

SPS-4000

4K60 HDMI PRESENTATION SWITCHER WITH 4 INPUTS AND 2 OUTPUTS



USER MANUAL



Designed and Manufactured in the USA

Smart-AVI

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TECHNICAL SPECIFICATIONS

VIDEO	
Host Interface	(4) HDMI 19-pin (female)
User Console Interface	(2) HDMI 19-pin (female)
Resolution	HD/SD: 1360x768, 1280x800, 1280x720 (60/50Hz), 1024x768 Full HD: 1920x1080 @ 60Hz (RB), 60Hz, 50Hz 4K (UHD): 3840 x 2160 @ 60Hz 4K (DCI): 4096 x 2160 @ 60Hz
PIP / Multiview	Aspect ratio: full, 16:9 PIP Position: Left Top, Right Top, Left Bottom, Right Bottom PIP Size: Small, Middle, Large No-Signal Screen: Blue Screen or Black Screen
HDCP	HDCP 1.4 / 2.2 (Force-1.4, Force-2.2, Force-Off)
Scaler	Built-in; scales mixed input resolutions to output
Multiview Modes	Single, PIP, PBP, 3xWin, 4xWin
EDID Presets	18 presets incl. 4K60 / 4K30 / 1080p60 with 2.0, 5.1, 7.1 audio; Auto; User
AUDIO	
Format	HDMI embedded: 2.0 / 5.1 / 7.1 channel
Source Select	Window-1 follow, or direct IN-1 / IN-2 / IN-3 / IN-4
Volume / Mute	0-100 range; Mute On / Off
CONTROL	
Front Panel	(4) Buttons w/ LEDs: 1/Full, 2/PIP, 3/Quad, 4/Res
RS-232	(1) DB9F • 115200 bps, 8-N-1, no flow control
Network	(1) RJ45 10/100 Ethernet
Web GUI	HTTP + WebSocket (TCP 6432), ASCII protocol
OTHER	
Power Adapter	External 100-240 VAC/12VDC3A @ 24W
Dimensions	12.57" W x 1.76" H x 6.69" D
Weight	4.2 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	5 to 90% (No Condensation)

WHAT'S IN THE BOX?

PART NO.	Q-TY	DESCRIPTION
SPS-4000	1	4K60 HDMI Presentation Switcher with 4 Inputs and 2 Outputs
PS12VDC3A	1	12VDC 3A (minimum) power adapter with center-pin positive polarity
	1	User Manual

FRONT AND BACK



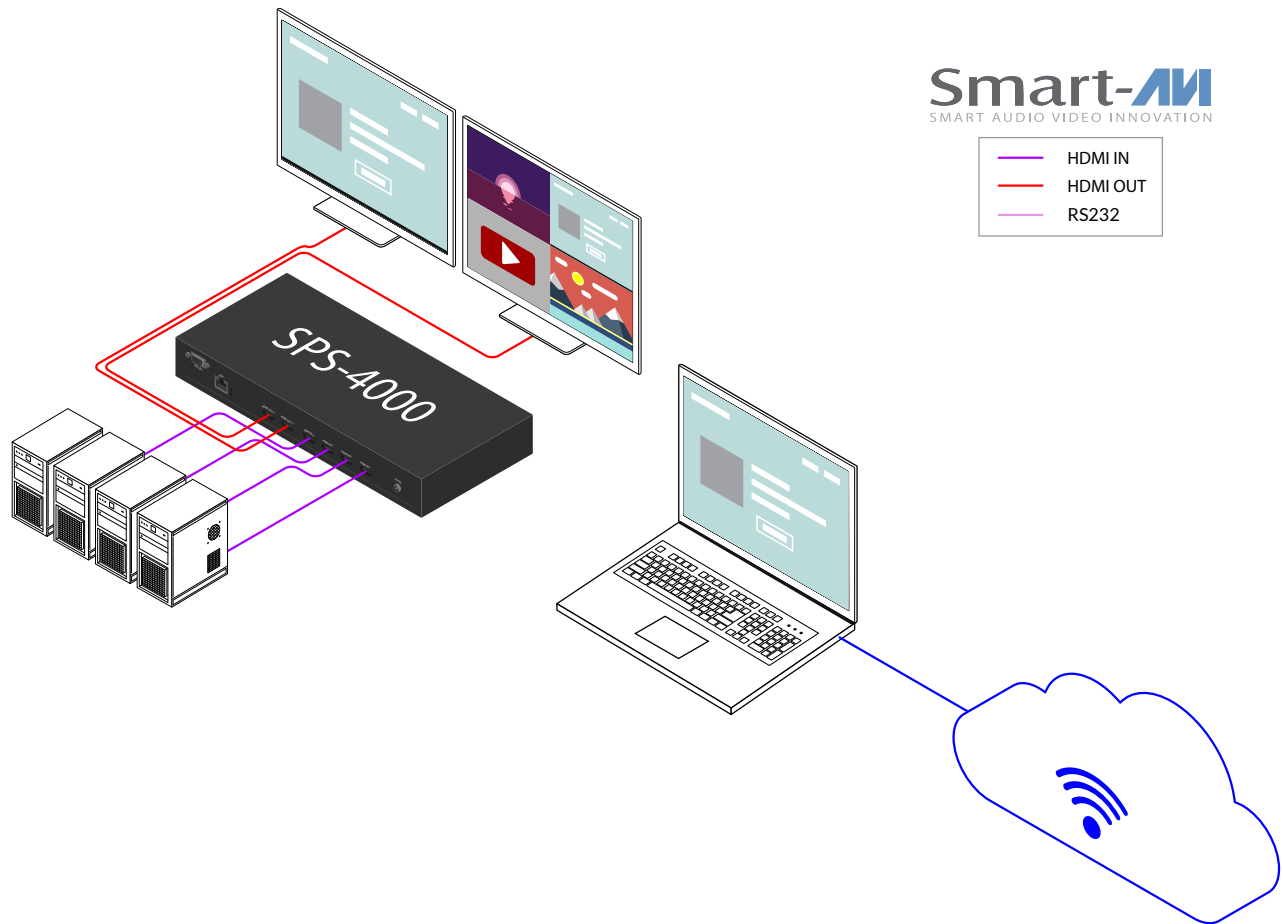
SPS-4000 Back



SPS-4000 Front

INSTALLATION

1. Ensure that power is turned off or disconnected from the unit and the computers.
2. Use a HDMI cable to connect the HDMI output port from each computer to the corresponding HDMI IN ports of the unit.
3. Connect two monitors to the HDMI OUT console ports of the unit using a HDMI cable.
4. Power on the SPS-4000 by connecting a 12VDC power supply to power connector.
5. Optional: Connect a CatX cable from the LAN port on the SPS-4000 to a local network for control.
6. Turn on all the computers.

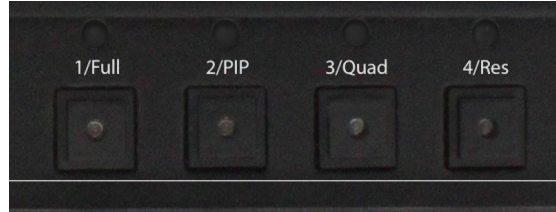


SYSTEM OPERATION

EDID LEARN

The SPS-4000 has 2 preset EDIDs that can be triggered from the front panel. The EDIDs are labeled as follows:

- IPG - 1080p (EDID for 1080p)
- IPG - 4K (EDID for 3840 x 2160)



The EDIDs can be invoked using the following commands on the front panel:

- Button 1 - Full screen. Cycles through full screen options starting at input 1, then 2, 3, 4.
- Button 2 - Picture in Picture. When pressed, the LED will start blinking, waiting for 2 channels to be selected. The first selection will be the large picture and the second will be the small picture.
- Button 3 - Sets the output to Quad view. All 4 channels are displayed simultaneously.
- Button 4 - Resolution. Holding this button down will change to the next resolution. Cycles between 1080p, 4K@30, and 4K@60.

There are three ways to control the SPS-4000: front panel buttons, RS-232 serial commands, and the included Web GUI (over LAN).

FRONT PANEL CONTROL

To switch to an input port or display mode, simply press the corresponding button on the front panel of the SPS-4000. When a button is active, its LED will turn on.

Front Panel – Mode Selection LEDs:

#	STATUS	DESCRIPTION
1	OFF	Non-selected mode / port
2	ON	Selected mode / port

SYSTEM OPERATION (CONTINUED)

RS-232 SERIAL CONTROL

The SPS-4000 may also be controlled via RS-232 commands. To use these commands, you must use a terminal application such as PuTTY, Tera Term, or HyperTerminal. The settings for the connection are as follows:

Baudrate **115200**; Data Bits **8**; Parity **None**; Stop Bits **1**; Flow Control **None**.

Once you have connected to the SPS-4000 via Serial, you will see the SPS-4000 information when the device starts up.

Note: All commands can use upper and/or lower case characters.

The following commands can be used for RS-232:

COMMAND DESCRIPTION	RS-232 COMMAND
Output text grid box layout in log	//b1
Output box layout in "ffxxbxx" format in log	//bp
Query audio (output audio status)	//q a
Output status	//r 1
Version	//v e r
Turn buzzer off [0] or on [1]	//b [0] / [1]
Single (Full Screen) mode – change displayed channel	//y [1-4]
PIP mode – set main channel and PIP channel (the two values must differ)	//p [1-4] [1-4]
Dual mode – set left and right channels	//d [port #] [port #]
Set output resolution: 1 = 1080p, 2 = 4K@30, 3 = 4K@60	//s [1-3]
Set HDMI audio source (1-4)	//h a [1-4]
Mute HDMI audio	//h v m
Increase HDMI audio by 1	//h v [+]
Decrease HDMI audio by 1	//h v [-]
Set HDMI audio volume (1-100)	//h v [1-100]

WEB GUI CONTROL

The SPS-4000 includes a built-in Web GUI accessible over LAN. Connect the LAN port to your local network, determine the unit's IP address from your network, and navigate to that address in a web browser to manage input switching, display modes, audio, and resolution.

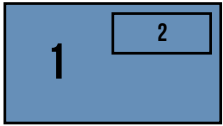
SCREEN MODES

The SPS-4000 features two HDMI outputs. Connections to video sources are managed via HDMI connectors. Advanced viewing options include Full Screen mode, PIP (picture in picture) mode, and Quad View mode.



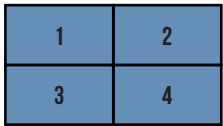
Full Screen Mode

In Full Screen mode, one of the four sources is displayed in full screen size at maximum resolution.



PiP Mode

PIP mode is fixed in size and position; the full screen displays one of the four video sources, and a smaller thumbnail image containing another video source is placed on the right-hand margin of the screen, allowing simultaneous monitoring.



Quad View Mode

In Quad View mode, the screen is split into four fields of equal size, with the screen content of four video sources displayed in each field.

Simple Operation

Switching between the display modes is simple: use the buttons on the front panel, send an RS-232 command, or use the Web GUI.

INITIAL SETUP

After all devices are connected to the SPS-4000, choose a display mode (Full Screen, PIP, or Quad View). By default, the SPS-4000 powers on in Full Screen mode showing Input 1.

The display mode can be changed at any time using the front panel buttons, RS-232 commands, or the Web GUI.

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.

No Audio

- Check if all the HDMI cables are connected properly.
- Connect the monitor 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 monitor.

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 extent 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 extent 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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