4KWALL-UHD

UHD HDMI 2X2 VIDEO WALL CONTROLLER AND 4X4 MATRIX SWITCH

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UHD HDMI 2x2 Video Wall Controller and Matrix Switch

Smart-AVI

1 2 3 4 PiP Quad Videowall Resolution

USER MANUAL

Designed and Manufactured in the USA

Smart-AVI

OVERVIEW

TECHNICAL SPECIFICATIONS

VIDEO	
Format	HDMI 2.0
Input Resolution	Up to 3840x2160 @60 Hz
Output Resolution	Up to 3840x2160 @60 Hz
Input Interface	(4) HDMI 19-pin (female)
Output Interface	(4) HDMI 19-pin (female)
AUDIO	
Format	HDMI Digital Audio
CONTROL	
Front Panel	Push Buttons
IR Remote Control	IR RC5
Ethernet (TCP/IP)	RJ-45
RS-232	DB9 (female)
OTHER	
Power Adapter	12VDC3A
Dimensions	13"W x 9"H x 1.9"D
Weight	4.8 lbs
Approvals	UL, CE, ROHS Compliant
Operating Temperature	+32 to +104°F (0 to +40°C)
Storage Temperature	-4 to 140°F (-20 to +60°C)
Humidity	Up to 80% (No Condensation)
Emulation	Keyboard and Mouse

WHAT'S IN THE BOX?

PART NO.	Q-TY	DESCRIPTION
4KWALL-UHD	1	UHD HDMI 2x2 video wall controller and 4x4 matrix switch
PS5VDC3A	1	12V DC 3A (minimum) power adapter with center-pin positive polarity
	1	User Manual

FRONT AND BACK

4KWALL-UHD Back Panel

4KWALL-UHD Front Panel

INTRODUCTION

To create a four-screen 2x2 video wall with four UHD video inputs, the 4KWALL-UHD video wall controller provides a truly simple plug-and-play hardware solution. With four inputs and four outputs, users can arrange their content in numerous ways, providing unique functionality by combining the abilities of a video wall hardware controller and a 4x4 HDMI port Matrix.

Users can stretch one large image over four screens, send an input to each screen, send four images to each screen or create a customizable Picture-in-Picture display. Better still, there's no software required, as all content management options are effortlessly controlled via the 4KWALL-UHD video wall controller unit itself. There's no need for additional drivers. Just connect the UHD inputs and UHD screens to the controller and it's ready to go.
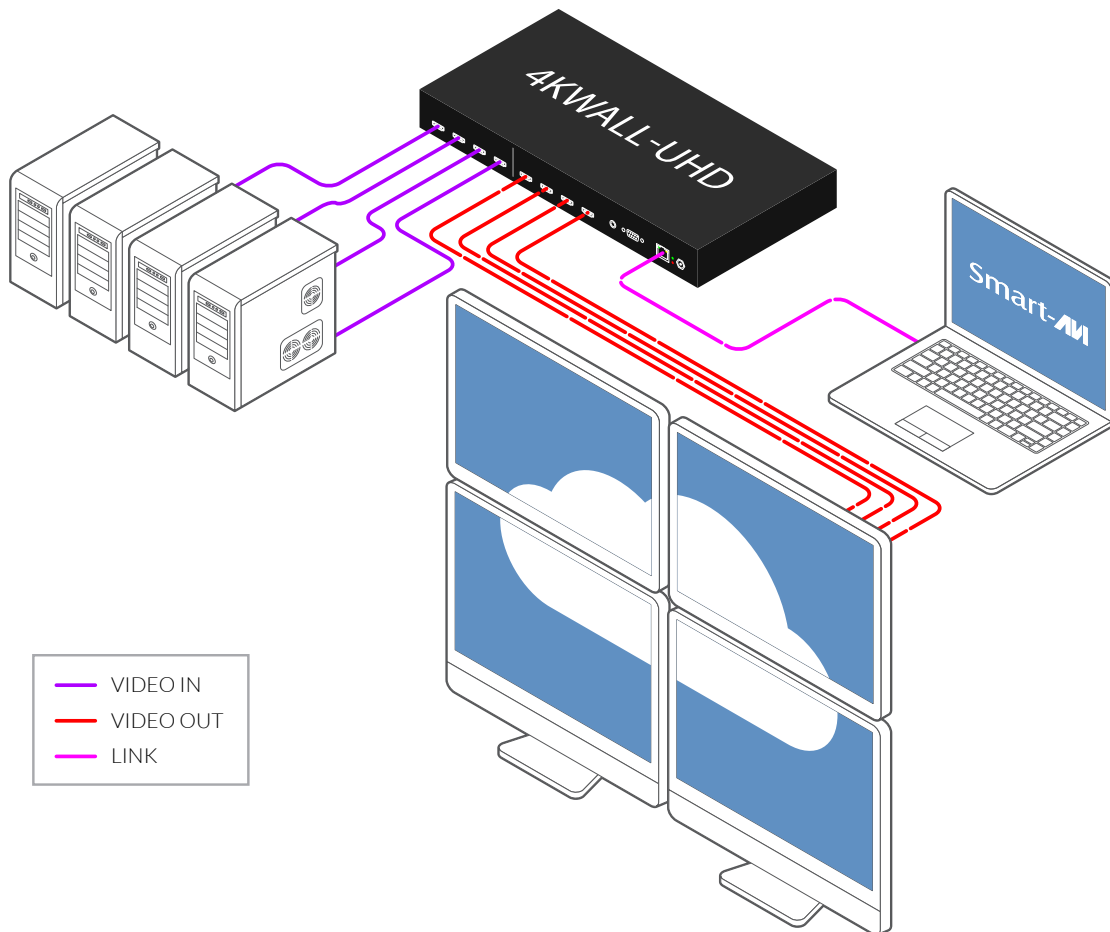
FEATURES

- Complete hardware solution, no need for a PC
- Plug-and-play ready
- Maximum resolution of 3840x2160@60Hz
- Seamless Video Transitions
- Four HDMI inputs and four HDMI outputs
- HDMI digital audio output
- Multiple screen modes and picture flip functions
- Easy control and access
- Ethernet control-ready via webpage
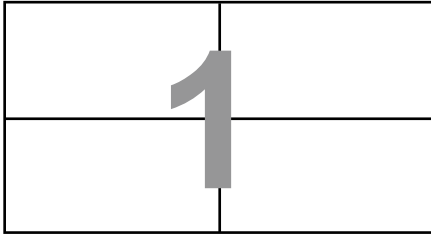- Supports IR and RS-232 control

APPLICATION

- Corporate or Educational Presentations
- Corporate Lobbies
- Airport Installations
- Restaurants
- Wall Displays
- Entertainment Venues
- Digital Signage
- Point-of-Sale
- Dealer Rooms
- Security
- Control Rooms
- Shopping Centers

INSTALLATION

1. Position your 4KWALL-UHD conveniently and keep the power cord unplugged.
2. Connect up to 4 screens to the HDMI output ports on the back of the 4KWALL-UHD using HDMI cables.
3. Connect up to 4 HDMI inputs i.e. (Blu-Ray player, Digital Signage, computer, etc) to the HDMI input ports on the back of the 4KWALL-UHD using HDMI cables.
4. Connect the power cord to the 4KWALL-UHD and wait for the unit to initialize. This should take about a minute.
5. Connect an Ethernet cable (CAT5, 5e, 6) to the RJ45 jack marked LAN.
6. Connect an RS-232 cable from a PC to the RS-232 port.
7. Connect the IR EYE (receiver) to the IR input jack.

VIDEO IN
VIDEO OUT
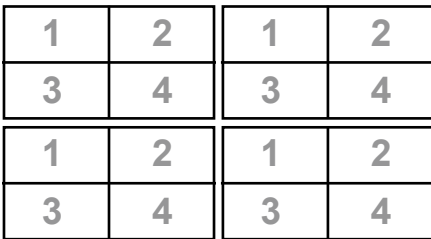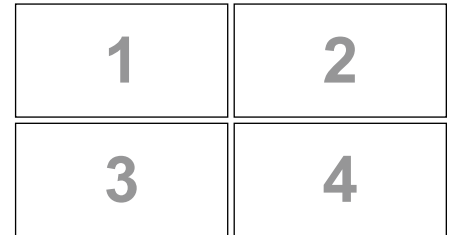LINK

AVAILABLE CONFIGURATIONS

VIDEO WALL MODE
Users can select any of the four UHD inputs and project the image across four UHD screens (2x2 configuration). With screen resolution up to 3840x2160@60Hz, users can a stunning 8K resolution video wall display.

INDIVIDUAL MODE
Users can take advantage of full matrix functionality by routing any of the four UHD inputs to any of the four UHD screens, with support resolution up to 3840x2160 on each screen.
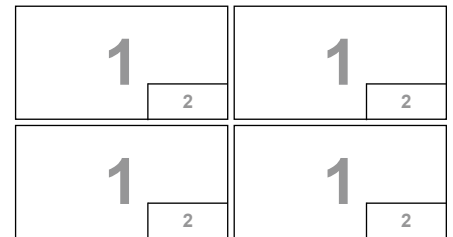

QUAD MODE
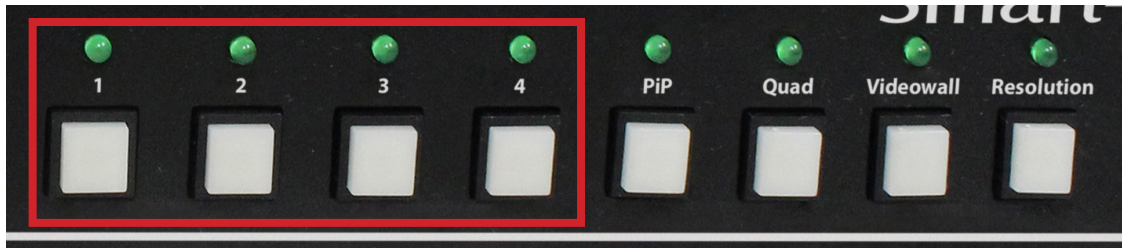Users can divide each screen into four sections with all four inputs playing on each screen. Allowing users to have complete control on each screen. Further enhancing the 4KWALL-UHD's matrix functionality.
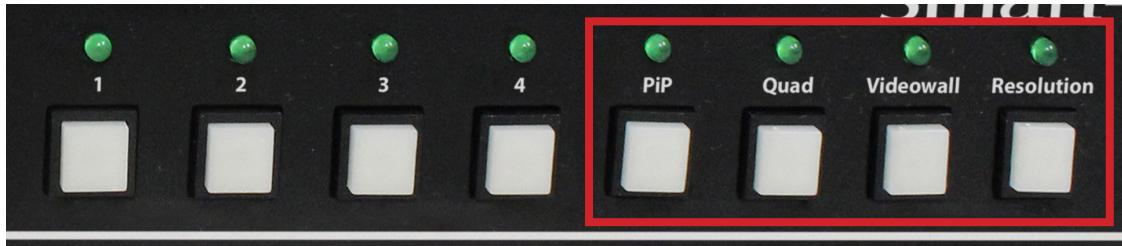
Picture-in-Picture MODE
Users can create Picture-in-Picture (PiP) displays on each screen using all four inputs, with one main UHD source and one accompanying PiP source alongside.

CONTROL USING FRONT PANEL

The buttons marked above are used for selecting input channel or output channel when selecting a mode.

The buttons marked above are used for selecting the various modes and resolutions offered by the 4KWALL-UHD.

Changing Modes using the Front Panel

Video Wall Mode: Select the Video Wall button and wait for the light above to begin flashing. Then select the desired input. Example: Video wall for input 1 = "Videowall, 1".

Individual Mode: Select an input and wait for the light above to begin flashing. Then select the desired output. Example: Input 2 to output 4 = "2, 4".

PiP Mode: Select the PiP button and wait for the light above to begin flashing. Then select the desired main input and wait for the light above to begin flashing. Then select the desired PiP input. Example: Input 4 with PiP input 2 = "PiP, 4, 2".

Quad Mode: Select the QUAD button.

Cycle Resolutions: Select and hold the Change Resolution button for a few seconds then release. The resolution will cycle from the following options: 1920x1080@60Hz, 3820x2160@30Hz, and 3820x2160@60Hz.
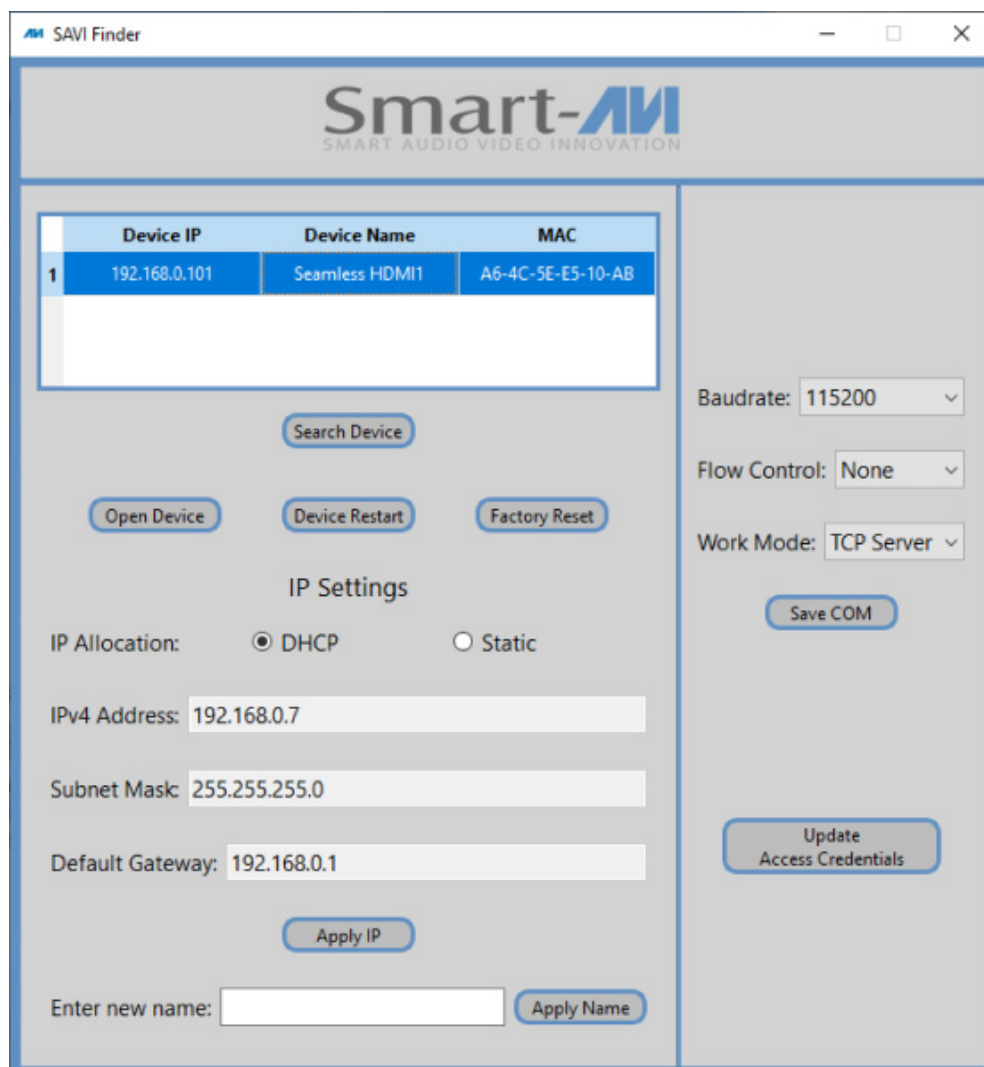
CONTROL VIA ETHERNET (TCP/IP)

4KWALL-UHD TCP/IP control is a feature that allows mode switching and other configurations to be controlled remotely via HTTP or TELNET. Manage the switching functions of your 4x4 matrix with ease from anywhere in the world. You can save input/output configuration presets for easy access. TELNET access provides transparent command control of your 4KWALL-UHD, perfect for use with automated third-party control software. For more information, visit www.smartavi.com.

First you must find the IP address for the 4KWALL-UHD. Software is conveniently available on our website to perform this task; please visit:
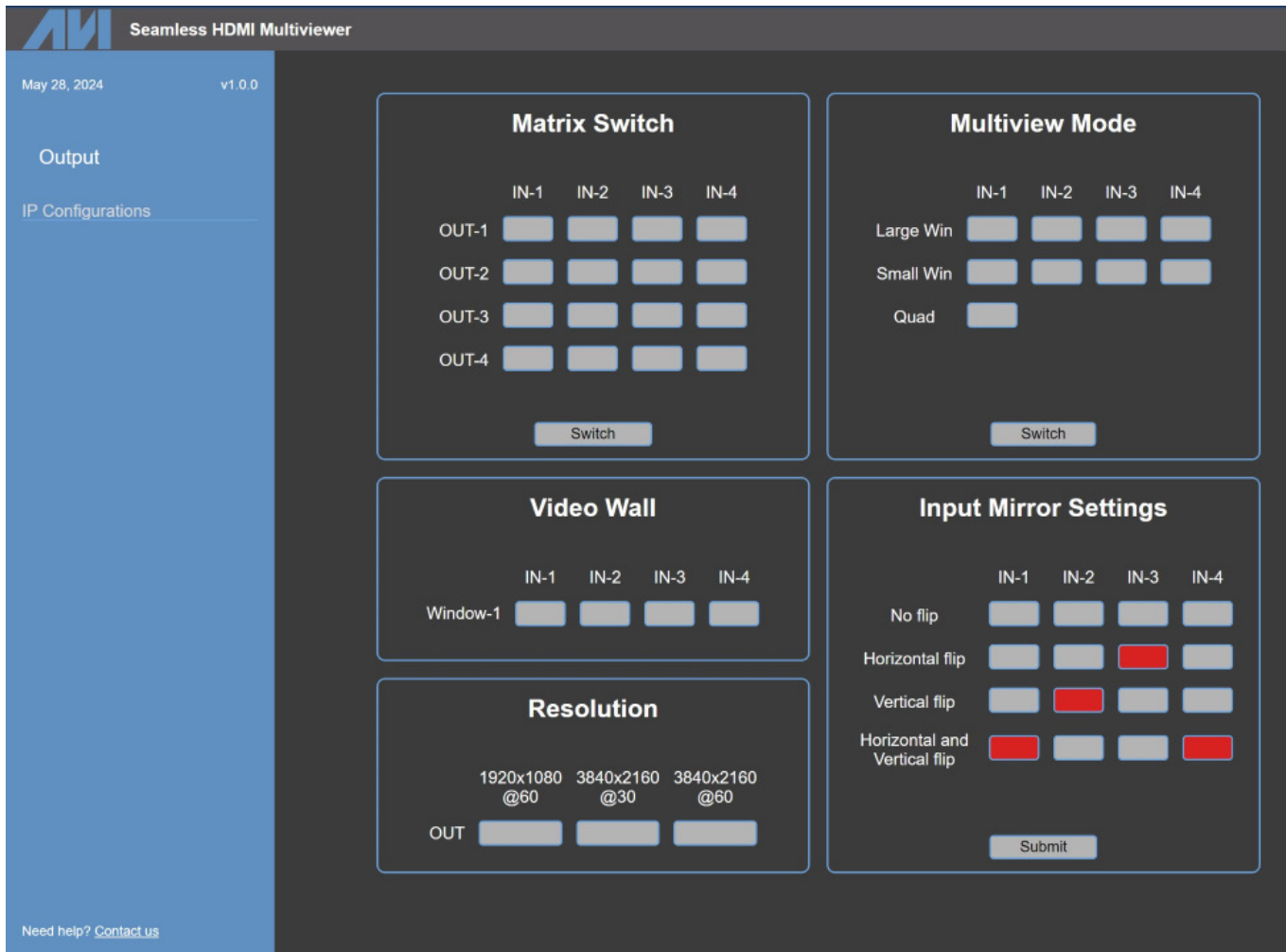http://smartavi.com/helpful-links

Download and install:
SAVI Finder: IP address locater software. Download and install the SAVI Finder software for your product. Click search device and the 4KWALL-UHD and its IP address should appear in the display as shown to the side.

Select your device and click Open Device. Your browser should open and you should see the 4KWALL-UHD Home/ Welcome page as shown below.

CONTROL VIA ETHERNET (TCP/IP) (CONTINUED)

CONTROL USING RS-232 CONTROL

The 4KWALL-UHD may also be controlled via RS-232 commands. This feature requires an RS-232 card installed on your computer or a USB to RS-232 adapter. Below are instructions on how to properly create an RS-232 connection between a PC and the 4KWALL-UHD.

Establishing a connection to 4KWALL-UHD
1. Connect a male-to-female RS-232 cable to the RS-232 connector on the PC or connect the USB of the USB to RS-232 adapter to a USB port on the PC.
2. Connect the other end of the cable to the RS-232 port of the 4KWALL-UHD.

If you are using a USB to COM port adapter and need to identify the COM port used do the following
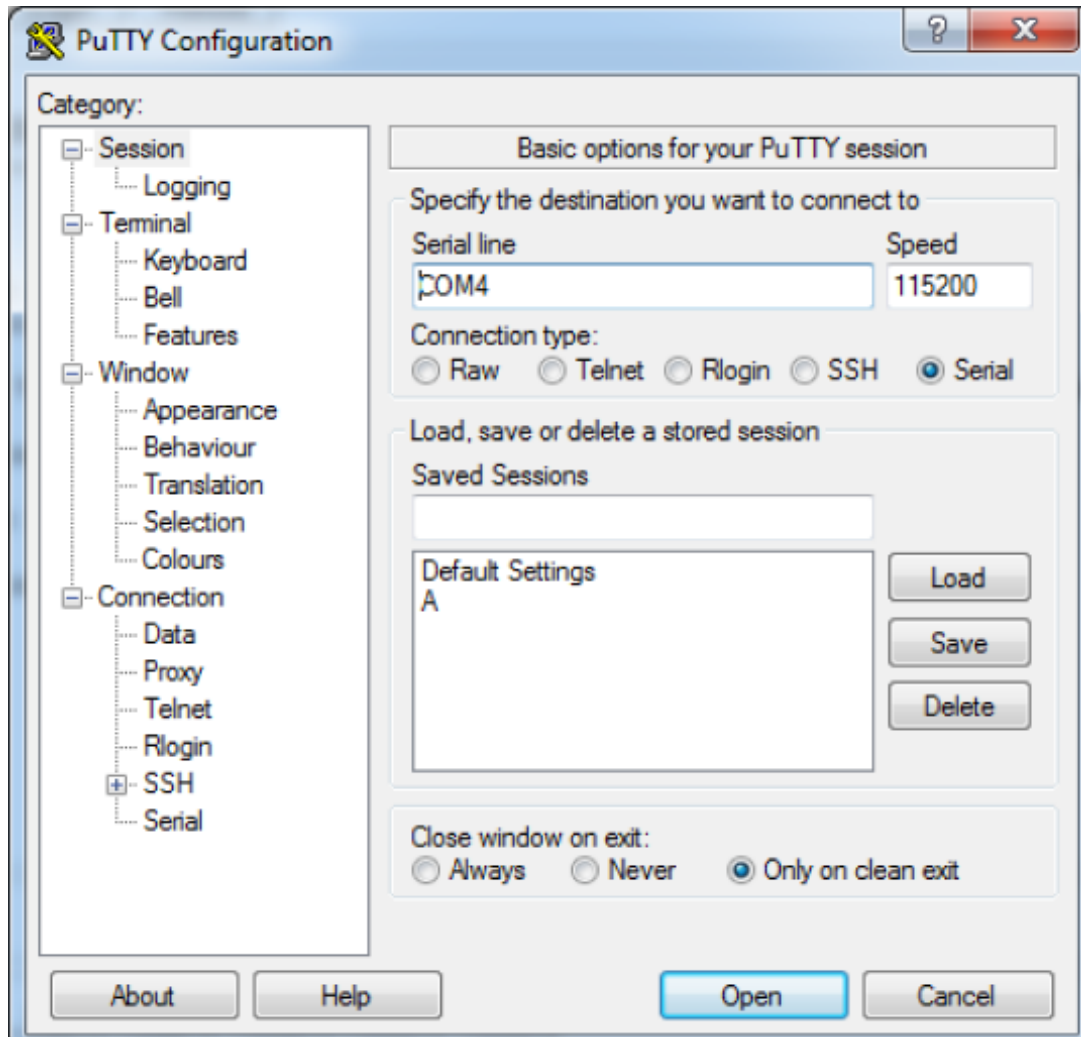1. On your computer click the start button.
2. Type "Device Manager" into the search bar. A window should open listing the various components and devices connected to your computer.
3. Find the list item called Ports (COM & LPT) and click on the arrow next to it. The name of the adapter should appear and its COM port number.

CONTROL USING RS-232 CONTROL (CONTINUED)

Connecting to the 4KWALL-UHD using a terminal application
Use a terminal program like PuTTY or Terminal to connect to the 4KWALL-UHD. Select the COM port you identified previously. Use the standard communication mode of 115200bps, 8, N, 1, No Flow Control.

Once the connection is established type "//help" and hit enter. The 4KWALL-UHD should respond with the lists of commands available for this unit. If not, attempt to connect again and ensure you have the correct settings.

RS-232 COMMANDS

COMMAND	DESCRIPTION
//**yab** [ENTER]	Y is full screen. Variables are a and b, a=input, b=output
//**pab** [ENTER]	P is PiP. a=main screen, b=pip screen. Sets all outputs to this configuration.
//**q** [ENTER]	Q is quad. Sets all output to quad.
//**oa** [ENTER]	O is resolution. Options are 1=1080p, 2=4k 30Hz, 3=4k 60Hz.
//**mab** [ENTER]	M is mirror flip. a=channel, b=orientation. Options for b=1 no flip, b=2 horizontal flip, b=3 vertical flip, b=4 horizontal and vertical flip.
//**va** [ENTER]	V is video wall. a=input to set as video wall; 2x2 video wall.
//**?** [ENTER]	Outputs current video mode and resolution.
//**help** [ENTER]	Lists all commands.

CONTROL USING IR REMOTE CONTROL

The IR Remote Control gives users great flexibility and ease of use when looking to manage their video wall. It can be operated with the IR Remote Control. The 4KWALL-UHD will only respond to the remote control unit provided in the box. An image of which is shown below.

IR remote control functions

FUNCTION	BUTTON
Video Wall Mode	WALL + Input #
Individual Mode	Input # + Output #
Quad Mode	QUAD
PiP Mode	CLONE + Main Input # + PiP Input #

TROUBLESHOOTING

No Power
- Make sure that the power adapter is securely connected to the power connector of the unit.
- Check the output voltage of the power supply and make sure that the voltage value is around 12VDC.
- Replace the power supply.

No Video
- Check if all the video cables are connected properly.
- Connect the computer directly to the monitor to verify that your monitor and computer are functioning properly.
- Restart the computers.

Keyboard is not working
- Check if the keyboard is properly connected to the unit.
- Check if the USB cables connecting the unit and the computers are properly connected.
- Try connecting the USB on the computer to a different port.
- Make sure that the keyboard works when directly connected to the computer.
- Replace the keyboard.

Mouse is not working
- Check if the mouse is properly connected to the unit.
- Try connecting the USB on the computer to a different port.
- Make sure that the mouse works when directly connected to the computer.
- Replace the mouse.

No Audio
- Check if all the audio cables are connected properly.
- Connect the speakers directly to the computer to verify that the speakers and the computer audio are functioning properly.
- Check the audio settings of the computer and verify that the audio output is through the speakers.

TECHNICAL SUPPORT

For product inquiries, warranty questions, or technical questions, please contact info@smartavi.com.

LIMITED WARRANTY STATEMENT

A. Extent of limited warranty
SmartAVI, Inc. warrants to the end-user customers that the SmartAVI product specified above will be free from defects in materials and workmanship for the duration of 1 year, which duration begins on the date of purchase by the customer. Customer is responsible for maintaining proof of date of purchase.

SmartAVI limited warranty covers only those defects which arise as a result of normal use of the product, and do not apply to any:
> a. Improper or inadequate maintenance or modifications
> b. Operations outside product specifications
> c. Mechanical abuse and exposure to severe conditions

If SmartAVI receives, during applicable warranty period, a notice of defect, SmartAVI will at its discretion replace or repair defective product. If SmartAVI is unable to replace or repair defective product covered by the SmartAVI warranty within reasonable period of time, SmartAVI shall refund the cost of the product.

SmartAVI shall have no obligation to repair, replace or refund unit until customer returns defective product to SmartAVI.

Any replacement product could be new or like new, provided that it has functionality at least equal to that of the product being replaced.

SmartAVI limited warranty is valid in any country where the covered product is distributed by SmartAVI.

B. Limitations of warranty
To the extant allowed by local law, neither SmartAVI nor its third party suppliers make any other warranty or condition of any kind whether expressed or implied with respect to the SmartAVI product, and specifically disclaim implied warranties or conditions of merchantability, satisfactory quality, and fitness for a particular purpose.

C. Limitations of liability
To the extent allowed by local law the remedies provided in this warranty statement are the customers sole and exclusive remedies.

To the extant allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event will SmartAVI or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages whether based on contract, tort or any other legal theory and whether advised of the possibility of such damages.

D. Local law
To the extent that this warranty statement is inconsistent with local law, this warranty statement shall be considered modified to be consistent with such law.

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