



# CDPS-U2HPIP

4K UHD 2x1 HDMI Multi-Window Scaler Switcher



Operation Manual



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## 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.
- Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

## VERSION HISTORY

REV.	DATE	SUMMARY OF CHANGE
RDV1	2019/09/09	Preliminary release



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## 1. INTRODUCTION

This 2 by 1 HDMI Multi-Window Scaler Switcher is a high performance HDMI switch with integrated scaling and multi-windowing technology. With a primary HDMI output and a mirrored HDBaseT output, this is an ideal solution for monitoring or displaying two sources simultaneously for use in control rooms, conference rooms or classrooms. Video resolutions up to 4K@30Hz and a full range of advanced audio formats such as 8 channel LPCM and HD bitstream are supported on both the inputs and outputs. This unit is also fully compatible with the HDCP 1.x and 2.2 standards.

Any of 2 different HDMI sources may be displayed individually, full screen with seamless transition switching, or they can be displayed using a variety of multi-window modes including standard views like PiP (Picture in Picture) and PoP (Picture outside of Picture) as well as a fully customizable dual-window mode. Chroma keying and custom logo insertion with adjustable transparency is also available. Control of input/window routing, position and sizing is easy using the front panel controls with OSD menu as well as by WebGUI, RS-232, and Telnet.

## 2. APPLICATIONS

- Entertainment Rooms & Home Theaters
- Showroom & Demo Rooms
- Lecture Hall Presentations
- Public Commercial Displays

## 3. PACKAGE CONTENTS

- 1× 4K UHD 2×1 HDMI Multi-Window Scaler Switcher
- 1× 24V/2.7A DC Power Adapter
- 2× 3-pin Terminal Block
- 1× 3.5mm to IR Extender Cable
- 1× 3.5mm to IR Blaster Cable
- 1× Operation Manual

## 4. SYSTEM REQUIREMENTS

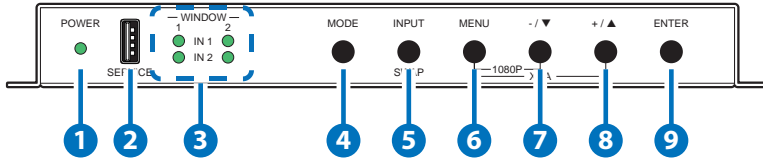
- HDMI source equipment such as media players, video game consoles or set-top boxes.
- HDMI receiving equipment such as HDTVs, monitors or audio amplifiers.
- A compatible HDBaseT receiver with PoH support is recommended.
- The use of Premium High Speed HDMI cables, and industry standard Cat.6, Cat.6A or Cat.7, is highly recommended.

## 5. FEATURES

- HDMI 2.0 and DVI 1.0 compliant
- HDCP 1.x and 2.2 compliant
- 2 HDMI inputs, 2 mirrored video outputs (1×HDMI, 1×HDBaseT)
- Standard support for up to 4K UHD (10.2Gbps, 4K@30Hz 4:4:4, 8-bit) digital video input (HDMI) and output (HDMI/HDBaseT)  
*Note: Interlaced resolutions are not supported*
- HDBaseT output extends video, audio, and data over a single Cat.5e/6/7 cable and can reach distances up to 70m/230ft at 1080p60 when using Cat.6a/7
- Supports pass-through of many audio formats including LPCM (up to 8 channels), Bitstream and HD Bitstream
- Supports standard PoH (PSE) from the HDBaseT output to connected HDBaseT (PD) receivers (compatible receivers only)
- Supports seamless switching with customizable zoom, aspect ratio, and H/V mirroring
- Multi-windowing supports PiP (Picture in Picture), PoP (Picture outside of Picture) and custom dual windowing modes with independent audio source selection
- Secondary PiP window supports customizable outline, chroma key, and transparency
- Uploadable and freely positioned graphic logo insertion with chroma key and transparency
- Supports the ability to store up to 5 output configuration presets that can be easily recalled later
- Controllable via front panel buttons with OSD, WebGUI, Telnet, and RS-232

## 6. OPERATION CONTROLS AND FUNCTIONS

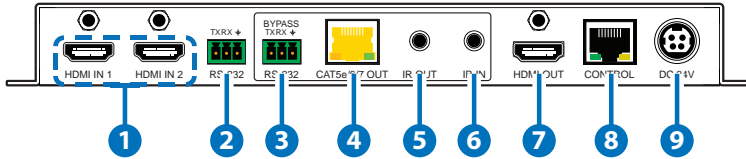
### 6.1 Front Panel



- 1 POWER LED:** This LED will illuminate to indicate the unit is on and receiving power.
- 2 SERVICE Port:** This port is used for User Logo and EDID uploads, and firmware updates.
- 3 WINDOW 1~2/IN 1~2 LEDs:** The illuminated LEDs indicate which source is currently selected for each window.  
*Note: In Switcher Mode only the window 1 LEDs are used.*
- 4 MODE Button:** Press this button to sequentially switch through the available video output modes (Switcher, PiP, PoP, Custom).
- 5 INPUT/SWAP Button:** Press this button to swap sources between the two windows. In Switcher Mode, this button changes the live input.
- 6 MENU Button:** Press to enter the OSD menu, or to back out from menu items.  
*Note: Pressing "MENU" and "+" together will reset the output resolution to XGA (1024×768@60Hz). Pressing "MENU" and "-" together will reset the output resolution to 1080p@60Hz.*
- 7 - (MINUS) Button:** Press to move down or adjust selections within OSD menus.
- 8 + (PLUS) Button:** Press to move up or adjust selections within OSD menus.
- 9 ENTER Button:** Press to confirm a selection within the OSD or to go deeper into a menu item.



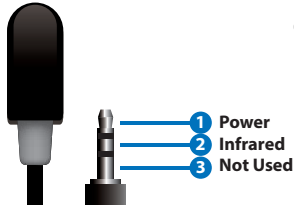
## 6.2 Rear Panel



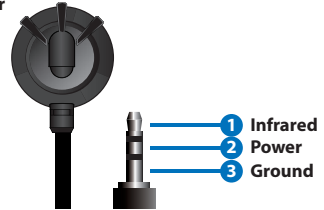
- 1 **HDMI IN 1~2 Ports:** Connect to HDMI source equipment such as media players, game consoles, or set-top boxes.
- 2 **RS-232 3-pin Terminal Block:** Connect directly to a PC, laptop, or other serial control device with a 3-pin adapter cable to send RS-232 commands to control the unit.
- 3 **BYPASS RS-232 3-pin Terminal Block:** Connect to a PC, laptop, or serial controllable device with a 3-pin adapter cable for the extension of RS-232 signals between both ends of the HDBaseT connection.
- 4 **CAT5e/6/7 OUT Port:** Connect to a compatible HDBaseT receiver with a single Cat.5e/6/7 cable for transmission of all data signals. PoH will also be supplied to a connected compatible PD receiver.
- 5 **IR OUT Port:** Connect to an IR Blaster to transmit IR signals from the other end of the HDBaseT connection to devices within direct line-of-sight of the IR Blaster.
- 6 **IR IN Port:** Connect to an IR Extender to receive local IR control signals and extend them to devices connected to the other end of the HDBaseT connection. Ensure that the remote being used is within direct line-of-sight of the IR Extender.
- 7 **HDMI OUT Port:** Connect to an HDMI TV, monitor, or amplifier for digital video and audio output.
- 8 **CONTROL Port:** Connect directly, or through a network switch, to your PC/laptop to control the unit via Telnet/WebGUI.
- 9 **DC 24V Port:** Plug the 24V DC power adapter into this port and connect it to an AC wall outlet for power.

## 6.3 IR Cable Pinouts

IR Blaster Cable



IR Extender Cable

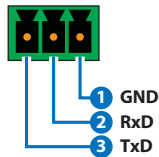


## 6.4 RS-232 Pinout and Defaults

Serial Port Default Settings	
Baud Rate	19200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

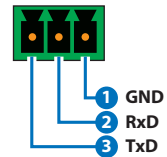
RS-232 Port 1 (Unit control)

3-pin Terminal Block



RS-232 Port 2 (HDBaseT extension)

3-pin Terminal Block



## 6.5 OSD Menu

All functions of this unit can be controlled by using the OSD (On Screen Display) which is activated by pressing the MENU button on the front of the unit. Use the + (PLUS), - (MINUS), and ENTER buttons to navigate the OSD menu. Press the MENU button to back out from any menu item and then press it again to close the menu. In some cases, OSD menus will contain more than one page of information, in those cases a (↕) mark will be shown in the upper right corner of the menu. The additional pages are accessed by using the + and - buttons.

MAIN MENU
Video Mode
Window Layout
Color Key
Picture
Audio
Input EDID
HDCP Mode
Output Resolution
OSD Settings
Logo Settings
Ethernet
Advanced
Setup
Information

The individual functions of the OSD will be introduced in the following section. Items marked in **BOLD** are the factory default settings.

VIDEO MODE	
2ND LEVEL	3RD LEVEL
Video Mode	<b>SWITCHER</b>
	PiP
	PoP
	Custom
Window Source	<b>IN 1</b>
	In 2
Window 1 Source	<b>IN 1</b>
	In 2
Window 2 Source	<b>IN 1</b>
	In 2
Window 2 Pop Up	<b>ALWAYS ON</b>
	Instant On
	Fade In
Switch Mode	<b>STANDARD</b>
	Seamless
	Fade

- 1) **Video Mode:** Select the preferred operation mode of the unit.
- 2) **Window Source:** Select the video source to display when in Switcher Mode.  
*Note: Only available in the Switcher video mode.*
- 3) **Window 1/2 Source:** Select the video sources for window 1 and window 2.  
*Note: Only available in the PiP, PoP and Custom video modes.*
- 4) **Window 2 Pop Up:** Set the behavior of window 2 when the source becomes live.  
*Note: Only available in the PiP and Custom video modes.*
- 5) **Switch Mode:** Select the behavior of the unit when changing sources in Switcher Mode.

WINDOW LAYOUT		
2ND LEVEL	3RD LEVEL	4TH LEVEL
<b>Window 1</b>		
Position	X:	1~{Res. max} (240)
	Y:	1~{Res. max} (135)
Size	W:	1~{Res. max} (1440)
	H:	1~{Res. max} (809)
Aspect	<b>FULL</b>	
	4:3	
	16:10	
	16:9	
	64:27	
	Keep Ratio	
	Custom	{Situational} (1.778)
Zoom	1:1	
	Under 5%	
	Under 2.5%	
	<b>FULL</b>	
	Over 2.5%	
	Over 5%	
	Over 7.5%	
	Over 10%	
	Center Fill	
	Custom	20%~200% (100%)
Mirror	<b>OFF</b>	
	Horizontal	
	Vertical	
	Hori+Vert	

WINDOW LAYOUT		
2ND LEVEL	3RD LEVEL	4TH LEVEL
<b>Window 2</b>		
Position	X:	1~{Res. max} (1280)
	Y:	1~{Res. max} (720)
Size	W:	1~{Res. max} (639)
	H:	1~{Res. max} (359)
Aspect	Full	
	4:3	
	16:10	
	16:9	
	64:27	
	<b>KEEP RATIO</b>	
	Custom	{Situational} (1.778)
Mirror	<b>OFF</b>	
	Horizontal	
	Vertical	
	Hori+Vert	
Transparency	0~15 (0)	
Border On/Off	<b>OFF</b>	
	On	
Border Color	Red	
	<b>GREEN</b>	
	Blue	
	Yellow	
	Magenta	
	Cyan	
	White	
	Dark Red	

WINDOW LAYOUT		
2ND LEVEL	3RD LEVEL	4TH LEVEL
Border Color	Dark Green	
	Dark Blue	
	Dark Yellow	
	Dark Magenta	
	Dark Cyan	
	Gray	
	Black	
Border Size	1~20 <b>(10)</b>	
Border Trans.	0~14 <b>(0)</b>	

#### Window 1:

- 1) **Position X/Y:** Set the horizontal and vertical position of the upper left corner of the window. Opens a special positioning menu allowing adjustments in real time.

*Note: Only available in the PIP and Custom video modes. This can only be adjusted in the Custom video mode.*

- 2) **Size W/H:** Set the horizontal size of the window, in pixels.

*Note: Only available in the PIP and Custom video modes. This can only be adjusted in the Custom video mode. Opens a special positioning menu allowing adjustments in real time.*

- 4) **Aspect:** Set the aspect ratio to use with the window's sources. The aspect ratio can be set to any of the following choices: Full, 4:3, 16:10, 16:9, 64:27, Keep Ratio, or Custom. Selecting Custom Ratio opens a special menu allowing adjustments in real time.

- 6) **Zoom:** Set the window's zoom level. The zoom level can be set to any of the following preset values: 1:1, Under 5%, Under 2.5%, Full, Over 2.5%, Over 5%, Over 7.5%, Over 10%, Center Fill, Custom.

*Note: Only available in the Switcher and PIP video modes.*

- 7) **Mirror:** Allows the window's source to be flipped horizontally, vertically, or both horizontally and vertically at the same time.

## Window 2:

- 8) **Position X/Y:** Set the horizontal and vertical position of the upper left corner of the window. Opens a special positioning menu allowing adjustments in real time.  
*Note: Only available in the PiP and Custom video modes.*
- 9) **Size W/H:** Set the horizontal size of the window, in pixels. Opens a special positioning menu allowing adjustments in real time.  
*Note: Only available in the PiP and Custom video modes.*
- 10) **Aspect:** Set the aspect ratio to use with the window's sources. The aspect ratio can be set to any of the following choices: Full, 4:3, 16:10, 16:9, 64:27, Keep Ratio, or Custom. Selecting Custom Ratio opens a special menu allowing adjustments in real time.
- 11) **Mirror:** Allows the window's source to be flipped horizontally, vertically, or both horizontally and vertically at the same time.
- 12) **Transparency:** Set the transparency level of window 2 with a range from 0 (opaque) to 15 (fully transparent).  
*Note: Only available in the PiP and Custom video modes.*
- 13) **Border On/Off:** Enable or disable displaying a colored border around the window.  
*Note: In PoP mode, this feature creates a center dividing line.*
- 14) **Border Color:** Set the color of the window's border.
- 15) **Border Size:** Set the thickness of the window's border, in pixels.
- 16) **Border Trans.:** Set the transparency level of the border with a range from 0 (opaque) to 14 (mostly transparent).



COLOR KEY		
2ND LEVEL	3RD LEVEL	4TH LEVEL
Key On/Off	<b>OFF</b>	
	On	
Cursor	X:	0~{Res. max} (0)
	Y:	0~{Res. max} (0)
Color Y	0~255 (168)	
Color Cb	0~255 (45)	
Color Cr	0~255 (32)	
Range Y	0~{Color Y} (32)	
Range Cb	0~{Color Cb} (32)	
Range Cr	0~{Color Cr} (32)	
Key Y	[Current key range]	
Key Cb		
Key Cr		

- 1) **Key On/Off:** Enable or disable chroma keying in window 2.
- 2) **Cursor X/Y:** Sets the location of the pixel, within window 2, to use as the basis for the key rather than manually entering values. Selecting this opens a special cursor position menu and a cursor will appear on screen to indicate the current pixel location.
- 3) **Color Y/Cb/Cr:** Manually set the base values of the Y, Cb, and Cr components of the color range to key out from the window 2 source.
- 4) **Range Y/Cb/Cr:** Set the value range, centered on the current Color value, over which the key should be applied for each component of the YCbCr key.
- 5) **Key Y/Cb/Cr:** Displays the currently selected keying values.

PICTURE	
2ND LEVEL	3RD LEVEL
Contrast	0-100 (50)
Brightness	0-100 (50)
Saturation	0-100 (50)
Hue	0-100 (50)
Sharpness	0-10 (0)
Red	0-100 (50)
Green	0-100 (50)
Blue	0-100 (50)
Reset	Enter
Preset	<b>STANDARD</b>
	Vivid
	Soft

- 1) **Contrast:** Set the overall contrast of the output video.
- 2) **Brightness:** Set the overall brightness of the output video.
- 3) **Saturation:** Set the overall saturation of the output video.
- 4) **Hue:** Set the hue shift of the output video.
- 5) **Sharpness:** Set the amount of sharpness processing to apply to the output video.
- 6) **Red/Green/Blue:** Set the red, green, and blue color level of the video output.
- 7) **Reset:** Select this to reset the current preset to it's factory default video settings.
- 8) **Preset:** Select the current video output preset. Any changes made to a selected preset will be stored as the standard values for that preset.

AUDIO	
2ND LEVEL	3RD LEVEL
Source	<b>WIN 1</b>
	Win 2
	In 1
	In 2
Mute	<b>OFF</b>
	On

- 1) **Source:** Select the audio source to pair with the video output.  
*Note: Win 2 is not available as a source in Switcher mode.*
- 2) **Mute:** Enable or disable muting the audio output.

INPUT EDID	
2ND LEVEL	3RD LEVEL
EDID Mode	<b>ALL</b>
	Independent
All EDID	<b>FHD/2CH</b>
	FHD/MCh
	4K UHD/2Ch
	4K UHD/MCh
	Sink HDBT
	Sink HDMI
	User 1
	User 2
	User 3
	User 4
IN 1 EDID	[Same as All EDID]
IN 2 EDID	[Same as All EDID]
User 1 Update	<b>NO</b>
	Yes
User 2 Update	<b>NO</b>
	Yes
User 3 Update	<b>NO</b>
	Yes
User 4 Update	<b>NO</b>
	Yes

- 1) **EDID Mode:** Select how to assign EDIDs to the unit's inputs. Selecting "Independent" allows for a different EDID to be assigned to each input, selecting "All" allows for a single EDID to be assigned to both inputs.
- 2) **All EDID:** Select the EDID to assign to all inputs.  
*Note: Only available in the "All" EDID Mode.*

- 3) **IN 1 EDID:** Select the EDID to assign to input 1.

*Note: Only available in the "Independent" EDID Mode.*

- 4) **IN 2 EDID:** Select the EDID to assign to input 2.

*Note: Only available in the "Independent" EDID Mode.*

- 5) **User 1~4 Update:** To update any of the unit's 4 User EDIDs via USB, select "Yes" next to the appropriate User EDID and then insert a USB stick containing the new EDID into the Service port. The upload will occur immediately.

*Note: The USB stick must contain, in the root directory, a compatible and properly named (EDID\_User\_\*.BIN) EDID file.*

HDCP MODE	
2ND LEVEL	3RD LEVEL
Input 1	HDCP Support Off
	Refer to Source
	<b>REFER TO DISPLAY</b>
Input 2	HDCP Support Off
	Refer to Source
	<b>REFER TO DISPLAY</b>

- 1) **Input 1/2:** Select the HDCP behavior for each input.

- **HDCP Support Off:** Completely disables support for HDCP on that input.
- **Refer to Source:** Makes the input port support the same HDCP version as required by the connected source.
- **Refer to Display:** Makes the input support the HDCP version of the currently connected displays.

OUTPUT RESOLUTION
2ND LEVEL
640x480@59
800x600@60
1024x768@60
1280x800@60
1280x1024@60
1366x768@60
1440x900@60
1600x900@60rb
1600x1200@60
1680x1050@60
1920x1200@60rb
1920x1200@60
2560x1600@60rb
3440x1440@30
480p59
480p60
576p50
720p50
720p60
1080p24
1080p25
1080p30
1080p50
1080p59
<b>1080P60</b>
4K24
4K25
4K30

OUTPUT RESOLUTION
2ND LEVEL
4K24(DCI)
Native HDBT
Native HDMI

1) **Output Resolution:** Select the preferred video output resolution.

*Note: Both outputs will always share the same video resolution.*

OSD SETTINGS	
2ND LEVEL	3RD LEVEL
Menu Position	<b>TOP LEFT</b>
	Top Right
	Bottom Right
	Bottom Left
	Center
Menu Offset	0~10 <b>(5)</b>
Menu Timeout	Off
	5~60 <b>(8)</b>
Info.Timeout	Off
	5~60 <b>(5)</b>
Info.Display	<b>ON</b>
	Off
Info.Brief	Of
	<b>OFF</b>
Info.NoSignal	<b>ON</b>
	Off
Transparency	0~15 <b>(2)</b>
Text	<b>BLUE</b>
	White
Background	<b>GRAY</b>
	Orange
	Black
	Blue

- 1) **Menu Position:** Set the position of the OSD menu on the output.
- 2) **Menu Offset:** Sets the relative amount to inset the menu from the selected corner location.

*Note: This setting has no effect if "Center" is selected.*



- 3) **Menu Timeout:** Set the length of time, in seconds, that the OSD menu will continue to be displayed if there is no user input, or disable the timeout completely.
- 4) **Info. Timeout:** Set the length of time, in seconds, that the informational OSD will be displayed after a signal or source change, or disable the timeout completely.
- 5) **Info. Display:** Enable or disable the informational OSD.
- 6) **Info. Brief:** Enable this to display less information in the informational OSD.
- 7) **Info. No Signal:** Enable or disable the informational OSD when there is no live source.
- 8) **Transparency:** Set the transparency level of the background of all OSD elements with a range from 0 (opaque) to 15 (fully transparent).
- 9) **Text:** Set the OSD text color as either blue or white.
- 10) **Background:** Set the color of the background for all OSD elements.

LOGO SETTINGS		
2ND LEVEL	3RD LEVEL	4TH LEVEL
Display	On	
	<b>OFF</b>	
Position	X:	0~{Res. max} <b>(32)</b>
	Y:	0~{Res. max} <b>(54)</b>
Color Key	<b>ON</b>	
	Off	
Color Value	R	0~255 <b>(0)</b>
	G	0~255 <b>(0)</b>
	B	0~255 <b>(196)</b>
Color Range	0~100 <b>(22)</b>	
Transparency	0~14 <b>(3)</b>	
Logo Source	<b>DEFAULT</b>	
	User	
Logo Update	<b>NO</b>	
	Yes	

- 1) **Display:** Enable or disable displaying the logo graphic.
- 2) **Position X/Y:** Sets the position of the logo's upper left corner, within the output. Opens a special positioning menu allowing adjustments in real time.
- 3) **Color Key:** Enable or disable using the chroma key on the logo.
- 4) **Color Value R/G/B:** Sets the location of the pixel, within the logo, to use as the basis for the key rather than manually entering values. Selecting this opens a special cursor position menu and a cursor will appear on screen to indicate the current pixel location.
- 5) **Color Range:** Set the value range, centered on the current keying color values, over which the key should be applied for each component of the RGB key.
- 6) **Transparency:** Set the transparency level of the logo graphic with a range from 0 (opaque) to 14 (mostly transparent).

- 7) **Logo Source:** Select whether to use the unit's built in "Default" logo, or to use the current user uploaded logo.
- 8) **Logo Update:** To upload a graphic logo via USB, select "Yes" and then insert a USB stick containing the new logo graphic file (24-bit BMP format, 128×128 max resolution) into the Service port. The upload will occur immediately.

*Note: The USB stick must contain, in the root directory, a compatible and properly named (Logo\_User\_\*.BMP) graphic file. Both dimensions of the uploaded logo graphic's resolution must be a multiple of 8.*

ETHERNET	
2ND LEVEL	3RD LEVEL
IP Mode	STATIC
	DHCP
Static IP Config	
IP Address	192.168.1.50
Subnet Mask	255.255.255.0
Gateway	192.168.1.254
Link Status	
IP Mode	[Current network details]
IP Address	
Subnet Mask	
Gateway	
MAC Addr.	

- 1) **IP Mode:** Set the unit's IP address mode to Static or DHCP.
- 2) **Static IP Config:** When the unit is in Static IP mode the IP address, netmask and gateway addresses may be manually set here. Changes will occur immediately.
- 3) **Link Status:** Displays the unit's current IP configuration and the unit's MAC address.

ADVANCED	
2ND LEVEL	3RD LEVEL
User Source Timing	<b>ON</b>
	Off
Win 1 4:4:4 Process	<b>OFF</b>
	Auto
Input Auto Switch	<b>ON</b>
	Off
Auto Switch Delay	0~5 Sec <b>(1)</b>
HDBT Performance	Enter
Test Pattern	<b>OFF</b>
	White
	Cross Hatch
	Colorbar
	Gray Scale
	White Window
	H Ramp
	V Ramp
	Diagonal
	Red
	Green
	Blue
Preset Save	Preset 1~5
Preset Recall	Preset 1~5
Preset Rename	Preset 1~5

- 1) **User Source Timing:** Enable or disable allowing the detection of non-standard input resolutions.
- 2) **Win 1 4:4:4 Process:** Enable or disable automatically processing 4:4:4 sources without color subsampling. When disabled, all video is processed as 4:2:2.

*Note: Only available in Switcher mode when "Standard" switching is selected.*

- 3) **Input Auto Switch:** Enable or disable the unit's auto switch feature.

*Note: Only available in Switcher mode.*

- 4) **Auto Switch Delay:** Set the length of time to wait, after a source is no longer detected, before automatically switching.

*Note: Only available in Switcher mode.*

- 5) **HDBT Performance:** Select this to perform a basic connection quality test between the unit and a connected HDBaseT receiver.

- 6) **Test Pattern:** Select an internally generated test pattern, displayed on both outputs, to perform basic tests of the connected sinks.

*Note: When a test pattern is active, no inputs will be visible.*

- 7) **Preset Save:** Select one of the 5 Presets to store the unit's current output configuration.

- 8) **Preset Recall:** Select one of the 5 Presets to restore and use its saved output configuration.

- 9) **Preset Rename:** Select one of the 5 Presets to edit its name (up to 18 characters).

SETUP	
2ND LEVEL	3RD LEVEL
Auto Sync Off	<b>ALWAYS ON</b>
	5 sec.
	10 sec.
	15 sec.
	30 sec.
	1 min.
	1.5 min.
	2 min.
	2.5 min.
	3 min.
	5 min.
	10 min.
Firmware Update	<b>NO</b>
	Yes
Flash Update	<b>NO</b>
	Yes
HDBT TX FW Update	<b>NO</b>
	Yes
HDBT RX FW Update	<b>NO</b>
	Yes
User EDID Reset	<b>NO</b>
	Yes
Factory Reset	<b>NO</b>
	Yes

- 1) **Auto Sync Off:** Set the amount of time to continue outputting sync with a black screen if there are no live sources and no operations have been executed on the unit. Setting this to "Always On" forces the unit to always output sync.

- 2) **Firmware Updates:** To update any of the following firmware via USB, select "Yes" next to the appropriate firmware type and then insert a USB stick containing the new firmware into the Service port. The upload will occur immediately.

*Note: The USB stick must contain, in the root directory, a compatible and properly named (\*.BIN) firmware file.*

- **Firmware Update:** Updates the unit's main firmware. After the upgrade is complete, the unit will reboot automatically.
- **Flash Update:** Updates the unit's flash memory. After the upgrade is complete, the unit will reboot automatically.
- **HDBT TX FW Update:** Updates the firmware of the connected HDBaseT transmitter.

*Note: The connected HDBaseT transmitter must be configured to allow remote firmware updates.*

- **HDBT RX FW Update:** Updates the firmware of the connected HDBaseT receiver.

*Note: The connected HDBaseT receiver must be configured to allow remote firmware updates.*

- 3) **User EDID Reset:** Select "Yes" to reset the unit's User EDIDs to their factory default states.
- 4) **Factory Reset:** Select "Yes" to reset the unit to its factory default state. After the reset is complete, the unit will reboot automatically.

INFORMATION	
2ND LEVEL	3RD LEVEL
<b>Source 1</b>	
Resolution	[Current source details]
Format	
HDCP	
Audio	
<b>Source 2</b>	
Resolution	[Current source details]
Format	
HDCP	
Audio	
<b>HDBT Disp</b>	
HDCP Port	[Current display details]
EDID Format	
Native 1	
Native 2	
Model	
<b>HDMI Disp</b>	
HDCP Port	[Current display details]
EDID Format	
Native 1	
Native 2	
Model	



INFORMATION	
2ND LEVEL	3RD LEVEL
<b>System</b>	
Output Reso.	[Current System details]
Output HDCP: HDBT	
Output HDCP: HDMI	
Win 1 4:4:4	
HDBT Tx F/W	
HDBT Rx F/W	
Firmware	

- 1) **Information:** Shows the currently detected details for both inputs and both outputs as well as listing the status of a few critical system settings and relevant firmware versions.

## 6.6 WebGUI Control

- **Device Discovery**

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.*

Product Name	Description	IP Address	MAC Address

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

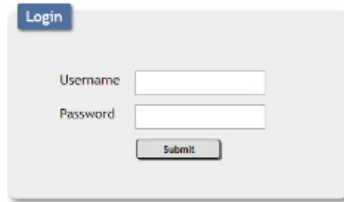
Product ID  
Product Name  
MAC Address 00:00:00:00:00  
IP Address  
Subnet Mask  
Gateway IP  
DNS  
IP Mode Static  
Web GUI Port Static  
Telnet Port  
S / N  
Firmware Version  
Hardware Version  
Description  
Web GUI [Web GUI](#)  
Save Reboot

- 1) **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”.
- 2) **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.

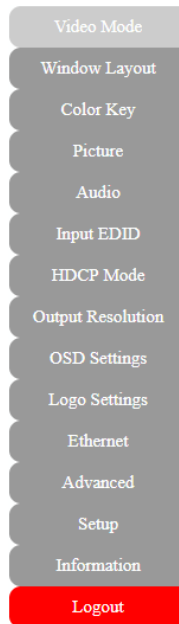
- **WebGUI Overview**

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. The individual functions will be introduced in the following sections.

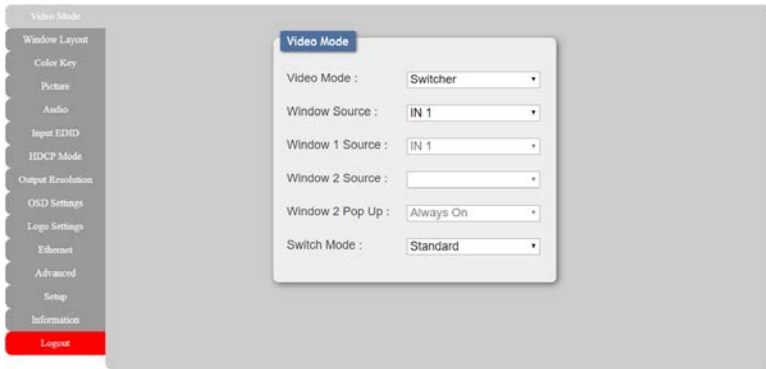


Clicking the red "Logout" tab will automatically log the currently connected user out of the WebGUI and return to login page.

## 6.6.1 Video Mode Tab

This tab provides access to controls for selecting between the Switcher and PiP/PoP output modes of the unit as well as selecting the video source(s) to display and how switching transitions are handled.

*Note: Both outputs of the unit are linked and will always show the same video contents.*



1) **Video Mode:** Use the dropdown to select the preferred operation mode of the unit.

- **Switcher Mode:** Only one, full screen, window is available. Switching between inputs is seamless with multiple transition options available. Aspect ratio and zoom control is also available.

*Note: Video sources can be processed without subsampling (4:4:4 Process) in this mode.*

- **PiP Mode:** One full screen window (window 1) and one reduced resolution window (window 2) are available. support Window 1 will always appear under window 2. Both windows aspect ratio control. Window 2 can be freely sized, positioned, made transparent, keyed through, and given a border.

*Note: When the output resolution is set to 4K, window 2 cannot support 4K sources.*

- **PoP Mode:** Both windows are displayed, side-by-side with no overlap, and the positioning can not be changed. Both windows support aspect ratio control.

*Note: When the output resolution is set to 4K, window 2 cannot support 4K sources.*

- **Custom Mode:** Both windows can be fully resized and positioned anywhere on the screen with full aspect ratio control. Window 2 will always be on top of window 1. Window 2 can be made transparent, keyed through, and given a border.

*Note: When the output resolution is set to 4K, window 2 cannot support 4K sources.*

- 2) **Window Source:** Select the video source to display when in Switcher Mode.

*Note: Only available in the Switcher video mode.*

- 3) **Window 1/2 Source:** Select the video sources for window 1 and window 2.

*Note: Only available in the PIP, PoP and Custom video modes.*

- 4) **Window 2 Pop Up:** Set the behavior of window 2 when the source becomes live.

*Note: Only available in the PIP and Custom video modes.*

- **Always On:** The window will show black if there is currently no live source.
- **Instant On:** The window will disappear if there is no live source. When a live source is detected, the window will instantly be displayed.
- **Fade In:** The window will disappear if there is no live source. When a live source is detected, the window will gradually fade in.

- 5) **Switch Mode:** Select the behavior of the unit when changing sources in Switcher Mode.

*Note: When the Seamless or Fade mode is selected, 4K video sources are not supported over input 2 if the unit's output resolution is also set to 4K.*

- **Standard:** When switching between inputs, black will briefly be displayed but sync to the display will not be lost.
- **Seamless:** Switching sources is a seamless cut with no delay or black screen.

*Note: 4:4:4 video processing is not supported.*

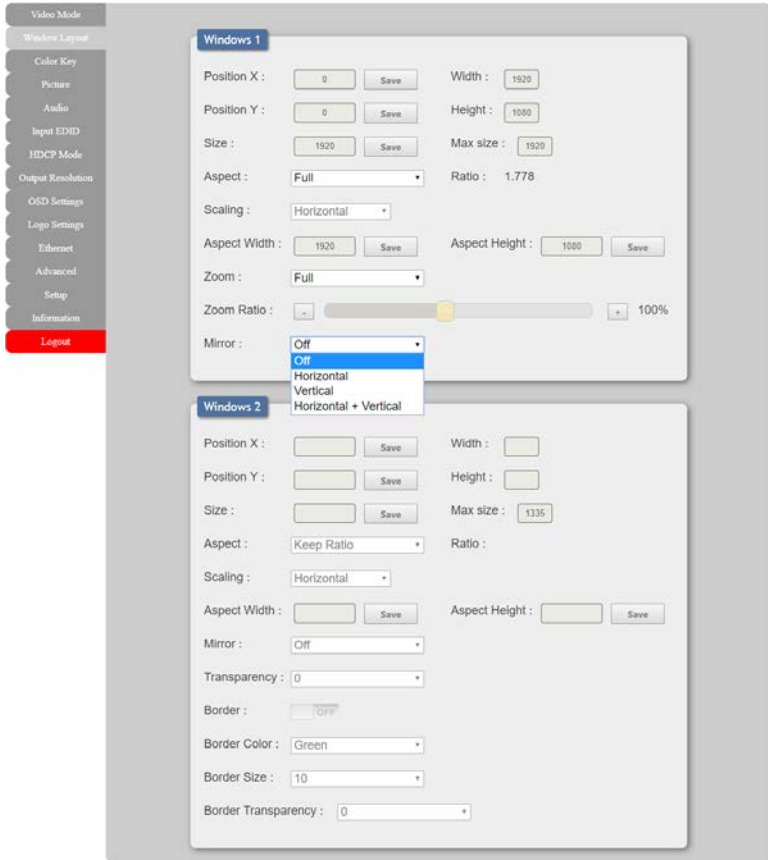
- **Fade:** When the input source is changed, the video will smoothly crossfade to the new source.

*Note: 4:4:4 video processing is not supported.*

## 6.6.2 Window Layout Tab

This tab provides controls over the size, position and other settings for both video windows. Individual features and functions will be enabled or disabled depending on the unit's current Video Mode setting.

*Note: In Switcher mode, only window 1's controls are available.*



- 1) **Position X/Y:** Set the horizontal and vertical position of the upper left corner of the window. Click "Save" after changing either value.

*Note: Only available in the PIP and Custom video modes. Window 1's position can only be adjusted in the Custom video mode.*

- 2) **Size:** Set the horizontal size of the window, in pixels. Click "Save"

after changing the value.

*Note: Only available in the PiP and Custom video modes. Window 1's size can only be adjusted in the Custom video mode.*

- 4) **Aspect:** Set the aspect ratio to use with the window's sources. The aspect ratio can be set to any of the following choices: Full, 4:3, 16:10, 16:9, 64:27, Keep Ratio, or Custom.

5) **Custom Ratio:**

- **Scaling:** Select whether to define the custom aspect ratio by adjusting the horizontal or vertical size of the window.
- **Aspect Height/Width:** Set the relative height or width of the window, in pixels, to define the custom aspect ratio.

*Note: Only one setting can be active at a time. Values cannot cause the resulting window to exceed the borders of the video output.*

- 6) **Zoom (Window 1 only):** Set the zoom level for window 1. The zoom level can be set to any of the following preset values, or it can be set to "Custom": 1:1, Under 5%, Under 2.5%, Full, Over 2.5%, Over 5%, Over 7.5%, Over 10% and Center Fill.

*Note: Only available in the Switcher and PiP video modes.*

- **Zoom Ratio (Custom):** Set the zoom percentage to use when the Zoom setting is set to "Custom". The available range is from 20%

- 7) **Mirror:** Allows the window to be flipped horizontally, vertically, or both horizontally and vertically at the same time.

- 8) **Transparency (Window 2 only):** Set the transparency level of window 2 with a range from 0 (opaque) to 15 (fully transparent).

*Note: Only available in the PiP and Custom video modes.*

- 9) **Border (Window 2 only):** Enable or disable displaying a colored border around window 2.

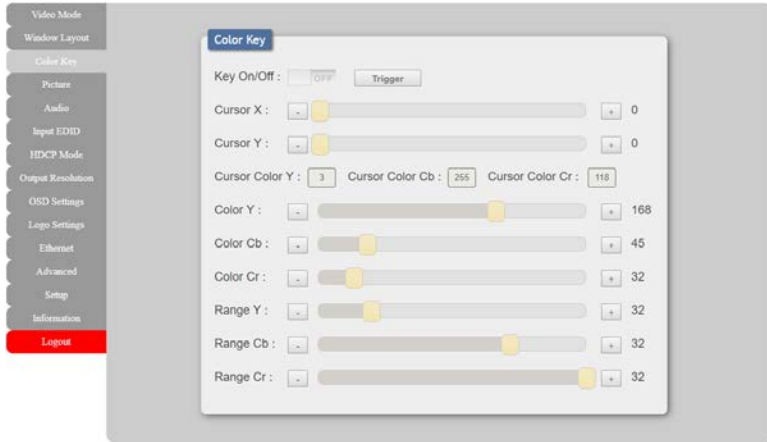
*Note: In PoP mode, this feature creates a center dividing line.*

- **Border Color:** Set the color of the border. Available colors choices are: Red, Green, Blue, Yellow, Magenta, Cyan, White, Dark Red, Dark Green, Dark Blue, Dark Yellow, Dark Magenta, Dark Cyan, Gray, and Black.
- **Border Size:** Set the thickness of the border, in pixels.
- **Border Transparency:** Set the transparency level of the border with a range from 0 (opaque) to 14 (mostly transparent).

### 6.6.3 Color Key Tab

This tab provides control over the chroma key functions of the unit. Keying values and ranges are set using the full YCbCr color space (0~255).

*Note: Only available in the PiP and Custom video modes.*



- 1) **Key On/Off:** Enable or disable chroma keying in window 2.
- 2) **Cursor X/Y:** Sets the location of the pixel, within window 2, to use as the basis for the key rather than manually entering values.

*Note: The X/Y location is relative to the window's upper left corner (0, 0), and not the pixel's location within the overall output.*

- **Trigger:** Press this button to instantly sample the digital color value of the currently set cursor location and use it as the live key value.

- 3) **Color Y/Cb/Cr:** Set the base values (0~255) of the Y, Cb, and Cr components of the color range to key out from the window 2 source.

*Note: Changes made to these values will affect the video output immediately.*

- 4) **Range Y/Cb/Cr:** Set the value range, centered on the current Color value, over which the key should be applied for each component of the YCbCr key.

*Note: The range value, when added or subtracted from the current color value, cannot exceed 0 or 255.*



## 6.6.4 Picture Tab

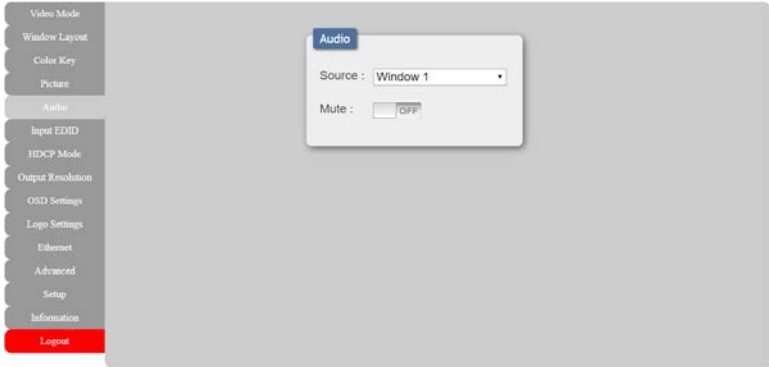
This tab provides controls over the video output's color, brightness, contrast, hue, saturation, sharpness and RGB color levels.



- 1) **Preset:** Select one of 3 available video output presets (Standard, Vivid, Soft). Any changes made to a selected preset will be stored as the standard values for that preset. To return a preset to it's default settings, select the preset and then click the "Reset" button.
- 2) **Contrast:** This slider provides control over the overall contrast of the output video.
- 3) **Brightness:** This slider provides control over the overall brightness of the output video.
- 4) **Saturation:** This slider provides control over the overall saturation of the output video.
- 5) **Hue:** This slider provides control over the hue shift of the output video.
- 6) **Sharpness:** This slider provides control over the amount of sharpness processing to apply to the output video.
- 7) **Red/Green/Blue:** These sliders provide control over the red, green, and blue color level of the video output.

## 6.6.5 Audio Tab

This tab provides control over the audio output behavior of the unit, including routing selection and muting.



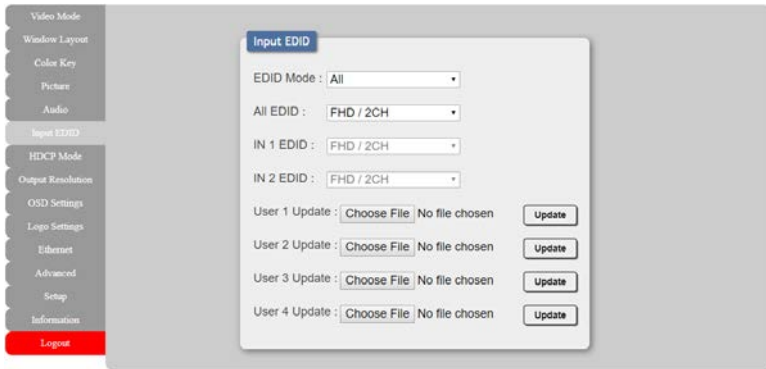
- 1) **Source:** Use the dropdown to choose the audio source to pair with the video output.
  - **IN 1:** Always use the audio from Input 1.
  - **IN 2:** Always use the audio from Input 2.
  - **Window 1:** Always use audio from the source currently displayed in window 1.
  - **Window 2:** Always use audio from the source currently displayed in window 2.

*Note: Window 2 is not available as a source in Switcher mode.*
- 2) **Mute:** Click the switch to toggle between muted and unmuted audio output.

## 6.6.6 Input EDID Tab

This unit provides the option of four standard EDIDs, two sink sourced EDIDs and four user uploaded EDIDs that can be assigned to both inputs at the same time, or to each input independently.

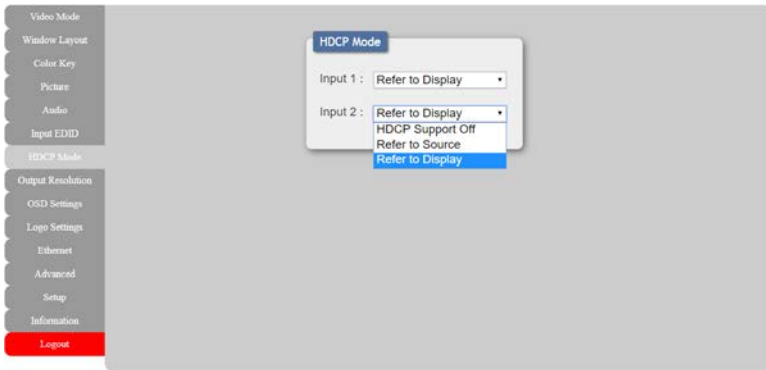
*Note: In most cases, assigning a new EDID to an input will cause the affected input to briefly blink out while the source adapts to the new information.*



- 1) **EDID Mode:** Use the dropdown to select how to assign EDIDs to the unit's inputs. Selecting "Independent" allows for a different EDID to be assigned to each input, selecting "All" allows for a single EDID to be assigned to both inputs.
- 2) **All EDID:** Select the EDID to assign to all inputs.  
*Note: Only available in "All" EDID Mode.*
- 3) **IN 1 EDID:** Select the EDID to assign to input 1.  
*Note: Only available in "Independent" EDID Mode.*
- 4) **IN 2 EDID:** Select the EDID to assign to input 2.  
*Note: Only available in "Independent" EDID Mode.*
- 5) **User 1~4 Update:** To update any of the unit's 4 User EDIDs, click the "Choose File" button to open the file selection window and then select the EDID file (\*.bin format) located on your local PC. After selecting the file, click the "Update" button to begin the EDID upload process.

### 6.6.7 HDCP Mode Tab

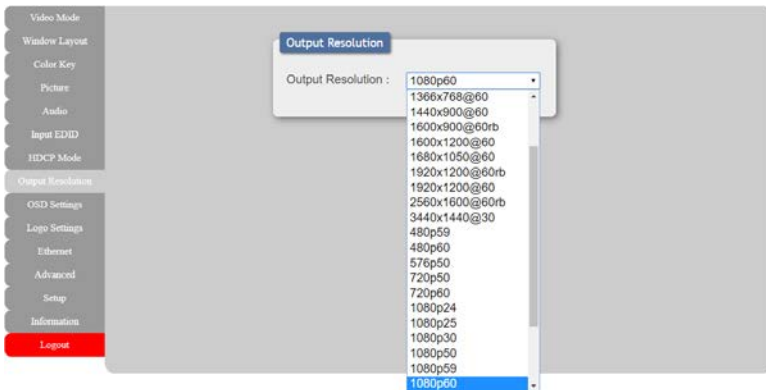
This tab provides control over the HDCP settings for both inputs.



- 1) **HDCP Mode Input 1/2:** Select the HDCP behavior for each input.
  - **HDCP Support Off:** Completely disables support for HDCP on that input.
  - **Refer to Source:** Makes the input port support the same HDCP version as required by the connected source.
  - **Refer to Display:** Makes the input support the HDCP version of the currently connected displays.

### 6.6.8 Output Resolution Tab

This tab provides control over the output resolution for both outputs.

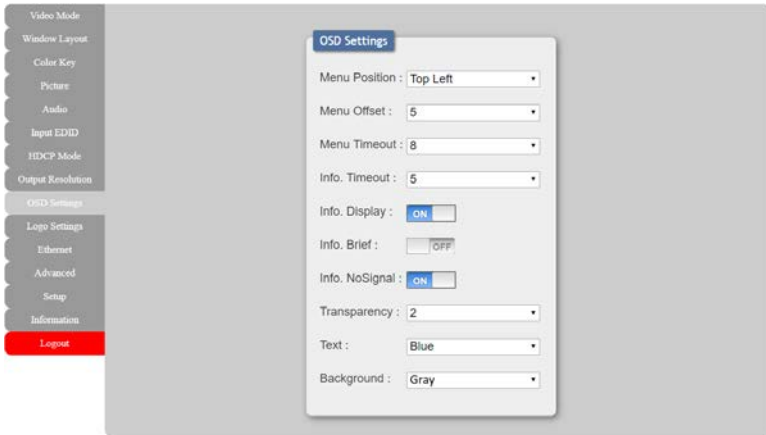


- 1) **Output Resolution:** Use the dropdown to select the preferred video output resolution.

*Note: Both outputs will always share the same video resolution.*

## 6.6.9 OSD Settings Tab

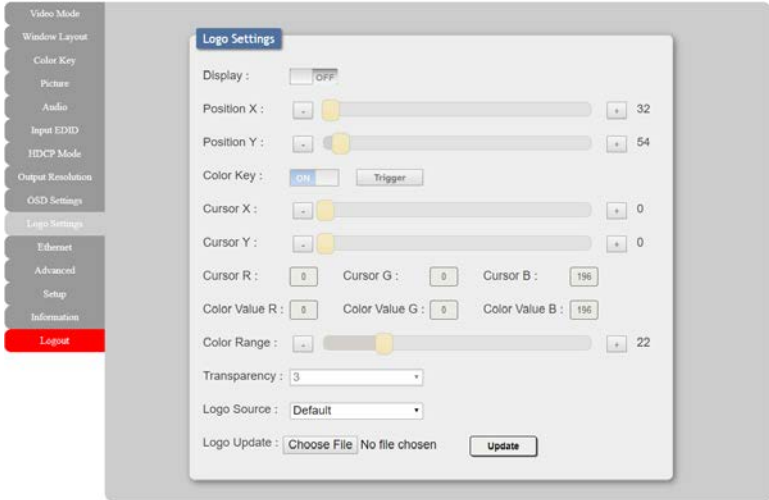
This tab provides control over the behavior of the OSD menu and informational display.



- 1) **Menu Position:** Use the dropdown to set the position of the OSD menu on the output. Available choices are: Top Left, Top Right, Bottom Right, Bottom Left, and Center.
- 2) **Menu Offset:** Sets the relative amount to inset the menu from the selected corner location.  
*Note: This setting has no effect if "Center" is selected.*
- 3) **Menu Timeout:** Set the length of time, in seconds, that the OSD menu will continue to be displayed if there is no user input, or disable the timeout completely.
- 4) **Info. Timeout:** Set the length of time, in seconds, that the informational OSD will be displayed after a signal or source change, or disable the timeout completely.
- 5) **Info. Display:** Enable or disable the informational OSD.
- 6) **Info. Brief:** Enable this to display less information in the informational OSD.
- 7) **Info. No Signal:** Enable or disable the informational OSD when there is no live source.
- 8) **Transparency:** Set the transparency level of the background of all OSD elements with a range from 0 (opaque) to 15 (fully transparent).
- 9) **Text:** Set the OSD text color as either blue or white.
- 10) **Background:** Set the color of the background for all OSD elements. Available choices are: Gray, Black, Blue, and Orange.

## 6.6.10 Logo Settings Tab

This tab provides control over the user uploaded logo graphic. Controls include positioning, keying, and transparency as well as an option to upload a new logo directly from the WebGUI.



- 1) **Display:** Enable or disable displaying the logo graphic.
- 2) **Position X/Y:** Sets the position of the logo's upper left corner, within the output.
 

*Note: The maximum allowable X and Y values will vary depending on the currently selected output resolution.*
- 3) **Color Key:** Enable or disable using the chroma key on the logo.
  - **Trigger:** Press this button to instantly sample the digital color value of the currently set cursor location and use it as the live key value. Pressing this button will transfer the "Cursor R/G/B" field values into the "Color Value R/G/B" fields.
- 4) **Cursor X/Y:** Sets the location of the pixel, within the logo, to use as the basis for the key. The currently selected pixel's color value will be displayed in the "Cursor R/G/B" fields.
 

*Note: The X/Y location is relative to the logo's upper left corner (0, 0), and not the pixel's location within the overall output.*
- 5) **Color Range:** Set the value range, centered on the current keying color values, over which the key should be applied for each component of the RGB key.

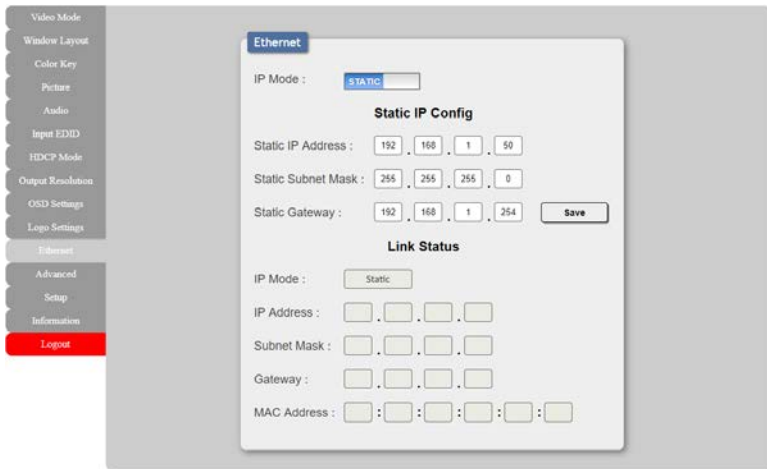
- 6) **Transparency:** Set the transparency level of the logo graphic with a range from 0 (opaque) to 14 (mostly transparent).
- 7) **Logo Source:** Select whether to use the unit's built in "Default" logo, or to use the current user uploaded logo.
- 8) **Logo Update:** To upload a graphic logo, please click the "Choose File" button to open the file selection window and then select the graphic logo file (24-bit \*.bmp format, 128×128 max resolution) located on your local PC. After selecting the file, click the "Update" button to upload the logo to the unit.

*Note: Both dimensions of the uploaded logo graphic's resolution must be a multiple of 8.*

### 6.6.11 Ethernet Tab

This tab provides controls to change the network settings for the unit. You can manually set the IP address, netmask and gateway address in “Static IP” mode, or you can obtain an IP address automatically by enabling DHCP.

*Note: The unit’s default Static IP address is 192.168.1.50. If the IP address is changed then the IP address required for WebGUI/Telnet access will also change accordingly.*

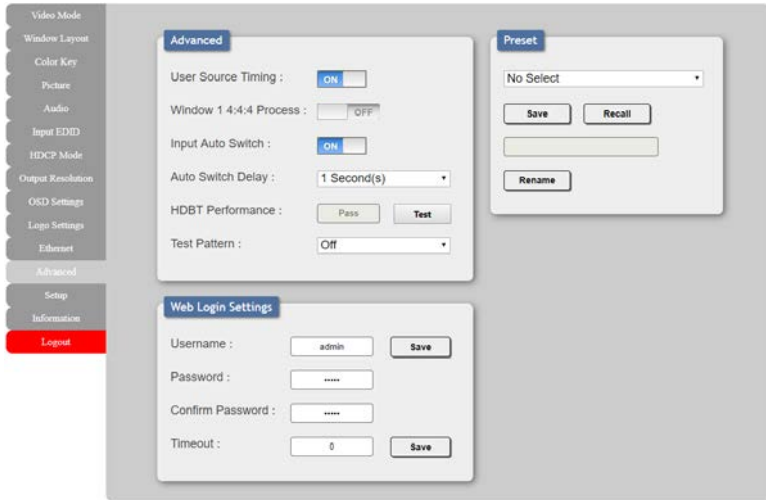


- 1) **IP Mode:** Click this button to toggle between the Static IP and DHCP modes. In DHCP mode, the unit will attempt to automatically obtain its IP configuration details from a local DHCP server. In Static mode the unit will use the manually assigned IP configuration information.
- 2) **Static IP Config:** When the unit is in Static IP mode the IP address, netmask and gateway addresses may be manually set here. Click “Save” to apply and use the newly entered address.
- 3) **Link Status:** Displays the unit’s current IP configuration and the unit’s MAC address.



## 6.6.12 Advanced Tab

This tab provides controls over a number of advanced features of this unit including color processing, auto switch control, test pattern activation, storing/recalling presets as well as configuring the WebGUI login password and timeout.



1) **Advanced:** Controls over a number of advanced unit settings.

- **User Source Timing:** Enable or disable allowing the detection of non-standard input resolutions.
- **Window 1 4:4:4 Process:** Enable or disable automatically processing 4:4:4 sources without color subsampling. When disabled, all video is processed as 4:2:2.

*Note: Only available in Switcher mode when "Standard" switching is selected.*

- **Input Auto Switch:** Enable or disable the unit's auto switch feature.

*Note: Only available in Switcher mode.*

- **Auto Switch Delay:** Set the length of time to wait, after a source is no longer detected, before automatically switching.
- Note: Only available in Switcher mode.*

- **HDBT Performance:** Click the "Test" button to perform a

basic connection quality test between the unit and a connected HDBaseT receiver.

- **Test Pattern:** Select an internally generated test pattern, displayed on both outputs, to perform basic tests of the connected sinks. Available test patterns are: White, Red, Green and Blue Fields, Crosshatch, Colorbar, Gray Scale, White Window, H Ramp, V Ramp, and Diagonal Lines.

*Note: When a test pattern is active, no inputs will be visible.*

2) **Preset:** Up to 5 presets can be stored and recalled by this unit. Presets contain A/V routing and window configuration settings. Select the preset to work with from the dropdown menu.

- **Save:** Click the "Save" button to store the unit's current output configuration to the currently selected preset.
- **Recall:** Click the "Recall" button to restore the currently selected preset's output configuration.
- **Rename:** Enter a new name for the currently selected preset in the provided space and click on the "Rename" button to save the new preset name (up to 18 characters).

3) **Web Login Settings:** WebGUI login settings can be set here.

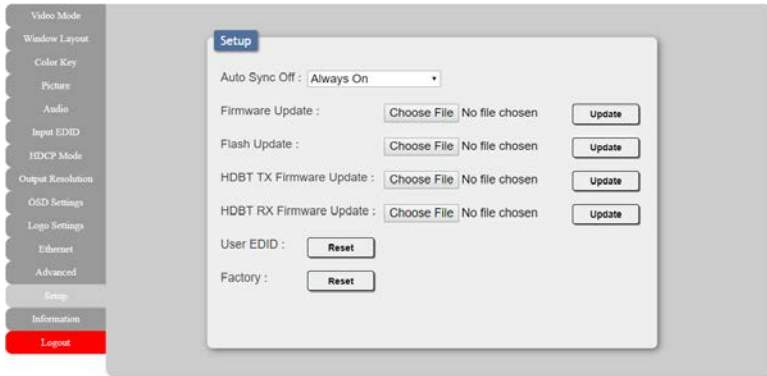
- **Username/Password:** To change the login username and password, enter the new information in the spaces provided and press "Save".

*Note: The default user name and password is "admin".*

- **Timeout:** Set the length of time to wait, in minutes, before logging out a user due to inactivity. Setting this to "0" disables the timeout.

### 6.6.13 Setup Tab

Provides a way to update firmware and reset various sections within the unit. Control over the unit's Auto Sync Off feature is also provided here.



1) **Auto Sync Off:** Sets the amount of time to continue outputting sync with a black screen if there are no live sources and no operations have been executed on the unit. Setting this to “Always On” forces the unit to always output sync.

2) **Firmware Updates:** To update any of the below firmware types, click the appropriate “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.

- **Firmware Update:** Updates the unit's main firmware. After the upgrade is complete, the unit will reboot automatically.
- **Flash Update:** Updates the unit's flash memory. After the upgrade is complete, the unit will reboot automatically.
- **HDBT TX Firmware Update:** Updates the firmware of the connected HDBaseT transmitter.

*Note: The connected HDBaseT transmitter must be configured to allow remote firmware updates.*

- **HDBT RX Firmware Update:** Updates the firmware of the connected HDBaseT receiver.

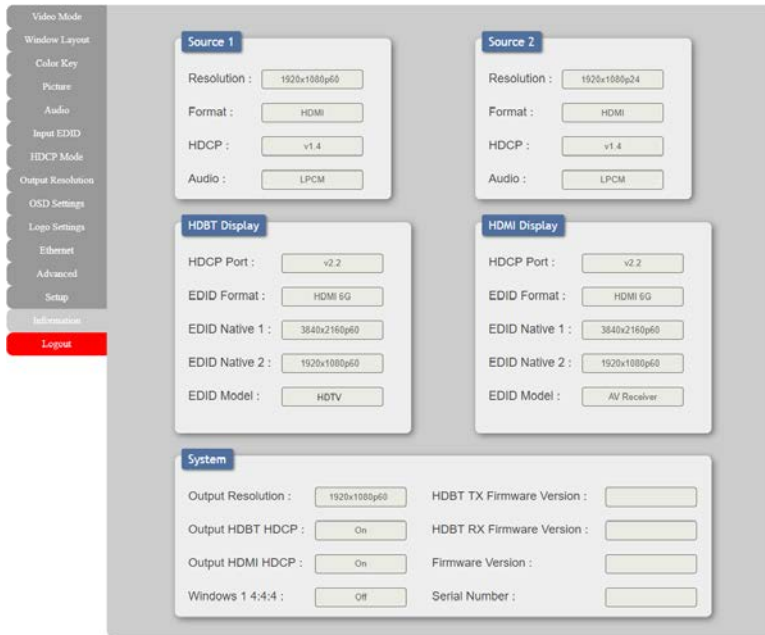
*Note: The connected HDBaseT receiver must be configured to allow remote firmware updates.*

### 3) System Resets:

- **User EDID:** Press this button to reset the unit's User EDIDs to their factory default states.
- **Factory:** Press this button to reset the unit to its factory default state. After the reset is complete, the unit will reboot automatically.

#### 6.6.14 Information Tab

This tab shows the currently detected details for both inputs and both outputs as well as listing the status of a few critical system settings and relevant firmware versions.



## 6.7 Telnet Control

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

To Access the Command Line Interface (CLI)	
Windows 7	Click <b>Start</b> , type "cmd" in the search field, and press <b>Enter</b> .
Windows XP	Click <b>Start &gt; Run</b> , type "cmd", and press <b>Enter</b> .
Mac OS X	Click <b>Go &gt; Applications &gt; Utilities &gt; Terminal</b> .

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.

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Administrator>telnet 192.168.1.50 23
```

*Note 1: If the IP address is changed then the IP address required for Telnet access will also change accordingly.*

*Note 2: The default IP address is 192.168.1.50.*

## 6.8 Serial and Telnet Commands

COMMAND											
Description and Parameters											
<b>HELP↵</b>	Show the full command list.										
<b>?↵</b>	Show the full command list.										
<b>GET FW VER↵</b>	Show the unit's current firmware version.										
<b>SET WINDOW LAYOUT MODE N1↵</b>	<p>Set the unit's window layout mode.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>1</td> <td>[Switcher mode]</td> </tr> <tr> <td>2</td> <td>[PiP mode]</td> </tr> <tr> <td>3</td> <td>[PoP mode]</td> </tr> <tr> <td>4</td> <td>[Custom mode]</td> </tr> </table>	1	[Switcher mode]	2	[PiP mode]	3	[PoP mode]	4	[Custom mode]		
1	[Switcher mode]										
2	[PiP mode]										
3	[PoP mode]										
4	[Custom mode]										
<b>GET WINDOW LAYOUT MODE↵</b>	Show the unit's current window layout mode.										
<b>SET WINDOW N1 ROUTE N2↵</b>	<p>Set the input to route to the specified window.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>0</td> <td>[Switcher mode's source]</td> </tr> <tr> <td>1</td> <td>[Multiview window 1 source]</td> </tr> <tr> <td>2</td> <td>[Multiview window 2 source]</td> </tr> </table> <p>Available values for <b>N2</b>:</p> <table> <tr> <td>1</td> <td>[Input 1]</td> </tr> <tr> <td>2</td> <td>[Input 2]</td> </tr> </table>	0	[Switcher mode's source]	1	[Multiview window 1 source]	2	[Multiview window 2 source]	1	[Input 1]	2	[Input 2]
0	[Switcher mode's source]										
1	[Multiview window 1 source]										
2	[Multiview window 2 source]										
1	[Input 1]										
2	[Input 2]										
<b>GET WINDOW N1 ROUTE↵</b>	Show the input currently routed to the specified window.										

COMMAND	
Description and Parameters	
<b>SET WINDOW 2 POPUUP N1</b> ↵	
Set the window pop-up mode for window 2.	
Available values for <b>N1</b> :	
1	[Always on]
2	[Instant on]
3	[Fade in]
<b>GET WINDOW 2 POPUP</b> ↵	
Show the current window pop-up mode for window 2.	
<b>SET VIDEO SWITCH MODE N1</b> ↵	
Set the switching method to use when in Switcher mode.	
Available values for <b>N1</b> :	
1	[Standard mode]
2	[Seamless mode]
3	[Fade mode]
<b>GET VIDEO SWITCH MODE</b> ↵	
Show the current switching method selected for use when in Switcher mode.	
<b>SET WINDOW 2 BORDER SIZE N1</b> ↵	
Set the size of the border around window 2.	
<b>N1</b> = 1~20	[Size in pixels]
<b>GET WINDOW 2 BORDER SIZE</b> ↵	
Show the current size of the border around window 2.	
<b>SET WINDOW N1 HSIZE N2</b> ↵	
Set the horizontal size of the specified window.	
<b>N1</b> = 1~2	[Window number]
<b>N2</b> = 1~{Max res}	[Horizontal size]
<b>GET WINDOW N1 HSIZE</b> ↵	
Show the current horizontal size of the specified window.	
<b>N1</b> = 1~2	[Window number]

COMMAND	
Description and Parameters	
<b>SET WINDOW N1 VSIZE N2↵</b>	<p>Set the vertical size of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p> <p><b>N2</b> = 1 ~ {Max res} [Vertical size]</p>
<b>GET WINDOW N1 VSIZE↵</b>	<p>Show the current vertical size of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p>
<b>SET WINDOW N1 HPOSITION N2↵</b>	<p>Set the horizontal position of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p> <p><b>N2</b> = 1 ~ {Max res} [Horizontal position]</p>
<b>GET WINDOW N1 HPOSITION↵</b>	<p>Show the current horizontal position of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p>
<b>SET WINDOW N1 VPOSITION N2↵</b>	<p>Set the vertical position of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p> <p><b>N2</b> = 1 ~ {Max res} [Vertical position]</p>
<b>GET WINDOW N1 VPOSITION↵</b>	<p>Show the current vertical position of the specified window.</p> <p><b>N1</b> = 1~2 [Window number]</p>



COMMAND	
Description and Parameters	
<b>SET WINDOW N1 ASPECT N2↵</b>	
Set the aspect ratio of the specified window.	
<b>N1</b> = 1~2	[Window number]
Available values for <b>N2</b> :	
1	[Full]
2	[4:3]
3	[16:10]
4	[16:9]
5	[64:27]
6	[Keep aspect]
7	[Custom]
<b>GET WINDOW N1 ASPECT↵</b>	
Show the current aspect ratio of the specified window.	
<b>N1</b> = 1~2	[Window number]
<b>SET WINDOW N1 CUSTOM ASPECT HSIZE N2↵</b>	
Set the horizontal size of the specified window used to define the aspect ratio in the Custom aspect ratio mode.	
<b>N1</b> = 1~2	[Window number]
<b>N2</b> = 1~{Max res}	[Horizontal ratio size]
<b>GET WINDOW N1 CUSTOM ASPECT HSIZE↵</b>	
Show the current horizontal size of the specified window in the Custom aspect ratio mode.	
<b>N1</b> = 1~2	[Window number]
<b>SET WINDOW N1 CUSTOM ASPECT VSIZE N2↵</b>	
Set the vertical size of the specified window used to define the aspect ratio in the Custom aspect ratio mode.	
<b>N1</b> = 1~2	[Window number]
<b>N2</b> = 1~{Max res}	[Vertical ratio size]

COMMAND	
Description and Parameters	
<b>GET WINDOW N1 CUSTOM ASPECT VSIZE↵</b>	
<p>Show the current vertical size of the specified window in the Custom aspect ratio mode.</p>	
<b>N1</b> = 1~2	[Window number]
<b>SET WINDOW 1 ZOOM N1↵</b>	
<p>Set the zoom setting for window 1.</p>	
<p>Available values for <b>N1</b>:</p>	
1	[1:1]
2	[Under scan 5%]
3	[Under scan 2.5%]
4	[Full]
5	[Over scan 2.5%]
6	[Over scan 5%]
7	[Over scan 7.5%]
8	[Over scan 10%]
9	[Center Fill]
10	[Custom]
<b>GET WINDOW 1 ZOOM↵</b>	
<p>Show the current zoom setting of window 1.</p>	
<b>SET WINDOW 1 CUSTOM ZOOM N1↵</b>	
<p>Set the zoom level of window 1 to use when in Custom mode.</p>	
<b>N1</b> = 200~2000	[Zoom level in 0.1% units]
<b>GET WINDOW N1 CUSTOM ZOOM↵</b>	
<p>Show the current zoom level of window 1 used when in Custom mode.</p>	
<b>N1</b> = 1~2	[Window number]

COMMAND	
Description and Parameters	
<b>SET WINDOW N1 MIRROR N2</b> ↵	
Set the mirror mode of the specified window.	
<b>N1</b> = 1~2	[Window number]
Available values for <b>N2</b> :	
1	[Disabled]
2	[Horizontal mirror]
3	[Vertical mirror]
4	[Horizontal + Vertical mirror]
<b>GET WINDOW N1 MIRROR</b> ↵	
Show the current mirror mode of the specified window.	
<b>N1</b> = 1~2	[Window number]
<b>SET WINDOW 2 TRANSPARENCY N1</b> ↵	
Set the transparency level of window 2.	
<b>N1</b> = 0 ~ 15	[Transparency level]
<b>GET WINDOW 2 TRANSPARENCY</b> ↵	
Show the current transparency of window 2.	
<b>SET WINDOW 2 BORDER N1</b> ↵	
Enable or disable the border around window 2.	
Available values for <b>N1</b> :	
OFF	[Disabled]
ON	[Enabled]
<b>GET WINDOW 2 BORDER</b> ↵	
Show the current activation state of the window 2 border.	



COMMAND	
Description and Parameters	
<b>SET WINDOW 2 COLOR Y N1↵</b>	Set the base Y value for window 2's chroma key. N1 = 0~255 [Base Y value]
<b>GET WINDOW 2 COLOR Y↵</b>	Show the current base Y value for window 2's chroma key.
<b>SET WINDOW 2 COLOR CB N1↵</b>	Set the base Cb value for window 2's chroma key. N1 = 0~255 [Base Cb value]
<b>GET WINDOW 2 COLOR CB↵</b>	Show the current base Cb value for window 2's chroma key.
<b>SET WINDOW 2 COLOR CR N1↵</b>	Set the base Cr value for window 2's chroma key. N1 = 0~255 [Base Cr value]
<b>GET WINDOW 2 COLOR CR↵</b>	Show the current base Cr value for window 2's chroma key.
<b>SET WINDOW 2 COLOR RANGE Y N1↵</b>	Set the Y value range for window 2's chroma key. N1 = 0~255 [Y range value]
<b>GET WINDOW 2 COLOR RANGE Y↵</b>	Show the current Y value range for window 2's chroma key.
<b>SET WINDOW 2 COLOR RANGE CB N1↵</b>	Set the Cb value range for window 2's chroma key. N1 = 0~255 [Cb range value]
<b>GET WINDOW 2 COLOR RANGE CB↵</b>	Show the current Cb value range for window 2's chroma key.

COMMAND	
Description and Parameters	
<b>SET WINDOW 2 COLOR RANGE CR N1↵</b>	<p>Set the Cr value range for window 2's chroma key.</p> <p><b>N1</b> = 0~255 [Cr range value]</p>
<b>GET WINDOW 2 COLOR RANGE CR↵</b>	<p>Show the current Cr value range for window 2's chroma key.</p>
<b>GET WINDOW COLOR RANGE VALUE N1 N2↵</b>	<p>Show the color of the pixel at the specified cursor position.</p> <p><b>N1</b> = 0~{Max res} [Horizontal position]  <b>N2</b> = 0~{Max res} [Vertical position]</p>
<b>SET WINDOW COLOR VALUE TRIGGER↵</b>	<p>Capture and use the color values of the pixel at the current cursor position as the window 2 chroma key values.</p>
<b>SET OUT A SATURATION N1↵</b>	<p>Set the saturation level of both outputs.</p> <p><b>N1</b> = 0~100 [Saturation level]</p>
<b>GET OUT A SATURATION↵</b>	<p>Show the current saturation level of both outputs.</p>
<b>SET OUT A HUE N1↵</b>	<p>Set the hue value of both outputs.</p> <p><b>N1</b> = 0~100 [Hue value]</p>
<b>GET OUT A HUE↵</b>	<p>Show the current hue value of both outputs.</p>
<b>SET OUT A SHARPNESS N1↵</b>	<p>Set the sharpness level of both outputs.</p> <p><b>N1</b> = 0~10 [Sharpness level]</p>
<b>GET OUT A SHARPNESS↵</b>	<p>Show the current sharpness level of both outputs.</p>

COMMAND	
Description and Parameters	
<b>SET OUT A RED N1↵</b>	<p>Set the red gain level of both outputs.</p> <p><b>N1</b> = 0~100 [Red gain value]</p>
<b>GET OUT A RED↵</b>	<p>Show the current red gain level of both outputs.</p>
<b>SET OUT A GREEN N1↵</b>	<p>Set the green gain level of both outputs.</p> <p><b>N1</b> = 0~100 [Green gain value]</p>
<b>GET OUT A GREEN↵</b>	<p>Show the current green gain level of both outputs.</p>
<b>SET OUT A BLUE N1↵</b>	<p>Set the blue gain level of both outputs.</p> <p><b>N1</b> = 0~100 [Blue gain value]</p>
<b>GET OUT A BLUE↵</b>	<p>Show the current blue gain level of both outputs.</p>
<b>SET OUT A PICTURE PRESET N1↵</b>	<p>Set the video output picture preset mode.</p> <p>Available values for <b>N1</b>:</p> <p>0 [Standard]            1 [Vivid]            2 [Soft]</p>
<b>GET OUT A PICTURE PRESET↵</b>	<p>Show the current video output picture preset mode.</p>
<b>SET AUDIO OUT A MUTE N1↵</b>	<p>Enable or disable muting the audio output.</p> <p>Available values for <b>N1</b>:</p> <p>OFF [Unmute]            ON [Mute]</p>

COMMAND																					
Description and Parameters																					
<b>GET AUDIO OUT A MUTE↵</b>	Show the current mute state of the audio output.																				
<b>SET AUDIO OUT A ROUTE N1↵</b>	Output the specified audio source. Available values for <b>N1</b> : <table border="0"> <tr> <td>1</td> <td>[HDMI Input 1]</td> </tr> <tr> <td>2</td> <td>[HDMI Input 2]</td> </tr> <tr> <td>3</td> <td>[Window 1]</td> </tr> <tr> <td>4</td> <td>[Window 2]</td> </tr> </table>	1	[HDMI Input 1]	2	[HDMI Input 2]	3	[Window 1]	4	[Window 2]												
1	[HDMI Input 1]																				
2	[HDMI Input 2]																				
3	[Window 1]																				
4	[Window 2]																				
<b>GET AUDIO OUT A ROUTE↵</b>	Show the current audio input selection.																				
<b>SET ALL IN EDID MODE N1↵</b>	Select the EDID management mode to use (All or Independent) for both inputs. Available values for <b>N1</b> : <table border="0"> <tr> <td>1</td> <td>[All mode]</td> </tr> <tr> <td>2</td> <td>[Independent mode]</td> </tr> </table>	1	[All mode]	2	[Independent mode]																
1	[All mode]																				
2	[Independent mode]																				
<b>GET ALL IN EDID MODE↵</b>	Show the current EDID management mode used by both inputs.																				
<b>SET ALL IN EDID N1↵</b>	Set the EDID to use when the "All" EDID mode is active. Available values for <b>N1</b> : <table border="0"> <tr> <td>1</td> <td>[FHD/2CH]</td> </tr> <tr> <td>2</td> <td>[FHD/MCH]</td> </tr> <tr> <td>3</td> <td>[4K UHD/2CH]</td> </tr> <tr> <td>4</td> <td>[4K UHD/MCH]</td> </tr> <tr> <td>5</td> <td>[Sink HDBT]</td> </tr> <tr> <td>6</td> <td>[Sink HDMI]</td> </tr> <tr> <td>7</td> <td>[User 1]</td> </tr> <tr> <td>8</td> <td>[User 2]</td> </tr> <tr> <td>9</td> <td>[User 3]</td> </tr> <tr> <td>10</td> <td>[User 4]</td> </tr> </table>	1	[FHD/2CH]	2	[FHD/MCH]	3	[4K UHD/2CH]	4	[4K UHD/MCH]	5	[Sink HDBT]	6	[Sink HDMI]	7	[User 1]	8	[User 2]	9	[User 3]	10	[User 4]
1	[FHD/2CH]																				
2	[FHD/MCH]																				
3	[4K UHD/2CH]																				
4	[4K UHD/MCH]																				
5	[Sink HDBT]																				
6	[Sink HDMI]																				
7	[User 1]																				
8	[User 2]																				
9	[User 3]																				
10	[User 4]																				



COMMAND	
Description and Parameters	
<b>GET ALL IN EDID↵</b>	
Show the current EDID used by the “All” EDID mode.	
<b>SET IN N1 EDID N2↵</b>	
Set the EDID to use on the specified input when “Independent” mode is active.	
<b>N1</b> = 1~2	[Input port]
Available values for <b>N2</b> :	
1	[FHD/2CH]
2	[FHD/MCH]
3	[4K UHD/2CH]
4	[4K UHD/MCH]
5	[Sink HDBT]
6	[Sink HDMI]
7	[User 1]
8	[User 2]
9	[User 3]
10	[User 4]
<b>GET IN N1 EDID↵</b>	
Show the EDID currently being used on the specified input.	
<b>N1</b> = 1~2	[Input port]
<b>SET IN N1 HDCP MODE N2↵</b>	
Set the HDCP behavior of the specified input.	
<b>N1</b> = 1~2	[Input port]
Available values for <b>N2</b> :	
0	[HDCP OFF]
1	[Refer to Source]
2	[Refer to Display]
<b>GET IN N1 HDCP MODE↵</b>	
Show the current HDCP behavior used by the specified input.	
<b>N1</b> = 1~2	[Input port]

## COMMAND

### Description and Parameters

#### SET OUT A TIMING N1↵

Set the output resolution to use.

Available values for **N1**:

0	[640x480@59]
1	[800x600@60]
2	[1024x768@60]
3	[1280x800@60]
4	[1280x1024@60]
5	[1366x768@60]
6	[1440x900@60]
7	[1600x900@60RB]
8	[1600x1200@60]
9	[1680x1050@60]
10	[1920x1200@60RB]
11	[1920x1200@60]
12	[2560x1600@60RB]
13	[3440x1440@30]
14	[480p59]
15	[480p60]
16	[576p50]
17	[720p50]
18	[720p60]
19	[1080p24]
20	[1080p25]
21	[1080p30]
22	[1080p50]
23	[1080p59]
24	[1080p60]
25	[4K24]
26	[4K25]
27	[4K30]
28	[4K24 (DCI)]
29	[Native HDBT]
30	[Native HDMI]

#### GET OUT A TIMING↵

Show the current output resolution.

COMMAND					
Description and Parameters					
<b>SET OUT A OSD TIMEOUT N1</b> ↵	<p>Set the OSD Menu's timeout value (in seconds).</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>0</td> <td>[Timeout disabled]</td> </tr> <tr> <td>5~60</td> <td>[Timeout in seconds]</td> </tr> </table>	0	[Timeout disabled]	5~60	[Timeout in seconds]
0	[Timeout disabled]				
5~60	[Timeout in seconds]				
<b>GET OUT A OSD TIMEOUT</b> ↵	<p>Show the current OSD Menu's timeout value.</p>				
<b>SET OUT A OSD INFO DISPLAY N1</b> ↵	<p>Enable or disable the info OSD.</p>				
<b>GET OUT A OSD INFO DISPLAY</b> ↵	<p>Show the current info OSD state.</p>				
<b>SET OUT A OSD INFO TIMEOUT N1</b> ↵	<p>Set the OSD info's timeout value (in seconds).</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>0</td> <td>[Timeout disabled]</td> </tr> <tr> <td>5~60</td> <td>[Timeout in seconds]</td> </tr> </table>	0	[Timeout disabled]	5~60	[Timeout in seconds]
0	[Timeout disabled]				
5~60	[Timeout in seconds]				
<b>GET OUT A OSD INFO TIMEOUT</b> ↵	<p>Show the current OSD info's timeout value.</p>				
<b>SET OUT A OSD TRANSPARENCY N1</b> ↵	<p>Set the transparency level of the OSD on the specified output.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>0~15</td> <td>[Transparency level]</td> </tr> </table>	0~15	[Transparency level]		
0~15	[Transparency level]				
<b>GET OUT A OSD TRANSPARENCY</b> ↵	<p>Show the current transparency level of the OSD.</p>				



COMMAND					
Description and Parameters					
<b>SET OUT A OSD TEXT COLOR N1</b> ↵	<p>Set the OSD banner's text color.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>0</td> <td>[White]</td> </tr> <tr> <td>1</td> <td>[Blue]</td> </tr> </table>	0	[White]	1	[Blue]
0	[White]				
1	[Blue]				
<b>GET OUT A OSD TEXT COLOR</b> ↵	<p>Show the current text color of the OSD banner.</p>				
<b>SET OUT A OSD INFO NOSIGNAL N1</b> ↵	<p>Enable or disable the OSD information display when no source is connected.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>OFF</td> <td>[Disabled]</td> </tr> <tr> <td>ON</td> <td>[Enabled]</td> </tr> </table>	OFF	[Disabled]	ON	[Enabled]
OFF	[Disabled]				
ON	[Enabled]				
<b>GET OUT A OSD INFO NOSIGNAL</b> ↵	<p>Show the current setting for the "No Signal" OSD information display.</p>				
<b>SET OUT A OSD LOGO DISPLAY N1</b> ↵	<p>Enable or disable the graphical logo overlay.</p> <p>Available values for <b>N1</b>:</p> <table> <tr> <td>OFF</td> <td>[Disabled]</td> </tr> <tr> <td>ON</td> <td>[Enabled]</td> </tr> </table>	OFF	[Disabled]	ON	[Enabled]
OFF	[Disabled]				
ON	[Enabled]				
<b>GET OUT A OSD LOGO DISPLAY</b> ↵	<p>Show the current state of the graphical logo overlay display.</p>				
<b>SET OUT A OSD LOGO HPOSITION N1</b> ↵	<p>Set the horizontal position of the graphical logo overlay.</p> <p><b>N1</b> = 0~{Max res}                      [Horizontal position]</p>				
<b>GET OUT A OSD LOGO HPOSITION</b> ↵	<p>Show the current horizontal position of the graphical logo overlay.</p>				

COMMAND	
Description and Parameters	
<b>SET OUT A OSD LOGO VPOSITION N1↵</b>	<p>Set the vertical position of the graphical logo overlay.</p> <p><b>N1</b> = 0~{Max res}                      [Vertical position]</p>
<b>GET OUT A OSD LOGO VPOSITION↵</b>	<p>Show the current vertical position of the graphical logo overlay.</p>
<b>SET OUT A OSD LOGO COLOR KEY N1↵</b>	<p>Enable or disable using a chroma key with the graphical logo overlay.</p> <p>Available values for <b>N1</b>:</p> <p>OFF                                              [Disabled] ON                                                 [Enabled]</p>
<b>GET OUT A OSD LOGO COLOR KEY↵</b>	<p>Show the graphical logo overlay's current chroma key state.</p>
<b>SET OUT A OSD LOGO COLOR R N1↵</b>	<p>Set the base red value for the graphical logo overlay's chroma key.</p> <p><b>N1</b> = 0~255                                      [Base red value]</p>
<b>GET OUT A OSD LOGO COLOR R↵</b>	<p>Show the current base red value for the graphical logo overlay's chroma key.</p>
<b>SET OUT A OSD LOGO COLOR G N1↵</b>	<p>Set the base green value for the graphical logo overlay's chroma key.</p> <p><b>N1</b> = 0~255                                      [Base green value]</p>
<b>GET OUT A OSD LOGO COLOR G↵</b>	<p>Show the current base green value for the graphical logo overlay's chroma key.</p>

COMMAND	
Description and Parameters	
<b>SET OUT A OSD LOGO COLOR B N1↵</b>	<p>Set the base blue value for the graphical logo overlay's chroma key.</p> <p><b>N1</b> = 0~255 [Base blue value]</p>
<b>GET OUT A OSD LOGO COLOR B↵</b>	<p>Show the current base blue value for the graphical logo overlay's chroma key.</p>
<b>SET OUT A OSD LOGO COLOR RANGE N1↵</b>	<p>Set the RGB key value range for the graphical logo overlay's chroma key.</p> <p><b>N1</b> = 0~100 [Key value range]</p>
<b>GET OUT A OSD LOGO COLOR RANGE↵</b>	<p>Show the current RGB key value range used by the graphical logo overlay's chroma key.</p>
<b>SET OUT A OSD LOGO TRANSPARENCY N1↵</b>	<p>Set the transparency level of the graphical logo overlay.</p> <p><b>N1</b> = 0~14 [Transparency level]</p>
<b>GET OUT A OSD LOGO TRANSPARENCY ↵</b>	<p>Show the current transparency level of the graphical logo overlay.</p>
<b>SET OUT A OSD LOGO USE N1↵</b>	<p>Set the graphical logo overlay source to display.</p> <p>Available values for <b>N1</b>:</p> <p>1 [Default logo] 2 [User uploaded logo]</p>
<b>GET OUT A OSD LOGO USE↵</b>	<p>Show the current graphical logo overlay source used.</p>

COMMAND	
Description and Parameters	
<b>GET OSD LOGO COLOR VALUE N1 N2↵</b>	<p>Show the RGB color of the pixel at the specified cursor position.</p> <p><b>N1</b> = 0~{Logo res} [Horizontal position]  <b>N2</b> = 0~{Logo res} [Vertical position]</p>
<b>SET OSD LOGO COLOR VALUE TRIGGER↵</b>	<p>Capture and use the color values of the pixel at the current cursor position as the graphical logo overlay's chroma key values.</p>
<b>SET IP MODE N1↵</b>	<p>Set the IP address assignment mode.</p> <p>Available values for <b>N1</b>:            STATIC [Static IP mode]            DHCP [DHCP mode]</p>
<b>GET IP MODE↵</b>	<p>Show the current IP address assignment mode.</p>
<b>GET IPCONFIG↵</b>	<p>Show the unit's current IP configuration information.</p>
<b>GET IPADDR↵</b>	<p>Show the unit's current IP address.</p>
<b>GET NETMASK↵</b>	<p>Show the unit's current netmask.</p>
<b>GET GATEWAY↵</b>	<p>Show the unit's current gateway address.</p>
<b>SET STATIC IPADDR N1↵</b>	<p>Set the unit's static IP address.</p> <p><b>N1</b> = X.X.X.X [X = 0~255, IP address]</p>
<b>GET STATIC IPADDR↵</b>	<p>Show the unit's static IP address.</p>



COMMAND	
Description and Parameters	
<b>SET STATIC NETMASK N1</b> ↵	
Set the unit's static netmask.	
<b>N1</b> = X.X.X.X	[X = 0~255, netmask]
<b>GET STATIC NETMASK</b> ↵	
Show the unit's static netmask.	
<b>SET STATIC GATEWAY N1</b> ↵	
Set the unit's static gateway address.	
<b>N1</b> = X.X.X.X	[X = 0~255, gateway address]
<b>GET STATIC GATEWAY</b> ↵	
Show the unit's static gateway address.	
<b>SET WEBGUI USERNAME N1</b> ↵	
Set the WebGUI login username.	
<b>N1</b> = {Username}	[16 characters max]
<b>GET WEBGUI USERNAME</b> ↵	
Show the current WebGUI login username.	
<b>SET WEBGUI PASSWORD N1</b> ↵	
Set the WebGUI login password.	
<b>N1</b> = {Password}	[16 characters max]
<b>GET WEBGUI PASSWORD</b> ↵	
Show the current WebGUI login password.	
<b>SET WEBGUI LOGIN TIMEOUT N1</b> ↵	
Set the WebGUI inactivity timeout value.	
<b>N1</b> = 0~240	[Timeout in minutes]
<b>GET WEBGUI LOGIN TIMEOUT</b> ↵	
Show the current WebGUI inactivity timeout value.	

COMMAND	
Description and Parameters	
<b>SET TELNET LOGIN N1↵</b>	<p>Enable or disable requiring Telnet login authentication.</p> <p>Available values for <b>N1</b>:</p> <p>OFF [Disabled] ON [Enabled]</p>
<b>GET TELNET LOGIN↵</b>	<p>Show the current status of the Telnet login authentication requirement.</p>
<b>SET TELNET USERNAME N1↵</b>	<p>Set the Telnet login username.</p> <p><b>N1</b> = {Username} [16 characters max]</p>
<b>GET TELNET USERNAME↵</b>	<p>Show the current Telnet login username.</p>
<b>SET TELNET PASSWORD N1↵</b>	<p>Set the Telnet login password.</p> <p><b>N1</b> = {Password} [16 characters max]</p>
<b>GET TELNET PASSWORD↵</b>	<p>Show the current Telnet login password.</p>
<b>SET FACTORY DEFAULT↵</b>	<p>Reset the unit to the factory defaults.</p>
<b>SET FACTORY USER EDID DEFAULT↵</b>	<p>Reset the unit's uploaded EDIDs to their factory defaults.</p>

COMMAND	
Description and Parameters	
<b>SET PATTERN TYPE N1</b> ↵	
Output the specified test pattern or disable the test pattern output.	
Available values for <b>N1</b> :	
0	[Disabled]
1	[White field]
2	[Crosshatch]
3	[Colorbars]
4	[Grayscale]
5	[White window]
6	[Horizontal ramp]
7	[Vertical ramp]
8	[Diagonal lines]
9	[Red field]
10	[Green field]
11	[Blue field]
<b>GET PATTERN TYPE</b> ↵	
Show the currently selected test pattern output mode.	
<b>SET IN TIMING DETECT N1</b> ↵	
Enable or disable User Source Timing detection.	
Available values for <b>N1</b> :	
OFF	[Disabled]
ON	[Enabled]
<b>GET IN TIMING DETECT</b> ↵	
Show the current state of the User Source Detection setting.	
<b>SET WINDOW 1 COLOR PROCESS N1</b> ↵	
Enable or disable automatically processing 4:4:4 sources without color subsampling.	
Available values for <b>N1</b> :	
0	[Off]
1	[Auto]
<i>Note: Only available in Switcher mode when "Standard" switching is selected.</i>	

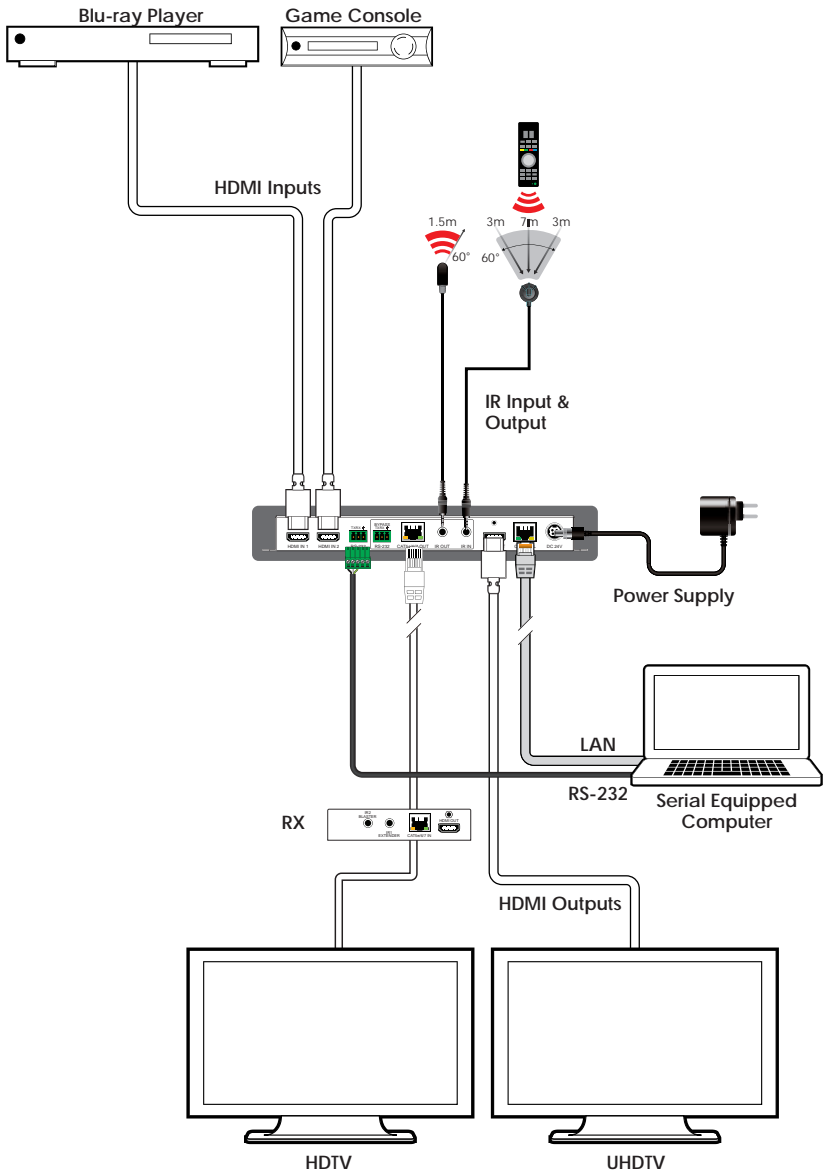
COMMAND																									
Description and Parameters																									
<b>GET WINDOW 1 COLOR PROCESS↵</b>	Show the current state of the 4:4:4 processing setting.																								
<b>SET AUTO SYNC OFF N1↵</b>	<p>Enable or disable the Auto Sync Off function on the specified output and set the timeout length.</p> <p>Available values for <b>N1</b>:</p> <table border="0"> <tr><td>0</td><td>[Always output sync]</td></tr> <tr><td>1</td><td>[5 Seconds]</td></tr> <tr><td>2</td><td>[10 Seconds]</td></tr> <tr><td>3</td><td>[15 Seconds]</td></tr> <tr><td>4</td><td>[30 Seconds]</td></tr> <tr><td>5</td><td>[1 Minutes]</td></tr> <tr><td>6</td><td>[1.5 Minutes]</td></tr> <tr><td>7</td><td>[2 Minutes]</td></tr> <tr><td>8</td><td>[2.5 Minutes]</td></tr> <tr><td>9</td><td>[3 Minutes]</td></tr> <tr><td>10</td><td>[5 Minutes]</td></tr> <tr><td>11</td><td>[10 Minutes]</td></tr> </table>	0	[Always output sync]	1	[5 Seconds]	2	[10 Seconds]	3	[15 Seconds]	4	[30 Seconds]	5	[1 Minutes]	6	[1.5 Minutes]	7	[2 Minutes]	8	[2.5 Minutes]	9	[3 Minutes]	10	[5 Minutes]	11	[10 Minutes]
0	[Always output sync]																								
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7	[2 Minutes]																								
8	[2.5 Minutes]																								
9	[3 Minutes]																								
10	[5 Minutes]																								
11	[10 Minutes]																								
<b>SET AUTO SWITCH N1↵</b>	<p>Enable or disable automatic source switching in Switcher mode.</p> <p>Available values for <b>N1</b>:</p> <table border="0"> <tr><td>OFF</td><td>[Disabled]</td></tr> <tr><td>ON</td><td>[Enabled]</td></tr> </table>	OFF	[Disabled]	ON	[Enabled]																				
OFF	[Disabled]																								
ON	[Enabled]																								
<b>GET AUTO SWITCH↵</b>	Show the current automatic switching setting.																								
<b>SET AUTO SWITCH DELAY N1↵</b>	<p>Set the delay to wait before automatically switching.</p> <p><b>N1</b> = 0~5 [Delay, in seconds]</p>																								
<b>GET AUTO SWITCH DELAY↵</b>	Show the current automatic switching delay value.																								

COMMAND	
Description and Parameters	
<b>SET SAVE PRESET N1↵</b>	Save all current routing and window assignments to the specified preset.  N1 = 1-5 [Preset number]
<b>SET RECALL PRESET N1↵</b>	Activate the routing and window assignments saved in the specified preset.  N1 = 1-5 [Preset number]
<b>SET PRESET N1 NAME N2↵</b>	Set a name for the specified preset.  N1 = 1-5 [Preset number] N2 = {Preset name} [18 characters max]
<b>GET PRESET N1 NAME↵</b>	Show the current name of the specified preset.  N1 = 1-5 [Preset number]
<b>GET HDBT OUT A CABLE TEST↵</b>	Show the cable test result for the HDBaseT output.  <i>Note: Uses the highest available source resolution without exceeding 4K@60Hz 4:2:0.</i>
<b>SET FEEDBACK BROADCAST N1↵</b>	Enable or disable the command feedback broadcast display.  Available values for N1: OFF [Disabled] ON [Enabled]
<b>GET FEEDBACK BROADCAST↵</b>	Show the current command feedback display state.
<b>GET COMMAND VER↵</b>	Show the unit's current command version.

COMMAND	
Description and Parameters	
<b>GET MAC ADDR↵</b>	Show the unit's MAC address.
<b>GET MODEL NAME↵</b>	Show the unit's model name.
<b>GET MODEL TYPE↵</b>	Show the unit's product type.

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

## 7. CONNECTION DIAGRAM





## 8. SPECIFICATIONS

### 8.1 Technical Specifications

HDMI Bandwidth	10.2Gbps
HDBaseT Bandwidth	10.2Gbps
Input Ports	2×HDMI (Type-A)
Output Ports	1×HDMI (Type-A) 1×HDBaseT (RJ-45)
Pass-through Ports	1×IR Extender (3.5mm) 1×IR Blaster (3.5mm) 1×RS-232 (3-pin Terminal Block)
Control Ports	1×RS-232 (3-pin Terminal Block) 1×IP Control (RJ-45)
Service Port	1×USB 2.0 (Type A)
IR Frequency	30 – 50kHz (30 – 60kHz under ideal conditions)
Baud Rate	19200 (Control) Up to 115200 (Bypass)
Power Supply	24V/2.7A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection (HBM)	±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions (W×H×D)	231.5mm×25mm×158mm [Case Only] 231.5mm×25mm×163mm [All Inclusive]
Weight	966g
Chassis Material	Metal (Steel)
Chassis 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	20.17W



## 8.2 Video Specifications

Supported Resolutions (Hz)	Input	Output	
	HDMI	HDMI	HDBT
720×400p@70/85	✓	×	×
640×480p@60/72/75/85	✓	59	59
720×480i@60	×	×	×
720×480p@60	✓	✓	✓
720×576i@50	×	×	×
720×576p@50	✓	✓	✓
800×600p@56/60/72/75/85	✓	60	60
848×480p@60	✓	×	×
1024×768p@60/70/75/85	✓	60	60
1152×864p@75	✓	×	×
1280×720p@50/60	✓	✓	✓
1280×768p@60/75/85	✓	×	×
1280×800p@60/75/85	✓	60	60
1280×960p@60/85	✓	×	×
1280×1024p@60/75/85	✓	60	60
1360×768p@60	✓	×	×
1366×768p@60	✓	✓	✓
1400×1050p@60	✓	✓	✓
1440×900p@60/75	✓	60	60
1600×900p@60RB	✓	×	×
1600×1200p@60	✓	✓	✓
1680×1050p@60	✓	✓	✓
1920×1080i@50/60	×	×	×
1920×1080p@24/25/30	✓	✓	✓
1920×1080p@50/60	✓	✓	✓
1920×1200p@60RB	60/60RB	60/60RB	60/60RB

Supported Resolutions (Hz)	Input	Output	
	HDMI	HDMI	HDBT
2560×1440p@60RB	✓	×	×
2560×1600p@60RB	✓	✓	✓
2048×1080p@24/25/30	✓	✓	✓
2048×1080p@50/60	✓	×	×
3840×2160p@24/25/30	✓	✓	✓
3840×2160p@50/60 (4:2:0)	✓	×	×
3840×2160p@24, HDR10	×	×	×
3840×2160p@50/60 (4:2:0),HDR10	×	×	×
3840×2160p@50/60	×	×	×
4096×2160p@24/25/30	✓	24	24
4096×2160p@50/60 (4:2:0)	✓	×	×
4096×2160p@24, HDR10	×	×	×
4096×2160p@50/60 (4:2:0),HDR10	×	×	×
4096×2160p@50/60	×	×	×

## 8.3 Audio Specifications

### 8.3.1 Digital Audio

HDMI Input / Output	
LPCM	
Max Channels	8 Channels
Sampling Rate (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
Bitstream	
Supported Formats	Standard & High-Definition
HDBaseT Output	
LPCM	
Max Channels	8 Channels
Sampling Rate (kHz)	32, 44.1, 48, 88.2, 96, 176.4, 192
Bitstream	
Supported Formats	Standard & High-Definition



## 8.4 Cable Specifications

Cable Length	1080p		4K30	4K60
	8-bit	12-bit	(4:4:4) 8-bit	(4:4:4) 8-bit
High Speed HDMI Cable				
HDMI Input	15m	10m	5m	3m
HDMI Output	15m	10m	5m	×
Ethernet Cable				
Cat.5e/6	60m		35m	×
Cat.6A/7	70m		40m	×

### Bandwidth Category Examples:

- **1080p (FHD Video)**
  - Up to 1080p@60Hz, 12-bit color
  - Data rates lower than 5.3Gbps or below 225MHz TMDS clock
- **4K30 (UHD Video)**
  - 4K@24/25/30Hz & 4K@50/60Hz (4:2:0), 8-bit color
  - Data rates higher than 5.3Gbps or above 225MHz TMDS clock but below 10.2Gbps
- **4K60 (UHD\* Video)**
  - 4K@50/60Hz (4:4:4, 8-bit)
  - 4K@50/60Hz (4:2:0, 10-bit HDR)
  - Data rates higher than 10.2Gbps

## 8.5 HDBaseT Features

HDBaseT Feature Set	Transmitter
Video & Audio Extension	Supported
LAN Extension	Unsupported
Send power to Receiver	Supported (PoH)
Accept power from Receiver	Unsupported
IR Extension	Supported
RS-232 Extension	Supported
USB 2.0 Extension	Unsupported

## 9. ACRONYMS

ACRONYM	COMPLETE TERM
ASCII	American Standard Code for Information Interchange
Cat.5e	Enhanced Category 5 cable
Cat.6	Category 6 cable
Cat.6A	Augmented Category 6 cable
Cat.7	Category 7 cable
CLI	Command-Line Interface
COAX	Coaxial
COM	Communication
DHCP	Dynamic Host Configuration Protocol
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
Gbps	Gigabits per second
GUI	Graphical User Interface
HD	High-Definition
HDBT	HDBaseT
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
IP	Internet Protocol
IR	Infrared
kHz	Kilohertz
LAN	Local Area Network
LED	Light-Emitting Diode
LPCM	Linear Pulse-Code Modulation
MHz	Megahertz
OSD	On-Screen Display
PD	Powered Device
PoH	Power over HDBaseT

<b>ACRONYM</b>	<b>COMPLETE TERM</b>
<b>PSE</b>	Power Sourcing Equipment
<b>TCP</b>	Transmission Control Protocol
<b>UHD</b>	Ultra-High-Definition (10.2Gbps)
<b>UHD<sup>+</sup></b>	Ultra-High-Definition Plus (18Gbps)
<b>USB</b>	Universal Serial Bus
<b>VGA</b>	Video Graphics Array
<b>WUXGA (RB)</b>	Widescreen Ultra Extended Graphics Array (Reduced Blanking)
<b>XGA</b>	Extended Graphics Array
<b>Ω</b>	Ohm



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