

ANI-2PIP-LOGO

2x1 HDMI Multiviewer



PACKAGE CONTENTS

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

- ANI-2PIP-LOGO HDMI Multiviewer
- 5V/2.6A DC Power Adapter
- (3) 5-pin Terminal Block
- Shockproof Feet (Set of 4)



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.

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INTRODUCTION

The ANI-2PIP-LOGO HDMI Multiviewer is capable of scaling up to (2) sources and displaying both simultaneously on a single HDMI output within their own windows. This is the ideal solution for monitoring multiple sources simultaneously for use in control rooms, or for flexible display presentations in conference rooms or classrooms. Both inputs support resolutions up to 1920x1200@60Hz and LPCM audio with up to 7.1 channels at 192kHz.

The multi-window output is sent to a single HDMI output at scaled resolutions up to 1920x1200@60Hz along with the selected audio source. The HDMI output supports up to LPCM 7.1 digital audio while the analog audio output supports up to LPCM 2.0. Each of the (2) HDMI sources may be displayed individually, full screen, or they can be displayed using a variety of dual-window modes including Picture-in-Picture, Side-by-Side, or freely positioned (with layer priority control). Each window can also be mirrored, flipped, swapped, or frozen (with live audio). Chroma keying and a custom uploadable logo/graphic are also supported.

External images can be uploaded and overlaid on top and at any position on the live HDMI Output. This unit can be controlled easily by use of the front panel controls (with OSD) as well as by WebGUI, Telnet, RS-232, IR and (8) direct trigger inputs. This product has a 3 year warranty.

FEATURES

- HDMI & HDCP 1.3 compliant
- (2) HDMI inputs and (1) HDMI output
- Inputs and output support HD resolutions up to 1080p@60Hz and PC resolutions up to WUXGA (RB)
- Supports audio pass-through of LPCM 2.0/5.1/7.1 sources via HDMI
- Balanced analog stereo audio extraction support via 5-pin terminal block (LPCM 2.0 only)
- Supports PiP (Picture-in-Picture), Side-by-Side, and free positioning window modes
- Easy individual window size, position and layer priority adjustment
- Supports per-window mirror, flip and image freeze (w/ live audio) functionality
- Chromakey support
- Uploadable logo support
- Support for Windows PC character generation software to simplify the process of generating text or graphics to use with keying/overlay (Optional)
- (8) Trigger inputs for easy remote control of the unit with optional keypad
- Supports front panel buttons (with OSD), WebGUI, Telnet, RS-232, IR and Trigger controls

APPLICATIONS

- Demo Room Displays
- Security Monitoring
- Hotel Lobby Information Displays

SYSTEM REQUIREMENTS

- HDMI source equipment such as media players, video game consoles or set-top boxes.
- HDMI receiving equipment such as an HDTV, monitor, or audio amplifier.
- Analog audio receiving equipment such as headphones, an audio amplifier or powered speakers.

SPECIFICATIONS / APPLICATIONS

SPECIFICATIONS

- **HDMI Bandwidth:** 225MHz/6.75Gbps
- **Input Ports:** (2) HDMI
- **Output Ports:** (1) HDMI / (1) Stereo (Terminal Block)
- **Control Interfaces:**
 - (8) Trigger (Terminal Block)
 - RS-232 (9-pin D-sub)
 - IP Control (RJ-45)
- **Baud Rate:** Up to 115200bps
- **Power Supply:** 5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
- **ESD Protection Human Body Model:**
 - ±8kV (Air Discharge)
 - ±4kV (Contact Discharge)
- **Dimensions (WxHxD):** 9.1 x 1 x 4.25 in (231.5x25x108mm) [Case Only]
9.1 x 1 x 4.7 in (231.5x25x116mm) [All Inclusive]
- **Weight:** 1.4 lb/652g
- **Chassis Material:** Metal
- **Silkscreen Color:** Black
- **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:** 5.1W

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

AUDIO SPECIFICATIONS

- **Max Audio Level:** 2Vrms
- **THD+N:** < -86dB@0dBFS 1kHz (A-wt)
- **SNR:** >110dB@0dBFS
- **Frequency Response:** < ±3dB@20Hz~20kHz
- **Crosstalk:** < -100dB@10kHz
- **Impedance:** 47Ω
- **Type:** Balanced/Unbalanced

SPECIFICATIONS

CABLE SPECIFICATIONS

- HDMI Cable Length for 1080p - 8-bit & 12-bit: **Input & Output:** 32 ft/10 M

VIDEO SPECIFICATIONS

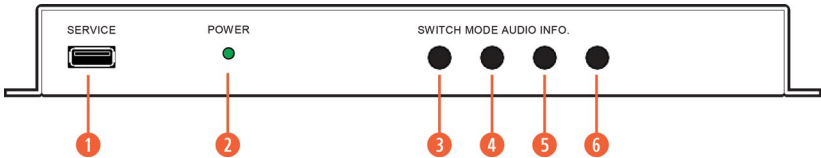
Supported PC Resolution (Hz)

HDMI Input		
640x480@60	800x600@85	1360x768@60
640x480@72	1024x768@60	1366x768@60
640x480@75	1024x768@70	1440x900@60
640x480@85	1024x768@75	1600x900@60
800x600@56	1024x768@85	1600x1200@60
800x600@60	1280x800@60	1680x1050@60
800x600@72	1280x960@60	1920x1200@60 (RB)
800x600@75	1280x1024@60	

HDMI Output	
1024x768@60	1440x900@60
1280x800@60	1600x900@60 (RB)
1280x1024@60	1600x1200@60
1366x768@60	1680x1050@60

OPERATION CONTROLS & FUNCTIONS

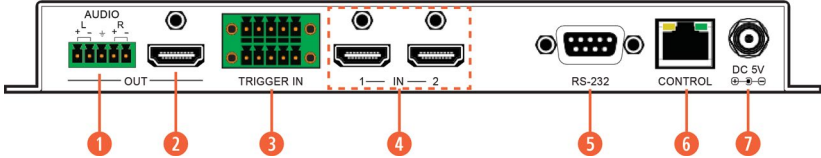
FRONT PANEL



- 1 SERVICE:** This port is reserved for firmware update use only.
- 2 POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.
- 3 SWITCH BUTTON:** Press to toggle between the (2) HDMI inputs and output the selected source full screen.
NOTE: Press and hold this button for 2 seconds to change the output resolution to 1920x1080p@60Hz.
- 4 MODE BUTTON:** Press to sequentially switch between the Full Screen (NONE), Picture-in-Picture (PIP), Side-by-Side (SBS), and Picture-outside-Picture (POP) windowing modes.
NOTE: Press and hold this button for 2 seconds to change the output resolution to 1024x768@60Hz.
- 5 AUDIO BUTTON:** Press to toggle between the audio from the (2) HDMI inputs.
- 6 INFO. BUTTON:** Short press to show the current input/output resolution status, audio selection and IP information. Long press to show the current contrast, brightness, hue, sharpness, color format, chroma and color temperature settings for each source channel.

OPERATION CONTROLS & FUNCTIONS

BACK PANEL



- 1 AUDIO OUT:** Connect to powered speakers or an amplifier for balanced stereo analog audio output.
- 2 HDMI OUT:** Connect to an HDMI TV, monitor or amplifier for digital video and audio output.
- 3 TRIGGER IN:** This 10 pin terminal block provides (8) trigger pins (plus 5V & Ground) for activating pre-designated functions within the unit. Compatible with the optional Trigger Keypad unit.

Pins are numbered from left to right:

TOP ROW		BOTTOM ROW	
1	Vcc (5V)	6	GROUND
2	POP Windowing Mode	7	Image Freeze (Toggle)
3	SBS Windowing Mode	8	Display Logo (Toggle)
4	PIP Windowing Mode	9	A/V Mute (Toggle)
5	Full Screen Window (Toggle)	10	Window Source Swap (Toggle)

- 4 HDMI IN 1~2:** Connect to HDMI source equipment such as media players, game consoles or set-top boxes.
- 5 RS-232:** Connect directly to a PC, laptop or other serial control device to send RS-232 commands to control the unit.
- 6 CONTROL:** Connect directly, or through a network switch, to your PC/laptop to control the unit via Telnet/WebGUI.
- 7 DC 5V:** Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power.

RS-232 PIN DEFINITION

PIN	ASSIGNMENT		PIN	ASSIGNMENT
1	NC	→	1	NC
2	TxD		2	RxD
3	RxD		3	TxD
4	NC	←	4	NC
5	GND		5	GND
6	NC		6	NC
7	NC		7	NC
8	NC		8	NC
9	NC		9	NC

Baud Rate: 110 ~ 921600**Data Bit:** 8 bits**Parity:** None**Stop Bit:** 1 bit**Flow Control:** None

Before attempting to use Telnet control, please ensure that both the unit and the PC/laptop are connected to the same active network.

To Access Telnet	
Windows 7	Click START , type “ cmd ” in the search field and press ENTER .
Windows 10	1. Open “Control Panel”. 2. Open “Programs and Features”. 3. Select the “Turn Windows features on or off” option. 4. Check the “Telnet Client” box. 5. Click “OK”. A box will appear that says “Windows Features” and “Searching for required files”. When complete, the Telnet client should be installed in Windows.
In Mac OS X	Click Go > Applications > Utilities > Terminal .

Once in the Command Line Interface (CLI) type “**telnet**” followed by the IP address of the unit (and the port number if it is non standard) and then hit “**Enter**”. This will connect us to the unit we wish to control. Type “**help**” to list the available commands. See below for reference.

NOTE: If the IP address is changed then the IP address required for Telnet access will also change accordingly.

COMMAND	DESCRIPTION & PARAMETERS
? ↵	Show the full command list.
HELP ↵	Show the full command list.
GET FW VER ↵	Show the unit's current firmware version.
SET FACTORY DEFAULT ↵	Reset all configurations to the factory defaults.
SAVE PRESET N1 ↵	Save the current configuration as preset N1. N1 = 1 ~ 4 [Preset number]
RECALL PRESET N1 ↵	Recall the saved configuration from preset N1. N1 = 1 ~ 4 [Preset number]
SET OUT A ROUTE N1 ↵	Switch to full screen routing mode and show input N1. N1 = 1 ~ 2 [Input port]
GET OUT A ROUTE ↵	Show the currently set full screen routing source.
SET WINDOW LAYOUT MODE N1 ↵	Set the windowing mode to N1. Available values for N1: 1 [PIP mode] 2 [SBS mode] 4 [POP mode] 5 [Full screen routing mode]
GET WINDOW LAYOUT MODE ↵	Show the currently selected windowing mode.
SET OUT A WINDOW PRIORITY N1 ↵	Select which input window will have top display priority in the dual-windowing modes. N1 = 1 ~ 2 [Input port]
GET OUT A WINDOW PRIORITY ↵	Show which input window currently has top display priority.
SET WINDOW SWAP N1 ↵	Enable or disable the input window swap function. Available values for N1: 0 [Off] 1 [On]
GET WINDOW SWAP ↵	Show the current state of the window swap function.
SET IN AUTO MODE N1 ↵	Enable or disable the auto input switching mode. Available values for N1: 0 [Off] 1 [On]
GET IN AUTO MODE ↵	Show the current state of the auto input mode.

COMMAND	DESCRIPTION & PARAMETERS																																				
SET IN N1 EDID N2 ↵	Set the EDID to use with input N1. N1 = 1 ~ 2 [Input port] Available values for N2 1 [Internal EDID 1] 2 [Internal EDID 2]																																				
GET IN N1 EDID ↵	Show the EDID source currently used by input N1. N1 = 1 ~ 2 [Input port]																																				
SET OUT A TIMING N1 ↵	Set the scaled output resolution. Available values for N1: <table><tr><td>0</td><td>[Native]</td><td>416</td><td>[1024x768]</td></tr><tr><td>4</td><td>[480P60]</td><td>417</td><td>[1280x800]</td></tr><tr><td>6</td><td>[720P60]</td><td>419</td><td>[1280x1024]</td></tr><tr><td>10</td><td>[1080P60]</td><td>420</td><td>[1366x768]</td></tr><tr><td>11</td><td>[576P50]</td><td>423</td><td>[1440x900]</td></tr><tr><td>12</td><td>[720P50]</td><td>424</td><td>[1600x900RB]</td></tr><tr><td>16</td><td>[1080P24]</td><td>425</td><td>[1600x1200]</td></tr><tr><td>17</td><td>[1080P25]</td><td>426</td><td>[1680x1050]</td></tr><tr><td>19</td><td>[1080P30]</td><td>430</td><td>[1920x1200RB]</td></tr></table>	0	[Native]	416	[1024x768]	4	[480P60]	417	[1280x800]	6	[720P60]	419	[1280x1024]	10	[1080P60]	420	[1366x768]	11	[576P50]	423	[1440x900]	12	[720P50]	424	[1600x900RB]	16	[1080P24]	425	[1600x1200]	17	[1080P25]	426	[1680x1050]	19	[1080P30]	430	[1920x1200RB]
0	[Native]	416	[1024x768]																																		
4	[480P60]	417	[1280x800]																																		
6	[720P60]	419	[1280x1024]																																		
10	[1080P60]	420	[1366x768]																																		
11	[576P50]	423	[1440x900]																																		
12	[720P50]	424	[1600x900RB]																																		
16	[1080P24]	425	[1600x1200]																																		
17	[1080P25]	426	[1680x1050]																																		
19	[1080P30]	430	[1920x1200RB]																																		
GET OUT A TIMING ↵	Show the currently selected output resolution.																																				
GET OUT A TIMING STRING ↵	Show the currently selected output resolution's timing description.																																				
SET OUT A AUDIO SOURCE N ↵	Select the HDMI audio source to send to the output. N1 = 1 ~ 2 [Input port]																																				
GET OUT A AUDIO SOURCE ↵	Show the currently selected HDMI audio source.																																				
SET OUT A MUTE N1 ↵	Enable or disable the audio/video output mute function. Available values for N1: 0 [Off] 1 [On]																																				
GET OUT A MUTE ↵	Show the current state of the audio/video output mute function.																																				
GET OUT A SYNC STATUS ↵	Show the current sync state of the HDMI output.																																				
SET IN N1 CONTRAST N2 ↵	Set the contrast value for input N1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ 100 [Contrast level]																																				

COMMAND	DESCRIPTION & PARAMETERS
GET IN N1 CONTRAST ↵	Show the current contrast value for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 BRIGHTNESS N2 ↵	Set the brightness value for input N1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ 100 [Brightness level]
GET IN N1 BRIGHTNESS ↵	Show the current brightness value for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 HUE N2 ↵	Set the hue shift for input N1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ 100 [Hue]
GET IN N1 HUE ↵	Show the current hue shift for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 SHARPNESS N2 ↵	Set the sharpness value for input N1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ 20 [Sharpness level]
GET IN N1 SHARPNESS ↵	Show the current sharpness value for input N1. N1 = 1 ~ 2 [Input port]
SET OUT A ASPECT RATIO N1 ↵	Set the output aspect ratio to use in full screen mode. Available values for N1: 1 [Full] 3 [16:9] 2 [4:3] 4 [16:10]
GET OUT A ASPECT RATIO ↵	Show the current aspect ratio setting.
SET IN N1 FORMAT N2 ↵	Force input N1 to use a specific color format. N1 = 1 ~ 2 [Input port] Available values for N2: 1 [RGB] 2 [YPbPr 4:2:2] 3 [YPbPr 4:4:4]
GET IN N1 FORMAT ↵	Show the currently set color space format used by input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 TEMPERATURE N2 ↵	Set the color temperature to use with input N1. N1 = 1 ~ 2 [Input port] Available values for N2: 1 [6500K] 2 [9300K]

COMMAND	DESCRIPTION & PARAMETERS										
GET IN N1 TEMPERATURE ↵	Show the currently set color temperature used by input N1.										
SET IN N1 CHROMA N2 ↵	Set the chroma value for input N1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ 100 [Chroma value]										
GET IN N1 CHROMA ↵	Show the current chroma value for input N1. N1 = 1 ~ 2 [Input port]										
SET CHROMAKEY ENABLE N1 ↵	Enable or disable Chromakey mode. Available values for N1: 0 [Off] 1 [On]										
GET CHROMAKEY ENABLE ↵	Show the current state of the Chromakey mode.										
SET CHROMAKEY COLOR N1 ↵	Select the RGB chromakey preset to use when Chromakey mode is enabled. Available values for N1: <table border="1"> <tr> <td>WHITE [White key]</td><td>BLUE [Blue key]</td></tr> <tr> <td>BLACK [Black key]</td><td>MAGENTA [Magenta key]</td></tr> <tr> <td>RED [Red key]</td><td>CYAN [Cyan key]</td></tr> <tr> <td>GREEN [Green key]</td><td>USER [User defined key]</td></tr> <tr> <td>YELLOW [Yellow key]</td><td></td></tr> </table>	WHITE [White key]	BLUE [Blue key]	BLACK [Black key]	MAGENTA [Magenta key]	RED [Red key]	CYAN [Cyan key]	GREEN [Green key]	USER [User defined key]	YELLOW [Yellow key]	
WHITE [White key]	BLUE [Blue key]										
BLACK [Black key]	MAGENTA [Magenta key]										
RED [Red key]	CYAN [Cyan key]										
GREEN [Green key]	USER [User defined key]										
YELLOW [Yellow key]											
GET CHROMAKEY COLOR ↵	Show the currently selected RGB chroma preset.										
GET CHROMAKEY COLOR ↵	Show the currently selected RGB chroma preset.										
SET CHROMAKEY RED RANGE N1 TO N2 ↵	Set the key-out range to use for the red component of the User defined key. N1 = 00 ~ FF [Red min in hex] N2 = 00 ~ FF [Red max in hex]										
SET CHROMAKEY GREEN RANGE N1 TO N2 ↵	Set the key-out range to use for the green component of the User defined key. N1 = 00 ~ FF [Green min in hex] N2 = 00 ~ FF [Green max in hex]										
SET CHROMAKEY BLUE RANGE N1 TO N2 ↵	Set the key-out range to use for the blue component of the User defined key. N1 = 00 ~ FF [Blue min in hex] N2 = 00 ~ FF [Blue max in hex]										

COMMAND	DESCRIPTION & PARAMETERS
GET CHROMAKEY N1 RANGE ↵	Show the current key range set for the selected color component. Available values for N1 : RED [Red component] GREEN [Green component] BLUE [Blue component]
SET IN N1 HPOSITION N2 ↵	Set the horizontal position of the upper-left corner of input N1's window in pixels. The maximum position value is the current horizontal resolution minus 1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ {Resolution-1} [Horizontal position] NOTE: Only available in dual-windowing modes.
GET IN N1 HPOSITION ↵	Show the current horizontal position of the upper-left corner of input N1's window in pixels. N1 = 1 ~ 2 [Input port]
SET IN N1 VPOSITION N2 ↵	Set the vertical position of the upper-left corner of input N1's window in pixels. The maximum position value is the current vertical resolution minus 1. N1 = 1 ~ 2 [Input port] N2 = 0 ~ {Resolution-1} [Vertical position] NOTE: Only available in dual-windowing modes.
GET IN N1 VPOSITION ↵	Show the current vertical position of the upper-left corner of input N1's window in pixels. N1 = 1 ~ 2 [Input port]
SET IN N1 WIDTH N2 ↵	Set the horizontal size of input N1's window in pixels. The maximum value is the current horizontal resolution. N1 = 1 ~ 2 [Input port] N2 = 0 ~ {Resolution} [Horizontal size] NOTE: Only available in dual-windowing modes.
GET IN N1 WIDTH ↵	Show the current horizontal size of input N1's window in pixels. N1 = 1 ~ 2 [Input port]
SET IN N1 HEIGHT N2 ↵	Set the vertical size of input N1's window in pixels. The maximum value is the current vertical resolution. N1 = 1 ~ 2 [Input port] N2 = 0 ~ {Resolution} [Vertical size] NOTE: Only available in dual-windowing modes.

COMMAND	DESCRIPTION & PARAMETERS
GET IN N1 HEIGHT ↵	Show the current vertical size of input N1's window in pixels. N1 = 1 ~ 2 [Input port]
SET IN N1 UP-SIDE DOWN N2 ↵	Enable or disable the vertical flip function for input N1. N1 = 1 ~ 2 [Input port] Available values for N2 : ON [Enable] OFF [Disable]
GET IN N1 UP-SIDE DOWN ↵	Show the current vertical flip state for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 FLIP N2 ↵	Enable or disable the horizontal flip function for input N1. N1 = 1 ~ 2 [Input port] Available values for N2 : ON [Enable] OFF [Disable]
GET IN N1 FLIP ↵	Show the current horizontal flip state for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 IMAGE STILL N2 ↵	Enable or disable the video freeze function for input N1. N1 = 1 ~ 2 [Input port] Available values for N2 : ON [Enable] OFF [Disable]
GET IN N1 IMAGE STILL ↵	Show the current video freeze state for input N1. N1 = 1 ~ 2 [Input port]
SET IN N1 BACKDROP COLOR N2 ↵	Set the free run color for input N1. N1 = 1 ~ 2 [Input port] Available values for N2 : BLACK [Black color] BLUE [Blue color]
GET IN N1 BACKDROP COLOR ↵	Show the currently set free run color for input N1. N1 = 1 ~ 2 [Input port]
SET OUT A OSD INFO TIMEOUT N1 ↵	Set the OSD display timeout length, or disable the timeout. N1 = 0 ~ 100 [Timeout in seconds]
GET OUT A OSD INFO TIMEOUT ↵	Show the current OSD timeout length.
SET OUT A OSD INFO VPOSITION N1 ↵	Set the vertical position of the OSD. N1 = 0 ~ 100 [Vertical position in %]

COMMAND	DESCRIPTION & PARAMETERS
GET OUT A OSD INFO VPOSITION ↵	Show the OSD's current vertical position.
SET OUT A OSD INFO HPOSITION N1 ↵	Set the horizontal position of the OSD. N1 = 0 ~ 100 [Horizontal position in %]
GET OUT A OSD INFO HPOSITION ↵	Show the OSD's current horizontal position.
SET OUT A OSD TEXT N1 ↵	Set the custom OSD text string. N1 = {Text string} [Custom text]
GET OUT A OSD TEXT ↵	Show the current custom OSD text string.
SET OUT A OSD FONT COLOR N1 ↵	Set the color of the OSD text. Available values for N1: WHITE [White text] GRAY [Gray text] RED [Red text] BLUE [Blue text] GREEN [Green text] MAGENTA [Magenta text] YELLOW [Yellow text] CYAN [Cyan text]
GET OUT A OSD FONT COLOR ↵	Show the current OSD text color.
SET OUT A OSD BACKDROP COLOR N1 ↵	Set the color of the OSD background. Available values for N1: WHITE [White text] YELLOW [Yellow text] GRAY [Gray text] BLUE [Blue text] RED [Red text] MAGENTA [Magenta text] GREEN [Green text] CYAN [Cyan text]
GET OUT A OSD BACKDROP COLOR ↵	Show the current OSD background color.
SET OUT A OSD LOGO DISPLAY N1 ↵	Enable or disable the OSD graphical logo. Available values for N1: ON [Enabled] OFF [Disabled]
GET OUT A OSD LOGO DISPLAY ↵	Show the current state of the OSD graphical logo.
SET OUT A OSD LOGO VPOSITION N1 ↵	Set the vertical position of the OSD graphical logo. N1 = 0 ~ 100 [Vertical position in %]
GET OUT A OSD LOGO VPOSITION ↵	Show the current vertical position of the OSD graphical logo.

COMMAND	DESCRIPTION & PARAMETERS
SET OUT A OSD LOGO HPOSITION N1 ↵	Set the horizontal position of the OSD graphical logo. N1 = 0 ~ 100 [Horizontal position in %]
GET OUT A OSD LOGO HPOSITION ↵	Show the current horizontal position of the OSD graphical logo.
GET WEBGUI USERNAME ↵	Show the current WebGUI username.
SET WEBGUI PASSWORD N1 ↵	Set the WebGUI login password to N1. N1 = {password} [15 characters max]
GET WEBGUI PASSWORD ↵	Show the current WebGUI password.
SET WEBGUI TIMEOUT N1 ↵	Set the WebGUI inactivity timeout. N1 = 0 ~ 6000 [Timeout in minutes]
GET WEBGUI TIMEOUT ↵	Show the current WebGUI inactivity timeout value.
SET IP MODE N1 ↵	Set the IP address assignment mode. Available values for N1: 0 [Static IP mode] 1 [DHCP mode]
GET IP MODE ↵	Show the current IP mode.
GET IPCONFIG ↵	Show the current IP configuration data.
GET OUT A OSD FONT COLOR ↵	Show the current OSD text color.
SET IP ADDR N1 ↵	Set the static IP address. N1 = X.X.X.X [X = 0 ~ 255]
SET NETMASK N1 ↵	Set the static netmask address. N1 = X.X.X.X [X = 0 ~ 255]
SET GATEWAY N1 ↵	Set the static gateway address. N1 = X.X.X.X [X = 0 ~ 255]
SET TELNET TIMEOUT N1 ↵	Set the Telnet inactivity timeout. N1 = 0 ~ 6000 [Timeout in seconds]
GET TELNET TIMEOUT ↵	Show the current Telnet inactivity timeout value.
SET TELNET PORT N1 ↵	Set the network port to use for Telnet communication. N1 = 1 ~ 65535 [Telnet port]
GET TELNET PORT ↵	Show the current Telnet port.

NOTE: Commands will not be executed unless followed by a carriage return. Commands are not case-sensitive.

WEBGUI CONTROL

DEVICE DISCOVERY APP: Please obtain the “**Device Discovery**” software from your authorized dealer and save it in a directory where you can easily find it. Connect the unit and your PC/Laptop to the same active network and execute the “**Device Discovery**” software. Click on “**Find Devices on Network**” and a list of devices connected to the local network will show up indicating their current IP address.

NOTE: The unit's default IP address is 192.168.1.50.

By clicking on one of the listed devices you will be presented with the network details of that particular device.

- **IP MODE:** If you choose, you can alter the static IP network settings for the device, or switch the unit into DHCP mode to automatically obtain proper network settings from a local DHCP server. To switch to DHCP mode, please select DHCP from the IP mode drop-down, then click “**Save**” followed by “**Reboot**”.
- **WebGUI Hotkey:** Once you are satisfied with the network settings, you may use them to connect via Telnet or WebGUI. The network information window provides a convenient link to launch the WebGUI directly.

WEBGUI OVERVIEW: After connecting to the WebGUI's address in a web browser, the login screen will appear. Please enter the appropriate user name and password then click “**Submit**” to log in.

NOTE: The default user name and password is “**admin**”.

On the left side of the browser you will see the following menu tabs where all primary functions of the unit are controllable via the built in WebGUI: Adjustment, Windows Setup, OSD/LOGO Settings, Chromakey Setup, Network, and System. The individual functions will be introduced in the following sections.

WEBGUI CONTROL



Clicking the red “**Logout**” tab will automatically log the currently connected user out of the WebGUI and return to login page.

INFORMATION BAR: Across the top of the WebGUI are 5 sections that will always be displayed no matter which tab has been selected. These sections are: Information-In, Information-Out, Source, Mode, and Preset/Factory. They provide information about the state of the unit, or control the most basic functions of the unit.

- **INFORMATION-IN:** Provides the detected resolution information about the source connected to each of the HDMI inputs.
- **INFORMATION-OUT:** Provides the unit's current output resolution as well as listing the current Window Mode.
- **SOURCE:** Provides controls for the A/V Mute function and Audio Source selection.
 - **A/V Mute:** When A/V Mute is enabled, all output will be disabled on the HDMI output.
 - **Audio From CH:** Select which HDMI input's audio to pass to both the HDMI and analog outputs.
 - NOTE:** The analog output can only support LPCM 2.0 audio. Bitstream audio will be automatically muted.
- **MODE:** Provides controls for changing the Window Mode, swapping window sources, changing window priority and selecting the input in the “**NONE**” window mode.
 - **Window Mode:** Allows selecting the current windowing mode from 4 choices: PIP (Picture-in-Picture), SBS (Side-by-Side), POP (Picture-outside-Picture) and NONE (Full screen seamless switcher).
 - NOTE:** The PIP, SBS, and POP modes will each recall their most recently saved window sizes and positions, not their default arrangements. Changing this setting when Chromakey is enabled will automatically disable Chromakey mode.
 - **Swap:** Allows swapping the input channel between the windows in the multi-windowing modes.
 - NOTE:** Enabling Swap mode will also automatically switch the Priority setting in order to maintain the existing Window display priority.

WEBGUI CONTROL

- **Priority:** Selects which input channel is on top in the multi-windowing modes.
- **From Input:** Selects the input to display when the unit is in the “NONE” (Full screen seamless switcher) Windowing Mode.
- **PRESET/FACTORY:** Provides controls for saving and loading Presets and for resetting the unit.
 - **Preset Save/Recall:** This unit can store and recall up to four presets. Each preset stores the settings from the Mode, Contrast, Brightness, Sharpness, Hue, image Still, Flip, and Upside-Down sections of the WebGUI for rapid, hassle-free, recall.
NOTE: The output will briefly go black during the preset recall process.
 - **Factory Reset:** Click on the Factory Reset button to reset the unit to its factory default state. After the reset is complete, the unit will reboot automatically.
NOTE: Network configuration details will not be reset.

ADJUSTMENT TAB: This tab provides controls over the general display characteristics of each input channel as well as providing a way to set.

- **CONTRAST:** Sets the contrast level for each input channel with a range of 0 to 100. Clicking on the slider will allow fine adjustments using the arrow keys. The default value is 80.
- **BRIGHTNESS:** Sets the brightness level for each input channel with a range of 0 to 100. Clicking on the slider will allow fine adjustments using the arrow keys. The default value is 50.
- **SHARPNESS:** Sets the amount of sharpness processing to apply to each input channel with a range of 0 to 20. Clicking on the slider will allow fine adjustments using the arrow keys. The default value is 10.
- **HUE:** Sets the hue value for each input channel with a range of 0 to 100. Clicking on the slider will allow fine adjustments using the arrow keys. The default value is 50.
- **OUTPUT RESOLUTION:** Sets the unit's output resolution. The default selection is 1080p60.
- **IMAGE STILL:** Freezes and unfreezes the video from the selected input channel. This function is off by default.
- **FLIP:** Enabling the Flip function will cause the video in the selected input channel to be mirrored horizontally. This function is off by default.
- **UP-SIDE DOWN:** Enabling the Upside-Down function will cause the video in the selected input channel to be mirrored vertically. This function is off by default.

WEBGUI CONTROL

WINDOWS SETUP TAB: This tab provides access to controls for the individual windows in the multi-windowing modes (PIP, SBS, POP) of the unit including size and position. Both windows may be freely scaled and positioned in all 3 modes. Clicking on the bottom right corner of a window and dragging it will resize the window while clicking and dragging the center of a window will reposition it. Changes made to windows will occur immediately.

NOTE: This tab will be completely disabled if Window Mode is set to “NONE”.

- **SELECT:** This section provides a way to directly type exact position and size numbers for each channel window for precise alignment. After making all changes to a channel, please click the “Save” button to have the unit use the new values.
 - **Channel:** Selects which channel to adjust.
 - **Width:** Sets the horizontal size of the selected channel window in pixels.
 - **Height:** Sets the vertical size of the selected channel window in pixels.
 - **H Position:** Sets the horizontal position of the selected channel window in pixels.
 - **V Position:** Sets the vertical position of the selected channel window in pixels.*NOTE: Changing channels before clicking “Save” will undo any modified values.*

OSD/LOGO SETTINGS: This tab provides control over the informational OSD (On Screen Display) formatting as well as user uploaded logo usage and placement.

NOTE: The OSD and Logo cannot be displayed simultaneously. Enabling the Logo function will automatically disable the OSD.

- **OSD SETTINGS:** This section provides control over all OSD formatting.
 - **Timeout:** Sets the length of time for the OSD to remain on the screen in seconds.
 - **H-Pos:** Sets the horizontal position of the OSD, set in percentage.
 - **V-Pos:** Sets the vertical position of the OSD, set in percentage.
 - **Text/Font Color/Background Color:** Displays the current values for the OSD format that are configured by clicking on the “Edit” button.
- **EDIT:** Clicking this button opens the OSD Information Edit window to change the formatting of the OSD.
 - **Text:** Define a text string to display on the OSD.
 - **Font Color:** Set the color of the OSD font.
 - **Background Color:** Set the background color of the OSD's text block.
- **LOGO SETTINGS:** This section provides control over the content and position of the user uploaded logo image.
 - **Logo Display:** Clicking this button will display the customized text message on the OSD.
 - **H-Pos:** Sets the horizontal position of the user logo, set in percentage.
 - **V-Pos:** Sets the vertical position of the user logo, set in percentage.
 - **Upload New LOGO:** To upload a graphic logo, please click the “Choose File” button to open the file selection window and then select the graphic logo file (8-bit *.bmp format, 1920x1080 max resolution) located on your local PC. After selecting the file, click the “Upload New LOGO” button to upload the logo to the unit.

CHROMAKEY SETUP TAB: This tab allows for the activation and configuration of Chromakey mode. Enabling the Chromakey mode will automatically switch to displaying Input 1 underneath Input 2 with the selected key values applied to Input 2's source video. The unit comes with 8 pre-defined standard key definitions (White, Yellow, Cyan, Green, Magenta, Red, Blue, Black) and a User configurable definition set.

- **CHROMAKEY SETUP:** This section provides all controls relating to the chromakeying function of the unit.
 - **Color Set:** Select from a list of pre-set chromakey ranges (White, Yellow, Cyan, Green, Magenta, Red, Blue, Black) to perform simple, hassle-free keying or select “User” to enter in custom keying value ranges. Clicking “Save to User” will copy the currently selected pre-set ranges into the “User” slot for editing.
 - **G Maximum/Minimum:** When “User” is selected, sets the maximum and minimum range for the green component of the chromakey (from 0-255).
 - **R Maximum/Minimum:** When “User” is selected, sets the maximum and minimum range for the red component of the chromakey (from 0-255).
 - **B Maximum/Minimum:** When “User” is selected, sets the maximum and minimum range for the blue component of the chromakey (from 0-255).
 - **Chromakey:** Enable or disable the chromakey function of the unit. When chromakeying is enabled, the unit will automatically switch both windows to be full screen with Channel Window 1 in front of Channel Window 2. The keying will be applied to Channel Window 1.
- NOTE:** Selecting any other Windowing mode will automatically disable chromakeying.

NETWORK TAB: This tab provides access to control of the IP configuration and Login settings for the unit.

- **IP CONFIGURATION:** The IP Address, Netmask and Gateway can be set manually, or DHCP can be enabled for automatic IP Configuration if your local network supports it. The Telnet Timeout can also be set, allowing control of the length of inactivity time before the unit releases its network connection with a network connected control device. Click on “Save” to confirm and activate any changes made to these settings.

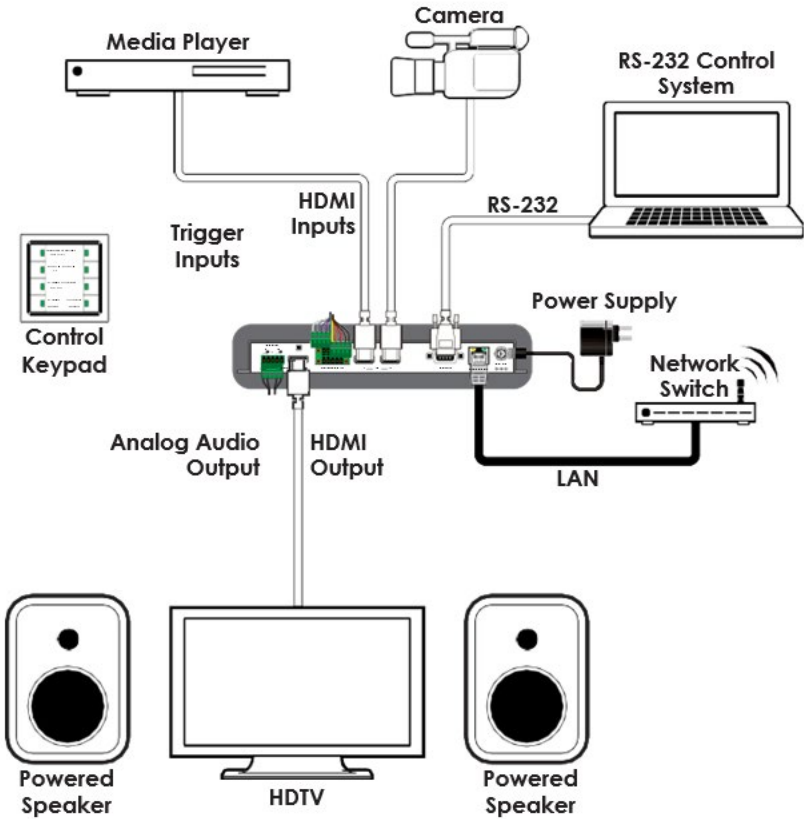
NOTE: If the IP address is changed then the IP address required for WebGUI or Telnet access will also change accordingly.
- **LOGIN:** This section provides User Configuration options including changing the password for the Administrator account, and setting an idle user logout timer. Click on “Save” to confirm and activate any changes made to these settings.

WEBGUI CONTROL

SYSTEM TAB: This tab provides firmware update functionality and, system configuration backup/restore functions.

- SYSTEM:** This section contains all controls relating to firmware upgrades and system configuration export.
 - **Firmware Upgrade:** To update the unit's firmware, click the “**Choose File**” button to open the file selection window and then select the firmware update file (*.bin format) located on your local PC. After selecting the file, click the “**Upgrade**” button to begin the firmware update process. Once the process completes the unit will automatically reboot.
 - **System Configuration:** The current system configuration, including routing and presets, may be saved as an XML file to a PC. Click the “**Download**” button to save the current system configuration to your local PC. Previously saved system configurations may be restored from a saved XML file. Click the “**Choose File**” button to locate the saved XML file, then click the “**Restore**” button. Once the process completes the unit will automatically reboot.

CONNECTION DIAGRAM



Screen Configurations:



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