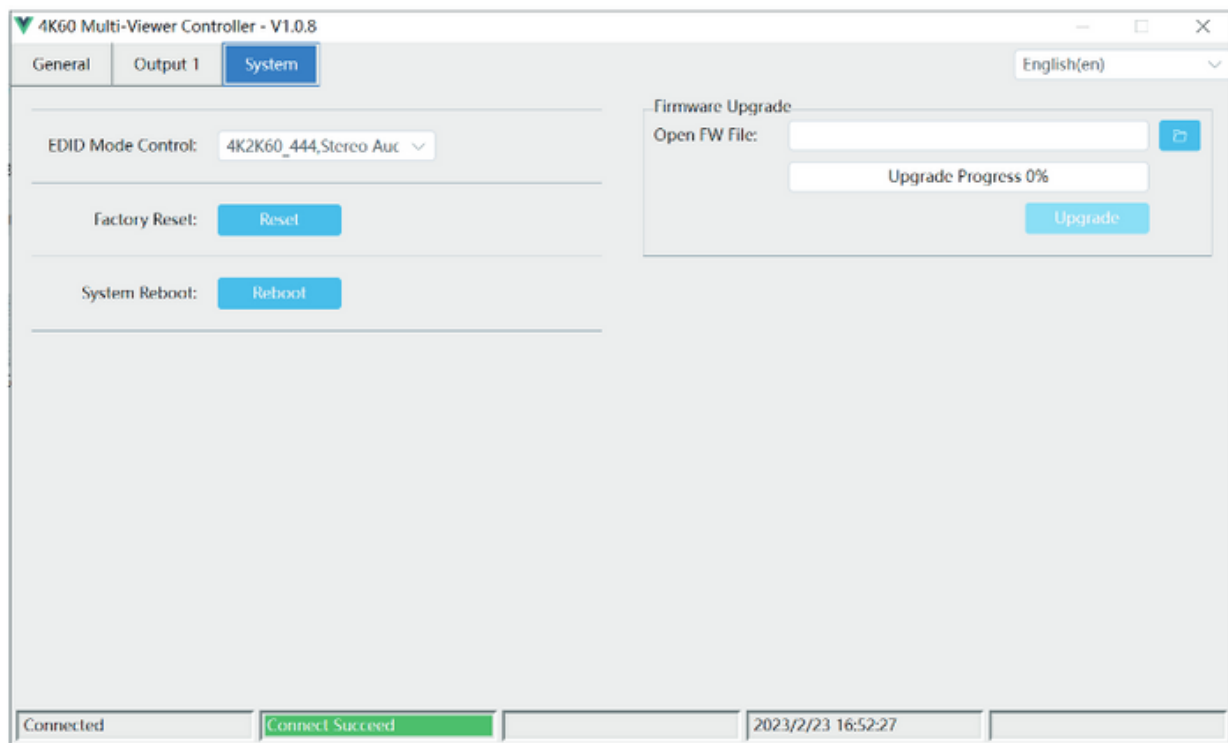
You can do the following operations on the System page:

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.

12. 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=1~15) 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. 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 5.1 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: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 ...!	user1 EDID data: 0 0 FF FF FF FF FF FF 00	
r edid user1!	Get user1 EDID data	r edid user1!	user1 EDID data: 00 FF FF FF FF FF FF 00	
Audio Setting				
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	
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

Command Code	Function Description	Example	Feedback	Default
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 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	
Multi-viewer 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) 1. HDMI 1 2. HDMI 2 3. HDMI 3 4. HDMI 4	s window 1 in 1!	window 1 select HDMI 1	

Command Code	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 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) 0. off 1. 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 2. window 2 3. window 3 4. window 4	r window 1 border!	window 1 border on	
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) 1. BLACK 2. RED 3. GREEN 4. BLUE 5. YELLOW 6. MEGENTA 7. CYNA 8. WHITE 9. 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	

Command Code	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 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	
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

Command Code	Function Description	Example	Feedback	Default
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!	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	

13. Application Example
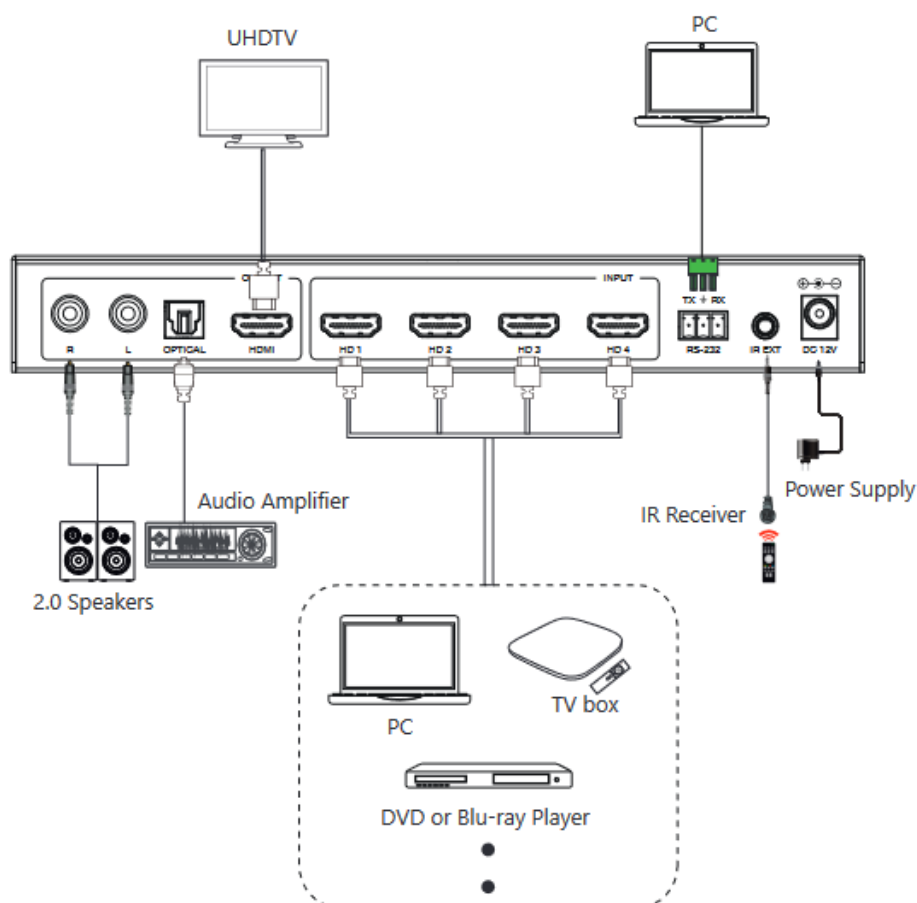
14. Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner, or benzine to clean.

15. Warranty

If your product does not work properly because of a defect in materials of workmanship, our company (referred to as "the warrantor") will, for the length of the period indicated as below, "Parts and Labor (1) Year", which starts with the date of original purchase ("Limited Warranty period"), at its option either (a) repair your product with new or refurbished parts, or (b) replace it with a new or a refurbished product. The decision to repair or replace will be made by the warrantor.

During the "Labor" limited warranty period, there will be no charge for labor. During the "Parts" warranty period, there will be no charge for parts. You must mail-in your product during the warranty period. This Limited Warranty is extended only to the original purchaser and only covers products purchased as new. A purchase receipt or other proof of original purchase date is required for Limited Warranty service.

16. Mail-In Service

When shipping the unit, carefully pack and send it prepaid, adequately insured, and preferably in the original carton. Include a letter detailing the complaint and provide a day time phone and/or email address where you can be reached.

17. Limited Warranty Limits and Exclusions

This Limited Warranty ONLY COVERS failures due to defects in material or workmanship, and DOES NOT COVER normal wear and tear or cosmetic damage. The Limited Warranty ALSO DOES NOT COVER damages which occurred in shipment, or failures which are caused by products not supplied by warrantor, or failures which result from accidents, misuse, abuse, neglect, mishandling, misapplication, alteration, faulty installation, set-up adjustments, mis- adjustment of consumer controls, improper maintenance, power line surge, lightning damage, modification, or service by anyone other than a Factory Service center or other Authorized Servicer, or damage that is attributed to acts of God.

There are no express warranties except as listed under "Limited Warranty Coverage". The warrantor is not liable for incidental or consequential damages resulting from the use of this product or arising out of any breach of this warranty. (As examples, this excludes damages for lost time, cost of having someone remove or re-install an installed unit if applicable, travel to and from the service, loss of or damage to media or images, data or other recorded content. The items listed are not exclusive but are for illustration only). Parts and service, which are not covered by this limited warranty, are your responsibility.

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PUBLISHED BY J-TECH DIGITAL INC.

9807 EMILY LANE
STAFFORD, TX 77477
TEL: 1-888-610-2818
E-MAIL: SUPPORT@JTECHDIGITAL.COM