

ANI-PiP-42UHD

4X2 4K60 UHD Multiviewer Seamless Video Matrix Switcher





SAFETY INFORMATION



1. To ensure the best results from this product, please read this manual and all other documentation before operating your equipment. Retain all documentation for future reference.
2. Follow all instructions printed on unit chassis for proper operation.
3. To reduce the risk of fire, do not spill water or other liquids into or on the unit, or operate the unit while standing in liquid.
4. Make sure power outlets conform to the power requirements listed on the back of the unit. Keep unit protected from rain, water and excessive moisture.
5. Do not attempt to clean the unit with chemical solvents or aerosol cleaners, as this may damage the unit. Dust with a clean dry cloth.
6. Do not use the unit if the electrical power cord is frayed or broken. The power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
7. Do not force switched or external connections in any way. They should all connect easily, without needing to be forced.
8. Always operate the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the means of grounding of a piece of equipment is not defeated.
9. AC voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
10. Turn power off and disconnect unit from AC current before making connections.
11. Never hold a power switch in the "ON" position.
12. This unit should be installed in a cool dry place, away from sources of excessive heat, vibration, dust, moisture and cold. Do not use the unit near stoves, heat registers, radiators, or other heat producing devices.
13. Do not block fan intake or exhaust ports. Do not operate equipment on a surface or in an environment which may impede the normal flow of air around the unit, such as a bed, rug, carpet, or completely enclosed rack. If the unit is used in an extremely dusty or smoky environment, the unit should be periodically "blown free" of foreign dust and matter.
14. To reduce the risk of electric shock, do not remove the cover. There are no user serviceable parts inside. Refer all servicing to qualified service personnel. There are no user serviceable parts inside.
15. When moving the unit, disconnect input ports first, then remove the power cable; finally, disconnect the interconnecting cables to other devices.
16. Do not drive the inputs with a signal level greater than that required to drive equipment to full output.
17. The equipment power cord should be unplugged from the outlet when left unused for a long period of time.
18. Save the carton and packing material even if the equipment has arrived in good condition. Should you ever need to ship the unit, use only the original factory packing.
19. Service Information Equipment should be serviced by qualified service personnel when:
 - A. The power supply cord or the plug has been damaged.
 - B. Objects have fallen, or liquid has been spilled into the equipment.
 - C. The equipment has been exposed to rain.
 - D. The equipment does not appear to operate normally, or exhibits a marked change in performance.
 - E. The equipment has been dropped, or the enclosure damaged.

THIS SAFETY INFORMATION IS OF A GENERAL NATURE AND MAY BE SUPERSEDED BY INSTRUCTIONS CONTAINED WITHIN THIS MANUAL.

SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

DISCLAIMERS

The information in this manual has been carefully checked and is believed to be accurate. We assume no responsibility for any infringements of patents or other rights of third parties which may result from its use.

We assume no responsibility for any inaccuracies that may be contained in this document. We make no commitment to update or to keep current the information contained in this document.

We reserve the right to make improvements to this document and/or product at any time and without notice.

COPYRIGHT NOTICE

No part of this document may be reproduced, transmitted, transcribed, stored in a retrieval system, or any of its part translated into any language or computer file, in any form or by any means — electronic, mechanical, magnetic, optical, chemical, manual, or otherwise — without the express written permission and consent.

© Copyright 2022. All Rights Reserved.
Version 1.0 DEC 2022

TRADEMARK ACKNOWLEDGMENTS

All products or service names mentioned in this document may be trademarks of the companies with which they are associated.

INTRODUCTION & CONTENTS	2
FEATURES	3
SPECIFICATIONS	4
OPERATION CONTROLS & FUNCTIONS	5
REMOTE CONTROL	8
EDID SETTINGS / VIDEO & AUDIO	10
MULTIVIEW	11
OSD MENU NAVIGATION	12
RS-232 COMMANDS	14
APPLICATION EXAMPLE	21

INTRODUCTION

The ANI-PIP-42UHD 4x2 Multiviewer Seamless UHD Video Matrix Switcher was developed for the purpose of supporting higher output resolution (4K@60) for multiple sources on (2) screens. It can accept (4) HDMI input digital sources and combine (4) video signals onto (2) HDMI UHD or HD monitors independently. The user can manage each input, and create combinations of the four inputs on (2) displays, 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 product 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 matrix switcher can be controlled via front panel buttons, IR remote, RS-232 commands. This product has a 3 year warranty.

PACKAGE CONTENTS

Before attempting to use this unit, please check the packaging and make sure the following items are contained in the shipping carton:

- 4K60 4x2 Multiviewer Seamless UHD Video Matrix Switcher
- IR Remote
- 3pin-3.81mm Phoenix Connector (male)
- 38KHz IR Wideband Receiver Cable (1.5 meters)
- (2) Mounting Ears
- (4) Machine Screws (KM3*4)
- 12V/2.5A Locking Power Adapter
- Users Guide

FEATURES

- HDMI 2.0b, HDCP 2.2 and HDCP 1.x compliant
- 18Gbps uncompressed Bandwidth, input and output resolution up to 4K2K@60 4:4:4
- HDMI audio formats support LPCM, DD+, DTS, Dolby TrueHD, DTS HD-master pass-through
- Seamless switching between input channels
- Combined multiple images independent layouts to display on (2) UHD TVs
- Up to (8) display modes: Single, PIP, PBP(1), PBP(2), Triple(1), Triple(2), Quad(1), Quad(2)
- Audio de-embedding via analog and optical fiber audio ports
- Control via front panel buttons, IR remote, RS-232 commands
- Each output port supports Scaler function
- Support independent audio selection
- Advanced EDID management
- Compact design for easy and flexible installation

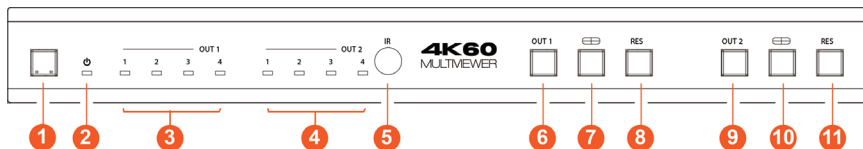
SPECIFICATIONS

- **Input Ports:** (4) HDMI IN [Type A, 19-pin female]
- **Output Ports:**
 - (2) HDMI OUT [Type A, 19-pin female]
 - (2) L/R OUTPUT [RCA]
 - (2) OPTICAL OUTPUT [S/PDIF]
- **Control Ports:**
 - RS-232 [3pin-3.81mm phoenix connector]
 - IR EXT [3.5mm Stereo Mini-jack]
- **HDMI Compliance:** HDMI 2.0b
- **HDCP Compliance:** HDCP 2.2 / 1.x
- **Video Bandwidth:** 18Gbps
- **Video Resolution:** Up to 4K2K@60 4:4:4
- **IR Level:** 5Vp-p
- **IR Frequency:** 38KHz
- **Color Space:** RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
- **Color Depth:** 8/10/12-bit
- **Audio Formats:**
 - **HDMI Audio:** PCM2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio
 - **Analog audio [3.5mm L/R]:** PCM2.0
 - **Optical fiber audio:** PCM2.0/5.1/7.1CH, Dolby Digital/plus, DTS 5.1
- **ESD Protection:** Human Body Model:
 - ±8kV (air-gap discharge)
 - ±4kV (contact discharge)
- **Housing:** Metal Enclosure
- **Color:** Black
- **Dimensions (WxDxH):** 10.6 x 5.1 x 1.2 in (270x130x30mm)
- **Weight:** 2 lb / 906g
- **Operating Temperature:** 0°C~40°C/ 32°F~104°F
- **Storage Temperature:** -20°C ~ 60°C/-4°F ~140°F
- **Relative Humidity:** 20~90% RH (non-condensing)
- **Power Consumption (Max):** 15.72W (Max)
- **Power Supply:** Input: AC 100 - 240V 50/60Hz / Output: DC 12V/2.5A (US/EU standard, CE/FCC/UL certified)

As product improvements are continuous, specifications are subject to change without notice.

OPERATION CONTROLS & FUNCTIONS

FRONT PANEL



1 POWER BUTTON: Press this button to power on the device. Hold down this button for 1 second 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.

3 OUT 1 LEDS: Signal source indicator for the HDMI OUT 1 port. On single screen display mode, when the HDMI OUT 1 port outputs the signal from the HD 1/2/3/4 port, the corresponding green LED will be on. On multiview mode, all OUT 1 LEDs will light in green.

4 OUT 2 LEDS: Signal source indicator for the HDMI OUT 2 port. On single screen display mode, when the HDMI OUT 2 port outputs the signal from the HD 1/2/3/4 port, the corresponding green LED will be on. On multiview mode, all OUT 2 LEDs will light in green.

5 IR WINDOW: IR signal receiving window.

6 OUT 1 BUTTON: Input source switching button for the HDMI OUT 1 port, only available on single screen display mode.

7 OUT 1 MULTIVIEW BUTTON: Multiview display mode switching button for the HDMI OUT 1 port.

- Press this button to circularly select: Single-PIP-PBP(1)-PBP(2)-Triple(1)-Triple(2)-Quad(1)-Quad(2)-single.
- Press this button for 3 seconds to switch the aspect ratio (16:9/Full) for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2).

8 OUT 1 RES BUTTON: Output resolution switching button for the HDMI OUT 1 port.

- Press the RES button to circularly switch the output resolution of the HDMI OUT 1 port (Please refer to the output resolution list of “**Video & Audio**”).
- Press the RES button for 3 seconds to switch the output resolution to 720P60.

9 OUT 2 BUTTON: Input source switching button for the HDMI OUT 2 port, only available on single screen display mode.

OPERATION CONTROLS & FUNCTIONS

10 OUT 2 MULTIVIEW BUTTON: Multiview display mode switching button for the HDMI OUT 2 port.

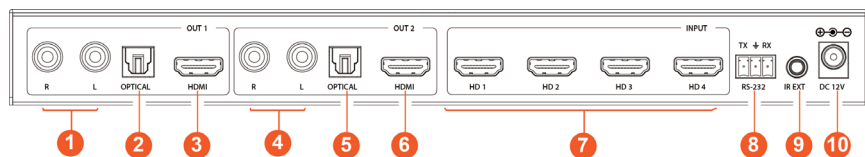
- Press this button to circularly select: Single-PIP-PBP(1)-PBP(2)-Triple(1)-Triple(2)-Quad(1)-Quad(2)-single.
- Press this button for 3 seconds to switch the aspect ratio (16:9/Full) for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2).

11 OUT 2 RES BUTTON: Output resolution switching button for the HDMI OUT 2 port.

- Press the RES button to circularly switch the output resolution of the HDMI OUT 2 port (Please refer to the output resolution list of “**Video & Audio**”).
- Press the RES button for 3 seconds to switch the output resolution to 720P60.

OPERATION CONTROLS & FUNCTIONS

BACK PANEL



- 1 L/R PORT:** PCM2.0 Analog audio output port.
- 2 OPTICAL OUT 1:** Optical fiber digital audio output port.
- 3 HDMI OUT 1:** HDMI signal output port, connected to HDMI display device such as TV or Monitor with HDMI cable.
- 4 L/R OUT 2:** PCM2.0 Analog audio output port.
- 5 OPTICAL OUT 2:** Optical fiber digital audio output port.
- 6 HDMI OUT 2:** HDMI signal output port, connected to HDMI display device such as TV or Monitor with HDMI cable.
- 7 HD 1-4 INPUT PORTS:** HDMI signal input ports, connected to HDMI source device such as DVD or Set-top box with HDMI cable.
- 8 RS-232 PORT:** 3-pin phoenix connector, connected to a PC or control system for serial port upgrade or RS-232 command control.
- 9 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.
- 10 DC 12V:** DC 12V/2.5A power input port.

REMOTE CONTROL

1 POWER BUTTON: Press this button to power on the switcher or set it to standby mode.

2 OUT 1/OUT 2 BUTTONS:

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

◀▶: Press these buttons to circularly select the last or next input source on single screen display mode.

📺 Multiview display mode switching button. Press this button to circularly select: SINGLE - PIP - PBP(1) - PBP (2) - Triple (1) - Triple (2) - Quad (1) - Quad (2).

16:9: Press this button to switch the aspect ratio (16:9/ Full) for PBP (1) / PBP (2) / Triple (1) / Triple (2) / Quad (1) / Quad (2) display mode.

A-IN: Press this button to pop up the audio channel selection OSD, then press the ▲/▼ 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.

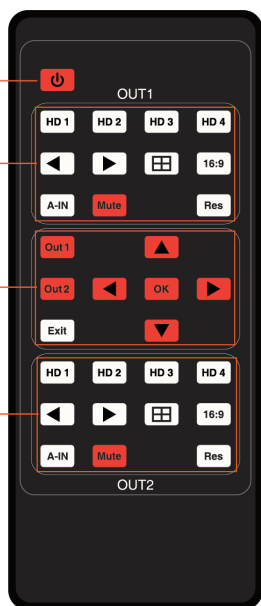
RES: Output resolution switching button.

- Press the RES button to circularly switch the output resolution of the HDMI OUT 1/2 port (Please refer to the output resolution list of “Video & Audio”).
- Press the RES button for 3 seconds to switch the output resolution to 720P60.

3 Out 1: Press this button to enter the OSD menu of the HDMI OUT 1 port, and set the corresponding function by pressing ▲/▼/◀/▶ **OK** button.

Out 2: Press this button to enter the OSD menu of the HDMI OUT 2 port, and set the corresponding function by pressing ▲/▼/◀/▶ **OK** button.

Exit: Press this button to exit the OSD settings layer by layer.



REMOTE CONTROL

Power Toggle	08F7 4D	Aspect Ratio (OUT 1)	08F7 43
HD Input 1 (OUT 1)	08F7 09	Aspect Ratio (OUT 2)	08F7 53
HD Input 2 (OUT 1)	08F7 54	Resolution (OUT 1)	08F7 03
HD Input 3 (OUT 1)	08F7 47	Resolution (OUT 2)	08F7 51
HD Input 4 (OUT 1)	08F7 42	A-IN (OUT 1)	08F7 0C
HD Input 1 (OUT 2)	08F7 4F	A-IN (OUT 2)	08F7 18
HD Input 2 (OUT 2)	08F7 44	MUTE (OUT 1)	08F7 19
HD Input 3 (OUT 2)	08F7 50	MUTE (OUT 2)	08F7 45
HD Input 4 (OUT 2)	08F7 0E	Out 1 OSD (OUT 1)	08F7 55
Previous Source (OUT 1)	08F7 08	Out 1 OSD (OUT 2)	08F7 4C
Next Source (OUT 1)	08F7 48	Exit OSD	08F7 40
Previous Source (OUT 2)	08F7 13	OK	08F7 56
Next Source (OUT 2)	08F7 12	Menu Up	08F7 4E
Cycle Multiview (OUT 1)	08F7 4B	Menu Down	08F7 11
Cycle Multiview (OUT 2)	08F7 15	Menu Left	08F7 0D
		Menu Right	08F7 16

EDID SETTINGS / VIDEO & AUDIO

EDID SETTINGS

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

No.	EDID Mode	No.	EDID Mode
1	4K2K60_444, Stereo Audio 2.0	11	1680x1050, Stereo Audio 2.0
2	4K2K60_444, Dolby/DTS 5.1	12	1600x1200, Stereo Audio 2.0
3	4K2K60_444, HD Audio 7.1	13	1440x900, Stereo Audio 2.0
4	4K2K30_444, Stereo Audio 2.0	14	1360x768, Stereo Audio 2.0
5	4K2K30_444, Dolby/DTS 5.1	15	1280x1024, Stereo Audio 2.0
6	4K2K30_444, HD Audio 7.1	16	1024x768, Stereo Audio 2.0
7	1080P, Stereo Audio 2.0	17	720p, Stereo Audio 2.0
8	1080P, Dolby/DTS 5.1	18	AUTO
9	1080P, HD Audio 7.1	19	USER1
10	1920x1200, Stereo Audio 2.0		

VIDEO & AUDIO

The switcher supports multiple resolution video input up to 3840x2160@60, and supports multiple audio formats (PCM2.0/5.1/7.1CH, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio) pass-through function via HDMI cable. The switcher supports following video output resolutions via a powerful scaling engine. The switcher supports following video output resolutions via a powerful scaling engine.

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

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 modes via RS-232 commands or OSD menu navigation.

* The ANI-PIP-42UHD switcher supports customized PIP size and location via RS-232 commands.

The command format is “**s output y PIP Hstart Vstart Hsize Vsize!**”

y=output channel

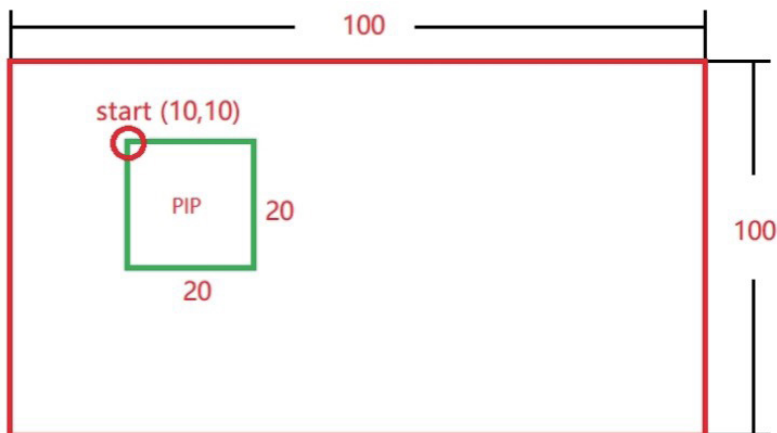
Hstart=(1~100)

Vstart=(1~100)

Hsize=(1~100)

Vsize=(1~100)

For example: the command “**s PIP 10 10 20 20!**” will produce an image as shown below:



OSD MENU NAVIGATION

1. A total of eight buttons on the IR Remote are used for OSD menu navigation, including OUT 1, OUT 2, Exit, ▲/▼/◀/▶ **OK**. Menu contents are as follows:

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
	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
	3xWIN	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
	4xWIN	Win1 Select	HDMI1, HDMI2, HDMI3, HDMI4
Win2 Select		HDMI1, HDMI2, HDMI3, HDMI4	
Win3 Select		HDMI1, HDMI2, HDMI3, HDMI4	

OSD MENU NAVIGATION

Multiview		MODE	1, 2
		Aspect	Full, 16:9
AUDIO	Audio Select	WIN1	WIN1, HDMI1, HDMI2, HDMI3, HDMI4
	Volume	100	0..100
	Audio-Mute	OFF	ON, OFF
System	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

2. A total of two buttons on the IR Remote are used for audio setting on OSD menu navigation, including A-IN, Mute. Menu contents are as follows:

A-IN	Audio Input	WIN1	WIN1,HDMI1,HDMI2,HDMI3, HDMI4
Mute	Audio Mute	OFF	ON, OFF

RS-232 COMMANDS

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 about the product is shown as below.

ASCII Commands			
Serial port protocol: baud rate: 115200(default) Data bits: 8 Stop bits: 1 Check bit: 0			
x - Parameter 1; y - Parameter 2; ! - Delimiter			
Command Code	Function Description	Example	Feedback
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 z!	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
Output Setting			
s output y res x!	Set Output y Resolution (y=1~2, x=1~14) y=1. output 1 y=2. output 2 1. 4096x2160p60, 2. 4096x2160p50, 3. 3840x2160p60, 4. 3840x2160p50, 5. 3840x2160p30, 6. 3840x2160p25,	s output res 3!	out resolution: 3840x2160p60

RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
Output Setting			
s output y res x! <i>cont'd</i>	7. 1920x1200p60RB, 8. 1920x1080p60, 9. 1920x1080p50, 10.1360x768p60, 11.1280x800p60, 12.1280x720p60, 13.1280x720p50, 14. 1024x768p60,	s output res 3!	out resolution: 3840x2160p60
r output y res!	Get output y resolution (y=1~2) 1. output 1 2. output 2	r output res!	output 1 resolution: 3840x2160p60
s output hdcp x!	set output hdcp (y=1~2, x=1~3) y=1. output 1 y=2. output 2 x=1. HDCP 1.4 x=2. HDCP 2.2 x=3. HDCP OFF	s output 1 hdcp 2!	output 1 HDCP: HDCP 1.4
r output y hdcp!	Get output y hdcp status. (y=1~2) 1. output 1 2. output 2	r output 1 hdcp!	output 1 HDCP: HDCP 1.4
s output y vka x!	Set output video keep active pattern. (y=1~2, x=1~2) y=1. output 1 y=2. output 2 x=1. black screen x=2. blue screen	s output 1 vka 1!	output 1 VKA pattern: black screen
r output y vka!	Get output y video keep active pattern. (y=1~2) 1. output 1 2. output 2	r output 1 vka!	output 1 VKA pattern: black screen
s output y itc x!	Set output video mode (y=1~2, x=1~2) y=1. output 1 y=2. output 2 x=1: video mode x=2: pc mode	s output 1 itc 1!	output 1 ITC: video mode
r output y itc!	Get output video mode (y=1~2) 1. output 1 2. output 2	r output 1 itc!	output 1 ITC: video mode

RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
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.AUTO 19. USER1	s input EDID 1!	input EDID: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: 00 FF FF
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 y audio x!	Set output y udio source (y=1~2, x=0~4) y=1. output 1 y=2. output 2 x=0. follow window 1 selected source x=1. HDMI 1 input audio x=2. HDMI 2 input audio x=3. HDMI 3 input audio x=4. HDMI 4 input audio	s output 1 audio 0!	output 1 audio follow window 1 video source
r output y audio!	Get output y audio source (y=1~2) 1. output 1 2. output 2	r output 1 audio!	output 1 audio follow window 1 video source
s output y audio mute x!	Set output audio mute on/off (x=0~1, y=1~2) y=1. output 1	s output 1 audio mute 0!	output 1 audio mute off

RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
s output y audio mute x! <i>cont'd</i>	y=2. output 2 x=0. mute off x=1. mute on	s output 1 audio mute 0!	output 1 audio mute off
r output y audio mute!	Get output y audio mute on/off (y=1~2) 1. output 1 2. output 2	r output 1 audio mute!	output 1 audio mute off
Single Screen Mode Setting			
s output y auto switch x!	Enable/disable auto switch feature(y=1~2,x=0~1) y=1. output 1 y=2. output 2 0. Disable auto switch 1. Enable auto switch	s auto switch 0!	auto switch off
r output y auto switch!	Get output y auto switch feature (y=1~2) 1. output 1 2. output 2	r auto switch!	auto switch off
s output y in source x!	Route input source to output y (y=1~2, x=1~4) y=1. output 1 y=2. output 2 x=1. HDMI 1 x=2. HDMI 2 x=3. HDMI 3 x=4. HDMI 4	s in source 1!	HDMI 1
r output y in source!	Get output y selected input source(y=1~2) 1. output 1 2. output 2	r in source!	HDMI 1
Multi-viewer Mode Setting			
s output y multiview x!	Set output y multi-viewer display mode(y=1~2, x=1~5) y=1. output 1 y=2. output 2 x=1. single screen x=2. PIP x=3. PBP x=4. triple screen x=5. quad screen	s output 1 multiview 1!	output 1 multiview: single screen
r output y multiview!	Get output y multi-viewer display mode(y=1~2) 1. output 1 2. output 2	r output 1 multiview!	output 1 multiview: single screen

RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
s output z window x in y!	Select output z one input for one display window for the current Multiview mode. (z=1~2) 1. output 1 2. output 2 (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 output 1 window 1 in 1!	output 1: window 1 select HDMI 1
r output y window x in!	Get output y windows selected input source (y=1~2) 1. output 1 2. output 2 (x=0~4) 0. ALL 1. window 1 2. window 2 3. window 3 4. window 4	r output 1 window 1 in!	oupput 1 window 1 select HDMI 1
s output y PIP position x!	Set output y PIP window position (y=1~2) 1. output 1 2. output 2 (x=1~4) 1. Left Top 2. Left Bottom 3. Right Top 4. Right Bottom	s output 1 PIP position 3!	output 1 PIP on right top
r output y PIP position!	Get ouput y PIP window positon (y=1~2) 1. output 1 2. output 2	r output 1 PIP position!	output 1 PIP on right top
s output y PIP size x!	Get output y PIP window size (y=1~2) 1. output 1 2. output 2 (x=1~3) 1. small 2. middle 3. large	s output 1 PIP size 3!	output 1 PIP size large

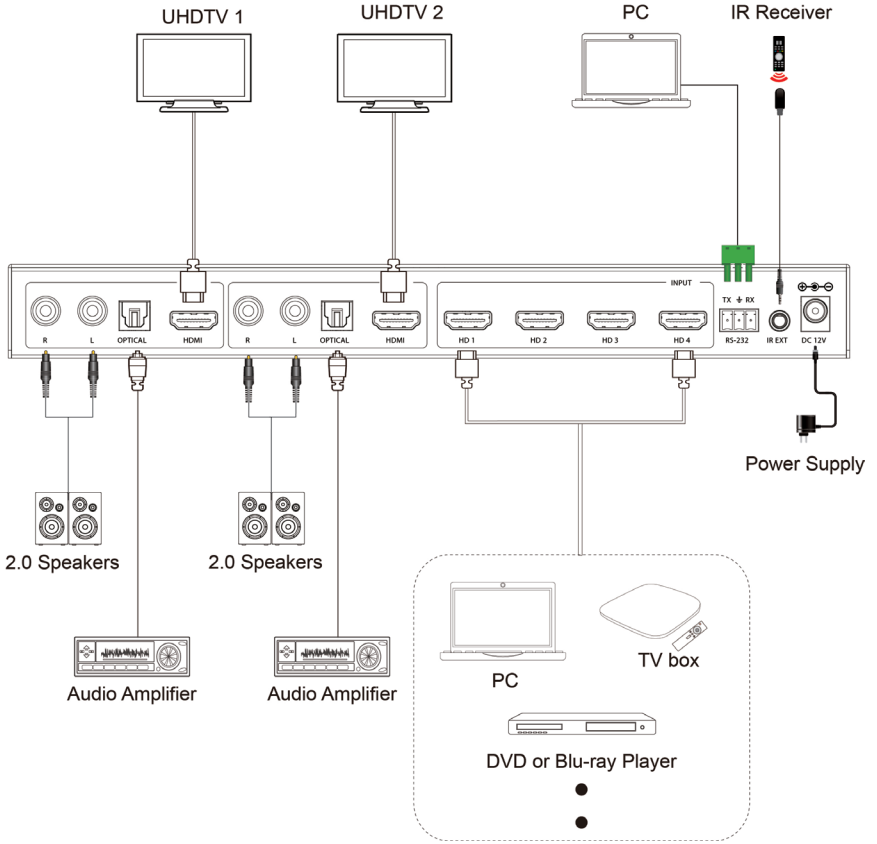
RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
r output y PIP size!	Get output y PIP window size (y=1-2) 1. output 1 2. output 2	r output 1 PIP size!	output 1 PIP size large
s output y PBP mode x!	Set output y PBP windows display mode (y=1-2) 1. output 1 2. output 2 (x=1-2) 1. PBP mode 1 2. PBP mode 2	s output 1 PBP mode 1!	output 1 PBP mode 1
r output y PBP mode!	Get output y PBP windows display mode (y=1-2) 1. output 1 2. output 2	r output 1 PBP mode!	output 1 PBP mode 1
s output y PBP aspect x!	Set output y PBP windows display aspect ratio (y=1-2) 1. output 1 2. output 2 (x=1-2) 1. Full screen 2. 16:9	s output 1 PBP aspect 1!	output 1 PBP aspect full screen
r output y PBP aspect!	Get output y PBP windows display aspect ratio (y=1-2) 1. output 1 2. output 2	r output 1 PBP aspect!	output 1 PBP aspect full screen
s output y triple mode x!	Set output y triple windows display mode (y=1-2) 1. output 1 2. output 2 (x=1-2) 1. triple mode 1 2. triple mode 2	s output 1 triple mode 1!	output 1 triple mode 1
r output y triple mode!	Get output y triple windows display mode (y=1-2) 1. output 1 2. output 2	r output 1 triple mode!	output 1 triple mode 1
s output y triple aspect x!	Set output y triple windows display aspect ratio (y=1-2) 1. output 1	s output 1 triple aspect 1!	output 1 triple aspect full screen

RS-232 COMMANDS

Command Code	Function Description	Example	Feedback
s output y triple aspect x! <i>cont'd</i>	2. output 2 (x=1~2) 1. Full screen 2. 16:9	s output 1 triple aspect 1!	output 1 triple aspect full screen
r output y triple aspect!	Get output y triple windows display aspect ratio (y=1~2) 1. output 1 2. output 2	r output 1 triple aspect!	output 1 triple aspect full screen
s output y quad mode x!	Set output y quad windows display mode (y=1~2) 1. output 1 2. output 2 (x=1~2) 1. quad mode 1 2. quad mode 2	s output 1 quad mode 1!	output1 quad mode 1
r output y quad mode!	Get output y quad windows display mode (y=1~2) 1. output 1 2. output 2	r output 1 quad mode!	output1 quad mode 1
s output y quad aspect x!	Set output y quad windows display aspect ratio (y=1~2) 1. output 1 2. output 2 (x=1~2) 1. Full screen 2. 16:9	s output 1 quad aspect 1!	output 1 quad aspect full screen
r output y quad aspect!	Get output y quad windows display aspect ratio (y=1~2) 1. output 1 2. output 2	r output 1 quad aspect!	output 1 quad aspect full screen
s output y PIP Hstart Vstart Hsize Vsize!	Set PIP window to user define mode y=Output Channel Hstart=(1~100) Vstart=(1~100) Hsize=(1~100) Vsize=(1~100) NOTE: Hstart+Hsize< =101, Vstart+Vsize< =101	s output 1 PIP 10 10 20 20!	PIP 10 10 20 20

APPLICATION EXAMPLE



TERMS AND CONDITIONS OF USE

PLEASE READ THE FOLLOWING TERMS AND CONDITIONS CAREFULLY BEFORE USING THIS HARDWARE, COMPONENTS AND SOFTWARE PROVIDED BY, THROUGH OR UNDER A-NeuVideo, INC (COLLECTIVELY, THE "PRODUCT"). By using installing or using the Product, you unconditionally signify your agreement to these Terms and Conditions. If you do not agree to these Terms and Conditions, do not use the Product and return the Product to A-NeuVideo, Inc. at the return address set forth on the Product's packing label at your expense. A-NeuVideo, Inc. may modify these Terms and Conditions at anytime, without notice to you.

RESTRICTIONS ON USE OF THE PRODUCT

It is your responsibility to read and understand the installation and operation instructions, both verbal and in writing, provided to you with respect to the Product. You are authorized to use the Product solely in connection with such instructions. Any use of the Product not in accordance with such instructions shall void any warranty pertaining to the Product. Any and all damages that may occur in the use of the Product that is not strictly in accordance with such instructions shall be borne by you and you agree to indemnify and hold harmless A-NeuVideo, Inc. from and against any such damage.

The Product is protected by certain intellectual property rights owned by or licensed to A-NeuVideo. Any intellectual property rights pertaining to the Product are licensed to you by A-NeuVideo, Inc. and/or its affiliates, including any manufacturers or distributors of the Product (collectively, "A-NeuVideo") for your personal use only, provided that you do not change or delete any proprietary notices that may be provided with respect to the Product.

The Product is sold to you and any use of any associated intellectual property is deemed to be licensed to you by A-NeuVideo for your personal use only. A-NeuVideo does not transfer either the title or the intellectual property rights to the Product and A-NeuVideo retains full and complete title to the intellectual property rights therein. All trademarks and logos are owned by A-NeuVideo or its licensors and providers of the Product, and you may not copy or use them in any manner without the prior written consent of A-NeuVideo, which consent may be withheld at the sole discretion of A-NeuVideo.

The functionality and usability of the Product is controlled by A-NeuVideo, Inc. from its offices within the State of Texas, United States of America. A-NeuVideo makes no representation that materials pertaining to the Product are appropriate or available for use in other locations other than the shipping address you provided with respect thereto. You are advised that the Product may be subject to U.S. export controls.

DISCLAIMERS AND LIMITATION OF LIABILITY

A-NeuVideo may change or modify the Product at any time, from time to time.

THE PRODUCT IS PROVIDED "AS IS" AND WITHOUT WARRANTIES OF ANY KIND EITHER EXPRESS OR IMPLIED. A-NEUVIDEO DOES NOT WARRANT OR MAKE ANY REPRESENTATIONS REGARDING THE USE OR THE RESULTS OF THE USE OF THE PRODUCT'S CORRECTNESS, ACCURACY, RELIABILITY, OR OTHERWISE.

A-NeuVideo has no duty or policy to update any information or statements pertaining to the Product and, therefore, such information or statements should not be relied upon as being current as of the date you use the Product. Moreover, any portion of the materials pertaining to the Product may include technical inaccuracies or typographical errors. Changes may be made from time to time without notice with respect to the Product.

TO THE FULLEST EXTENT PERMISSIBLE PURSUANT TO APPLICABLE LAW, A-NEUVIDEO DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. A-NEUVIDEO DOES NOT WARRANT THE ACCURACY, COMPLETENESS OR USEFULNESS OF ANY INFORMATION WITH RESPECT TO THE PRODUCT. A-NEUVIDEO DOES NOT WARRANT THAT THE FUNCTIONS PERTAINING TO THE PRODUCT WILL BE ERROR-FREE, THAT DEFECTS WITH RESPECT TO THE PRODUCT WILL BE CORRECTED, OR THAT THE MATERIALS PERTAINING THERETO ARE FREE OF DEFECTS OR OTHER HARMFUL COMPONENTS. A-NEUVIDEO WILL USE ITS REASONABLE EFFORTS TO CORRECT ANY DEFECTS IN THE PRODUCT UPON TIMELY WRITTEN NOTICE FROM YOU NOT TO EXCEED 10 BUSINESS DAYS AFTER RECEIPT BY YOU OF THE PRODUCT, BUT YOU (AND NOT A-NEUVIDEO) ASSUME THE ENTIRE COST OF ALL NECESSARY SERVICING, REPAIR AND CORRECTION THAT WAS CAUSED BY YOU UNLESS OTHERWISE AGREED TO IN A SEPARATE WRITING BY A-NEUVIDEO.

UNDER NO CIRCUMSTANCES, INCLUDING, BUT NOT LIMITED TO, NEGLIGENCE, SHALL A-NEUVIDEO BE LIABLE FOR ANY SPECIAL OR CONSEQUENTIAL DAMAGES THAT RESULT FROM THE USE OF, OR THE INABILITY TO USE THE PRODUCT IN ACCORDANCE WITH ITS SPECIFICATIONS, EVEN IF A-NEUVIDEO OR ITS REPRESENTATIVES HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. IN NO EVENT SHALL A-NEUVIDEO'S TOTAL LIABILITY TO YOU FROM ALL DAMAGES, LOSSES, AND CAUSES OF ACTION (WHETHER IN CONTRACT, OR OTHERWISE) EXCEED THE AMOUNT YOU PAID TO A-NEUVIDEO, IF ANY, FOR THE PRODUCT.

END OF DOCUMENT