KanexPro®

VW-SP1X44K

1×4 HDMI 4K UHD Video Wall Processor with Bezel Correction

Create Video Walls from 2x2, 2x3 & 3x3 screens up to 9-Displays

All Rights Reserved

MPN: VW-SP1X44K

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 to 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.

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1. INTRODUCTION

The KanexPro VW-SP-1X44K is a 4K based video processor which allows one HDMI input to be freely arranged on to four 4K displays. It offers bezel correction support with a simple and easy to use control application. The device supports video output timings up to WUXGA@60 and 1080p@60Hz, audio format up to 7.1CH LPCM at 192kHz sampling rate based on input source EDID.

2. APPLICATIONS
- Public Advertisement
- Digital Presentation
- Hypermarket Display
- Stock Market

3. PACKAGE CONTENTS
- 1× VW-SP1X44K
- 1× 12V/3A DC Power Adaptor
- 1× Operation Manual

4. SYSTEM REQUIREMENTS
Input Source such as PC/ Media Player, DVD/Blu-ray players or any HDMI signal and output HD TV/displays.

5. FEATURES

- 1x4 Video Processor with Built-in Bezel Correction and Control
- Can be cascaded to create up to 3x3 Video Wall (9- displays)
- Can also be used as a 1x4 DA (splitter)
- Supports 4K x 2K@24/25/30Hz
- HDCP compliant
- Outputs video signal to 4 displays with a full image & adjustable Bezel Correction
- Input PC resolutions: from VGA~WUXGA & HDTV from 480i~1080p & 4K2K@24/25/30Hz
- Various Audio Format Support: AC3/DTS/Dolby Digital Plus/Dolby TrueHD/Dolby Atmos and DTS-HD Master Audio
- Control via RS-232 & Telnet (Ethernet)
- One locking power supply included
- 1U (19") rack mountable enclosure
- Backed by KanexPro 3-year parts and labor warranty

6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel
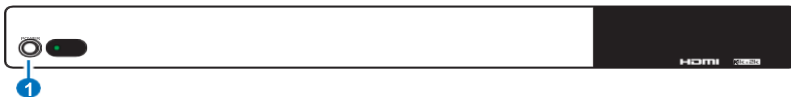
① **POWER:**

Press POWER button to power on the unit or set to standby mode.

When power is disconnected, presses this button and connected the power to reset the system back to default factory setting.

When power is on, long press this button for 3 seconds, output monitor will show "USB Host Update MCU Firmware Start…", then plug USB (with Firmware upgrade bin file contained) to upgrade automatically. If monitor shows "Mass Storage Host Upgrade Running" it means that the upgrade is proceeding, after upgrade finished, the unit will reboot.

***Note:** If monitor didn't show "Mass Storage Host Upgrade Running", means firmware upgrade didn't success, please power off the unit and try again.*

6.2 Rear Panel
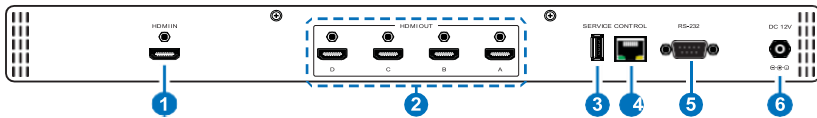
① **HDMI IN:** Connect with HDMI source equipment such as DVD/Blue- ray players and or PC/Laptop devices.

② **HDMI OUT A~D:** Connect with HDMI TV/displays for output image display. It is suggested that the connection sequence should be placed as diagram showed below for TV wall set up.

③ **SERVICE:** This slot is for firmware update use only, work in accordantly with Power button.

④ **CONTROL:** Connect to an active network for telnet control. Collocated with "VW-SP1X44K AP" application could do multi-device control.

⑤ **RS-232:** Connect from PC/Laptop with D-Sub 9pin cables for RS-232 command sending and controlling over the device.

Note: RS-232 control system is limited to a single Video Wall unit. Whereas Telnet can control multi-Video Wall unit.

⑥ **DC 12V:** Plug 12V DC power supply which included in the package into the unit then connect the adaptor to an AC outlet.

2x2 Wall (4xDisplays)

PC/ RS-232 Control Device

Source

HDMI IN
RS-232

HDMI OUT
D C B A

| A | B |
| C | D |

3x2 Wall (6xDisplays)

Source

Splitter

HDMI IN
Control

HDMI OUT
D C B A

PC

Router

HDMI IN
Control

HDMI OUT
H G F E

| A | B | C |
| D | E | F |

3x3 Wall (9xDisplays)

Source

Splitter

HDMI IN
Control

HDMI OUT
D C B A

PC

Router

HDMI IN
Control

HDMI OUT
H G F E

HDMI IN
Control

HDMI OUT
L K J I

A	B	C
D	E	F
G	H	I
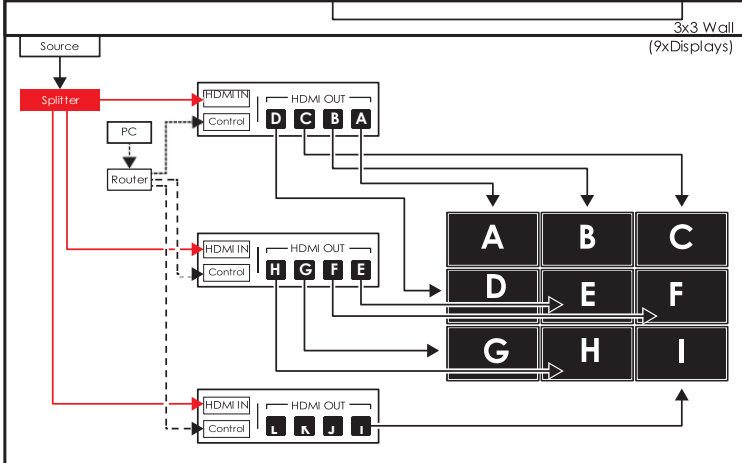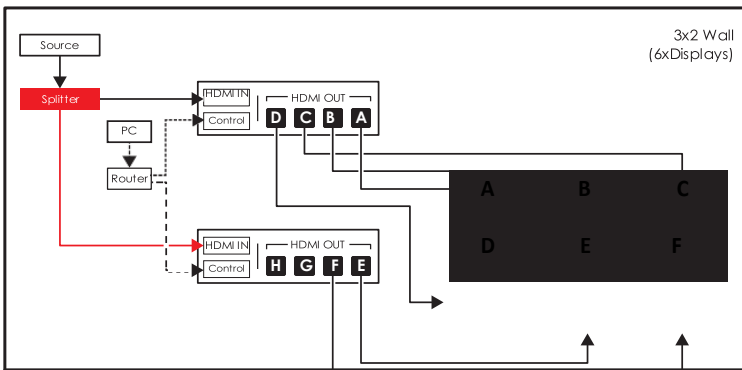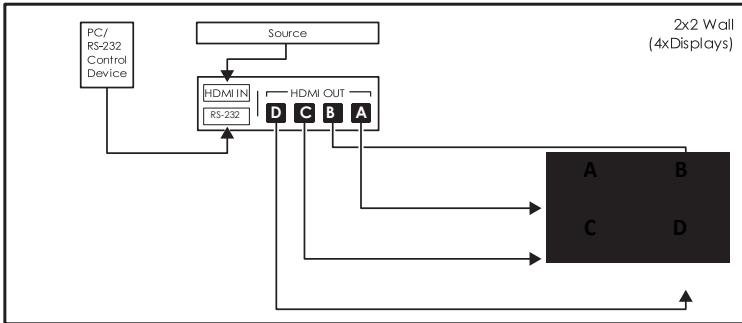
6.3 RS-232 Protocols

HDMI SPLITTER	
Pin	Definition
1	NC
2	TxD
3	RxD
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

REMOTE CONTROL (PC)	
Pin	Definition
1	NC
2	RxD
3	TxD
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

6.4 RS-232 and Telnet Commands

COMMAND	DESCRIPTION	PARAMETER
HELP(?)	Show Command list	NONE
HELP(?) N	Show Command description	N=Command name
RRES	Request Current Output Resolution	NONE
SRES N1	Set Output Resolution to N1	N1=0(640x480@60), 1(480p60), 2(576p50), 3(800x600@60), 4(848x480@60), 5(1024x768@60), 6(720p50), 7(720p60), 8(1280x768@60), 9(1280x800@60), 10(1280x960@60), 11(1280x1024@60), 12(1360x768@60), 13(1366x768@60), 14(1400x1050@60), 15(1440x900@60), 16(1600x900RB@60), 17(1600x1200@60), 18(1680x1050@60), 19(1080p50), 20(1080p60), 21(1920x1200RB@60), 22(2048x1152RB@60), 23(1080I50), 24(1080I60), 25(1080p24), 26(1080p25), 27(1080p30), **28(Native)**

COMMAND	DESCRIPTION	PARAMETER
RINS	Get Input Resolution	0(VGA60), 1(VGA72), 2(VGA75), 3(VGA85), 4(WXGA60), 5(WXGA75), 6(XGA60), 7(XGA70), 8(XGA75), 9(XGA85), 10(SXGA60), 11(SXGA75), 12(SVGA56), 13(SVGA60), 14(SVGA72), 15(SVGA75), 16(SVGA85), 17(DTV_480P60), 18(DTV_576P50), 19(DTV_480I60), 20(DTV_576I50), 21(HDTV_720P50), 22(HDTV_720P60), 23(HDTV_1080I50), 24(HDTV_1080I60), 25(HDTV_1080P24), 26(HDTV_1080P50), 27(HDTV_1080P60), 28(V848_480_60), 29(V852_480_60), 30(V854_480_60), 31(V1024_852_60), 32(V1024_1024_60), 33(V1280_800_60), 34(V1280_960_60), 35(V1360_768_60), 36(V1366_768_60), 37(V1440_900_60), 38(V1400_1050_60), 39(V1360_1024_60), 40(V1600_900_60), 41(V1600_1200_60), 42(V1680_1050_60), 43(V1920_1200_60), 44(V2048_1080_24_1), 45(V2048_1080_24_2),

COMMAND	DESCRIPTION	PARAMETER
		46(V2048_1080_60), 47(V2048_1152_1), 48(V2048_1152_2), 49(V2048_1152_3), 50(V3840_2160_24), 51(V3840_2160_25), 52(V3840_2160_30), 53(V4096_2160_24), 54(K_ NO_SIGNAL),
ROSDD	Request Current OSD Display State	NONE
SOSDD N1	Set OSD Display Enable/ Disable	N1=**0(OFF)**, 1(ON)
ROSDH	Request Current OSD Horizontal Position	NONE
SOSDH N1	Set OSD Horizontal Position to N1	N1=0~20 **(5)**
ROSDV	Request Current OSD Vertical Position	NONE
SOSDV N1	Set OSD Vertical Position to N1	N1=0~20 **(5)**
ROSDT	Request OSD Display Current Timeout Setting	NONE
SOSDT N1	Set OSD Display Timeout Setting	N1=0(Off), 5~50 (50)
ROSDG	Request OSD Gain Correction	NONE
SOSDG N1	Set OSD Gain Value	N1=0~10 **(2)**
SOSDI	Show OSD Information On/Off	NONE
SOSDR	Reset All OSD Settings	NONE
RBRI N1	Request Channel N1 Brightness Value	N1= 1~4

COMMAND	DESCRIPTION	PARAMETER
SBRI N1 N2	Set Channel N1 Brightness Value to N2	N1= 1~4, N2=0~100**(50)**
RCON N1	Request Chanel N1 Contrast Value	N1=1~4
SCON N1 N2	Set Channel N1 Contrast Value to N2	N1= 1~4, N2=0~100**(50)**
RSAT	Request Current Saturation Value	NONE
RSAT N1	Request Channel N1 Current Saturation Value	N1=1~4
SSAT N1 N2	Set Channel N1 Saturation Value to N2	N1= 1~4, N2=0~100**(50)**
RHUE N1	Request Channel N1 Current Hue Value	N1=1~4
SHUE N1 N2	Set Channel N1 Hue Value to N2	N1= 1~4, N2=0~100 **(50)**
SIMRE N1	Reset Brightness/Contrast/ Saturation/Hue Value to Default	N1=1(Brightness), 2(Contrast), 3(Saturation), 4(Hue)
SPIRE	Reset all Channels Brightness, Contrast, Saturation, Hue Value to Default	NONE
RIPM	Request Current IP Mode	NONE
SIPM N1	Set IP Mode to DHCP or Static	N1=**0(Static)**, 1(DHCP) (192.168.1.50)
RIPA	Request Current Static IP Address to Screen	NONE
SIPA X.X.X.X	Set Static IP Address	X=0~255 (192.168.1.50)
RMAA	Request Current Static Subnet Address	NONE
SMAA X.X.X.X	Set Static Subnet Address	X=0~255 (255.255.255.0)

COMMAND	DESCRIPTION	PARAMETER
RGAA	Request Current Static Gateway Address	NONE
SGAA X.X.X.X	Set Static Gateway Address	X=0~255 (192.168.1.50)
RETIME	Request Current Ethernet Timeout	NONE
SETIME N1	Set Ethernet Timeout	N1=**0(OFF)**, 1(10 Minute), 2(20 Minute), 3(30 Minute), 4(40 Minute), 5(50 Minute), 6(60 Minutes)
RLINK	Request Ethernet Address	NONE
RMUTE	Request Current Mute	NONE
SMUTE N1	Set Mute Audio	N1=0(Unmute), 1(Mute)
RPOW	Request Current Power State	NONE
SPOW N1	Set the Unit Power On/Off	N1=0(Off), 1(On)
RVER	Request Version	NONE
SREL	Relink the Unit in 2 Seconds	NONE
SDEF	Reset the Unit to Factory Defaults	NONE
RMN	Request Current TV Wall Format	NONE
SMN N1 N2	Set TV Wall N1 Row and N2 Column	N1=1~15(Row), N2=1~15(Column)
RBH	Request TV Wall Horizontal Bezel Correction	NONE
SBH N1	Set TV Wall Horizontal Bezel Correction	N1=0~255
RBV	Request TV Wall Vertical Bezel Correction	NONE

COMMAND	DESCRIPTION	PARAMETER
SBV N1	Set TV Wall Vertical Bezel Correction	N1=0~255
RBEZ	Request Current Bezel Correction State	NONE
SBEZ N1	Set Bezel Correction Enable/Disable	N1=0(Off), 1(On)
RMDN	Request Unit ID Number	NONE
SMDN N1	Set Unit ID Number to N1	N1=0~255
SWDE	Reset All TV Wall Settings	NONE
SHOT N1	Fast Setting TV Wall Format from Hotkey N1	N1=**0(1x1)**, 1(2x2), 2(3x3), 3(4x4), 4(5x5), 5(6x6), 6(2x3), 7(3x2), 8(3x4), 9(4x2), 10(4x3), 11(4x5), 12(1x2), 13(2x1), 14(1x3), 15(3x1), 16(1x4), 17(4x1), 18(2x4), 19(3x5), 20(5x4), 21(5 2), 22(6 2), 22(6 2)
SFAVE N1	Save Current TV Wall Settings to N1	N1=1~5
RFAVE N1	Recall TV Wall Settings from N1	N1=1~5

Note:

1. *All the RS-232 command will be not executed unless followed with a carriage return. All commands are insensitive.*

2. *RS-232 control is set to single device only, not for use with Cascade/Bypass output's connection device.*

3. *Bold values are the default settings.*

6.5 Telnet Control

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 (default is 192.168.1.50) and hit Enter. If the Telnet port (unit's port) is not set to the default of "23" then the correct port number will need to be entered after the IP address as shown below.

This will bring us into the unit which we wish to control. Type 'HELP' to list the available commands.

```
Command List
--------------------
HELP
RRES
SRES
ROSDD
SOSDD
ROSDH
SOSDH
ROSDV
SOSDV
ROSDT
SOSDT
ROSDG
SOSDG
SOSDI
SOSDR
RBRI
SBRI
RCON
SCON
RSAT
SSAT
RHUE
SHUE
SIMRE
SPIRE
RIPM
SIPM
RIPA
SIPA
RMAA
SMAA
RGAA
SGAA
RETIME
SETIME
RLINK
SREL
RMUTE
SMUTE
RPOW
SPOW
SDEF
RVER
RMN
SMN
RBH
SBH
RBV
SBV
RBEZ
SBEZ
RMDN
SMDN
SHOT
SFAVE
RFAVE
SVDE
```
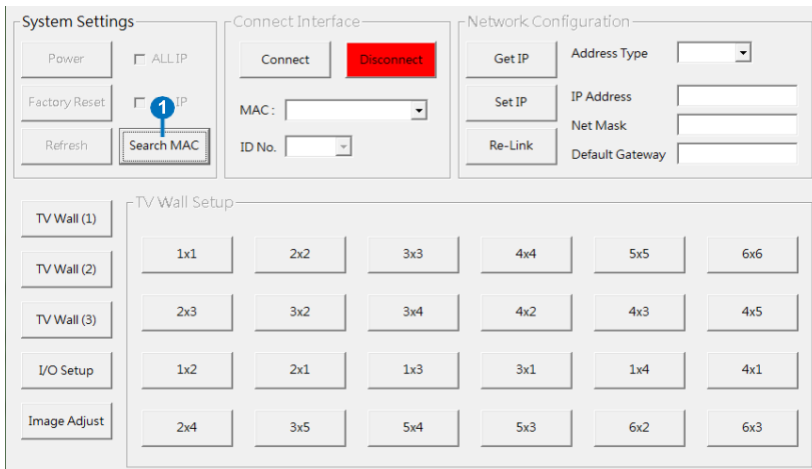
Note:

1. *All the commands will be not executed unless followed by a carriage return. Commands are case-insensitive.*

2. *If the IP is changed then the IP Address required for Telnet access will also change accordingly.*

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6.6 PC Application Control

Use the link http://cypress.com.tw to download the software application of 1 By 4 HDMI 4K UHD Video Wall Splitter and execute it to control the Video Wall system.

Note: *Before installing, remove any former version that was existing.*

Once the application is installed successfully, click and open the "Video Wall Set".

①   Search MAC: Click on "Search MAC" to confirm how many TV unit(s) is within the network system then, select from here with the unit you wish to control.

Note: This action should be executed every time when the unit is power On or reset or re-run the "VW-SP1X44K AP" application.

Select the unit that is to be adjusted then pressed "Connect" to connecting the unit.

Every time when the unit is connected successfully, a dialog will appear showing "refresh completed" base on the selected MAC and the application will display current unit's status. However, image display will not be refreshed automatically and can only be refreshed manually.

When using more than 1 unit for a TV Wall setting, set up unit's ID number is required to ensure the correct display of each single TV wall image.

6.6.1 System Settings
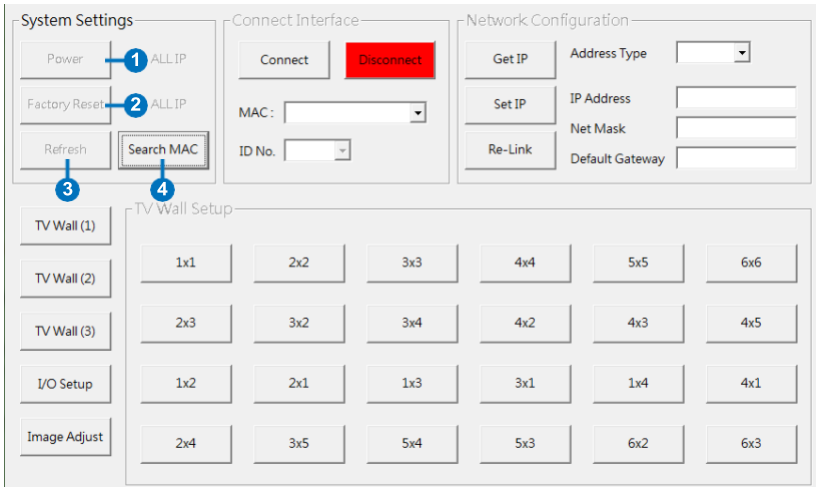
① **Power:** Click on "Power" to power on/off the controlled unit. To control all connected units, click on "ALL IP" then click Power. From power ON to power OFF the application will disconnect the link, to power ON again please re-Connect.

② **Factory Reset:** Click on "Factory Reset" to set device settings to default, to switch all devices back to default setting click ALL IP and then "Factory Reset".

③ **Refresh:** Click on "Refresh" to read device current settings, all status of TV Wall Set will follow current choose device.

   Note: Image Adjust will not be refreshing, users have to click on "Image Adjust" to manually refresh to read Image Adjust current status.

④ **Search MAC:** Click on "Search MAC" to define on-line TV Wall units.

6.6.2 Connect Interface
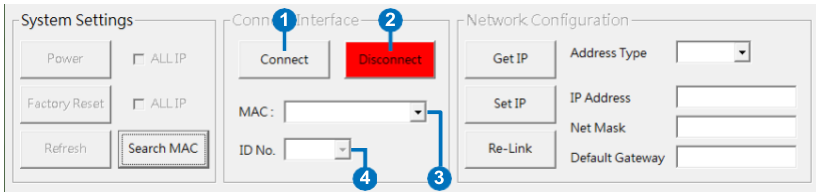
① **Connect:** Click "Connect" to link the unit.

② **Disconnect:** Click "Disconnect" to terminate the link.

③ **MAC:** Click on "MAC" with the arrow down button to show all the TV Wall units and select the nominated unit/MAC for connection.

④ **ID No.:** When more than one TV Wall unit is in use, it is important that ID No. is set correctly in order to split and arrange the image correctly.

Note: All on-line units will show after running "Search MAC".

6.6.3 Network Configuration
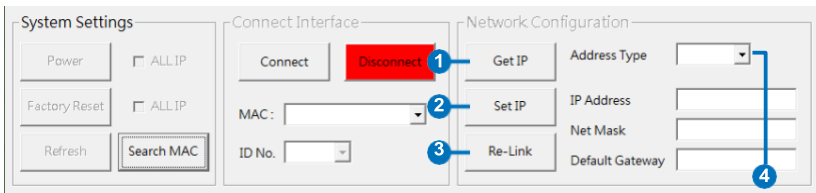
① **Get IP:** Click "Get IP" to show current linking status.

② **Set IP:** Click "Set IP" to adjust IP settings such as IP Type, IP Address…etc.

③ **Re-Link:** Click "Re-Link" to confirm Network Configuration settings changes.

④ **Address Type:** Click on this drop-down menu to change the address type to DHCP/Static mode.

6.6.4 TV Wall Setup (1)

① **Fast TV Wall Setting:** TV Wall's fast setting. Click on hot key to pre- set the TV Wall setup.

6.6.5 TV Wall Setup (2)
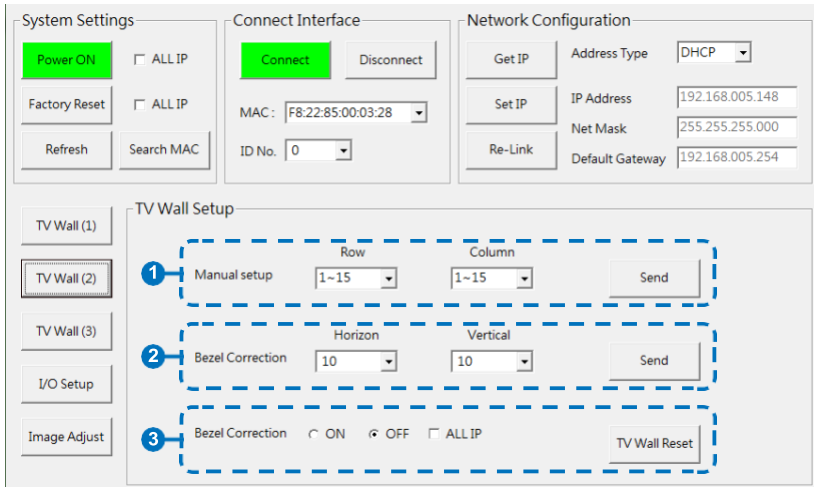
① **Manual Setup:** Manually setup TV wall's setting by Rows and Columns from 1~15 and click on Send to confirm the setting.

② **Bezel Correction Horizon & Vertical:** Set up Bezel Correction figures on the selected MAC/ID No. the correction will be made on all outputs of the selected unit in once.

③ **Bezel Correction (ON/OFF):** When the above action is taken Bezel, Correction will switch to ON automatically, to switch it off click on OFF to terminate the function. To execute Bezel Correction on all units, click on ALL IP. It is suggested that when displaying moving contents on the TV Wall the Bezel Correction should be set ON and when displaying static contents, the Bezel correction can be set OFF.

6.6.6 TV Wall Setup (3)
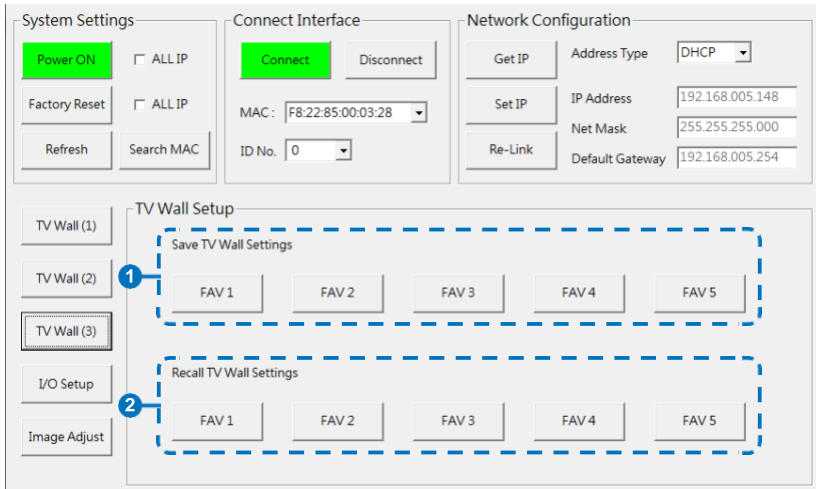
① **Save TV Wall Settings:** Save current setting to Favorite up to 5 settings allows.

② **Recall TV Wall Settings:** Recall restored TV Wall settings from 5 settings.

6.6.7 I/O Setup
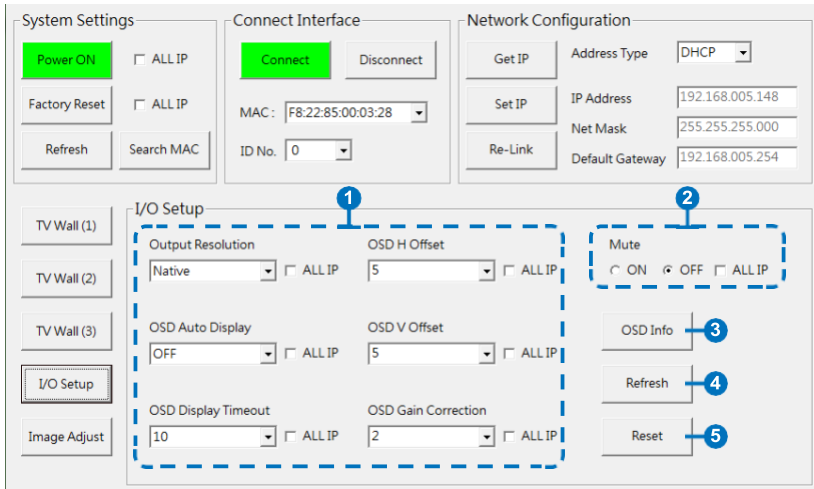
① **Output Resolution and OSD Menu Adjustment:** All settings under I/ O Setup can be done with single TV Wall unit or units with a single click on "ALL IP". Parameter and default value are as stated in RS- 232 description parameters.

② **Mute:** Set Audio Mute to ON/OFF.

③ **OSD Info:** Show/Close OSD Information.

④ **Refresh:** Refresh current page.

⑤ **Reset:** Reset current page.

6.6.8 Image Adjust
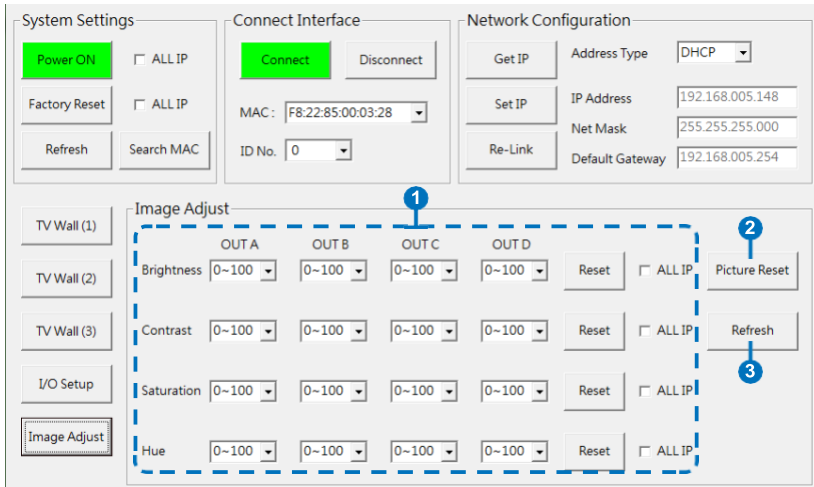
① **Brightness, Contrast, Saturation and Hue Adjustment:** Again, all settings under Image Adjust can be done with single TV Wall device or multiple TV Wall devices with single click on "ALL IP". Parameter and default value are as stated in RS-232 description.

② **Picture Reset:** Picture Reset button is to reset all settings of Image Adjust back to factory default value.

③ **Refresh:** Refresh button is to refresh Image Adjust page only.

Note:

1. *When Input signal is above 4K2K, device only support Color space RGB, YUV is not supported.*

2. *When on TV Wall split mode, different input/output resolution, signal is limited (please refer 9.3 Timing Limitation).*

7. CONNECTION DIAGRAM

HDMI Input

Router

Power Supply

D C B A

HDMI Outputs

RS-232 Equipped PC/Laptop

DVD/Blu-ray Player

HDMI Input

HDMI Splitter

HDMI Outputs

Router

Smartphone or Tablet Device

Power Supply

RS-232 Equipped PC/Laptop

HDMI Outputs

D C B A

Cascade Output

Power Supply

HDMI Outputs

B A

2×3 TVs/Displays (Total 6 Screens)
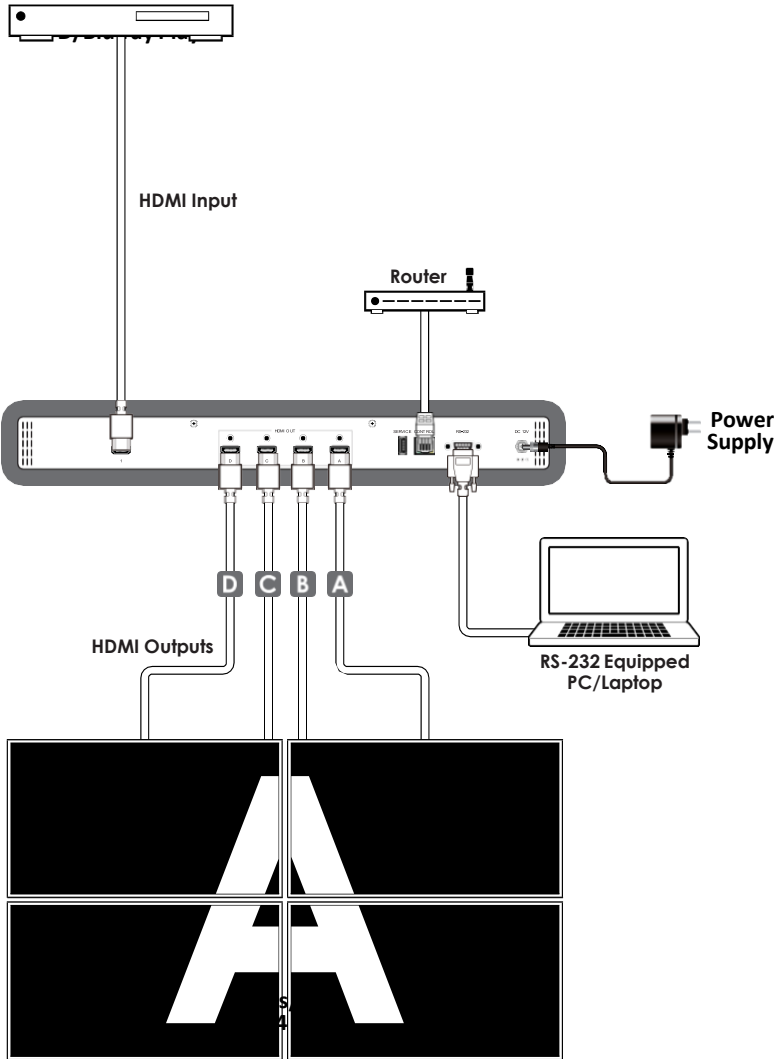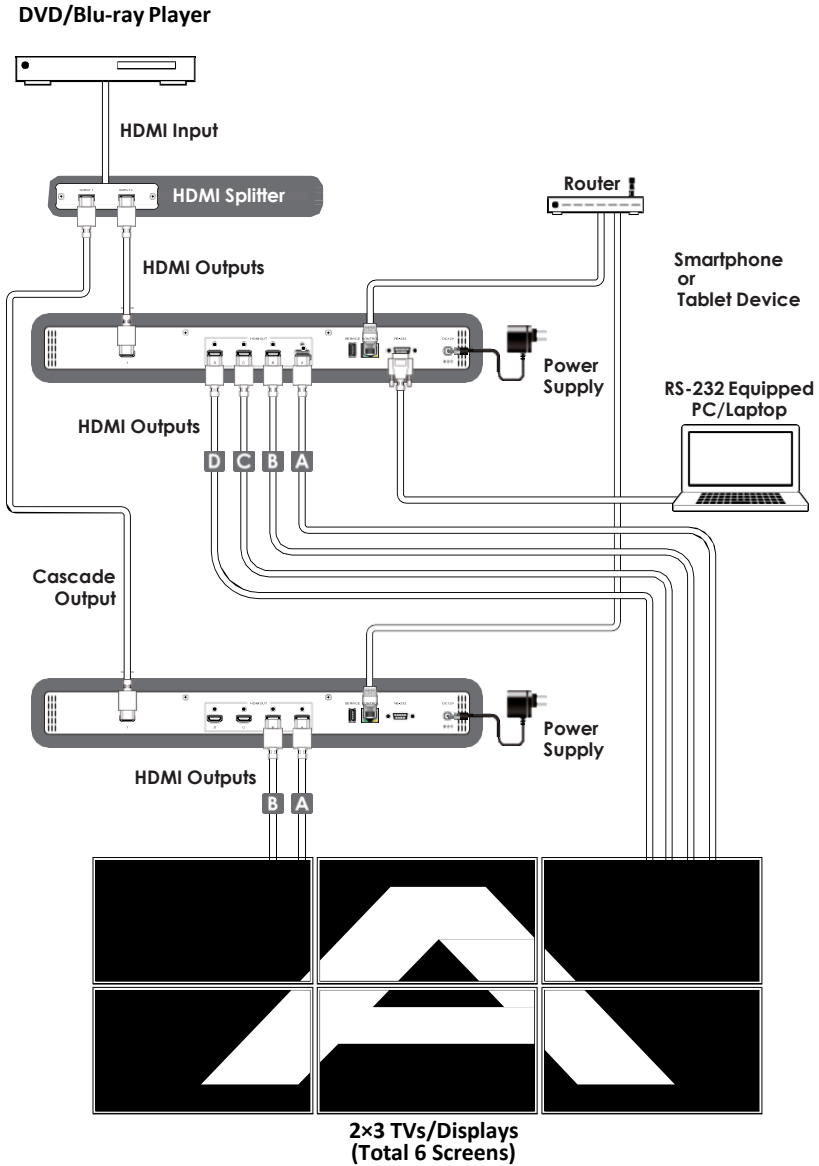
8. SPECIFICATIONS

8.1 Technical Specifications

Video Bandwidth	300MHz/9Gbps
Input Ports	1×HDMI (Female type), 1×Control (RJ45), 1×RS-232 (D-sub 9-pin), 1×USB (Service only)
Output Ports	4×HDMI (Female type) **HDMI**
Cable Distance	10M/8-bit 1080p, 5M/4K2K
Baud Rate	115200bps
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	12V/3A DC (US/EU standards, CE/FCC/UL certified)
Dimensions	438mm (W)×269mm (D)44mm (H)/Jacks Excluded 482mm (W)×274mm (D)×52mm (H)/Jacks Included
Weight	2956g
Chassis Material	Metal
Color	Black
Operating Temperature	0 ˚C~40 ˚C / 32 ˚F~ 04 ˚F **Storage**
Temperature	−20 ˚C~60 ˚C / −4 ˚F~140 ˚F
Relative Humidity	20~90 % RH (non-condensing)
Power Consumption	12.98W

8.2 Supported Resolutions

INPUT RESOLUTION	OUTPUT RESOLUTION
640×480@60/72/75/85	640×480
1280×768@60/75	480p@60 (720×480)
1024×768@60/70/75/85	576p@50 (720×576)
1280×1024@60/75	800×600
800×600@56/60/72/75/85	848×480
480p@60	1024×768
576p@50	720p@50 (1280×720)
480i@60	720p@60 (1280×720)
576i@50	1280×768
720p@50/60	1280×800
1080i@50/60	1280×960
1080p@24/50/60	1280×1024
848×480@60	1360×768
852×480@60	1366×768
854×480@60	1400×1050
1024×852@60	1440×900
1024×1024@60	1600×900 (RB)
1280×800@60	1600×1200
1280×960@60	1680×1050
1360×768@60	1080p@50/60
1366×768@60	1920×1200 (RB)
1440×900@60	2048×1152 (RB)
1400×1050@60	1080i@50/60
1360×1024@60	1080p@24/25/30
1600×900@60	
1600×1200@60	
1680×1050@60	
1920×1200@60	
2048×1080@24	
2048×1152@60	
3840×2160@24/25/30	
4096×2160@24	

8.3 Output Resolution Limitations

8.3.1 Input Resolution is 3840×2160

VIDEO WALL	1X1	2X2	3X3	4X4	5X5	6X6	7X7	8X8	9X9	10X10	15X15
0. 640×480	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
1. 480p@60 (720×480)	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
2. 576p@50 (720×576)	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
3. 800×600	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓
4. 848×480	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓
5. 1024×768	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
6. 720p50 (1280×720)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. 720p60 (1280×720)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. 1280×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9. 1280×800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10. 1280×960	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11. 1280×1024	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12. 1360×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13. 1366×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14. 1400×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15. 1440×900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16. 1600×900 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17. 1600×1200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
18. 1680×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19. 1080p@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20. 1080p@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21. 1920×1200 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
22. 2048×1152 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
23. 1080i@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
24. 1080i@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25. 1080p@24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
26. 1080p@25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
27. 1080p@30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
28. Native	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

8.3.2 Input Resolution is 4096×2160

VIDEO WALL	1X1	2X2	3X3	4X4	5X5	6X6	7X7	8X8	9X9	10X10	15X15
0. 640×480	✓	✓	✗	✗	✗	✗	✓	✓	✓	✓	✓
1. 480p@60 (720×480)	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
2. 576p@50 (720×576)	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
3. 800×600	✓	✓	✗	✗	✗	✓	✓	✓	✓	✓	✓
4. 848×480	✓	✓	✗	✗	✓	✓	✓	✓	✓	✓	✓
5. 1024×768	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
6. 720p50 (1280×720)	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
7. 720p60 (1280×720)	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
8. 1280×768	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
9. 1280×800	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
10. 1280×960	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
11. 1280×1024	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
12. 1360×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13. 1366×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14. 1400×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15. 1440×900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16. 1600×900 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17. 1600×1200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
18. 1680×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19. 1080p@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20. 1080p@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21. 1920×1200 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
22. 2048×1152 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
23. 1080i@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
24. 1080i@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25. 1080p@24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
26. 1080p@25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
27. 1080p@30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
28. Native	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

8.3.3 Input Resolution is 2048×1080/2048×1152

VIDEO WALL	1X1	2X2	3X3	4X4	5X5	6X6	7X7	8X8	9X9	10X10	15X15
0. 640×480	✓	✓	✗	✓	✓	✓	✓	✓	✓	✓	✓
1. 480p@60 (720×480)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2. 576p@50 (720×576)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
3. 800×600	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
4. 848×480	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5. 1024×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
6. 720p50 (1280×720)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
7. 720p60 (1280×720)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
8. 1280×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
9. 1280×800	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
10. 1280×960	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
11. 1280×1024	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
12. 1360×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
13. 1366×768	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
14. 1400×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
15. 1440×900	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
16. 1600×900 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
17. 1600×1200	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
18. 1680×1050	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19. 1080p@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
20. 1080p@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
21. 1920×1200 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
22. 2048×1152 (RB)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
23. 1080i@50	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
24. 1080i@60	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
25. 1080p@24	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
26. 1080p@25	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
27. 1080p@30	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
28. Native	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

9. ACRONYMS

ACRONYM	COMPLETE TERM
CLI	Command Line Interface
DTS	Digital Theater System
DVI	Digital Visual Interface
EDID	Extended Display Identification Data
GUI	Graphical User Interface
HDCP	High-bandwidth Digital Content Protection
HDMI	High-Definition Multimedia Interface
HDTV	High-Definition Television
OSD	On-Screen Display
USB	Universal Serial Bus
VGA	Video Graphics Array
WUXGA	Widescreen Ultra Extended Graphics Array