

D2H-4P

4-PORT DISPLAYPORT IN, HDMI OUT, 4K ULTRA-HD KVM SWITCH WITH USB AND AUDIO



USER MANUAL



Designed and Manufactured in the USA

Smart-AVI

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www.smartavi.com

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TECHNICAL SPECIFICATIONS

VIDEO	
Format	DisplayPort 1.2, HDMI 1.4
Link Rate	5.4 Gbps
Input Interface	(4) DisplayPort (female) Version 1.2
Output Interface	(1) HDMI (female) Version 1.4
Resolution	Up to 4K (3840x2160 @30Hz)
Input Equalization	Automatic
Video Bandwidth	Single-link 340MHz [10.2Gbps]
HDCP Compliant	Yes
Input Cable Length	Up to 20 ft
Output Cable Length	Up to 20 ft
AUDIO	
Input Interface	(4) 3.5 mm Stereo Audio
Output Interface	(1) 3.5 mm Stereo Audio
Impedance	600 Ohm
Frequency Response	20 Hz to 20 kHz
Nominal Level	0-1.0 V
Common Mode	Rejection at 60 dB
USB	
Signal Type	USB 2.0, 1.1, and 1.0 w/ internal hub
Input Interface	(4) USB Type B (female)
Output Interface	(2) USB Type A (female) for K/M emulation; (2) for USB 2.0 Transparent
CONTROL	
Front Panel	Buttons
RS-232	DB9 Female - 115200 N,8,1, No flow control
Hot Keys	Via Keyboard, Select/Switch between Video & Audio sources
Emulation	Keyboard, Video and Mouse
OTHER	
Power Adapter	External 100-240 VAC/ 5VDC2A
Dimensions	2" H x 5.75" D x 12.75" W
Weight	3.55 lbs
Operating Temperature	32-131°F (0-55 °C)
Storage Temperature	-4-185 °F (-20-85 °C)
Humidity	Up to 95% (No Condensation)
Emulation	Keyboard, Video and Mouse

WHAT'S IN THE BOX?

PART NO.	Q-TY	DESCRIPTION
D2H-4P-S	1	4-Port DisplayPort in, HDMI out, 4K Ultra-HD KVM Switch with USB and Audio
PS5VDC2A	1	Power Adapter
	1	User Manual

D2H-4P FRONT



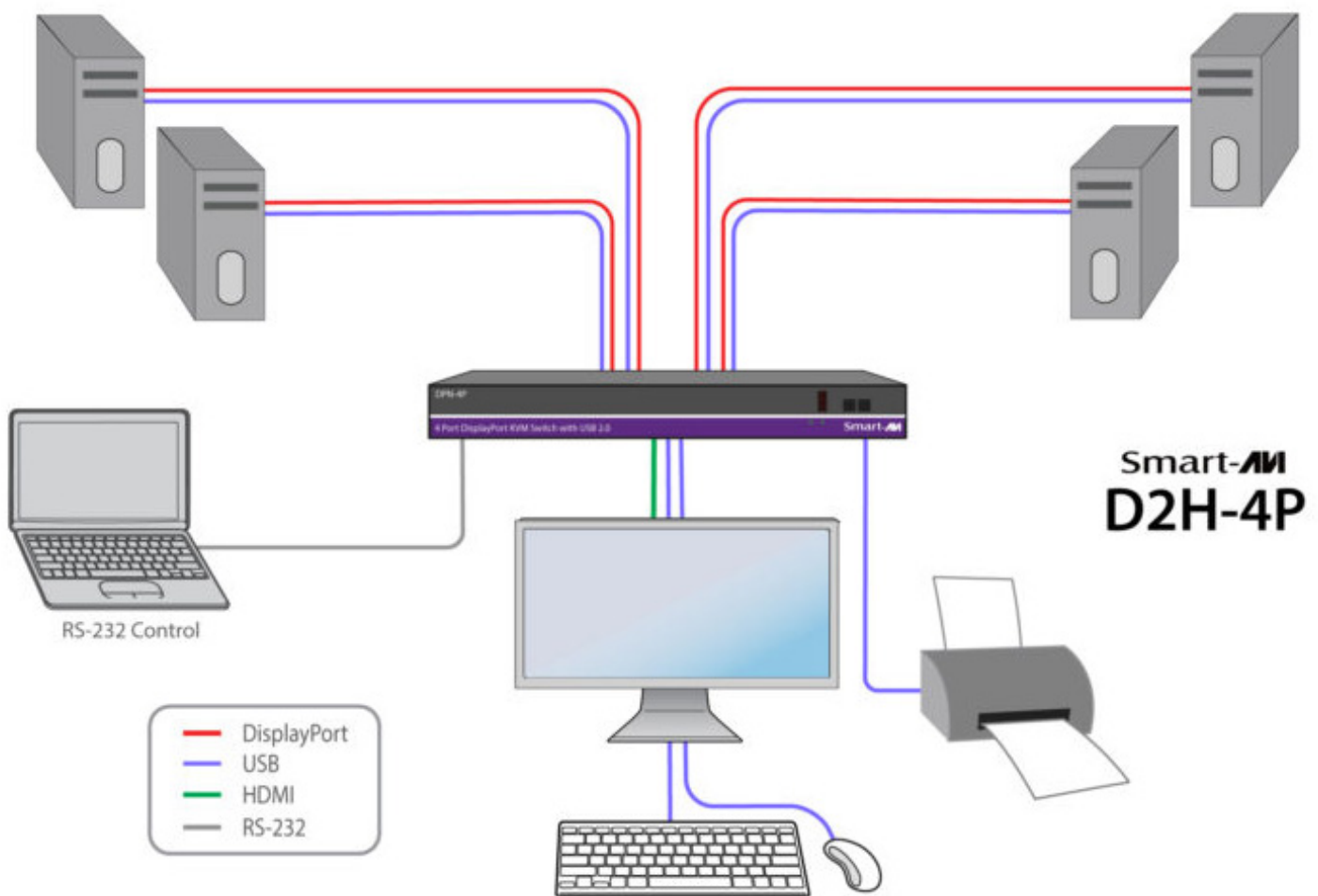
D2H-4P BACK



INSTALLATION

1. Ensure that power is disconnected from D2H-4P.
2. Connect the DisplayPort cables, Audio and USB cables (male type-A to male type-B) from the computers to the respective ports on the D2H-4P.
3. Optionally connect RS-232 for control functions.
4. Connect the USB keyboard and mouse to the two USB ports on the right .
5. Connect speakers to the out connector on the D2H-4P.
6. Connect the HDMI Display to the OUT connector on the D2H-4P.
7. Power on the displays, Computers and other devices. Power on the D2H-4P.

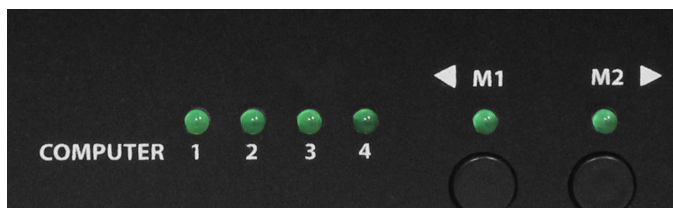
Note: The 2 USB ports on the right are dedicated for keyboard and mouse with full emulation. The 2 on the left are for other USB peripherals (flash drives, printers, etc.)



CONTROL

FRONT PANEL CONTROL

To switch ports using the front panel, press the M1 or M2 button to navigate from computer to computer. The numbered LED lights will indicate which computer is selected.



HOTKEY COMMANDS

A Hotkey command is a keyboard sequence used to trigger an action on the D2H-4P through the use of the keyboard connected on the USB port of the D2H-4P. To activate the hotkey sequence, press the CTRL key twice and then enter the desired hotkey commands. Hotkey commands are listed below.

RS-232 CONTROL

RS-232 control allows for remote control of the D2H-4P. See the section on establishing an RS-232 connection in this manual. Set the connection to 115200 N,8,1, No flow control. RS-232 commands are listed below.

COMMANDS	HOTKEYS	RS-232 CONTROL
Switch all USB devices, audio and video	[CTRL] [CTRL] [port #] [ENTER] *Please note there is no "m" for this command	//m [port #] [ENTER]
Switch Audio Only	[CTRL] [CTRL] a [port #] [ENTER]	//a [port #] [ENTER]
Switch KVM Only	[CTRL] [CTRL] c [port #] [ENTER]	//c [port #] [ENTER]
Switch USB 2.0 Only	[CTRL] [CTRL] u [port #] [ENTER]	//u [port #] [ENTER]
Learn EDID	[CTRL] [CTRL] e [ENTER]	//e [ENTER]
Trigger Hotplug	[CTRL] [CTRL] h [ENTER]	//h [ENTER]
Reset Software	[CTRL] [CTRL] r	//r [ENTER]
Factory Defaults	[CTRL] [CTRL] f	//f [ENTER]
Same as front panel ◀ M1 button	[CTRL] [CTRL] ↑	N/A
Same as front panel M2 ▶ button	[CTRL] [CTRL] ↓	N/A
Get Port Status	N/A	//?? [ENTER]

DISABLE UNUSED PORTS

The following commands can be used to disable ports 4 and 3 to better suit 2 and 3 port configurations.

COMMANDS	HOTKEYS	RS-232 CONTROL
Disable Port 4	[CTRL] [CTRL] d 4 [ENTER]	//d 4 [ENTER]
Disable Port 3 and 4	[CTRL] [CTRL] d 3 [ENTER]	//d 3 [ENTER]

NOTE: Factory reset to enable port 3 - 4

CUSTOM HOTKEY TRIGGERS

Users are able to customize the keys that trigger Hotkeys. The default trigger for hot key 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 hotkey trigger setting

Use the RS-232 command: `///??<CR>` to view the current HotKey Trigger To reset the Hotkey Trigger use the "Factory Defaults" command.

To change the hotkey trigger setting

HK + HK + X + desired hotkey

Example: If users current Hotkey trigger is Shift and want to change to Scroll Lock, user would type `Shift + Shift + X + Scroll lock`

ESTABLISHING AN RS-232 CONNECTION

Before you start

Controlling a Smart-AVI device via RS-232 requires an RS-232 card installed on your computer or a USB to RS-232 adapter. Below are instructions on how to create an RS-232 connection between a PC and the Smart-AVI device.

Use terminal client software such as the PuTTY to connect to the Smart-AVI device. Make sure to use communication settings 115200 bps, N, 8, 1, No flow control.

Check the device and your PC to determine if you need a male to male or a male to female cable and how long it needs to be. The Smart-AVI device requires a straight through cable. You can use a Null Modem Adapter to convert a crossed cable to a straight through cable. Examples of crossed and straight through cable pin-outs are shown below. The standard maximum length for a RS-232 cable is 50 feet. Call our Smart-AVI Support Engineer if you require more information.

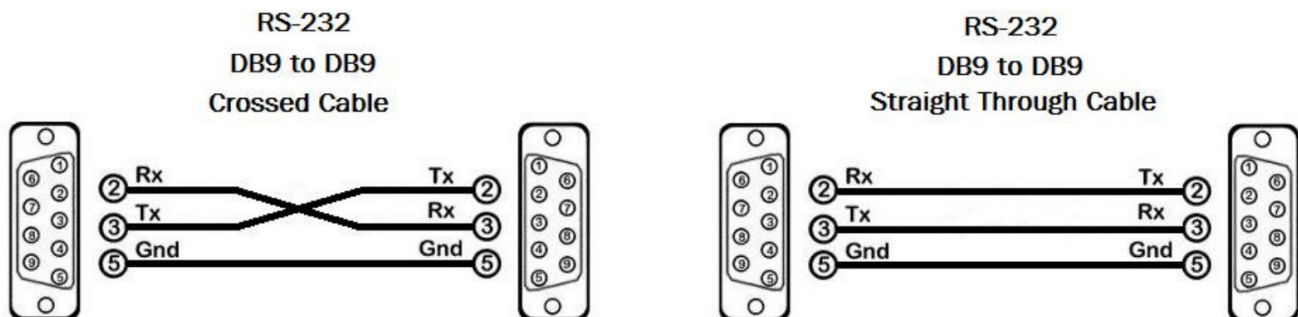


Figure 7-1
Examples of 9 pin RS-232 Straight Through and Crossed Cables

ESTABLISHING AN RS-232 CONNECTION (CONTINUE)

Establish a connection to the Smart-AVI device

1. Connect an RS-232 cable to the RS-232 connector on the PC.
2. Connect the other end of the cable to the RS-232 port of the Smart-AVI device.
3. Use Windows Control Panel / Device Manager to identify the Com port number. See instructions and Figure 7-2 below.
4. Power on the device.

If you are using a USB to COM port adapter on a Windows PC and need to identify the COM port used, do the following:

1. Click on the start button.
2. Click on Control Panel.
3. Click on Device Manager.
4. Click on the arrow next to Ports (COM & LPT).

You should see the name of your adapter and the COM port number in use.

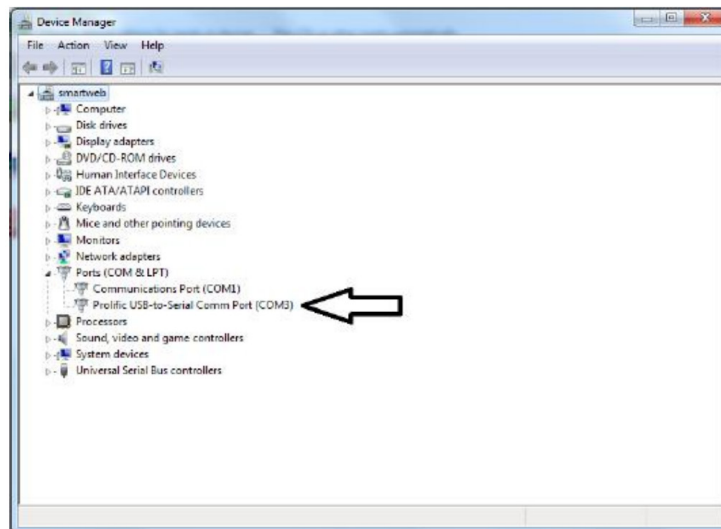


Figure 7-2

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.

Smart-AVI

SMART AUDIO VIDEO INNOVATION

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