Avenview

Control Your Video

VIDEO WALL VIDEO PROCESSORS
MULTIVIEWERS DIGITAL SIGNAGE
EXTENDERS CONTROL CENTERS
SCALERS WIRELESS

Control Commands

HDMI | AUDIO | IR | WUXGA 1920x1200 | HDMI HDCP | HD ready 1080p | RoHS Compliant FC CE

Model #: HDM-SPLITPRO-4A

SECTION 1: COMMAND PROTOCOL FORMAT (RS-232 SERIAL PORT)

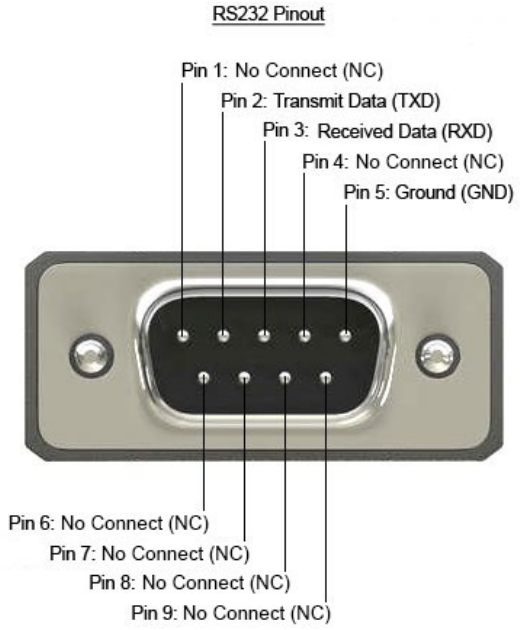
1. SERIAL PORT SETTING

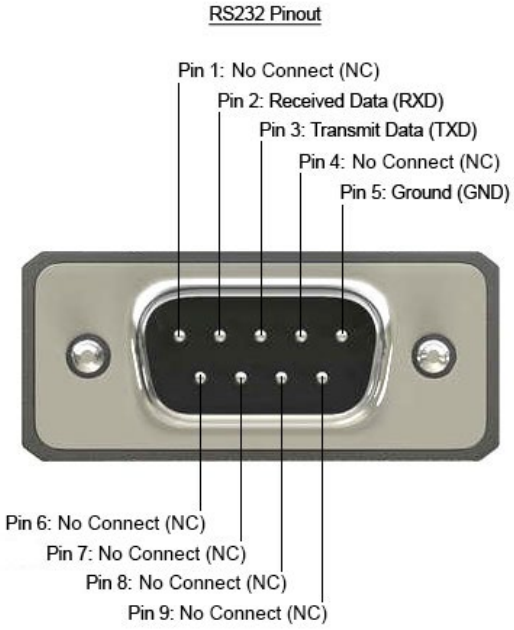
- **Baud Rate: 115200bps**
- **Data Bit: 8 bits**
- **Parity: None**
- **Flow Control: None**
- **Stop Bit: 1**

RS-232 Wiring (Cross Cable Connection)

HDM-SPLITPRO-4A	
PIN	Assignment
1	NC
2	TxD
3	RxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Remote Controller(PC)	
PIN	De finition
1	NC
2	RxD
3	TxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC





2. RS-232 & TELNET COMMANDS

All commands will be not executed unless followed with a carriage return (0x0D) and commands are case sensitive.

Command	Description
RESO O~I8	SET OUTPUT RESOLUTION (0) 480p, (I) 576p, (2) 720p 5OHz. (3) 720p 60Hz. (4) 1080p 24Hz. (5) 1080p 25Hz. (6) 1080p 30Hz. (7) 1080p 50Hz, (8) 1080p 6OHz, (9) 1024x768 60Hz, (T0) 1280x800 6OHz, (11) 1280x1024 6OHz. (I2) 1366x768 6OHz. (I3) 1440x900 6OHz, (I4) 1600x900 60Hz. (I5)I600x120O 60Hz, (16) 1680x1050 6OHz, (I7)T920x120O 60Hz, (18) Nativ
OSDDIS 0/ I	ENABLEI DISABLE ONSCREEN DISPLAY (0) OFF, (1) ON
OSDH O~2O	OSDH O~2O OSD H OFFSET 0-20
OSDV 0-20	OSDV 0-20 OSD V OFFSET O-20
OSDTIME 0”-50	OSD TIMEOUT 0’-50
OSDGAIN 0-10	OSD GAIN VALUE O-10
BRI 0~40~100	SET BRIGHTNESS VALUE FOR CHANNEL (0) All. (I~4) CHANNEL, (o~10o) VALUE
SAT O~4 0-100	SET SATURTATION VALUE FOR CHANNEL PORT (0) All. (I~4) CHANNEL, (o~Ioo) VALUE
HUE 0~4 0~100	SET HUE VALUE FOR CHANNEL PORT (0) All, (I~4) CHANNEL. (0-400) VALUE
HSIZE I-4 0~X	SET IMAGE HORIZONTAL SIZE (I~4) CHANNEL (0--X) X=HORZONT AL PIXEL FOR CURRENT RESOLUTION

Command	Description
VSIZE I-4 O~X	SET IMAGE VERTICAL SIZE (I--4) CHANNEL (0-X) X=VERTICAL PIXEL FOR CURRENT RESOLUTION
HPOS I -4 O~X	SET HORIZONTAL POSITION or SPECIFIED CHANNEL (I~4) CHANNEL, (0-x) X=HORZONTAL PIXEL FOR CURRENT RESOLUTION
VPOS I~40~X	SET VERTICAL POSITION OF SPECIFIED CHANNEL (I-4) CHANNEL (0~X) X=VERTICAL PIXEL FOR CURRENT RESOLUTION
IMAGE I~4 0~I	CHANNEL(S) OUTPUT ON/OFF (I~4) CHANNEL (0/ I) OFF/ON
PRI I--4 I--4	SET CHANNEL PRIORITY (I--4) CHANNEL (I'-4) PRIORITY
LABEL I~4 XXX	AssIGN A VIDEO NAME (I~4) VIDEO. (xxx) ABCEDFGH...
STORE I ~4	SA vE THE CURRENT WINDOW STATE TO FA v. (I~4) FA v.
RECALL I'-I 2	RECALL A WINDOW STATE (I) WINDOW A, (2) WINDOW B, (3) WINDOW C. (4) WINDOW D, (5) WINDOW E, (6) WINDOW F, (7) WINDOW G. (8) WINDOW H, (9) WINDOW FAV. I, (I0) WINDOW FAV. 2, (I I) WINDOW FAV. 3, (I 2) WINDOW FAV. 4
MIRROR O/I	ENABLE/DISABLE MIRROR EFFECT (o/1) OFF/ON
FADE O~2T	ROTATE 0~3 SET VIDEO ROTATION VIDEO TO PRESET POSITIONS (O) ROTATE OFF. (1) R90, (2) L90, (3) 180
CHRC R/G/B MIN/MAX 0~255	SET THE RG8 COLOR RANGE FOR THE CHROMA KEY (R/G/B) coLoR CHANNEL (MIN/MAX) coLoR VALUE (o~15) sET PRESENT VALUE o~255 RBG MAX (0)15, (1)31, (2)47, (3)63, (4)79, (5)95, (6)111, (7)127. (3)143, (9)159, (1o)175, (11)191, (12)2o7, (13)223, (14)239, (15)255 RGB MIN (o)oo, (1)16, (2)32, (3)43. (4)64. (5)30. (6)96, (7)112, (3)123, (9)144, (1o)16o, (11)176, (12)192, (13)2o3. (14)224, (15)24o

Command	Description
CHRSW 0/'I	SET THE CHROMA KEY ON/OFF (0) OFF, (1) ON
IPMODE 0/]	SET IP MODE TO DHCP OR STATIC (o) DHCP. (I) STATIC
IPADD XXX.XXX. XXX.XXX	SET IP ADDRESS (XXX) O~255
MAADD XXX. XXX.XXX.XXX	SET SUBNET ADDRESS (xxx) 0~255
GAADD XXX. XXX.XXX.XXX	SET GATEWAY ADDRESS (XXX) O7-255
ETHTIME O~6	ETHERNET TIMEOUT (0) OFF, (1) 10 MINUTE, (2) 20 MINUTE, (3) 30 MINUTE, (4) 40 MINUTE. (5) 50 MINUTE, (6) 60 MINUTE
RELINK	RELINK THE UNIT IN 2 SECONDS
DEFAULT	RESET THE UNIT TO FACTORY DEFAULTS
vICH I~4 o~4	VIDEO CHANNEL COMMAND (I~4) VIDEO. (0) ALL CHANNEL OUTPUTS. (I~4) CHANNEL OUTPUTS
MUTE 0/ I	MUTE AUDIO (0) OFF, (I) ON
POw 0/I	POwER THE UNIT ON/OFF (0) OFF, (I) ON
AUDIO I~4	CHANGE OUTPUT AUDIO TO SPECIFIED SOURCE (I~4) AUDIO SOURCE
IMRE B/C/S/H	RESET THE IMAGE TO FACTORY DEFAULTS (B) BRIGHTNESS, (C) CONTRAST, (S) SATURATION, (H) HUE
PIRE	RESET THE UNIT PICTURE SETTINGS TO FACTORY DEFAULTS
CHRE o~4	RESET THE wINDOwS sETnNGS TO FACTORY DEFAULTS (0) ALL CHANNEL OUTPUTS. (I~4) CHANNEL OUTPUTS
WICORE	SHOw CURRENT IP MODE HELP PRINTS ALL AVAILABLE RS-232/TELNET COMMANDS
RIPM	RESET THE WINDOW CONVERT To FACTORY DEFAULTS
IPCONFIG	SHOw IP CONFIGURATION
HELP	PRINTS ALL AVAILABLE RS-232/TELNET COMMANDS TO THE SCREEN
?	PRINTS ALL AVAILABLE RS-232/TELNET COMMANDSTO THE SCREEN

Using TCP/IP protocol, sent to Port 23 for Telnet communication.
The user can confirm from the OSD menu or through RS-232 command to check Telnet connection behavior

COMMAND B	DESCRIPTION
WND001	Change to window A
WND002	Change to window B
WND003	Change to window C
WND004	Change to window D
WND005	Change to window E
WND006	Change to window F
WND007	Change to window G
WND008	Change to window H
CH1001	Change CH1 to source 1
CH1002	Change CH1 to source 2
CH1003	Change CH1 to source 3
CH1004	Change CH1 to source 4
CH2001	Change CH2 to source 1
CH2002	Change CH2 to source 2
CH2003	Change CH2 to source 3
CH2004	Change CH2 to source 4
CH3001	Change CH3 to source 1
CH3002	Change CH3 to source 2
CH3003	Change CH3 to source 3
CH3004	Change CH3 to source 4
CH4001	Change CH4 to source 1
CH4002	Change CH4 to source 2
CH4003	Change CH4 to source 3
CH4004	Change CH4 to source 4
IO1000**	CH1 image off
IO1001**	CH1 image on
IO2000**	CH2 image off
IO2001**	CH2 image on
IO3000	CH3 image off
IO3001	CH3 image on

COMMAND B	DESCRIPTION
IO4000 **IO4001**	CH4 image off CH4 image on
MUT000 **MUT001**	Mute off Mute on
AUD001 **AUD002** **AUD003** **AUD004**	Change output audio to source 1 Change output audio to source 2 Change output audio to source 3 Change output audio to source 4
FAD000* **FAD001***	Fade in-out off Fade in-out on
CHR000* **CHR001***	Chromakey function off Chromakey function on
MIR000* **MIR001***	Mirror function off Mirror function on
ROT000* **ROT001*** **ROT002*** **ROT003***	Rotation function off Rotation function right Rotation function left Rotation function up-side down
SFA001** **SFA002**** **SFA003**** **SFA004****	Store window format to FAV. 1 Store window format to FAV. 2 Store window format to FAV. 3 Store window format to FAV. 4
RFA001** **RFA002**** **RFA003**** **RFA004****	Recall window from FAV. 1 Recall window from FAV. 2 Recall window from FAV. 3 Recall window from FAV. 4
POW000 **POW001**	Power off Power on

Note: Commands with one asterisk (*) will function under Windows A to D. Commands with two asterisks (**) will function under Windows E to H and FAV. 1 to 4.

3. TELNET SETTING

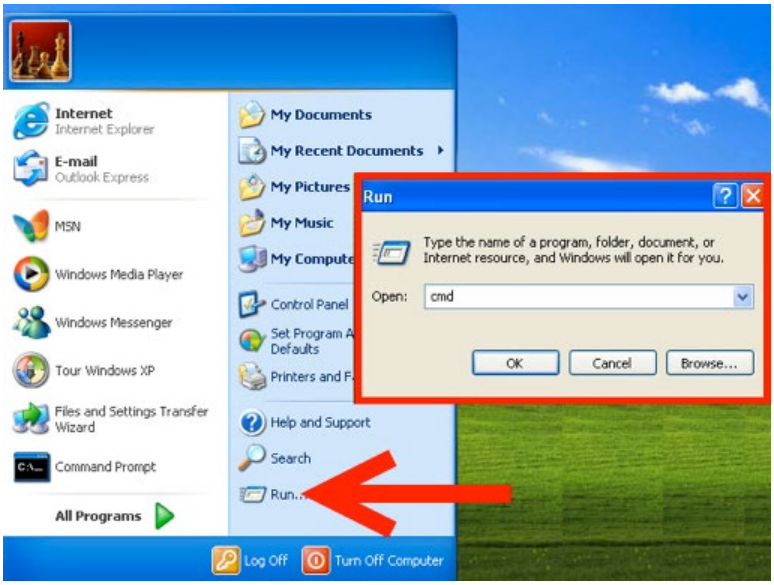
Using TCP/IP protocol, sent to Port 23 for Telnet communication.

The user can confirm from the OSD menu or through RS-232 command to check Telnet con¬nection behavior.

To use the telnet control, please ensure that both the Multiviewer (via the 'LAN /CONTROL' port) and the PC/Laptop are connected to the active networks not directly connected.

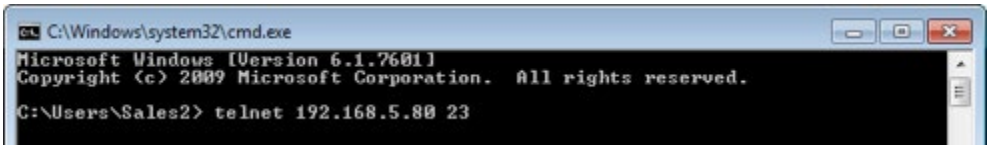
To access the telnet control in Windows 7, click on the 'Start' menu and type "cmd" in the Search field then press enter. Under Windows XP go to the 'Start' menu and click on "Run", type "cmd" with then press enter.

Under Mac OS X, go to Go —>Applications—>Utilities—>Terminal See below for reference. In the CMD window proceed

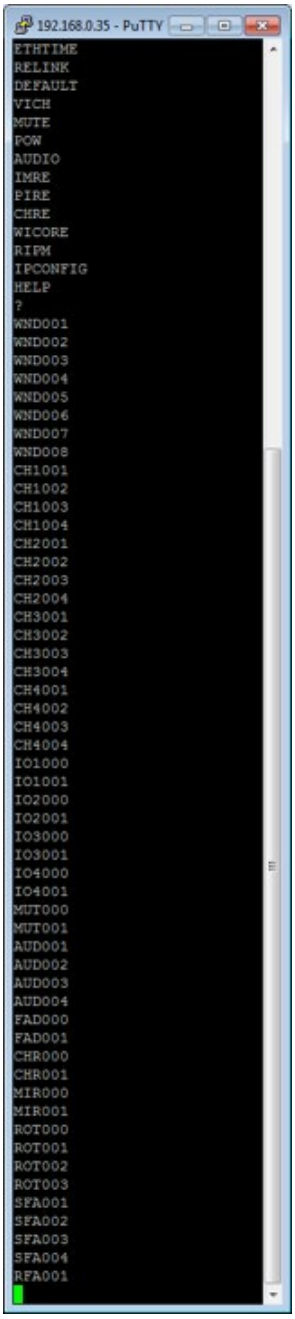


to type "telnet", then the IP address of the unit and "23", then hit enter/return.

Note: The IP address of the Multiviewer can be found by pressing Menu to activate the OSD and scroll to Ethernet Setup the info is listed.



After connecting to the Multiviewer via IP address. Type “HELP” to preview the list of commands available.



Type “IPCONFIG” To confirm all IP configurations. To CHANGE the IP MODE to DHCP or STATIC; type “IPMODE 0/1” (For a full list of commands, see Section 1.3).

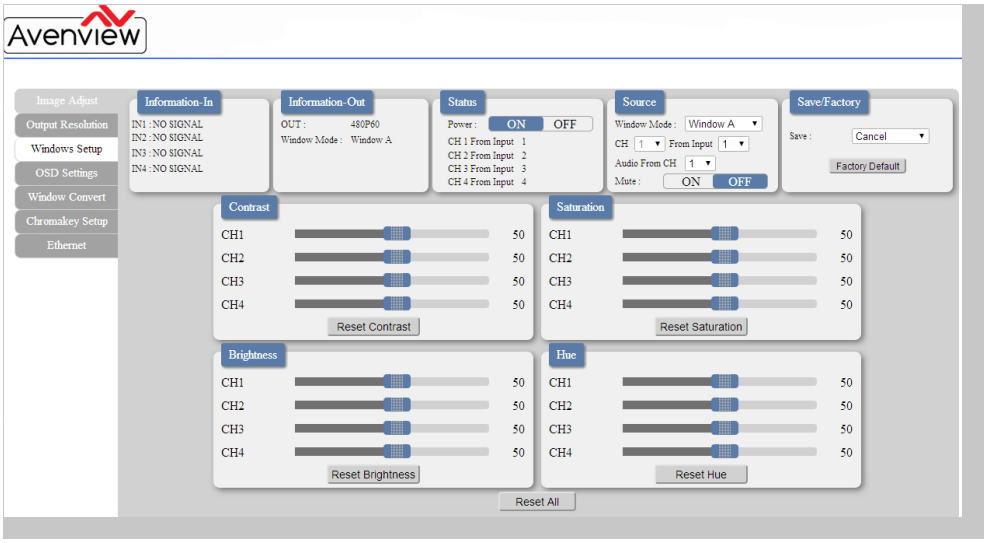
Note: Commands will not be executed unless followed by a carriage return. Commands are case-insensitive. If the IP is changed then the IP Address required for Telnet access will also change accordingly.

4. Web GUI Control

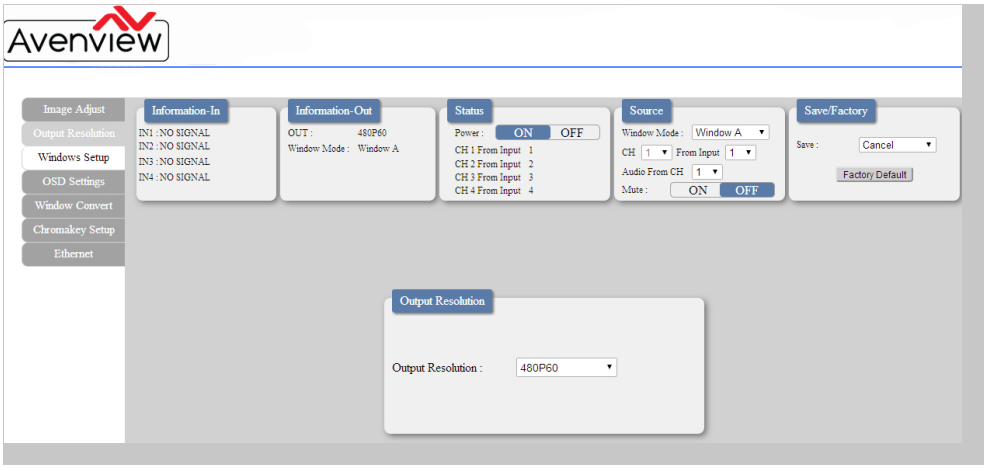
On a PC/Laptop that is connected to the same active network as the Scaler, open a web browser and type the unit's IP address on the web address entry bar. The browser will display the unit's Image Adjust, Output Resolution, etc.

*To get the device IP address, press **MENU** button, scroll down to **ETHERNET**, write down the **DEFAULT IP** address and type it on any web browser address bar. (Default IP Address is 192.168.0.155)*

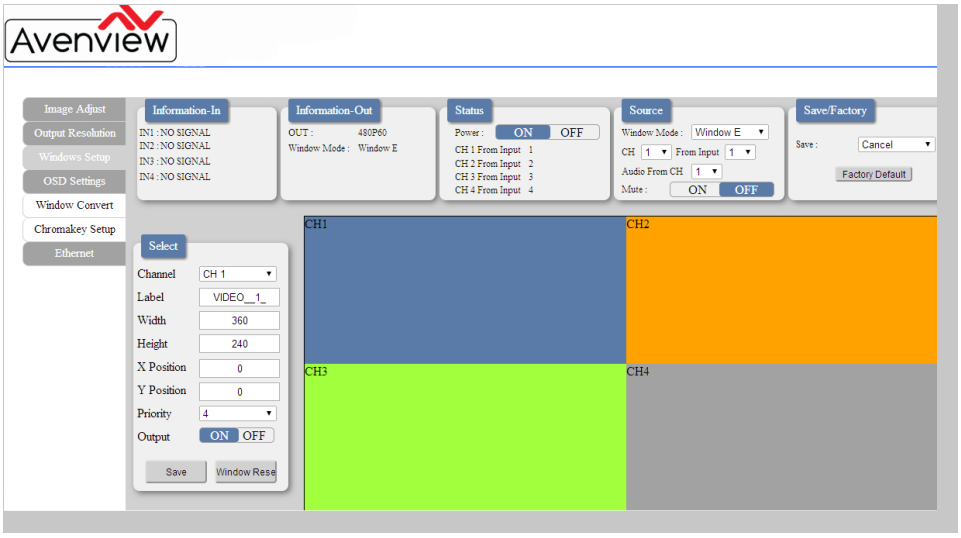
Click on the 'Image Adjust' tab to set the values of Contrast, Brightness, Saturation and Hue.



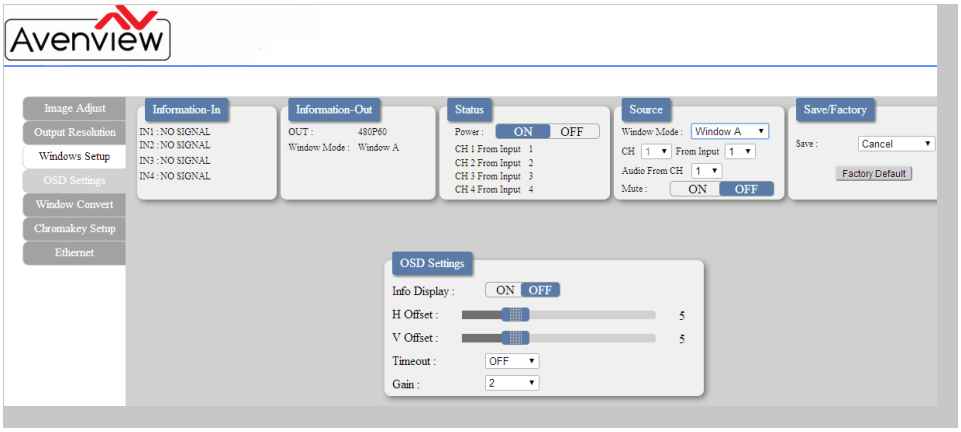
Click on the 'Output Resolution' tab to set the output display resolution.



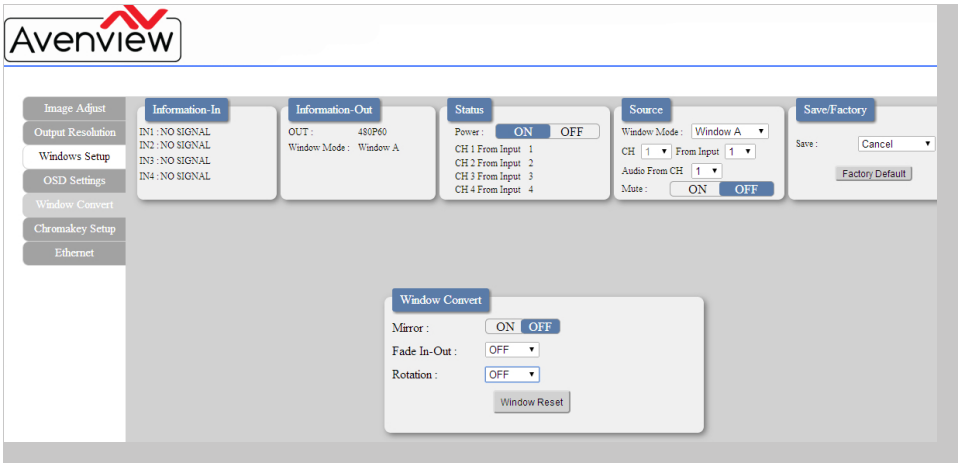
Click on the 'Windows Setup' tab to set the output display format. This function is only available under window E~H.



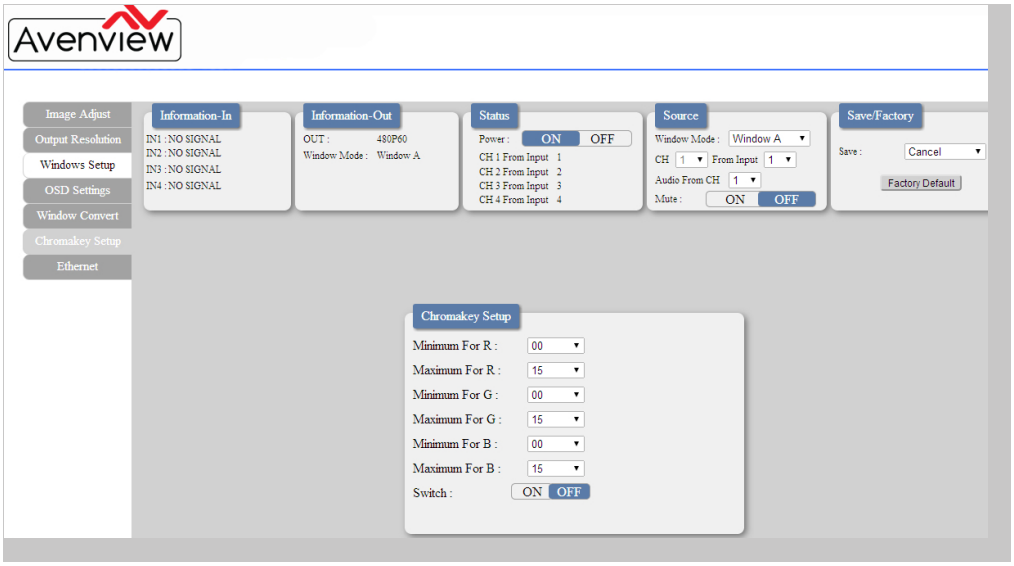
Click on the 'OSD Settings' tab to set the OSD function and position.



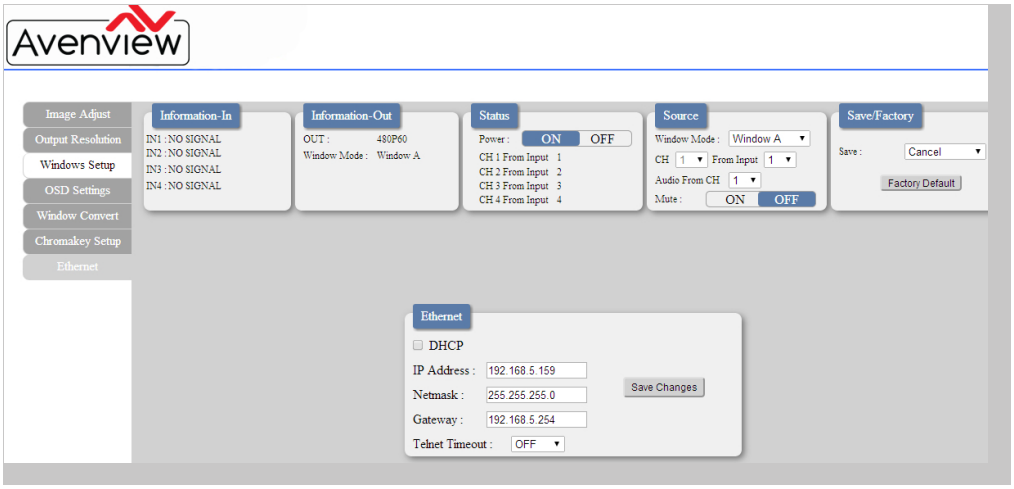
Click on the 'Window Convert' tab to set the output display angle. This function is only available under window A~D.



Click on the ‘Chromakey Setup’ tab to set the output display color. This function is only available under window E~H.



Click on the ‘Ethernet’ tab to reset the IP con iguration. The system will ask for a reboot of the unit when any of these settings are changed. The IP address needed to access the Web GUI control will also need to be changed accordingly on the web address entry bar.



5. OSD MENU

MAIN MENU	1ST LAYER	2ND LAYER	3RD LAYER
I/O Setup	Output Resolution	480P 579P 720P50 720P60 1080P24 1080P25 1080P30 1080P50 1080P60 1024×768 1280×800 1280×1024 1366×768 1440×900 1600×900 1600×1200 1680×1050 1920×1200 NATIVE	
		Menu Back	
	OSD Settings	Info Display	On/**Off**
		H Offset	0~20 **(5)**
		V Offset	0~20 **(5)**
		Timeout	**Off**~50
		Gain	0~10 **(2)**
		Menu Back	
	Menu Exit		

Main Menu	1st Layer	2nd Layer	3rd Layer
IMAGE ADJUST	Brightness Adjust	CH 1	0 ~ 100 (50)
		CH 2	0 ~ 100 (50)
		CH 3	0 ~ 100 (50)
		CH 4	0 ~ 100 (50)
		Value Reset	
		Menu Exit	
	Contrast Adjust	CH 1	0 ~ 100 (50)
		CH 2	0 ~ 100 (50)
		CH 3	0 ~ 100 (50)
		CH 4	0 ~ 100 (50)
		Value Reset	
		Menu Exit	
	Hue Adjust	CH 1	0 ~ 100 (50)
		CH 2	0 ~ 100 (50)
		CH 3	0 ~ 100 (50)
		CH 4	0 ~ 100 (50)
		Value Reset	
		Menu Exit	
	Saturation	CH 1	0 ~ 100 (50)
		CH 2	0 ~ 100 (50)
		CH 3	0 ~ 100 (50)
		CH 4	0 ~ 100 (50)
		Value Reset	
		Menu Exit	
	Picture Reset		
	Menu Exit		

Main Menu	1st Layer	2nd Layer	3rd Layer
Window Setup	Chennel 1 Select	Size	CH1 Wxxx Hxxx
			Width Unit
			Width Ten
			Width Hundred
			Height Unit
			Height Ten
			Height Hundred
		Position	CH1 Hxxx Vxxx
			Horizontal Unit
			Horizontal Ten
			Horizontal Hundred
			Vertical Unit
			Vertical Ten
			Vertical Hundred
		Image Output	On/Off
		Window Reset	
		Menu Exit	
Window Setup	Chennel 2 Select	Size	CH2 Wxxx Hxxx
			Width Unit
			Width Ten
			Width Hundred
			Height Unit
			Height Ten
			Height Hundred
		Position	CH2 Hxxx Vxxx
			Horizontal Unit
			Horizontal Ten
			Horizontal Hundred
			Vertical Unit
			Vertical Ten
			Vertical Hundred
		Image Output	On/Off
		Window Reset	
		Menu Exit	

Main Menu	1st Layer	2nd Layer	3rd Layer
Window Setup	Chennel 3 Select	Size	CH3 Wxxx Hxxx
			Width Unit
			Width Ten
			Width Hundred
			Height Unit
			Height Ten
			Height Hundred
		Position	CH3 Hxxx Vxxx
			Horizontal Unit
			Horizontal Ten
			Horizontal Hundred
			Vertical Unit
			Vertical Ten
			Vertical Hundred
		Image Output	On/Off
		Window Reset	
		Menu Exit	

MAIN MENU	1ST LAYER	2ND LAYER	3RD LAYER
Window Setup (Cont.)	Channel 4 Select	Size	CH4 Wxxx Hxxx
			Width Unit
			Width Ten
			Width Hundred
			Height Unit
			Height Ten
			Height Hundred
		Position	CH4 Hxxx Vxxx
			Horizontal Unit
			Horizontal Ten
			Horizontal Hundred
			Vertical Unit
			Vertical Ten
			Vertical Hundred
		Image Output	**On**/Off
		Priority	CH1→4,CH2→3, CH3→2,CH4→1
		Window Reset	
		Menu Exit	
	Label Select	VIDEO 1	VIDEO **1**/2/3/4
		VIDEO 2	VIDEO 1/**2**/3/4
		VIDEO 3	VIDEO 1/2/**3**/4
		VIDEO 4	VIDEO 1/2/3/**4**
		Menu Exit	

MAIN MENU	1ST LAYER	2ND LAYER	3RD LAYER
Window Setup (Cont.)	Favors Store	FAV 1 Store	On/**Off**/OK
		FAV 2 Store	On/**Off**/OK
		FAV 3 Store	On/**Off**/OK
		FAV 4 Store	On/**Off**/OK
		Menu Exit	
	Menu Exit		
Window Convert	Channel 1 Convert	Mirror	On/**Off**
		Fade In-Out	**Off**/1.0/1.1/1.2 Convert /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	R90/L90/Up-Side Down180/Off
		Window Reset	
		Menu Exit	
	Channel 2 Convert	Mirror	On/**Off**
		Fade In-Out	**Off**/1.0/1.1/1.2 Convert /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	R90/L90/Up-Side Down180/Off
		Window Reset	
		Menu Exit	

MAIN MENU	1ST LAYER	2ND LAYER	3RD LAYER
Window Convert (Cont.)	Channel 3 Convert	Mirror	On/**Off**
		Fade In-Out	**Off**/1.0/1.1/1.2 Convert /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	R90/L90/Up-Side Down180/Off
		Window Reset	
		Menu Exit	
	Channel 4 Convert	Mirror	On/**Off**
		Fade In-Out	**Off**/1.0/1.1/1.2 Convert /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	R90/L90/Up-Side Down180/Off
		Window Reset	
		Menu Exit	
***Chromake Setup**	Minimum For R	000~255 **(0)**	
	Maximum For R	000~255 **(15)**	
	Minimum For G	000~255 **(0)**	
	Maximum For R	000~255 **(15)**	
	Minimum For B	000~255 **(0)**	
	Maximum For B	000~255 **(15)**	
	Switch	ON/**OFF**	
	Exit		

MAIN MENU	1ST LAYER	2ND LAYER	3RD LAYER
Ethernet Setup	IP Mode	Static/**DHCP**	
	Static Set	IP/Mask/Gate	
	Byte1 High	XXX **192 255 192**	000~255
	Byte2	XXX **168 255 168**	000~255
	Byte3	XXX **5 255 5**	000~255
	Byte4 Low	XXX **159 0 254**	000~255
	Re-Link	**No**/Yes	
	Exit		
Information	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		
	Model xxxxxxx		
	Native xxxxxxx		
	F/V version		
Menu Exit			

Note:

1. *Chromakey Setup only works when CH 1and CH 2 are selected. CH 1 is the background and CH 2 is the top layer to be overlaid.*
2. *The Chromakey function is designed for overlapping two video images (such as news reports, weather forecasts or educational videos). The background color of CH 2 is usually a single, solid, color which can be easily removed. The RGB setting is for the CH2 video where the minimum setting igures cannot be greater than the maximum igures and the maximum igures cannot be lower than the minimum setting igures.*
3. *Figures in BOLD are default settings.*

Avenview

Control Your Video

TECHNICAL SUPPORT

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