

HR4Plus

User Manual

4-Port HDMI Switch with 4K Ultra-HD Resolution Picture



Smart-AMV
SMART AUDIO VIDEO INNOVATION

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WHAT'S IN THE BOX?		
PART NO.	QTY	DESCRIPTION
HR4PLUS	1	4x1 HDMI Switch
PS5VDC2A	1	Power supply
	1	Quick Start Guide



Figure 2-1



Figure 2-2

INTRODUCTION

HR4Plus is an advanced 4x1 HDMI signal switch with flexible display modes, convenient control functions, and a plug-and play design that makes installation easy!

Capable of 4K resolution (3840x2160 @ 30Hz) ultra-high definition video output and limited PiP (Picture-in-Picture) display functionality, HR4Plus delivers top-grade imagery to best fit each users' needs.

The HR4Plus has simple front-panel control buttons, as well as optional RS-232 and IR device support. There is even a Standby button that saves energy when the device is not in use. Simply put, HR4Plus is an ideal HDMI switching unit for users of any technical skill level.

FEATURES

- (4) HDMI inputs
- (1) HDMI output for HDTV support
- Supports 1080p and 4K/30Hz resolution
- PiP (Picture in Picture) functionality
- Energy efficient Standby Mode
- Optional IR and RS-232 control support
- LED status indicators
- Front panel buttons

CONTROLS

1. Front Panel Buttons
2. Optional IR Remote Control
3. Optional RS-232 Remote Control

NOTES

1. When the Resolution is over 1080P, the switcher does not support PiP function.
2. The PiP function displays the small screens with a fixed size.

TECHNICAL SPECIFICATIONS

VIDEO	
HDMI Version	HDMI 1.4b
Video Format	24/30/36 bit deep color
Input Interface	(4) HDMI (female)
Output Interface	(1) HDMI (female)
Resolution	4K (3840x2160 @ 30Hz)
Max bandwidth	340MHz
Max baud rate	3.4Gbps
Input cable distance	≤15m (49 ft) AWG26 HDMI standard cable
Output cable distance	≤15m (49 ft) AWG26 HDMI standard cable
CONTROL	
Front Panel	Buttons
Optional RS-232	DB9 (female)
Optional IR Control	Infrared Remote Control
OTHER	
Supported audio formats	DTS-HD/Dolby-trueHD/LPCM7.1/DTS/Dolby-AC3/DSD
Power	5VDC2A
Max working current	300mA
Dimensions	1" H x 2.75" D x 8.125" W
Weight	.35 lbs.
Operating Temp.	-15 to +55 °C

CONNECTING THIS PRODUCT

1. Make sure the HR4Plus is turned off.
2. Connect up to 4 HDMI inputs (i.e. PC, Blu-Ray Player, Digital Signage, etc.) to the HDMI INPUT ports.
3. Connect a HD display to the HDMI OUTPUT port using HDMI cables or HDMI-to-DVI adapters for DVI displays.
4. Optionally connect an RS-232 cable from a PC to the RS-232 port of the unit for additional control.
5. Turn on the HR4Plus
6. Wait for the unit to initialize.

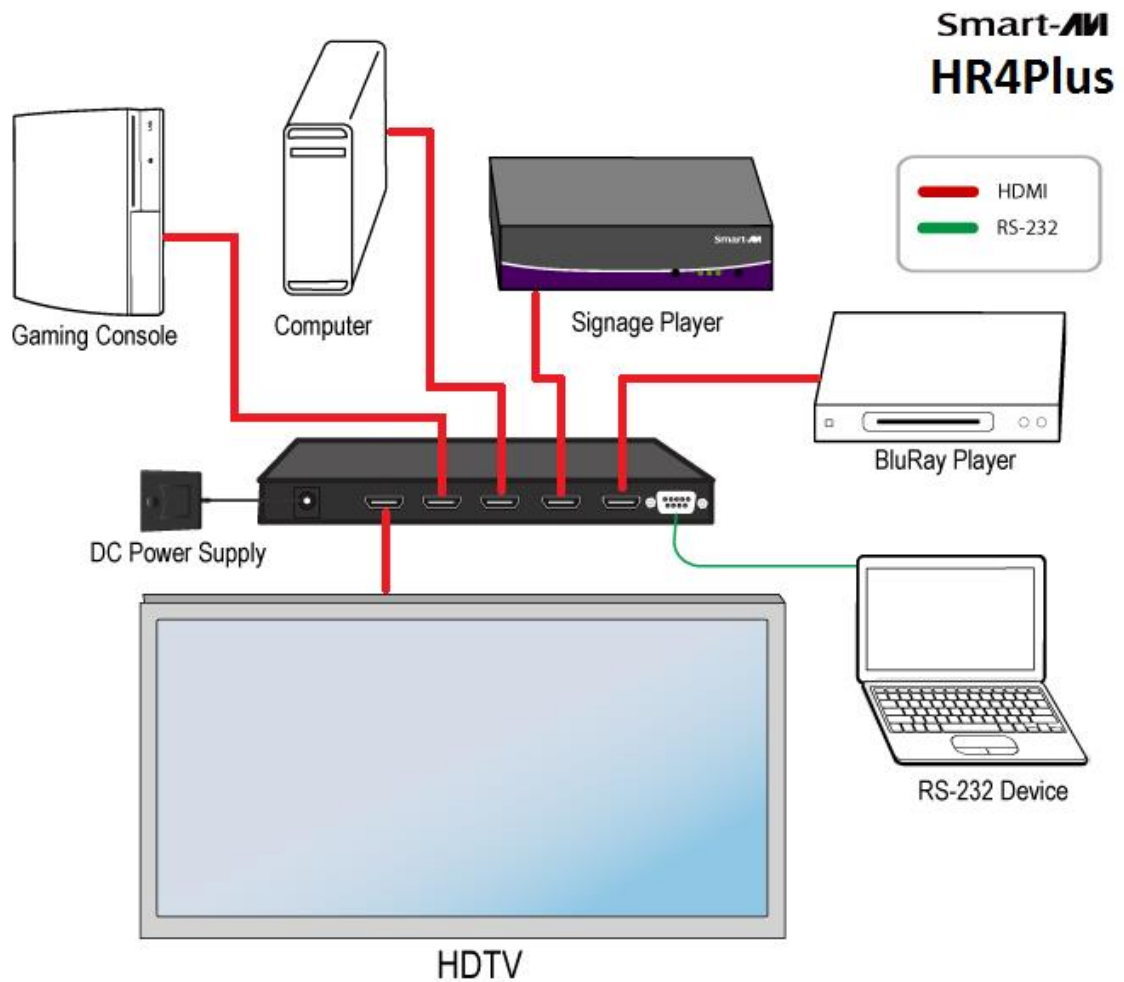


Figure 5-1



FRONT



BACK

PICTURE IN PICTURE (PiP)



Figure 6-1

To use PiP, first press the **SELECT** button until the input you want for the primary or large display is selected. Then press the **PiP** button. See Figure 6-1

The other inputs will be displayed as shown in Figure 6-2. The primary or large input will display as "Active" in the smaller PiP window. If there is no signal connected to an input port, that input will display "No Signal" in the smaller PiP window.

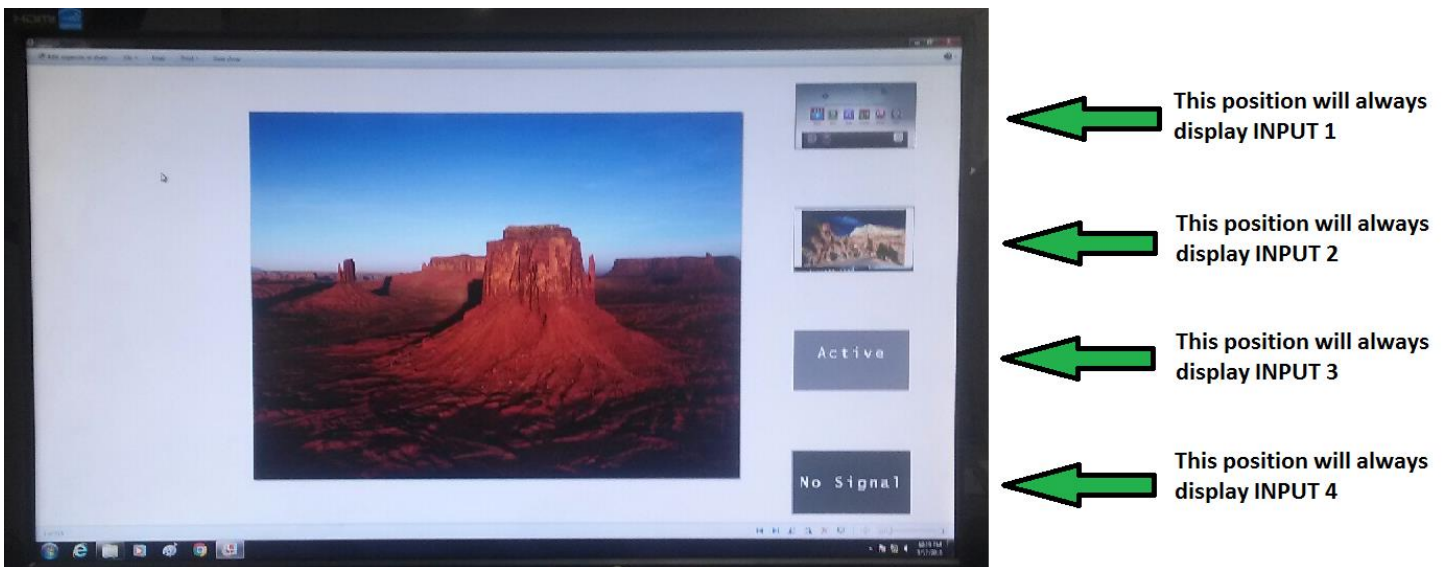


Figure 6-2

RS-232 CONTROL

BandRate: 9600

checksum calculate:

```
for(i=0;i<CmdLen-1;i++)  
{  
    checksum = checksum ^ CommandBuf[i];  
}
```

Hex format. eg. BOARD ID: 04

1.Source Switch:

Input1:2F 2F 04 46 30 30 4D 30 31 49 30 31 46 0D

Input2:2F 2F 04 46 30 30 4D 30 31 49 30 32 45 0D

Input3:2F 2F 04 46 30 30 4D 30 31 49 30 33 44 0D

Input4:2F 2F 04 46 30 30 4D 30 31 49 30 34 43 0D

2.BOOT:

2F 2F 04 42 4F 4F 54 12 0D

3.RESET:

2F 2F 04 52 45 53 45 54 51 0D

4.Q

2F 2F 04 46 30 30 55 17 0D

Responds with 80 0D for port 1

Responds with 81 0D for port 2 etc.

5.PIP

2F 2F 04 50 15 0D

6.ACT:

2F 2F 04 41 43 54 52 0D

eg. HDMI Port1,Port2 source active.

Response: 11 00 25 0D 0A

eg. HDMI Port2,Port3 source active.

Response: 01 10 25 0D 0A

eg. HDMI Port3,Port4 source active.

Response: 00 11 25 0D 0A

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 extent 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 extent 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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