

# HDMI Seamless Quad 4 x 1 Picture in Picture Processor - # 15416



**Operation Manual**

## Introduction

The 4 x 1 HDMI Seamless Quad PIP Scaler is a high performance, high speed zooming/shrinking system that can be easily configure and control for quad or picture-in-picture video processing. Allowing 4 different input sources to be freely selected and arranged on one single display with supporting output resolution up to 1080p and audio up to 8CH 192kHz for both input and output. Screen setting hot keys with IR, RS-232, WebGUI and Telnet allows instant control and witching on the output display.

## Applications

- Broadcasting room and control
- Surveillance room and control
- Public advertisement and control
- Digital Presentation

## Features

- Seamless switching between channels and windows
- Zoom and Shrink 4CH input image and or to overlay them
- Supports PIP, POP and multi-windows display
- Supports OSD, RS-232, Telnet, Remote and on-panel controls
- Fade-In-Out, Chromakey, Mirror and Rotation (90° left & right and 180° up & down) functions
- 8 Screen setting hot keys and extra 4 customized favorite screen setting
- Supports individual channel size and position adjustment
- Supports output image logo display with self design logo file upload

## System

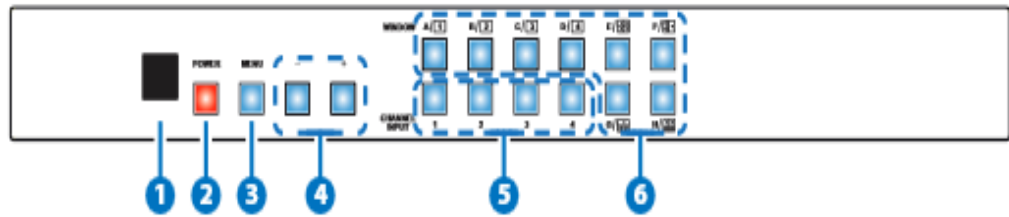
### Requirements

*Input source equipments such as DVD/Blu-ray players and PC/NB devices and output HD TV/monitor*



## Operation Controls and Functions

### Front Panel



#### 1. IR Window:

Accept IR signal from the device's remote control included in the package.

#### 2. POWER:

Press this button to power ON the device or set it to standby mode.

#### 3. MENU:

Press this button to bring up the OSD menu on screen.

#### 4. +/- Buttons:

Press these buttons to scroll down/up the OSD selections.

#### 5. CHANNEL INPUT 1~4:

Press these buttons to rotate HDMI 1~4 input source on each channel to be display on screen. All channels can select the same input or each channel a different input.

#### 6. WINDOW A~H:

Press these hot keys to select the screen setting where A~D are display a full screen of each channel and E~H are a different combination of a full screen setting with all 4 channels.

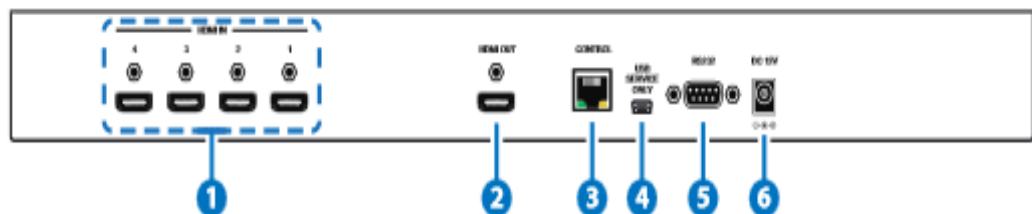
Windows A~D's channel input selection is corresponding to channel input no. 1~4. That is, to change window A's input channel must press channel input 1's button. Channel input 2~4's button will not activate under window A's selection. Windows E~H's size are adjustable through the OSD menu setting and only window G is PIP(Picture in Picture) where E,F & H are POP (Picture out Of picture) settings.

Under window E~H when the size setting is overlapping one another, channel display sequence is CH4 > CH3 > CH2 >CH1.

That is, CH4 will cover CH3 and CH3 will cover CH2 and so on.

Under some display the borderline may have interference, adjusting display's motion setting may resolve the interference issue.

### Rear Panel



### 1. HDMI IN:

Connect with source equipments such as DVD/Blu-ray players and or PC/NB devices.

### 2. HDMI OUT:

Connect with HD TV/monitor for output image display at 1080p.

### 3. CONTROL:

Connect to an active network for Telnet control.

### 4. USB SERVICE ONLY:

This slot is reserved for logo file upload and factory use only.

Logo file requirements: bmp file with color 256 only with size up to 512x512.

Upload procedure: Enter into OSD menu→IO Setup→LOGO

Setting→Load New LOGO, now both Window A and CH 1's button

LED will illuminate, plug this USB port to your PC/Laptop and wait

for USB window to pop up.

Drag and load the logo file into the USB window or into "COPY LOGO" and

upload will be automatically proceed. Wait for 1~2 minute the device will

reboot itself and the upload is succeed.

### 5. RS-232:

Connect from PC/NB with D-Sub 15pin cable for RS-232 command sending.

### 6. DC 12V:

Plug the 12V DC power supply into the unit and connect the adaptor to an AC outlet.

## Remote Control

### 1. Power:

Press this button to switch on the device or press it again to set it to standby mode.

### 2. Info:

Press this button to show the device's firmware version.

### 3. Input CH 1~4:

Press these buttons to rotate HDMI 1~4 input source on each channel to be display on screen

### 4. WA~WH:

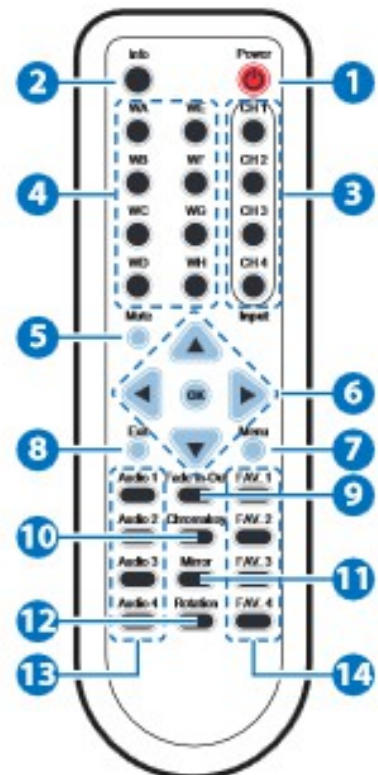
Press these hot keys to select the screen setting where WA~WD are display a full screen of each channel and WE~WH are a different combination of a full screen setting with all 4 channels.

### 5. Mute:

Press this button to mute the audio from HDMI output port.

### 6. ▲▼▶◀ & OK Buttons:

Press this buttons to scroll through the OSD



selection and press OK to enter and confirm the setting.

**7. Menu:**

Press this button to enter into the OSD menu.

**8. Exit:**

Press this button to exit the OSD menu or the OSD settings.

**9. FAV. 1~4:**

Press these buttons to bring up the customized screen settings.

**10. Fade-In-Out\*:**

Press this button to switch on or off the Fade-in-out function.

**11. Chromakey\*:**

Press this button to enter into Chroma function where CH 1 is the background and CH 2 is the top image.

**12. Mirror\*:**

Press this button to display the screen in mirror image.

**13. Rotation\*:**

Press this button to rotate the image 90° left and right or 180° upside down.

**14. Audio 1~4:**

Press these buttons to select audio from HDMI input source 1~4.

\*Functions only work under Window A to D. The system will force to switch to Window A when operate under Window E~H.

**RS-232 Protocols**

HDMI SCALER	
Pin	Assignment
1	NC
2	Tx
3	Rx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC



REMOTE	
Pin	Assignment
1	NC
2	Rx
3	Tx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 115200bps

Data Bit: 8 bits

Parity: None

Flow Control: None

Stop Bit: 1



## OSD Menu

Main Menu	1 <sup>st</sup> layer	2 <sup>nd</sup> layer	3 <sup>rd</sup> layer	
I/O Setup	Output Resolution	480P, 579P, 720P50/60, 1080P24/25/30/50/60, 1024x768, 1280x800, 1280x1024, 1366x768, 1440x900, 1600x900, 1600x1200, 1680x1050, 1920x1200, NATIVE		
		Menu Exit		
	Output Windows	Window A		
		Window B		
		Window C		
		Window D		
		Window E		
		Window F		
		Window G		
		Window H		
		Win Fav 1		
		Win Fav 2		
		Win Fav 3		
		Win Fav 4		
		Menu Exit		
	OSD Settings	Info Display		On/Off
		H Offset		0~20 (5)
		V Offset		0~20 (5)
		Timeout		Off~50 (10)
		Transparent		0~10 (2)
		Menu Exit		
	Logo	Logo Display		On/Off

	Settings	Logo H-Pos	0~74 (73)
		Logo V-Pos	0~68 (6)
		Load Def Logo	On/Off
		Load New Logo	On/Off
		Menu Exit	
	Menu Exit		
Image Adjust	Brightness Adjust	CH1	0~100 (50)
		CH2	0~100 (50)
		CH3	0~100 (50)
		CH4	0~100 (50)
		Value Reset	
		Menu Exit	
	Contrast Adjust	CH1	0~100 (50)
		CH2	0~100 (50)
		CH3	0~100 (50)
		CH4	0~100 (50)
		Value Reset	
		Menu Exit	
	Hue Adjust	CH1	0~100 (50)
		CH2	0~100 (50)
		CH3	0~100 (50)
		CH4	0~100 (50)
		Value Reset	
		Menu Exit	
	Saturation	CH1	0~100 (50)
		CH2	0~100 (50)
		CH3	0~100 (50)
		CH4	0~100 (50)
		Value Reset	
		Menu Exit	
Image Still Adjust	CH1	On/Off	
	CH2	On/Off	
	CH3	On/Off	

		CH4	On/Off	
		All Channel	On/Off	
		Menu Exit		
		Image Swap	CH 1 CH 2 Swap	
			CH 1 CH 3 Swap	
			CH 1 CH 4 Swap	
			CH 2 CH 3 Swap	
	CH 2 CH 4 Swap			
	CH 3 CH 4 Swap			
Window Setup	Channel 1/2/3/4 Select	Size Wxxx Hxxx	Width Unit	
			Width Ten	
			Width Hundred	
			Height Unit	
			Height Ten	
			Height Hundred	
			Value Rest	
		Menu Exit		
		Position Wxxx Hxxx	Width Unit	
			Width Ten	
			Width Hundred	
			Height Unit	
			Height Ten	
	Height Hundred			
	Value Rest			
	Menu Exit			
		Image Output	On/Off	
		Priority	1~4	
		Window Reset		
	Menu Exit			
Label Select	Video 1	Rename up to 9 characters		
	Video 2	Rename up to 9 characters		
	Video 3	Rename up to 9		



			characters
		Video 4	Rename up to 9 characters
		Menu Exit	
	Favours Store	FAV 1 Store	On/Off
		FAV 2 Store	On/Off
		FAV 3 Store	On/Off
		FAV 4 Store	On/Off
		Menu Exit	
	Menu Exit		
Window Convert	Channel 1/2/3/4 Convert	Mirror	On/Off
		Fade In-Out	Off/1.0/1.1/1.2/1.3/1.4/1.5/1.6/1.7/1.8/1.9/2.0/2.1/2.2/2.3/2.4/2.5/2.6/2.7/2.8/2.9/3.0
		Rotation	L90/R90/180/Of
		Window Reset	
		Menu Exit	
Chromakey Setup*	User 1	Minimum for R/G/B	000~255 (233)
		Maximum for R/G/B	222~255(255)
	User 2	Minimum for R/G/B	000~255 (0)
		Maximum for R/G/B	222~255(255)
	White	Minimum for R/G/B	000~255 (233)
		Maximum for R/G/B	222~255(255)
	Yellow	Minimum for R/G/B	000~255 (233/233/0)
		Maximum for R/G/B	222~255(255/255/16)
	Cyan	Minimum for R/G/B	000~255 (233/0/233)

		Maximum for R/G/B	222~255(255/16/255)
Green		Minimum for R/G/B	000~255 (233/0/0)
		Maximum for R/G/B	222~255(255/16/16)
Magenta		Minimum for R/G/B	000~255 (0/233/233)
		Maximum for R/G/B	222~255(16/255/255)
Red		Minimum for R/G/B	000~255 (0/233/0)
		Maximum for R/G/B	222~255(0/233/0)
Blue		Minimum for R/G/B	000~255 (0/0/232)
		Maximum for R/G/B	222~255(16/16/255)
Black		Minimum for R/G/B	000~255 (0)
		Maximum for R/G/B	222~255(16)
	Switch	On/Off	
	Exit		
Ethernet Setup	IP Mode	Static /DHCP	
	Static Set	IP/Mask/Gate	
	Byte1 High	192	
	Byte2	168	
	Byte3	1	
	Byte4 Low	50	
	Time Out	OFF/10/20/30/40 /50/60 min	
	Re-Link	No/Yes	
	Exit		
	Static/DHCP IP	LINKED/NOT LINKED	

	IP	IP/Mask/Gate	
	MAsk	xxx. xxx. xxx. xxx	
	Gate	xxx. xxx. xxx. xxx	
	Mac	xxx. xxx. xxx. xxx	
	Sink HDMI/ DVI		
Audio Setup	Audio Source	Mute/CH1/2/3/4	
Sys Reset	On/Of		
Information	Screen HDMI		
	Native xxxxxx		
	F/W version vx.xx		
	F/W Upgrade		
	Menu Exit		
Menu Exit			

Note: BoldItalic fonts and ( ) figures are factory default setting figures.

\* Chromakey Setup works only under CH1& CH2 where CH1 is the background and CH2 is the top layer. This special function is designed for picture overlap video such as news reporter, weather forecast or educational video taping. CH2 the top layer's background color is usually a single color which can be easy for remove. RGB's setting is for CH2 video where the minimum setting figures cannot be greater than the maximum figures and the maximum figures cannot be lower than the minimum setting figures. When input 1 or 2 has no source connection a warning message will appear on OSD.

## RS-232 and Telnet Commands

Command	Description	Parameter
?	PRINTS ALL AVAILABLE RS-232/TELNET COMMANDS TO THE SCREEN	
HELP	PRINTS ALL AVAILABLE RS-232/TELNET COMMANDS TO THE SCREEN!	
SPOW 0/1	SET THE UNIT POWER ON/OFF	0=OFF,1=ON
RPOW	SHOW CURRENT POWER STATE	
SRES 0~18	SET OUTPUT RESOLUTOIN	(0) 480p 60Hz, (1) 576p 50Hz,(2) 720p 50Hz, (3) 720p 60Hz, (4) 1080p 24Hz, (5) 1080p 25Hz, (6) 1080p 30Hz, (7) 1080p 50Hz, (8) 1080p 60Hz, (9) 1024x768 60Hz, (10) 1280x800 60Hz, (11) 1280x1024 60Hz, (12) 1366x768 60Hz, (13) 1440x900 60Hz, (14) 1600x900 60Hz, (15)1600x1200 60Hz, (16) 1680x1050 60Hz, (17)1920x1200 60Hz, (18) Native
RRES	SHOW CURRENT OUTPUT RESOLUTION	
SIOSDD 0/1	ENABLE/DISABLE ONSCREEN INFORMATION DISPLAY	0=OFF,1=ON (0)
RIOSDD	SHOW INFORMATION OSD DISPLAY CURRENT STATE	
SOSDH 0~20	SET OSD HORIZONTAL POSITION	0~20 (5)
ROSDH	SHOW OSD HORIZONTAL POSITION CURRENT	
SOSDV 0~20	SET OSD VERTICAL	0~20 (5)

	POSITION	
ROSDV	SHOW OSD VERTICAL POSITION CURRENT	
SOSDT 0, 5~50	SET OSD DISPLAY TIME	0=OSD OFF OSDTIME (5~50 sec) DEFAULT=10sec
ROSDT	SHOW OSD DISPLAY CURRENT TIME	
SOSDG 0~10	SET OSD TRANSPARENT VALUE	0~10 (5)
ROSDG	SHOW OSD TRANSPARENT CURRENT VALUE	
SBRI N M	SET BRIGHTNESS VALUE FOR INPUT CHANNEL	N=0/All, 1~4/CHANNEL M=0~100 (50)
RBRI	SHOW BRIGHTNESS CURRENT VALUE FOR INPUT CHANNEL	0=All, 1~4
SCON N M	SET CONTRAST VALUE FOR INPUT CHANNEL	N=0/All, 1~4/CHANNEL M=0~100 (50)
RCON	SHOW CONTRAST CURRENT VALUE!!	0=All, 1~4
SSAT N M	SET SATURATION VALUE FOR INPUT CHANNEL!!	N=0/All, 1~4/CHANNEL M=0~100 (50)
RSAT	SHOW SATURATION CURRENT VALUE	0=All, 1~4
SHUE N M	SET HUE VALUE FOR INPUT CHANNEL	N=0/All, 1~4/CHANNEL M=0~100 (50)
RHUE	SHOW HUE CURRENT VALUE	0=All, 1~4
SSTILL N M	SET IMAGE STILL	N=0/All, 1~4/CHANNEL M=0/OFF, 1/ON(0)
RSTILL	SHOW IMAGE CURRENT STILL STATUS	0=All, 1~4
SSWAP (0~5)	SET OUTPUT IMAGE SWAP	0= CH1 CH2 SWAP. 1= CH1 CH3 SWAP. 2= CH1 CH4 SWAP.

		3= CH2 CH3 SWAP. 4= CH2 CH4 SWAP. 5= CH3 CH4 SWAP
RSWAP	SHOW IMAGE CURRENT INPUT SOURCE	0=CH1 CH2 CURRENT INPUT SOURCE 1=CH1 CH3 CURRENT INPUT SOURCE 2=CH1 CH4 CURRENT INPUT SOURCE 3=CH2 CH3 CURRENT INPUT SOURCE 4=CH2 CH4 CURRENT INPUT SOURCE 5=CH3 CH4 CURRENT INPUT SOURCE
SPIRE	RESET BRIGHTNESS, CONTRAST, SATURTATION, HUE. ALL CHANNEL VALUE TO DEFAULT	
SIMRE 1~4	RESET BRIGHTNESS or CONTRAST or SATURTATION or HUE, VALUE TO DEFAULE	1=BRIGHTNESS, 2=CONTRAST, 3=SATURTATION, 4=HUE
SHSIZE N M	SET IMAGE HORIZONTAL SIZE	N=1~4 M=0~X HORIZONTAL SIZE FOR CURRENT RESOLUTION
RHSIZE	SHOW IMAGE HORIZONTAL SIZE CURRENT VALUE	1~4 CHANNEL HORIZONTAL SIZE
SVSIZE N M	SET IMAGE VERTICAL SIZE	N=1~4 M=0~X VERTICAL PIXEL FOR CURRENT RESOLUTION
RVSIZE	SHOW IMAGE VERTICAL SIZE CURRENT VALUE	1~4 CHANNEL VERTICAL SIZE
SHPOS N M	SET HORIZONTAL POSITION OF SPECIFIED CHANNEL!!	N=1~4 M=0~X HORIZONTAL PIXEL FOR CURRENT RESOLUTION
RHPOS	SHOW IMAGE HORIZONTAL POSITION	1~4 CHANNEL HORIZONTAL

	CURRENT VALUE!!	POSITION
SVPOS N M	SET VERTICAL POSITION OF SPECIFIED CHANNEL!!	N=1~4 M=0~X VERTICAL PIXEL FOR CURRENT RESOLUTION
RVPOS	SHOW IMAGE VERTICAL POSITION CURRENT VALUE!!	1~4 CHANNEL VERTICAL POSITION
SIMAGE N M	SET OUTPUT CHANNEL IMAGE ON/OFF!!	N= 1~4 M=0/OFF, 1/ON
RIMAGE	SHOW OUTPUT CHANNEL IMAGE CURRENT	(0)=ALL CHANNEL, (1~4)=CHANNEL 1~4
SPRI N M	SET WINDOWS PRIORITY	N= CHANNEL 1~4 M= PRIORITY 1~4
RPRI	SHOW WINDOWS PRIORITY	0=ALL CHANNEL, 1~4=CHANNEL 1~4
SLABEL N M	ASSIGN A PRESET NAME	N= CHANNEL 1~4 M= A~Z/0~9....
RLABEL	SHOW PRESET NAME TO SCREEN!!	0=ALL CHANNEL, 1~4=CHANNEL 1~4
SSTORE 1~4	SAVE THE CURRENT WINDOW TO FAV1~FAV4.	1~4= FAV1~FAV4
SRECALL 1~12	SET A OUTPUT WINDOWS TO WINDOWS A~WINDOWS FAV4	(1)WA, (2)WB, (3)WC, (4)WD, (5)WE, (6)WF, (7)WG, (8)WH, (9) FAV1, (10)FAV2, (11)FAV3, (12)FAV4.
SMIRROR 0/1	SET ENABLE/DISABLE MIRROR EFFECT	0=OFF,1=ON
RMIRROR	SHOW MIRROR CURRENT TO SCREEN!!	
SFADE 0~21	SET FADE IN-OUT TIME	(0) OFF, (1) 1.0 s, (2) 1.1 s, (3) 1.2 s, (4) 1.3 s, (5) 1.4 s, (6) 1.5 s, (7) 1.6 s, (8) 1.7 s, (9) 1.8 s, (10) 1.9 s, (11) 2.0 s, (12) 2.1 s, (13) 2.2 s, (14) 2.3 s, (15) 2.4 s, (16) 2.5 s, (17) 2.6 s, (18) 2.7 s,(19)

		2.8 s, (20) 2.9 s, (21) 3.0 s (0)
<b>RFADE</b>	<b>SHOW FADE IN-OUT CURRENT TO SCREEN!!</b>	
<b>SROTATE 0~3</b>	<b>SET VIDEO ROTATION VIDEO TO PRESET POSITIONS</b>	<b>0=ROTATE OFF, 1=R90, 2=180 3=L90(0)</b>
<b>RROTATE</b>	<b>SHOW VIDEO ROTATION CURRENT TO SCREEN</b>	
<b>SCHRKS 0~9</b>	<b>SET CHROMA KEY COLOR FOR CHROMA KEY!!</b>	<b>(0) USER1,(1)USER2,(2) White,(3)Yellow,(4) Cyan,(5) Green, (6) Magenta,(7) Red,(8) Blue,(9)Black(0)</b>
<b>RCHRKS</b>	<b>SHOW CHROMAKEY KEY COLOR CURRENT TO SCREEN!!</b>	
<b>SCHRC N M</b>	<b>SET THE R,G,B COLOR RANGE FOR THE CHROMA KEY</b>	<b>N=0~11, (0)USER1 G MAX, (1)USER1 G MIN, (2)USER1 R MAX, (3) USER1 R MIN (4)USER1 B MAX, (5)USER2 B MIN, (6)USER2 G MAX, (7)USER2 G MIN, (8)USER2 B MAX, (9)USER2 B MIN (10)USER2 R MAX, (11) USER2 R MIN M= VALUE 0~255</b>
<b>RCHRC 0~9</b>	<b>SHOW CHROMAKEY CURRENT TO SCREEN</b>	<b>(0)USER1,(1)USER2,(2) White,(3)Yellow,(4) Cyan,(5) Green, (6) Magenta,(7) Red,(8) Blue,(9)Black</b>
<b>SCHRSW 0/1</b>	<b>SET ENABLE/DISABLE CHROMAKEY EFFECT</b>	<b>0=OFF, 1=ON (0)</b>
<b>RCHRSW</b>	<b>SHOW CHROMAKEY EFFECT CURRENT TO SCREEN</b>	
<b>SIPM 0/1</b>	<b>SET IP MODE TO DHCP OR STATIC</b>	<b>0=0DHCP, 1=STATIC (1)</b>
<b>RIPM</b>	<b>SHOW CURRENT IP</b>	



	MODE TO SCREEN	
SIPADD N	SET STATIC IP ADDRESS	N=0~255
RIPADD	SHOW STATIC CURRENT IP ADDRESS TO SCREEN	
SMAADD N	SET STATIC SUBNET ADDRESS	N=0~255
RMAADD	SHOW STATIC CURRENT SUBNET ADDRESS TO SCREEN	
SGAADD N	SET STATIC GATEWAY ADDRESS	N=0~255
RGADD	SHOW STATIC CURRENT GATEWAY ADDRESS TO SCREEN	
SETHT 0~6	SET ETHERNET TIMEOUT!!	(0)OFF, (1)10 MINUTE, (2)20 MINUTE, (3)30 MINUTE, (4)40 MINUTE, (5)50 MINUTE, (6)60 MINUTE. (0)
RETHT	SHOW ETHERNET TIMEOUT CURRENT TO SCREEN	
RELINK	RELINK THE UNIT IN 2 SECONDS	
SMAC 0~9, A~F	SET MAC ADDRESS!!	0~9, A~F
RMAC	SHOW CURRENT MAC ADDRESS TO SCREEN	
IPCONFIG	SHOW ETHERNET ADDRESS TO SCREEN	
DEFAULT	RESET THE UNIT TO FACTORY DEFAULTS	
SVICH N M	SET OUTPUT VIDEO CHANNEL TO SPECIFIED SOURCE!!	N=0~4, 0=ALL CHANNEL, 1~4=OUTPUT CHANNEL M=1~4 VIDEO SOUREC
RVICH	SHOW OUTPUT CHANNEL THE VIDEO SOUREC	
SMUTE 0/1	SET MUTE AUDIO	0=MUTE, 1= UNMUTED

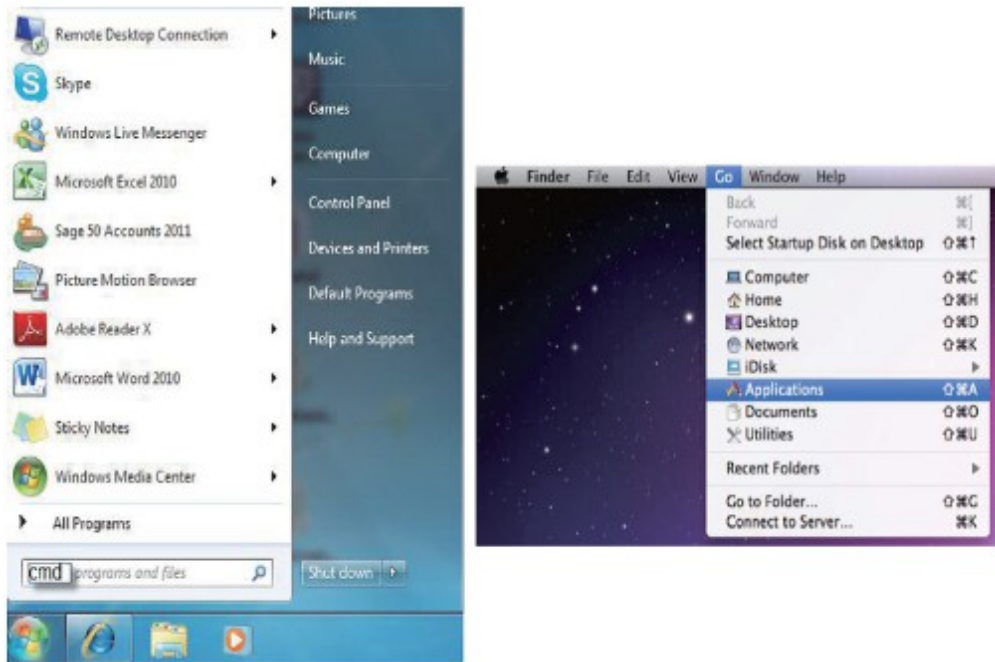
		(1)
RMUTE	SHOW CURRENT MUTE TO SCREEN!!	
SAUDIO 1~4	SET OUTPUT AUDIO TO SPECIFIED SOURCE	1~4=INPUT AUDIO
RAUDIO	SHOW OUTPUT AUDIO SOURCE TO SCREEN	
SCHRE 0~4	RESET THE WINDOWS E ~ WINDOWS FAV4 CH1~CH4 SETTINGS TO FACTORY DEFAULTS	0=RESET ALL CHANNEL, 1~4=RESET CHANNEL 1~4
<b>SWICORE</b>	<b>RESET THE WINDOWS A ~ WINDOWS D SETTINGS TO FACTORY DEFAULTS</b>	
RBIOS	SHOW BIOS VERSION TO SCREEN	
RLOGOD	SHOW DISPLAY LOGO CURRENT STATE	
SLOGOD 0/1	ENABLE/DISABLE DISPLAY LOGO	0=OFF, 1=ON
RLOGOH	SHOW LOGO HORIZONTAL POSITION CURRENT	
SLOGOH N	SET LOGO HORIZONTAL POSITION	N=HORIZONTAL PIXEL FOR CURRENT RESOLUTION
RLOGOV	SHOW LOGO VERTICAL POSITION CURRENT	
SLOGOV N	SET LOGO VERTICAL POSITION	N=VERTICAL PIXEL FOR CURRENT RESOLUTION
SDEFLOGO	LOAD DEFAULT LOGO	
SNEWLOGO	LOAD NEW LOGO	

## Telnet Control

Before attempting to use the telnet control, please ensure that both the Scaler (via the 'CONTROL' port) and the PC/Laptop are connected to the active networks.

To access the telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go→Applications→Utilities→Terminal See below for reference



Once in the command line interface (CLI) type "telnet", then the IP address of the unit and hit enter.

Note:

The IP address of the Scaler can be found under Ethernet Setup on the device's OSD menu.

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

C:\Users\Administrator>telnet 192.168.5.80 23
```

This will bring us into the device which we wish to control. Type "?" to lists all the available commands.

```

Command List
-----
HELP
XPON
XPOW
XRES
XRES
XIOSDD
XIOSDD
XOSDH
XOSDH
XOSDU
XOSDU
XOSDI
XOSDI
XOSDC
XOSDC
XLOGDD
XLOGDD
XLOGDH
XLOGDH
XLOGDU
XLOGDU
XDEFLOGO
XDEFLOGO
XDDI
XDDI
XCON
XCON
XCAT
XCAT
XCHD
XCHD
XCHD
XSTILL
XSTILL
XENAP
XENAP
XPIRE
XPIRE
XSIZE
XSIZE
XSIZE
XSIZE
XHPOS
XHPOS
XUPOS
XUPOS
XCHARGE
XCHARGE
XPRI
XPRI
XLABEL
XLABEL
XSTORE
XSTORE
XBCALL
XBCALL
XMIROOR
XMIROOR
XFADE
XFADE
XROTATE
XROTATE
XCHARG
XCHARG
XCHRC
XCHRC
XCHRCV
XCHRCV
XIPM
XIPM
XIPADD
XIPADD
XMAADD
XMAADD
XCAADD
XCAADD
XCAT
XCAT
XLINK
XLINK
XMAC
XMAC
XPCONFIG
XPCONFIG
XDEFAULT
XDEFAULT
XVICH
XVICH
XSHUTE
XSHUTE
XSHUTE
XSHUTE
XRAUDIO
XRAUDIO
XCHRE
XCHRE
XNICORE
XNICORE
XBIOS

```

Type "IPCONFIG" To show all IP configurations. To reset the IP, type "IPMODE" to set static IP/DHCP (For a full list of commands, see **RS-232 and Telnet Commands** Section).

**Note:**

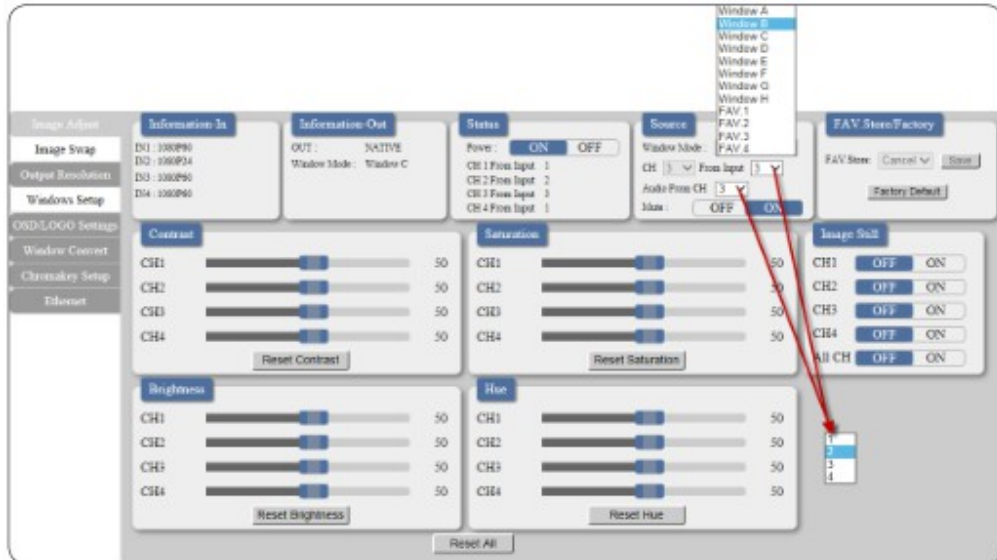
All the commands will be not executed unless followed by a carriage return. Commands are case-insensitive. If the IP is changed then the IP Address required for Telnet access will also need to be change accordingly. A power relink is also required for every IP change.



## WebGUI Control

On a PC/Laptop that is connected to an active network as the Scaler, open a web browser and type device's IP address on the web address entry bar. The browser will display the device's Image Adjust, Output Resolution, and ... etc.

Click on the 'Image Adjust' tab to control power, Window Mode and the windows settings.

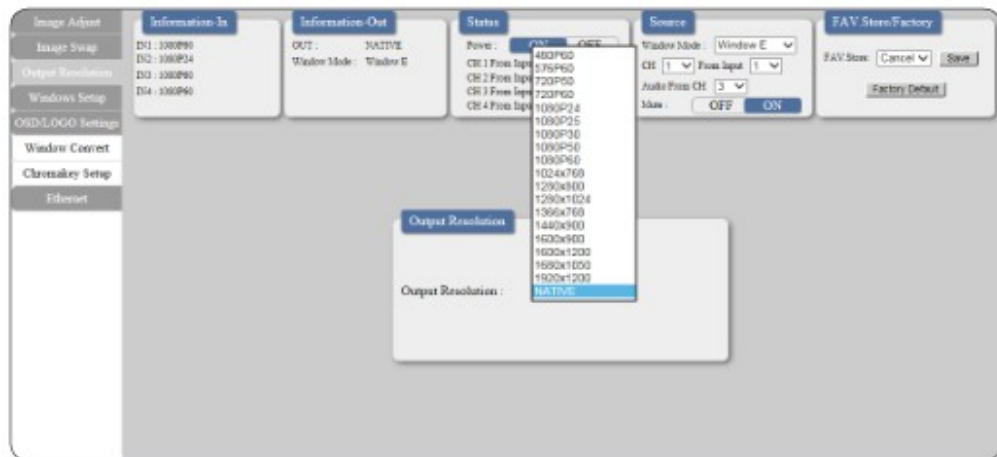


Click on 'Image Swap' to swap output channel's image display instantly.

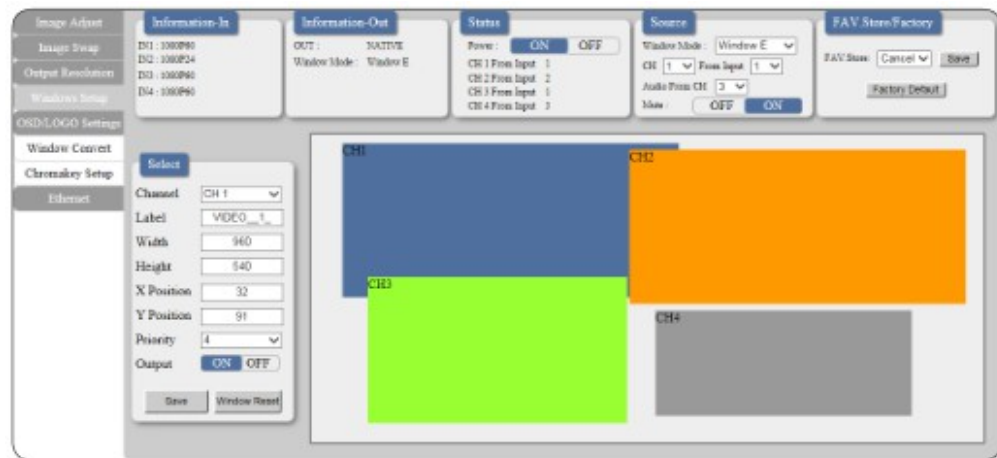
Note: This function is only available under window E~H.



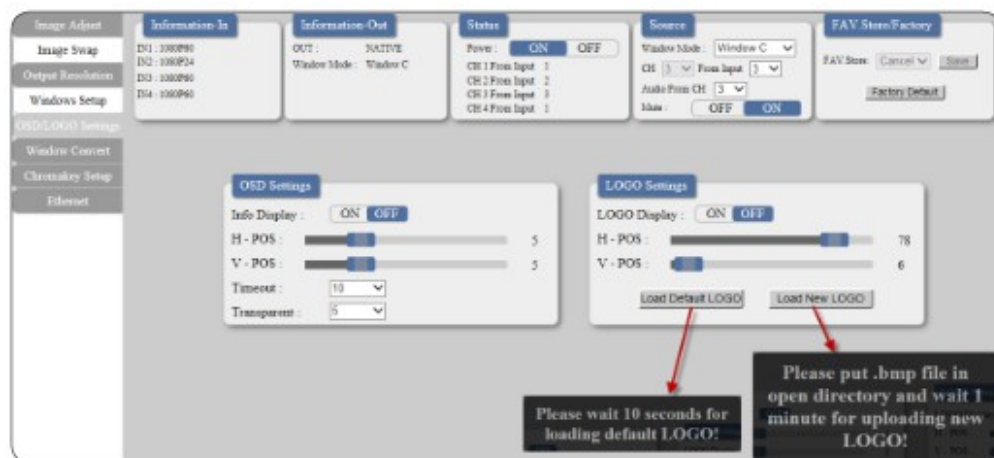
Click on the 'Output Resolution' tab to set the output display resolution.



Clicking on the 'Windows Setup' tab to set the output display format.  
 Note: This function is only available under window E~H.



Clicking on the 'OSD/LOGO Settings' tab to set the OSD & LOGO's function and position. Load and upload logo can also be done under this page. Upload procedure please refers to section 6.2 USB SERVICE ONLY.



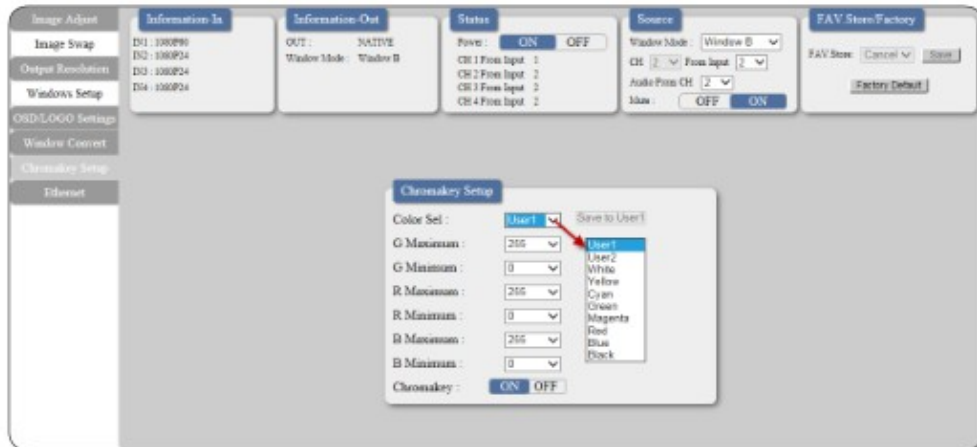
Clicking on the 'Window Convert' tab to set the output display angle.

Note: This function is only available under window A~D.

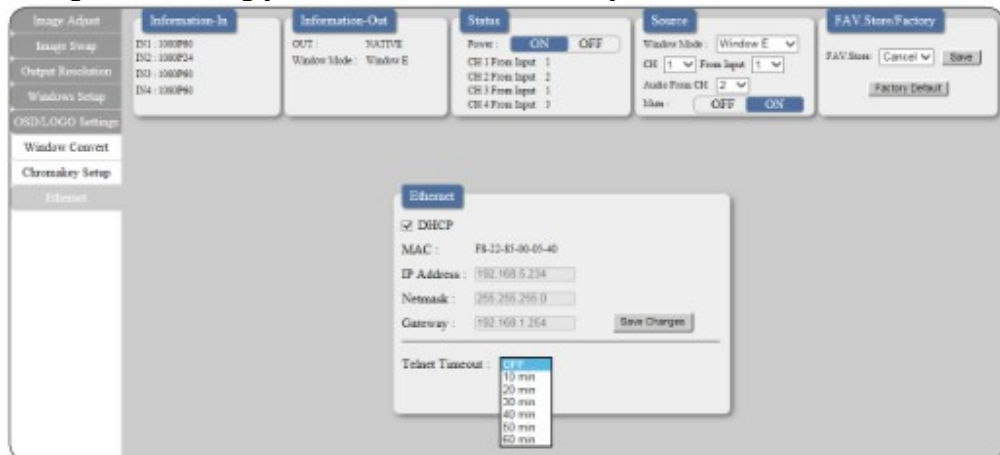


Clicking on the 'Chromakey Setup' tab to set the output display color.

Note: This function is only available under window A~D.



Clicking on the 'Ethernet' tab to reset the IP configuration. The system will ask for a reboot of the device every time when any of the settings is changed. The IP address needed to access the WebGUI control will also need to be changed accordingly on the web address entry bar.

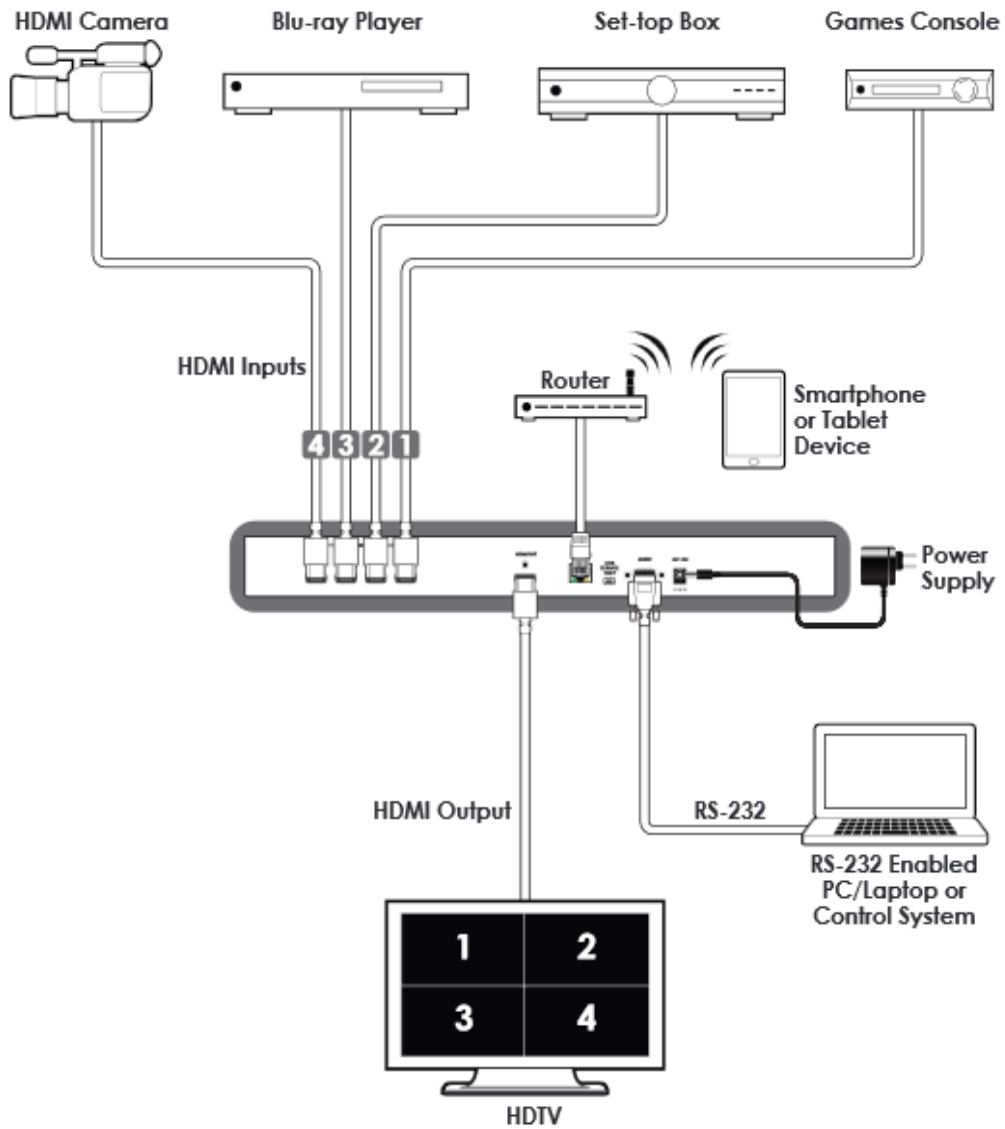




## Specifications

<b>Video Bandwidth</b>	225MHz/6.75Gbps
<b>Input Ports</b>	4 x HDMI
<b>Output Port</b>	1 x HDMI
<b>Supports Input Resolution</b>	PC: VGA~WUXGA, HD: 480i~1080p
<b>Supports Output Resolution</b>	1080p@60
<b>HDMI Input Cable Distance</b>	Up to 15M/1080p@12 bits
<b>HDMI Output Cable Distance</b>	Up to 15M/1080p@8 bits
<b>Supports Sampling Rate</b>	32~192kHz
<b>ESD Protection</b>	Human body model: ±8kV (air-gap discharge) ±4kV (contact-gap discharge)
<b>Power Supply</b>	12V/3A DC (US/EU standards, CE/FCC/UL certified)
<b>Dimensions</b>	436mm(W) x 247mm(D) x 44mm(H)
<b>Weight</b>	2200g
<b>Chassis Material</b>	Aluminum
<b>Silkscreen Color</b>	Black
<b>Operating Temperature</b>	0 °C ~ 40 °C / 32 °F ~ 104 °F
<b>Storage Temperature</b>	-20 °C ~ 60 °C / -4 °F ~ 140 °F
<b>Relative Humidity</b>	20 ~ 90 % RH (non-condensing)
<b>Power Consumption</b>	18W





Screen Configurations:



Window E  
(POP)



Window F  
(POP)



Window G  
(PIP)



Window H  
(POP)