HDR-4X4-Plus

User Manual

4K Resolution - 4x4 HDMI Matrix Switch

Deliver 4K Resolution While Switching Four Video Signals Between Four Displays
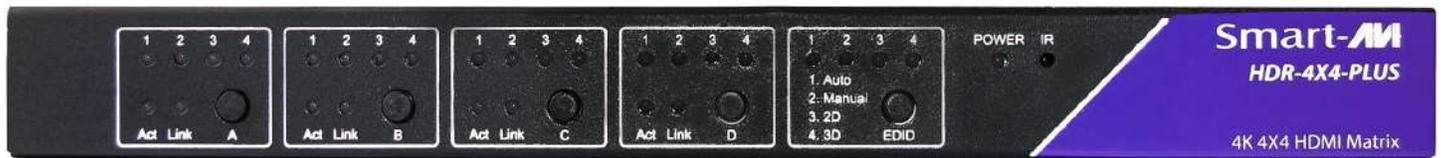
Smart-AVI

SMART AUDIO VIDEO INNOVATION

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WHAT'S IN THE BOX?

PART NO.	QTY	DESCRIPTION
HDR-4X4-Plus-S	1	4x4 HDMI Router with 4K resolution
PS12VDC3A & CCPWR06	1	Power Adapter
HDR4X4-RMT	1	IR Remote control
	1	Quick Start Guide

FRONT

REAR

Figure 2-1

INTRODUCTION

To distribute and switch the latest in 4K HDMI video signals, the HDR-4x4-Plus allows users to switch four HDMI inputs with four displays. Four outputs give users flexibility while routing 4K video (3840x2160 @30Hz) and audio signals to four displays. The HDR-4x4-Plus eliminates the need to disconnect and re-connect HDMI sources to a single display. The device is compatible with computer sources, live HD television feeds, Blu-ray players, gaming consoles, video cameras and more. Controlling the matrix switch is simple thanks to the front buttons, the included infrared remote control, and the RS-232 port. The HDR-4x4-Plus can be controlled by Windows®-based software that is easy to understand and simple to use.

FEATURES

- Supports 4K/2K Input/Output
- 4x4 Non-blocking, Single-link HDMI Matrix Switch
- Distributes any of the Four Inputs to any Combination of the Four HDMI Output Displays
- Includes IR Remote
- HDCP and HDMI 1.4 Compliant

APPLICATIONS

- Wall Displays
- Digital Media
- Airports
- Dealer Rooms
- Control Rooms
- Audio/Visual Presentations
- Shopping Centers
- Security
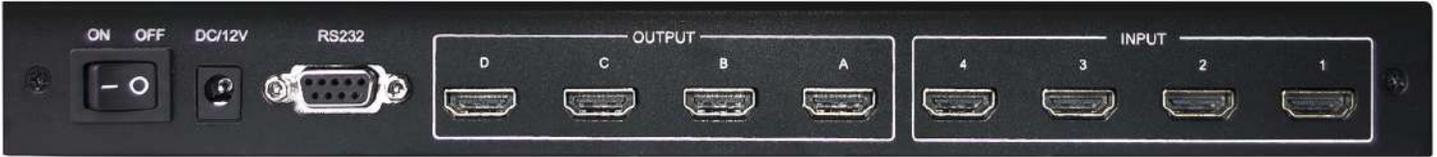- Point-of-Sale
- Hotels/Resorts

TECHNICAL SPECIFICATIONS

VIDEO (and AUDIO)	
Format	HDMI
DVI Compliance	Single-link DVI-D 1.1 with Adapter
HDCP Compliance	1.0/1.1
Video Bandwidth	Single-link 340 MHz (10.2 Gbps)
Resolution	Up to 3840x2160 @30Hz.
Input Interface	(4) HDMI (7.1 Ch. Audio & Video)
Output Interface	(4) HDMI (7.1 Ch. Audio & Video)
Connector	HDMI Type A (19-pin Female)
CONTROL	
Front Panel	Buttons
IR Remote Control	HDR-4X4-RMT
RS-232	DB9 Female, 9600, N, 8, 1, no flow control
Ethernet Control	Optional (NET-IP-Pro)
OTHER	
Power Adapter	External 100-240 VAC / 12VDC3A
Approvals	UL, CE, ROHS Compliant
Weight	2.1 lbs.
Dimensions	11.8"W X 5.5"D X 1.5"H
Working Temp.	32 to 122°F (0 to 50 °C)
Working Humidity	Up to 85% RH (no condensation)
Storage Temp.	-4 to 149 °F (-20 to 65 °C)
Storage Humidity	Up to 90% RH (no condensation)

HARDWARE INSTALLATION

1. Turn off all input devices and displays.
2. Connect (4) HDMI cables from the input devices to the INPUT ports of the HDR-4x4-Plus.
3. Connect the displays to the (4) OUTPUT ports on the HDR-4x4-Plus.
4. Power on the input devices, displays, and the HDR-4x4-Plus.
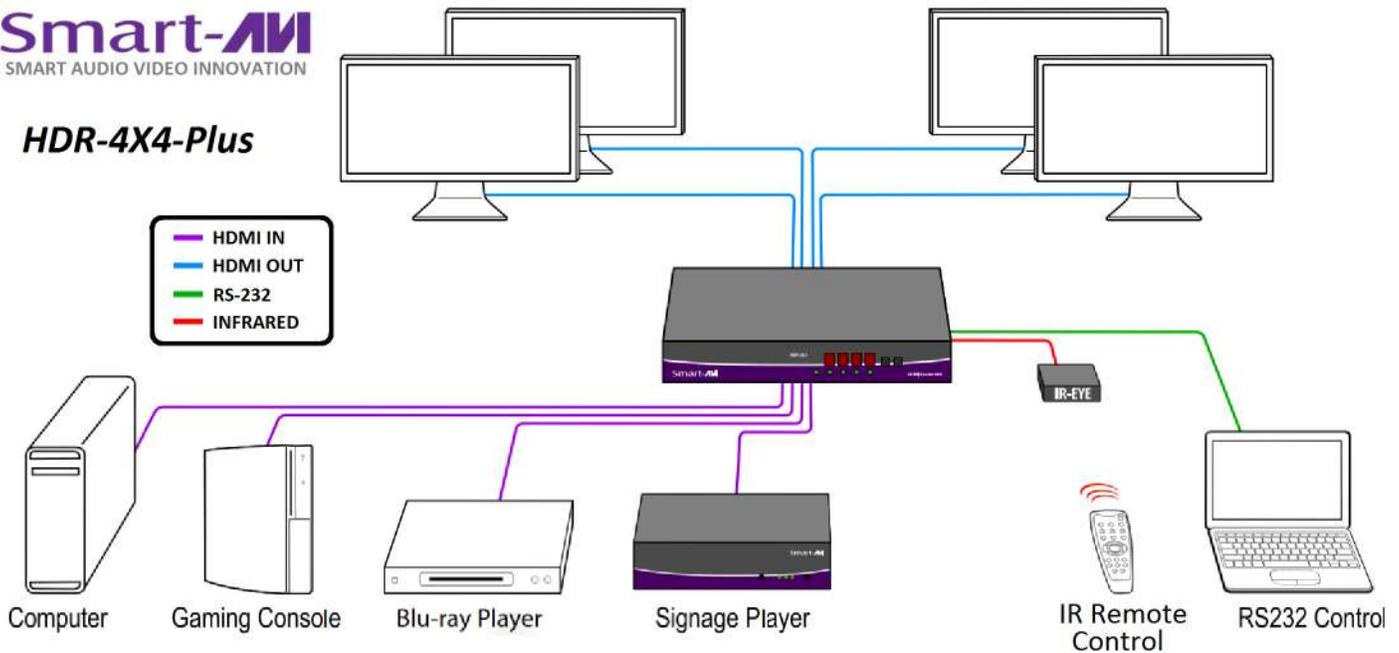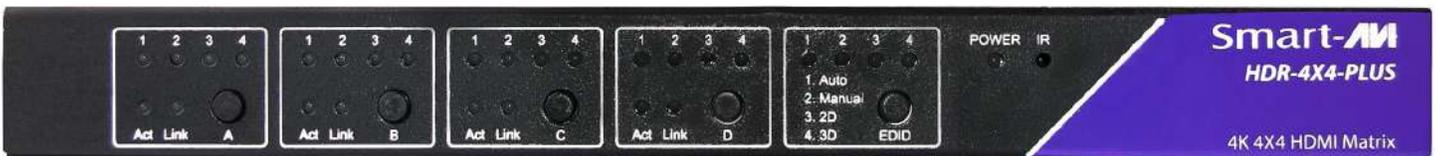
REAR VIEW

Figure 5-1

FRONT PANEL CONTROL

Button A: Select the input source for HDMI output A
Button B: Select the input source for HDMI output B
Button C: Select the input source for HDMI output C
Button D: Select the input source for HDMI output D

LEDs 1,2,3,4: Shows the input source selected
Act: Shows if the corresponding input signal is active
Link: Shows if the sync device is connected

Button EDID: Select the EDID
　+ **Auto:** Default EDID
　+ **Manual:** User can configure the EDID manually.
　+ **2D:** 2D-compatible EDID
　+ **3D:** 3D-compatible EDID

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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.

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. **This Smart-AVI device uses a straight through cable.** You can use a Null Modem Adapter to convert a straight through cable to a crossed cable or a crossed cable to a straight through cable. Examples of crossed and straight thorough cable pin-outs are shown below. The standard maximum length for an RS-232 cable is 50 feet. Call our Smart-AVI Support Engineer if you require more information.
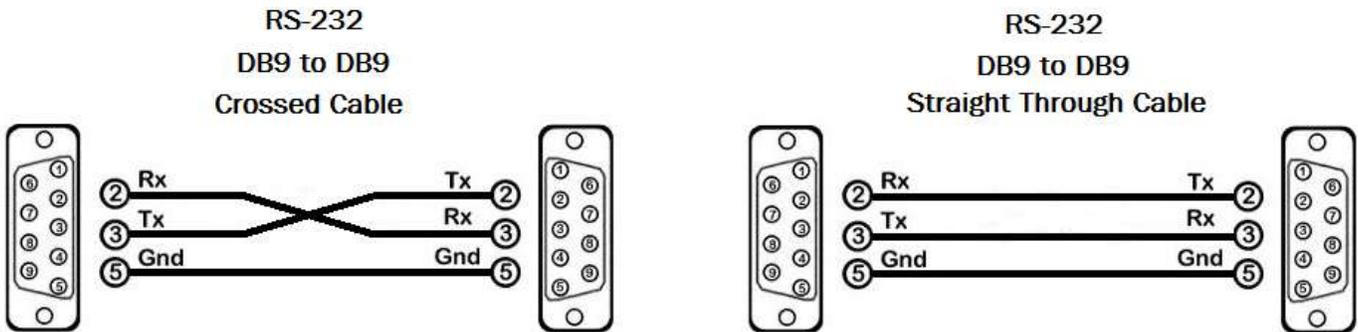
RS-232
DB9 to DB9
Crossed Cable

Rx   Tx
Tx   Rx
Gnd   Gnd

RS-232
DB9 to DB9
Straight Through Cable

Rx   Tx
Tx   Rx
Gnd   Gnd

Figure 6-1
Examples of 9 pin RS-232 Straight Through and Crossed Cables

ESTABLISHING AN RS-232 CONNECTION (Continued)

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 device.
3. Use Windows Control Panel / Device Manager to identify the Com port number. **See Figure 7-1 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).

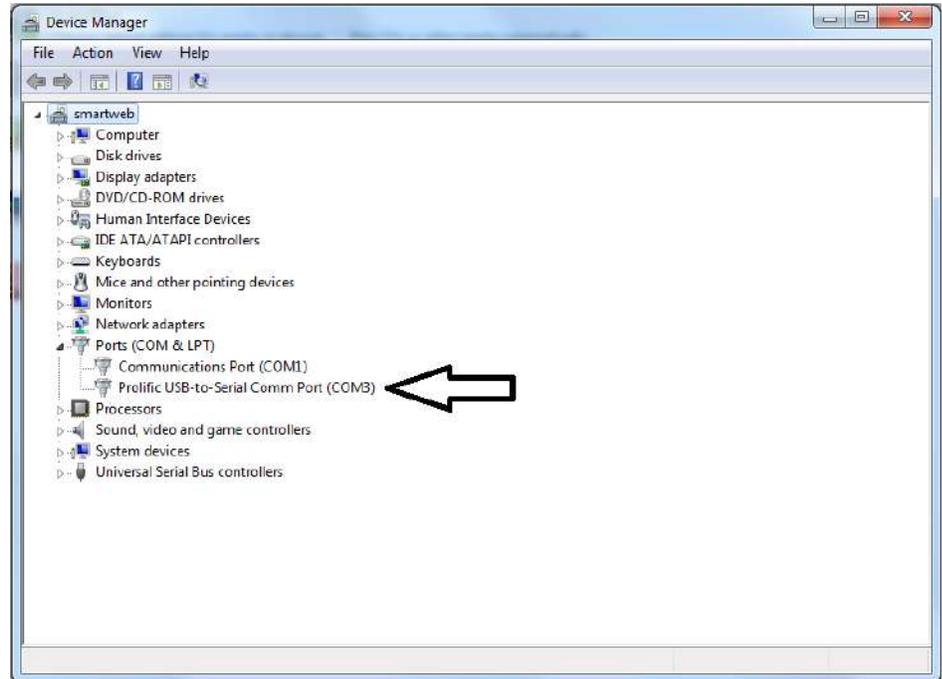You should see the name of your adapter and the COM port number in use.

Figure 7-1

RS-232 CONTROL WITH Smart Control Pro

Go to the Smart-AVI website, www.smartavi.com and click Support.
On the Support page click on "HELPFUL LINKS TO SOFTWARE"
On the HELPFUL LINKS page click on **SmartControlPro.**
SmartControlPro-v5-0-03_Installer.zip should begin to download.
When the download has finished open the .zip file and extract SmartControlPro-v5-0-03_Installer.exe.
Execute SmartControlPro-v5-0-03_Installer.exe and follow the prompts to install the Smart Control Pro software on your PC.
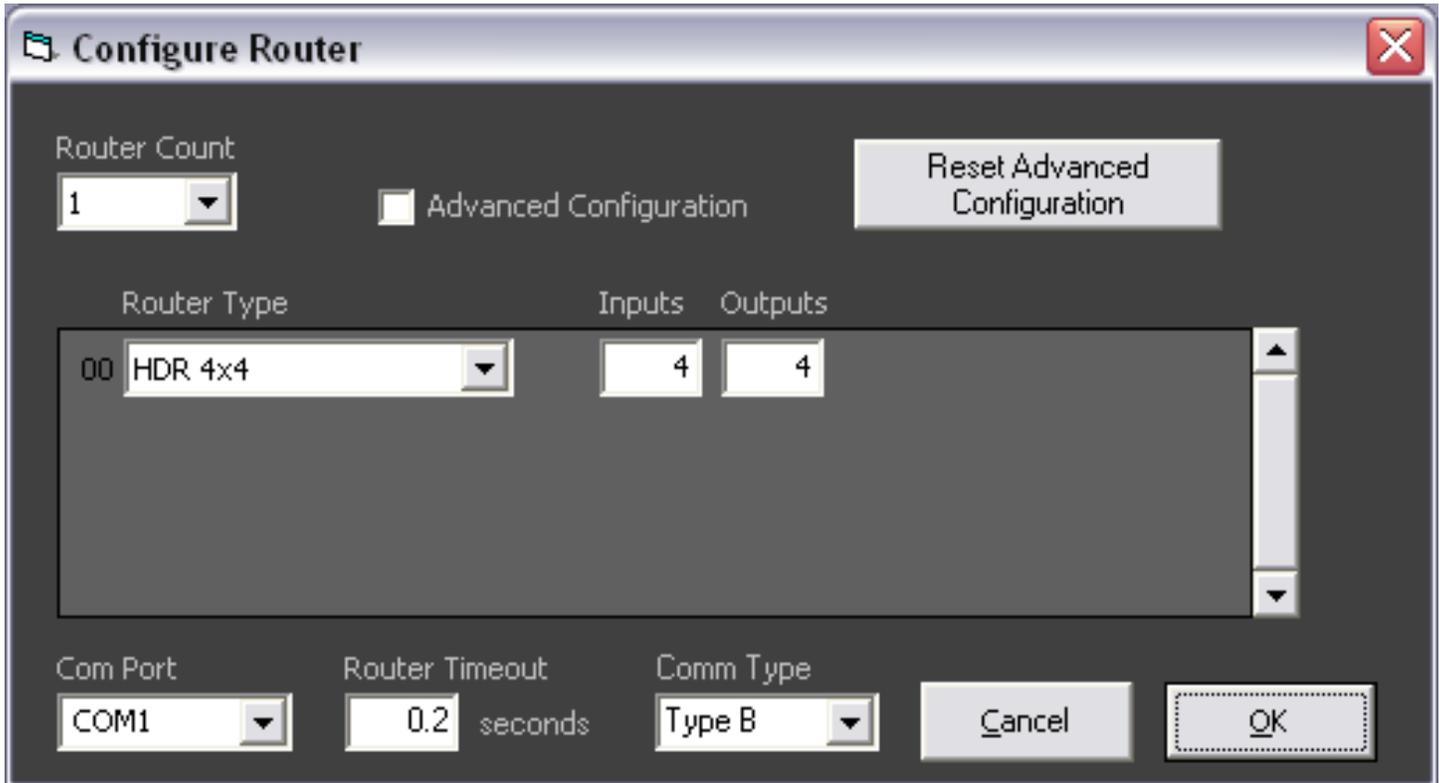
When executed Smart Control Pro will present you with an opportunity to open a saved configuration. If you later develop a configuration that you frequently use you can save it and load it at this point but for the initial set up click "No".

Figure 7-2

RS-232 CONTROL WITH Smart Control Pro (Continued)

When the software starts, you will see the configuration window.

Select the COM port number that the RS-232 is connected to.
Choose "HDR 4x4" for *Router Type*.
Click "OK".
After clicking OK, you will then be working with the main Matrix View.

RS-232 CONTROL WITH Smart Control Pro (Continued)

Main Routing Window

The Main Routing Window enables you to control the router connections by means of the cross-point panel, the button panel, or with the pre-recorded routes called macros.

Cross-point Panel: Simply click on the cross point itself. The input on the left will then be routed to the output above.
Note: Inputs can be routed to several different outputs, but each output can only have a single input at any one time. So you can have several connections horizontally but not vertically.

Figure 9-1

The Button Panel: To broadcast all outputs to an input, hold the CTRL key down and click on an input.

Macros: This section of the window is used to save and play black macros. Macros store a set sequence of routes.
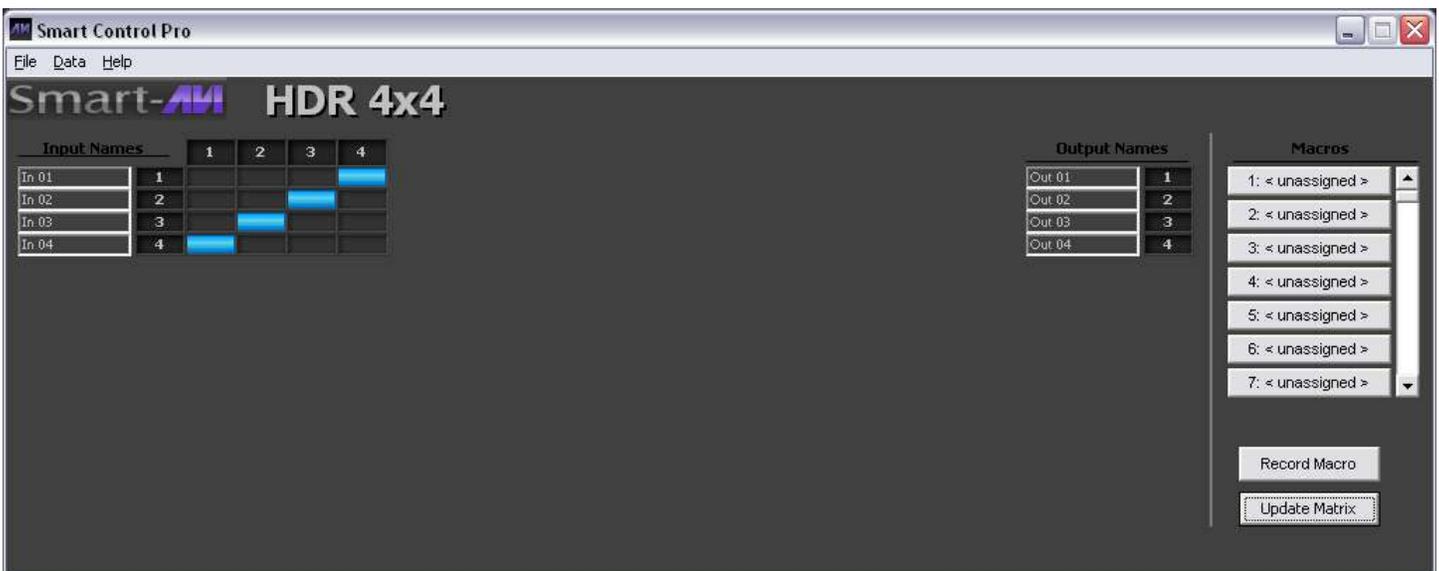

Figure 9-2

LIMITED WARRANTY STATEMENT

A.   Extent of limited warranty

Smart-AVI Technologies, Inc. warrants to the end-user customers that the Smart-AVI 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.

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

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

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

Smart-AVI limited warranty is valid in any country where the covered product is distributed by Smart-AVI.

B.   Limitations of warranty

To the extant allowed by local law, neither Smart-AVI nor its third party suppliers make any other warranty or condition of any kind whether expressed or implied with respect to the Smart-AVI 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 Smart-AVI 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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NOTICE

The information contained in this document is subject to change without notice. SmartAVI makes no warranty of any kind with regard to this material, including but not limited to, implied warranties of merchantability and fitness for particular purpose. SmartAVI will not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material. No part of this document may be photocopied, reproduced, or translated into another language without prior written consent from SmartAVI Technologies, Inc.

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