



SP-HD-4B

1x4 HDMI Video splitter

Supports 4K UHD
Provides Analog and Digital Audio Outputs
Smart EDID Management


CUSTOMER
SUPPORT
INFORMATION

Order toll-free in the U.S. 800-959-6439
FREE technical support, Call **714-641-6607** or fax **714-641-6698**
Address: **Hall Research**, 1163 Warner Ave. Tustin, CA 92780
Web site: www.hallresearch.com E-mail: info@hallresearch.com

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FCC Class B Statement

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer’s instructions, may cause interference to radio communication. It has been designed to comply with the limits for a Class A computing device in accordance with the specifications in Subpart B of Part 15 of FCC rules, which are intended to provide reasonable protection against such interference when the equipment is operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user at their own expense will be required to take whatever measures may be necessary to correct the interference. Changes or modifications not expressly approved by the party responsible for compliance could void the user’s authority to operate the equipment.



1. Introduction

1.1 General

Thank you for purchasing the SP-HD-4B, 4-channel HDMI Splitter from Hall Research.

This Splitter can distribute one (1) DVI or HDMI audio/video source to four (4) identical outputs simultaneously without any loss. It is compliant to HDCP 1.4 and supports 4K UHD resolutions up to 4K@30Hz (4:4:4), HDR and 3D. This splitter can drive each buffered output up to 12 meters (40 feet) on quality HDMI cables.

The device is HDCP compliant and digitally splits and buffers the input signal for a 100% perfect image and sound reproduction on all outputs. The splitter also provides analog L/R and digital SPDIF (TOSLINK) outputs for connection to audio amplifiers, headphones, etc.

1.2 Features

- Lossless Ultra HD 4K distribution to four (4) UHD or HD outputs
- Supports PC & HDTV resolutions up to 4K x 2K@30Hz (4:4:4), 1080P@120Hz, and 1080P 3D@60Hz
- Supports 30/36/48 bits per pixel
- Full 3D video support including frame packing up to a 297MHz TMDS clock
- LED status indicators for power, source signal, and 4 output connections
- Analog and digital audio extraction via L/R and SPDIF outputs
- High bit-rate digital audio - DTS-HD, Dolby True HD, DTS, Dolby- AC3, LPCM 7.1 and DSD
- Can be cascaded up to 3 levels
- Each of the buffered outputs can run up to 12 meters (40 feet) using quality cables
- Smart EDID management (won't blink when you plug and unplug outputs)
- Plug and play installation, compact size
- Optional 1U rack mount kit available

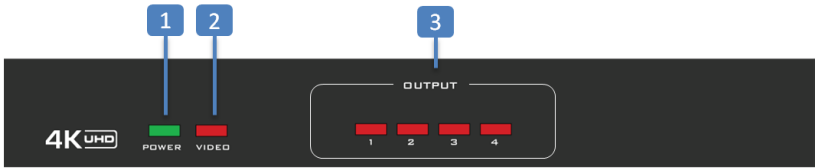
2. Package Contents

SP-HD-4B HDMI Splitter unit	1 pc
5V 2A DC Power Supply (w/ universal AC plug kit)	1 pc
Small 'L' brackets for surface mounting	2 pc
User's Manual	1 pc



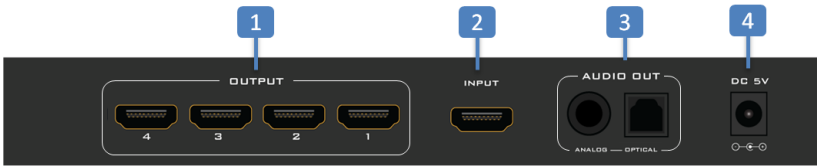
Brackets for mounting

3. Controls, Functions and Indicators



Front Panel

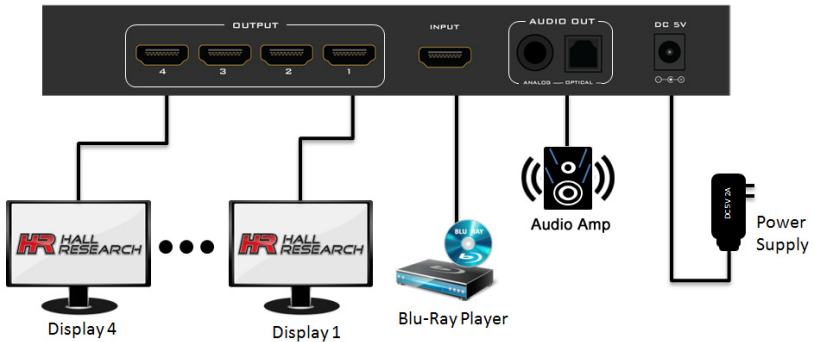
1	Input Power Indicator	LED lights when power is applied to the unit.
2	HDMI Source Indicator	LED lights when HDMI source signal is connected
3	HDMI Output Indicator 1- 4	LEDs light when HDMI display is connected



Rear Panel

1	HDMI Output 1-4	Used to connect all the sink displays
2	HDMI Input	Used to connect HDMI
3	Audio Output	Audio Extraction (analog audio L/R and SPDIF). Note that both outputs are active at the same time.
4	DC Input Power Jack	Connect 5V 2A power supply (Included)

4. Installation



Connection Block Diagram

Perform the following steps to install the SP-HD-4B.

1. Make sure your HDMI Sources and Displays that you are intending to connect to are powered off and disconnected from power sources.
2. Using Hi-speed HDMI cables, connect each display to the Outputs ports of the splitter.
3. Similarly connect the video source to the Input port of the splitter.
4. Power up the splitter using the DC power supply that comes with the unit.



Use only regulated 5v DC supply (center positive) as supplied with the unit. Never substitute any other power supply as this can destroy the unit

5. Power on all the displays followed by source.
6. Make sure the LED indicators for the corresponding Input and Outputs are lit.
7. Check the displays to verify you have video and sound.

Congratulations you have successfully installed SP-HD-4B!

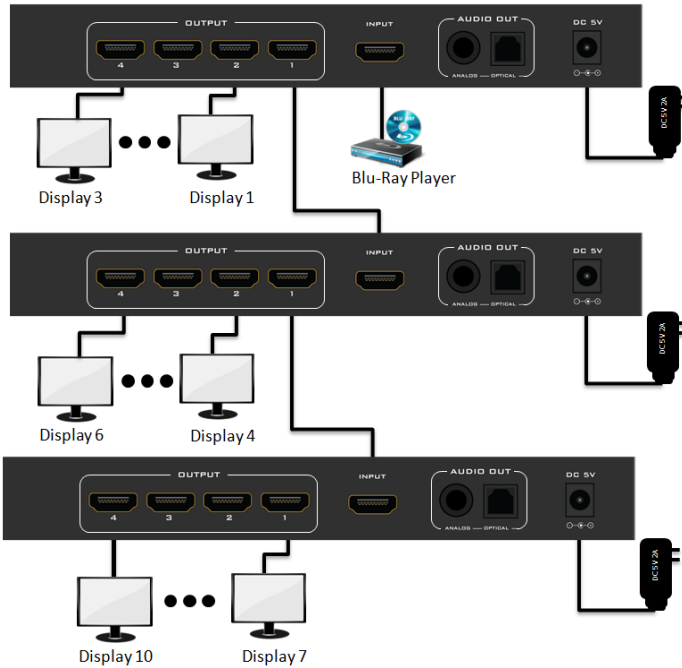
5. Smart EDID Management

When the unit powers up or when it first detects a video source connected the device creates an EDID for the source based on connected displays. If no displays are connected, the splitter uses an internal "default" HR EDID so the source sends signal.

The SP-HD-4B maintains the audio extraction feature even if there are no active displays connected to it. this is done by passing a custom HR EDID to the source.

6. Cascading (Daisy Chaining)

You can use any output to connect the splitter to another SP-HD-4B to expand the # of outputs. This can be done to a maximum of three (3) levels deep.



Daisy Chaining

6. Contacting Hall Research and Shipping/Packaging

6.1 Contacting Hall Research

If you determine that your HDMI video splitter is malfunctioning, do not attempt to repair the unit; instead, contact Hall Research Technical Support at 714-641-6607.

Before you do, make a record of the history of the problem. We will be able to provide more efficient and accurate assistance if you have a complete description.

6.2 Shipping and Packaging

If you need to transport or ship your unit:

- Package it carefully. We recommend that you use the original container.
- Before you ship the units back to Hall Research for repair or return, contact us to get a Return Authorization (RMA) number.

7. Specifications

Video

Standards	HDMI 1.4, HDCP 1.4
Input Port	1 x HDMI Type A [19-pin female]
Output Port	4 x HDMI Type A [19-pin female]
Video Resolutions	Up to 4K-2K @30Hz (4:4:4 3840x2160 @30)
3D Format	1080P @60Hz.
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YCbCr 4:2:0
Color Depth	30/36/48
Bandwidth	Single-link to 340 MHz (10.2 Gbps)

Audio

Supported Formats	LPCM 7.1, Dolby TrueHD, DTS-HD Master Audio, DTS, Dolby-AC3, DSD
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General

Power Supply	5V DC, 2A (with universal AC plug kit)
Max Power Consumption	10W (Max)
Temperature/humidity	Storage: -20°C ~ 60°C / -4°F ~ 140°F Operating: 0°C ~ 50°C / 32°F ~ 122°F Relative Humidity: 20 ~ 90%RH (Non-condensing)
Enclosure type	Metal
ESD Protection	Human Body model: 8kV (air-gap discharge) & 4kV (contact discharge)
Dimensions (W x D x H)	3.23 x 7.48 x 1.02 inch (82 x 190 x 26 mm)
Product weight	1.0 lbs (0.45 kg)

Specifications are subject to change without notice



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