

SM-UHS-4S

4-PORT KM SWITCH WITH AUDIO AND USB 2.0



USER MANUAL



Designed and Manufactured in the USA

Smart-AVI
SMART AUDIO VIDEO INNOVATION

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TECHNICAL SPECIFICATIONS

VIDEO	
Format	HDMI
Host Interface	(4) HDMI 19-pin (female)
User Console Interface	(2) HDMI 19-pin (female)
Max Resolution	3480 x 2160 @ 60 Hz
DDC	5 volts p-p (TTL)
Input Equalization	Automatic
Input Cable Length	Up to 20 ft
Output Cable Length	Up to 20 ft
USB	
Signal Type	USB 2.0, 1.1, and 1.0 w/ internal hub
Input Interface	(4) USB Type B
Output Interface	(2) USB 1.1 Type A for KM Devices; (2) USB 2.0 Type A Transparent
AUDIO	
Input Interface	(4) 3.5 mm Stereo Audio
Output Interface	(1) 3.5 mm Stereo Audio
CONTROL	
Front Panel	Push Buttons with LED Indicators
RS-232	DB9 Female - 115200 N,8,1, No flow control
Hot Keys	Via Keyboard
OTHER	
Power Adapter	External 100-240 VAC/ 12VDC2A @ 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)
Emulation	Keyboard and Mouse

WHAT'S IN THE BOX?

PART NO.	Q-TY	DESCRIPTION
SM-UHS-4S	1	4-port Single Head HDMI Seamless KVM Switch with Multiviewer
PS12VDC2A	1	12VDC 2A (minimum) power adapter with center-pin positive polarity.

FRONT AND BACK



SM-UHS-4S Back

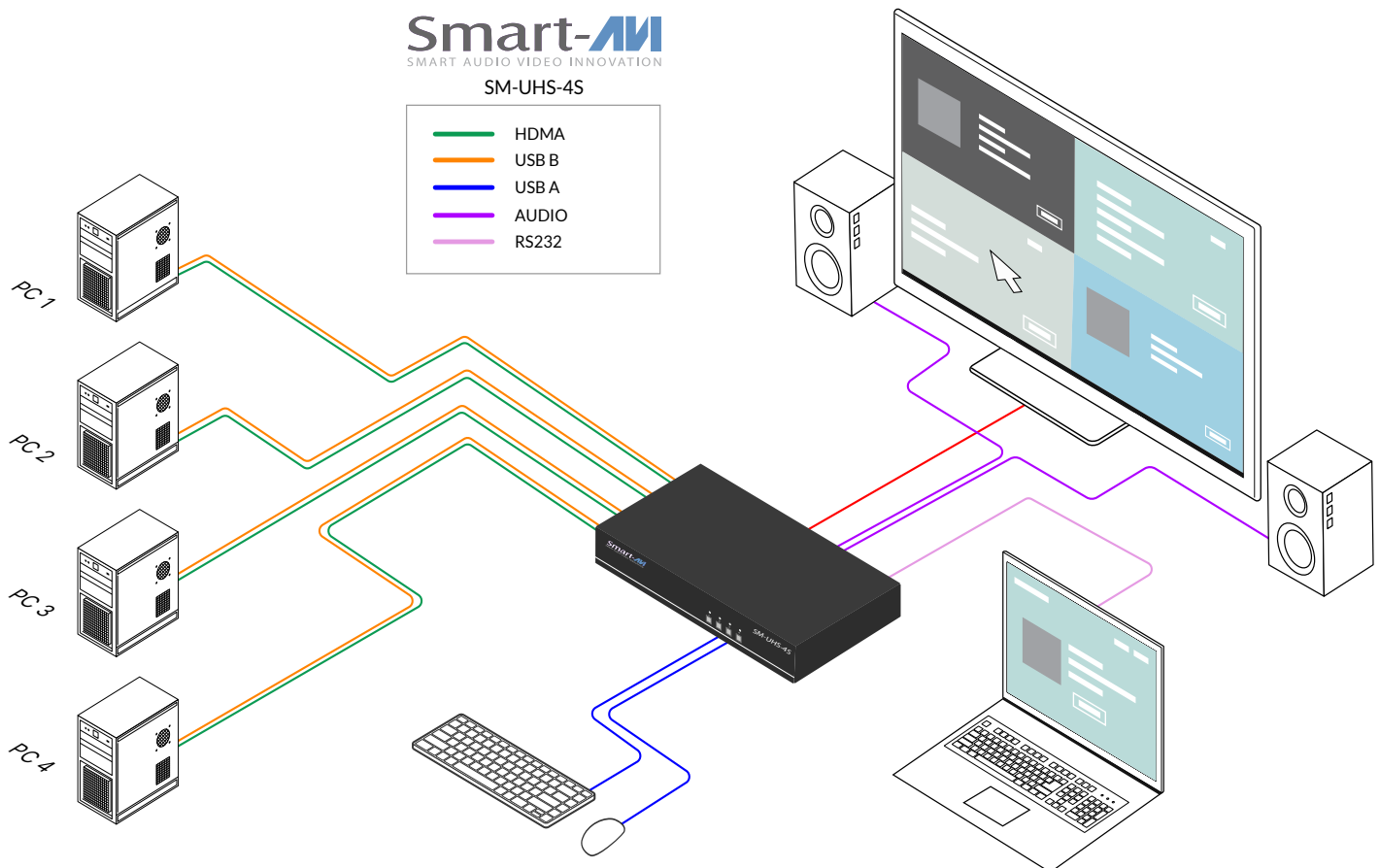


SM-UHS-4S Front

INSTALLATION

1. Ensure that power is turned off or disconnected from the unit and the computers.
2. Use a USB cable (Type-A to Type-B) to connect a USB port on each computer to the respective USB ports on the unit.
3. Use a HDMI cable to connect the HDMI output port from each computer to the corresponding HDMI IN ports of the unit.
4. Optionally, connect a stereo audio cable (3.5mm to 3.5mm) to connect the audio output of the computers to the AUDIO IN ports on the unit.
5. Connect a USB keyboard and mouse in the two USB console ports.
6. Connect a monitor to the HDMI OUT console port of the unit using a HDMI cable.
7. Optionally, connect stereo speakers to the AUDIO OUT port of the unit.
8. Power on the KM by connecting a 12VDC power supply to power connector.
9. Optionally, connect a redundant power supply to the secondary power connector for power failure protection.
10. Turn on all the computers.

Note: You can connect up to 4 computers to the 4 port KM.



SYSTEM OPERATION

There are four ways to control the SM-UHS-4S: front panel buttons, keyboard hotkeys, RS-232 serial commands, and through the included graphical user interface (GUI).

Front Panel Control



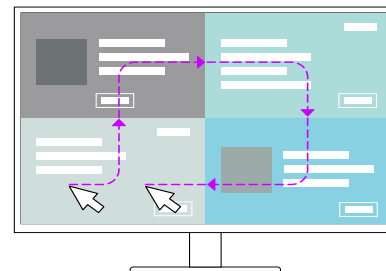
Full Screen – Changes Mode to Full Screen and subsequent presses will cycle between channels 1,2,3, and 4 in Full Screen on the output.

PiP – Press first time to activate PiP Select Mode on the Front Panel. Then press the desired two channels for PiP using buttons 1-4. The first selection will be the larger image and the second selection will be the thumbnail image. PiP Select Mode will timeout within five seconds if no options are selected.

Quad – Changes to Quad output Mode with Mouse Roaming on by default. Mouse Roaming can be turned off by HotKey or Serial Commands (see Command Chart).

Res(resolution) – Cycles between 3 resolutions.

1. 3840x2160@60
2. 3840x2160@30
3. 1920x1080@60



Hotkey Commands

A Hotkey command is a keyboard sequence used to trigger an action on the SM-UHS-4S via the keyboard connected to the USB port of the SM-UHS-4S. To activate the hotkey sequence, press the **CTRL** key twice and then enter the desired hotkey commands.

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

SYSTEM OPERATION (CONTINUED)

Custom Hotkey Triggers

Users can customize the keys that trigger hotkeys. The default trigger for hotkey function on the keyboard is **Ctrl + Ctrl**. The trigger function can be used to change to the following keys:

Ctrl (Left / Right), **Alt**, **Shift** (Left / Right), **Caps Lock**, **Scroll Lock**, **F1-F12**.

To view the current hotkey trigger setting:

Use the RS-232 command: **/ + / + ? + ? + Enter** to view the current hotkey trigger. To reset the Hotkey Trigger, use the “**Factory Defaults**” command.

To change the hotkey trigger setting:

[hotkey] + [hotkey] + **X** + [desired hotkey]

To reset the hotkey trigger:

Run “Factory Defaults” command.

Example: If the user’s current hotkey trigger is **Shift** and they want to change it to **Scroll Lock**, the user would type **Shift + Shift + X + Scroll Lock**.

RS-232 Serial Control

The SM-UHS-4S may also be controlled via RS-232 commands. To use these commands, you must use HyperTerminal or an alternate terminal application. 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 SM-UHS-4S via Serial, you will see the SM-UHS-4S information when the device starts up.

The following commands can be used for RS-232 with available keyboard hotkeys:

COMMAND DESCRIPTION	HOTKEY	RS-232 COMMAND
Switch Keyboard, Mouse, Audio and USB	[CTRL] [CTRL] m [port #] [ENTER]	//m [port #] [ENTER]
Switch Audio Only	[CTRL] [CTRL] a [port #] [ENTER]	//a [port #] [ENTER]
Switch Keyboard, Mouse and Audio to Next Channel (USB stays)	[CTRL] [CTRL] ▲	N/A
Switch Keyboard, Mouse and Audio to Previous Channel (USB stays)	[CTRL] [CTRL] ▼	N/A
Switch USB 2.0 only (Not Keyboard, Mouse USB)	[CTRL] [CTRL] u [port #] [ENTER]	//u [ENTER]
Switch USB 1.1 only (Keyboard, Mouse USB)	[CTRL] [CTRL] c [port #] [ENTER]	//c [ENTER]
Reset to Factory Default	[CTRL] [CTRL] f [ENTER]	//f [ENTER]
Software Reset	[CTRL] [CTRL] r [ENTER]	//r [ENTER]
Mouse Roaming ON	[CTRL] [CTRL] k s	//k s [ENTER]
Mouse Roaming OFF	[CTRL] [CTRL] k m	//k m [ENTER]

SYSTEM OPERATION (CONTINUED)

COMMAND DESCRIPTION	HOTKEY	RS-232 COMMAND
Turn all audio on	[CTRL][CTRL] a [0] [ENTER]	// a [0]
Enable audio follow	[CTRL][CTRL] a f	// a f
Mute audio	[CTRL][CTRL] a x	// a x
Disable audio follow	[CTRL][CTRL] a n	// a n
Limit Input Ports	[CTRL][CTRL] d [1-4]	// d [1-4]
Turn buzzer off or on	[CTRL][CTRL] b [0 (off)] / [1 (on)]	// b [0] / [1]
Version	N/A	// v e r
Single mode - change channels	[CTRL][CTRL] y [1-4]	// y [1-4]
PIP video mode	[CTRL][CTRL] p [1-4] [1-4 (different from first number)]	// p [1-4] [1-4 (different from first number)]
Quad Mode (Mouse Roaming ON)	[CTRL][CTRL] q	// q
Set Resolution	[CTRL][CTRL] s [1-3]	// s [1-3]
Set HDMI audio source	[CTRL][CTRL] h a [1-4]	// h a [1-4]
Mute HDMI audio	[CTRL][CTRL] h v m	// h v m
Increase HDMI audio by 1	[CTRL][CTRL] h v [+]	// h v [+]
Decrease HDMI audio by 1	[CTRL][CTRL] h v [-]	// h v [-]
Set HDMI audio volume	[CTRL][CTRL] h v [1-100]	// h v [1-100]

SYSTEM OPERATION (CONTINUED)

Connecting to Web GUI Interface - SAVI Finder Application:

To seamlessly access and configure your SM-UHS-4S through the Web GUI interface, follow these simple steps:

Connect to the Network:

Ensure the SM-UHS-4S is properly connected to your network using the LAN port and a CATx connection.

Download and Install SAVI Finder:

On your control PC, navigate to <https://smartavi.com/helpful-links/> and download the “SAVI Finder” application for Windows. Proceed with the installation.

Discover SM-UHS-4S on Your Network:

Launch the installed SAVI Finder application. The application will automatically detect the SM-UHS-4S on your network. Identify the device in the menu and note its IP address.

Access Web GUI:

Click on the “Open Device” button within the SAVI Finder application. This action will automatically launch your default web browser, directing you to the IP address of your SM-UHS-4S. Alternatively, manually open your preferred browser and enter the discovered IP address.

Default Credentials:

The default login credentials for the Web GUI are as follows:

Username: admin

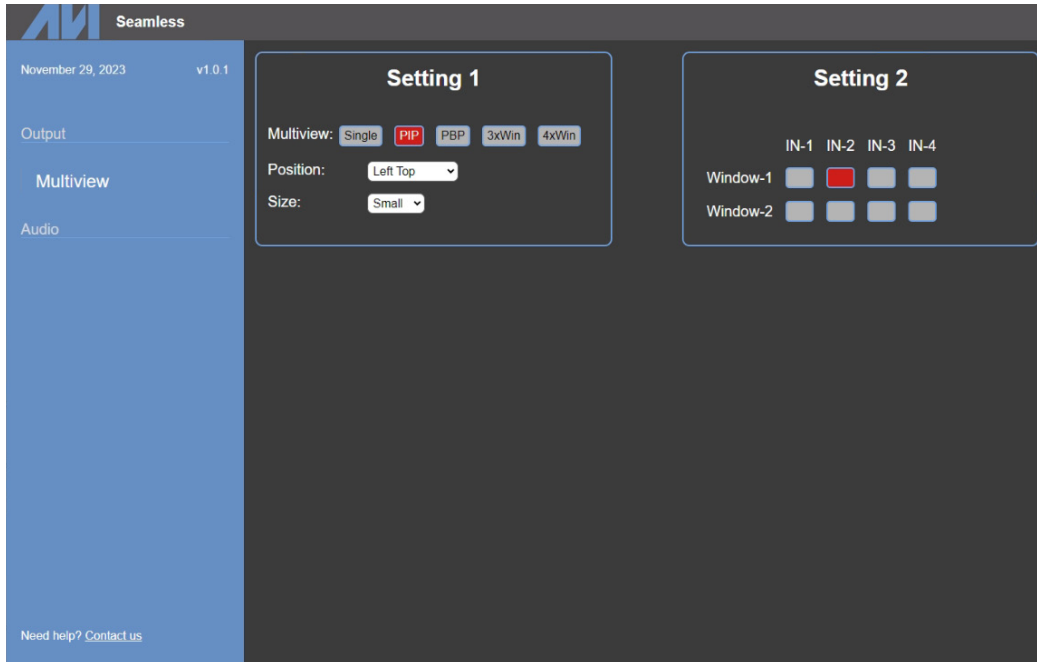
Password: admin

For enhanced security, it is recommended to **change the default credentials**. Utilize the SAVI Finder application to modify the username and password settings.

Using the Web GUI - Customizing Viewing Options:

Once you've accessed the Web GUI through your browser, the intuitive interface empowers you to personalize and tailor viewing options effortlessly. Here's a brief guide on utilizing the available features:

SYSTEM OPERATION (CONTINUED)



Channel Switching Preferences:

Navigate to “Channel Switching” options to customize how you switch between different channels. Tailor the speed and transition preferences to align with your workflow, ensuring seamless control.

Multiviewer Layouts:

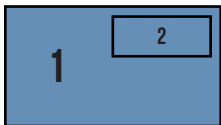
In the “Multiviewer Layouts” section, experiment with various layout options—Single, Picture-in-Picture, Tri-view, or Quad View. Choose the layout that best suits your monitoring needs.

VIEWING OPTIONS



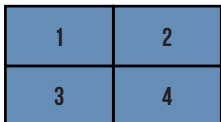
Full Screen Mode

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



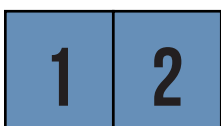
PiP Mode

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



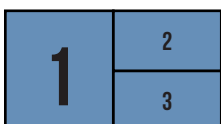
Quad View Mode

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



Dual Mode

In Dual Mode, two channels are displayed side by side in equal size of each other.



Tri-View Mode

In Tri-View Mode, the left half of the screen will display one channel and the right half of the screen will display two channels.

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 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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