SM-EDPN-PRO

ADVANCED 4-PORT 4K KVM MULTIVIEWER

USER MANUAL

SM-EDPN-PRO-4S	4-Port Single-Head DP 4K KVM Multiviewer
SM-EDPN-PRO-4D	4-Port Dual-Head DP 4K KVM Multiviewer
SM-EDPN-PRO-4Q	4-Port Quad-Head DP 4K KVM Multiviewer

Designed and Manufactured in the USA

Smart-AVI

1-800-284-2131
www.smartavi.com

OVERVIEW

TECHNICAL SPECIFICATIONS

VIDEO		
Format	DisplayPort1.2	
Maximum Pixel Clock	165 MHz	
Input Interface	SM-EDPN-PRO-4S	(4) DisplayPort 20-pin (female)
	SM-EDPN-PRO-4D	(8) DisplayPort 20-pin (female)
	SM-EDPN-PRO-4Q	(16) DisplayPort 20-pin (female)
Output Interface	SM-EDPN-PRO-4S	(1) DisplayPort 20-pin (female)
	SM-EDPN-PRO-4D	(2) DisplayPort 20-pin (female)
	SM-EDPN-PRO-4Q	(4) DisplayPort 20-pin (female)
Resolution	3840 x 2160 @ 60 Hz	
Color Mode	24-bit	
DDC	5 volts p-p (TTL)	
Input Equalization	Automatic	
Input Cable Length	Up to 20 ft	
Output Cable Length	Up to 20 ft	
Data Rate	1.65 Gbps per color	
EDID Support	Full emulation & preloaded profiles	
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	Push Buttons with LED Indicators	
RS-232 Input Interface	(4) DB9 (female) 115200, N, 8, 1, No flow control	
RS-232 Output Interface	(1) DB9 (male) 115200, N, 8, 1, No flow control	
LAN	RJ45	
Hot Keys	Via Keyboard	
OTHER		
Power Adapter	External 120-240 VAC, Internal PSU	
Dimensions	17.0" W × 2.7" H × 8.69" D	
Weight	4.4 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
SM-EDP-PRO	1	4-Port Single/Dual/Quad-Head 4K KVM Multiviewer
PS5VDC3A	1	Power Cord (120-240 VAC)
	1	User Manual

FRONT AND BACK

SM-EDPN-PRO-4S Back
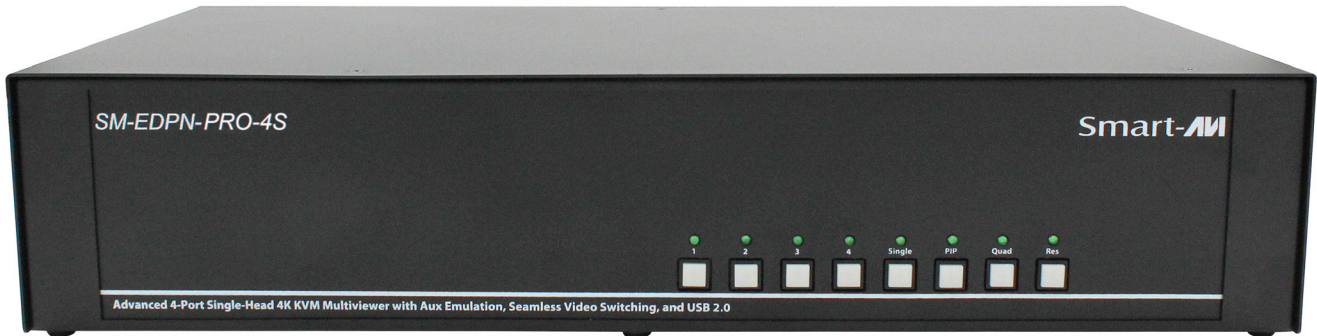
SM-EDPN-PRO-4S Front

FRONT AND BACK (CONTINUED)

SM-EDPN-PRO-4D Back

SM-EDPN-PRO-4D Front

SM-EDPN-PRO-4Q Back

SM-EDPN-PRO-4Q Front

INSTALLATION

Follow these simple steps to set up your SM-EDPN-PRO and get it running smoothly. No special tools or software are required.

1. **Power Off Everything**
   Make sure the KVM and all connected computers are turned off before you start.
2. **Connect DisplayPort Cables**
   Use DisplayPort (DP) cables to connect the video outputs from each computer to the corresponding DP IN ports on the rear of the KVM.
3. **Connect USB Cables**
   Use USB Type-A to Type-B cables to connect a USB port from each computer to a USB IN port on the KVM.
4. (Optional) **Connect Audio**
   If you need audio, use 3.5 mm stereo audio cables to connect each computer's sound output to the AUDIO IN ports on the KVM.
5. **Connect a Monitor**
   Attach your monitor to the DP OUT console port using a DisplayPort cable.
6. **Connect Keyboard and Mouse**
   Plug your keyboard and mouse into the USB console ports labeled K/M OUT.
7. (Optional) **Connect USB 2.0 Devices**
   You can also connect USB peripherals like printers or cameras to the USB 2.0 OUT ports.
8. (Optional) **Connect Speakers**
   Plug your speakers into the AUDIO OUT port to share sound from the active computer.
9. **Power On the KVM**
   Plug in the power cord and connect a 12VDC power supply. Turn on all computers and your monitor.

Note: You can connect up to 2 computers on a 2-Port model, 4 on a 4-Port model, or 8 on an 8-Port model.

A simplified connection diagram is shown below for reference.

──	VIDEO IN
──	VIDEO OUT
──	USB IN
──	USB K/M OUT
──	USB 2.0 OUT
──	AUDIO IN
──	AUDIO OUT
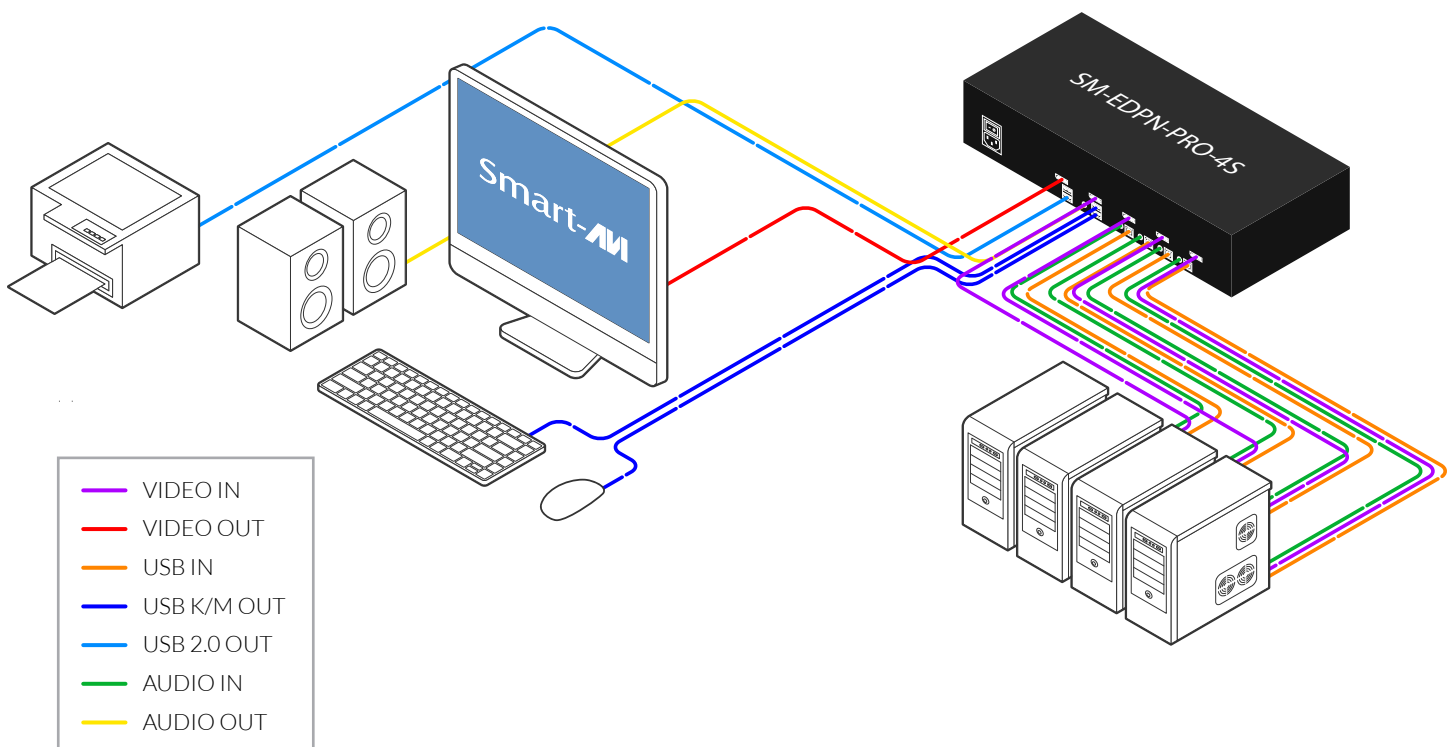
INSTALLATION (CONTINUED)

EDID LEARN
First the EDID for the monitor connected to the DP Out Port must be learned. This can be done in three different ways.

1. The EDID of the monitors connected to the DP Out ports will automatically be learned on boot-up.
2. While the unit is running, the EDID for all monitors connected can be learned by entering the following "Learn EDID" commands:
   a. **Hotkey** + **Hotkey** + **e** + **Enter**
   b. RS232 command: "//**e** "
3. While the unit is running, the EDID of an individual monitor connected can be learned by entering the following "Single Learn EDID" commands:
   a. **Hotkey** + **Hotkey** + **e** + [1-4] + **Enter**
   b. RS232 command: "//**e** [1-4]"

EDID LOCK
Once the EDID of the desired monitors have been learned it is possible to "Lock the EDID" so that the EDID is not re-learned on boot-up or through "EDID learn" commands.

1. To "lock" the EDID for all monitors connected, enter one of the following "Lock EDID" commands:
   a. **Hotkey** + **Hotkey** + **l** + **Enter**
   b. RS232 command: "//**l** "
2. To "lock" the EDID of an individual monitor connected, enter one of the following "Single Lock EDID" commands:
   a. **Hotkey** + **Hotkey** + **l** + [1-4] + **Enter**
   b. RS232 command: "//**l** [1-4]"

Note: Once the EDID of a monitor has been "locked", the only way to remove the EDID lock is by factory restoring the unit using the factory restore commands:
   a. **Hotkey** + **Hotkey** + **f** + **Enter**
   b. RS232 command: "//**f**"

PLEASE NOTE
After learning the EDID, it is recommended to use the Hotplug Command:
   a. **Hotkey** + **Hotkey** + **h** + **Enter**
   b. RS232 command: "//**h** "

SYSTEM OPERATION

There are three ways to control the SM-EDPN-PRO: Keyboard Hotkeys, RS-232 Serial Commands, and Front Panel Buttons. All modes of control will allow the user to set their desired configurations.

FRONT PANEL CONTROL

The front panel buttons will function as the typical secure KVM switches. To switch to an input port, simply push the desired input button on the front-panel of the KVM. If an input port is selected, the LED of that port will turn on.

There are 2-8 buttons on the front panel of the device, depending on the model. There will be an added EDID Learn function that can be triggered from the Front Panel, this will be triggered as follows:
Hold down first and last buttons of front panel for 3 seconds to force learn EDID.

HOTKEY AND RS232 SERIAL CONTROL

The SM-EDPN-PRO 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-EDPN-PRO via Serial, you will see the SM-EDPN-PRO 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 All USB, Video, and Audio	[CTRL][CTRL] [port #] [ENTER]	//m [port #] [ENTER]
Switch Audio Only	[CTRL][CTRL] a [port #] [ENTER]	//a [port #] [ENTER]
Switch KM Only	[CTRL][CTRL] c [port #] [ENTER]	//c [port #] [ENTER]
Switch USB Only	[CTRL][CTRL] u [port #] [ENTER]	//u [port #] [ENTER]
Learn All EDIDs	[CTRL][CTRL] e [ENTER]	//e [ENTER]
Single Learn EDID	[CTRL][CTRL] e [port #] [ENTER]	//e [port #] [ENTER]
Lock All EDIDs	[CTRL][CTRL] l [ENTER]	//l [ENTER]
Single Lock EDID	[CTRL][CTRL] l [port #] [ENTER]	//l [port #] [ENTER]
Trigger Hotplug	[CTRL][CTRL] h [ENTER]	//h [ENTER]
Reset Software	[CTRL][CTRL] r [ENTER]	//r [ENTER]
Factory Defaults	[CTRL][CTRL] f [ENTER]	//f [ENTER]
Get Port Status	N/A	//?? [ENTER]

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: **/ + / + ? + ? + 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]

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

LED'S BEHAVIOR

User Console Interface – Display LED:

#	STATUS	DESCRIPTION
1	Off	Monitor is not connected
2	On	Monitor is connected
3	Flashing	EDID problem – Learn EDID to fix the problem

Front Panel – Port Selection LED's:

#	STATUS	DESCRIPTION
1	Off	Non-selected port
2	On	Selected port
3	Flashing	EDID learn in process

EDID Learn - Front Panel LED's:

All LED's are turned on for 1 second. Then:

- Port 1 LED's will flash until the end of the process.
- Port 2 LED's will flash until the end of the process if a second video board exists (Dual-head KVM).
- Port 3 LED's will flash until the end of the process if a third video board exists (Quad-head KVM).
- Port 4 LED's will flash until the end of the process if a fourth video board exists (Quad-head KVM).

IMPORTANT!

If all Front Panel LED's are **on** and **not flashing**, the POWER UP SELF TEST has failed and all functions are disabled. Check if any of the front panel port selection buttons are jammed. In this case, release the jammed button and recycle the power. If power up self test is still failing, please contact SmartAVI technical support at support@smartavi.com.

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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SMART AUDIO VIDEO INNOVATION

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