SIMPLIFIED MFG SP12S HDMI 1 to 2 Splitter with Audio Breakout and Scaling User Manual

Contents

SIMPLIFIED MFG

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Thank you for purchasing this device
The Simplified MFG SP12S is designed to provide years of reliable service. At Simplified MFG, we want the experience with this device to be the best possible and are committed to helping achieve that experience.

Surge protection device recommended
This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lighting strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Introduction

The SP12S is an HDMI2.0b splitter with scaling, EDID management, and audio breakout. It supports resolutions up to 4K2K@60Hz (4:4:4) and HDCP 2.2/1.4. The EDID can be copied (output 1) or mixed. Each output can be set to 1080p or to the EDID setting. Also, audio can be extracted via the optical SPDIF and/or the 3.5mm mini jack.

Features

- HDMI 2.0b, HDCP2.2/HDCP1.4 compliant
- Supports HDMI 2.0b (18Gbps) up to 4K2K@50/60Hz (4:4:4)
- Audio can be extracted via the optical SPDIF and the 3.5mm mini jack
- Video signals can be spilt into two identical signals, or can be manipulated via the scaling switches
- The EDID shown to the source can be selected via the switch on the panel
    - In “copy” mode, Output 1 is shown to the source and the splitter treats both displays as the same as output 1
    - In “auto” mode, the splitter compares the two outputs and adjusts to the lowest common denominator
- Supports all HDMI audio formats including; LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD

Package Contents

- 1× HDMI 4K Ultra HD Scaler
- 1x 5V/1A Power Supply
- 1x User manual

Specifications

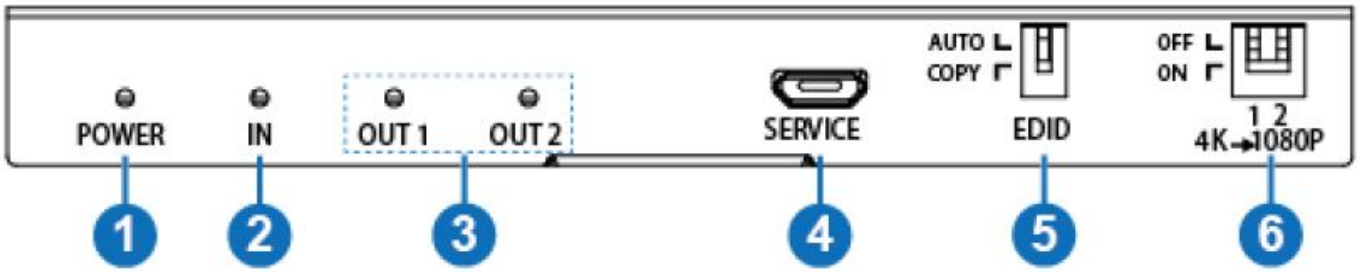
Technical	
HDMI Compliance	HDMI 2.0b
HDCP Compliance	HDCP 2.2 and HDCP 1.4
Video Bandwidth	18Gbps

Video Resolutions	720P50/60Hz, 1080P50/60Hz, 4K2K24Hz, 4K2K30Hz, 4K2K@50/60Hz (4:4:4)
Color Depth	4K60Hz 8-bit, 1080P 12-bit
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2
HDMI Audio Formats	LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-EX, DTS-96/24, DTS High Res, DTS-HD Master Audio, DSD
L/R Audio Formats	PCM 2.0
Optical Audio Formats	LPCM [2.0/2.1]CH, Dolby 5.1, Dolby True HD,Dolby DD+, DTS 5.1, DTS-ES 6, DTS-HDMA 5.1, DTS HD-HRA 5.1
ESD Protection	Human-body Model：±8kV (Air-gap discharge) , ±4kV (Contact discharge)
Connections	
Input ports	1×HDMI Type A [19-pin female]
Output ports	2×HDMI Type A [19-pin female] 1×L/R Audio out [3.5mm Stereo Mini-jack] 1×Optical out [S/PDIF]

Mechanical	
Housing	Metal Enclosure
Color	Black
Dimensions	120mm(W)×62.5mm(D)×14mm(H)
Weight	166g
Power Supply	Input: AC100~240V 50/60Hz, Output: DC5V/1A (US/EU standards, CE/FCC/UL certified)
Power Consumption	2.8W (max)
Operating Temperature	0°C ~ 40°C / 32°F ~ 104°F
Storage Temperature	-20°C ~ 60°C / -4°F ~ 140°F
Relative Humidity	20~90% RH (non-condensing)

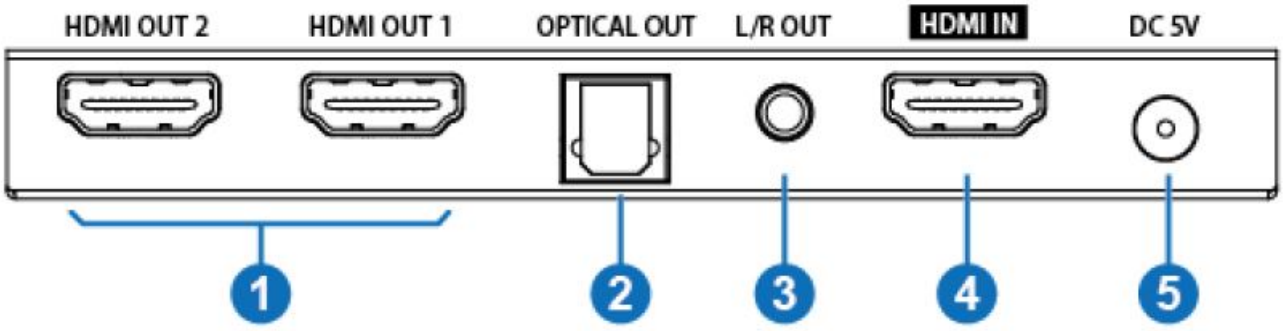
Operation Controls and Functions

Front Panel



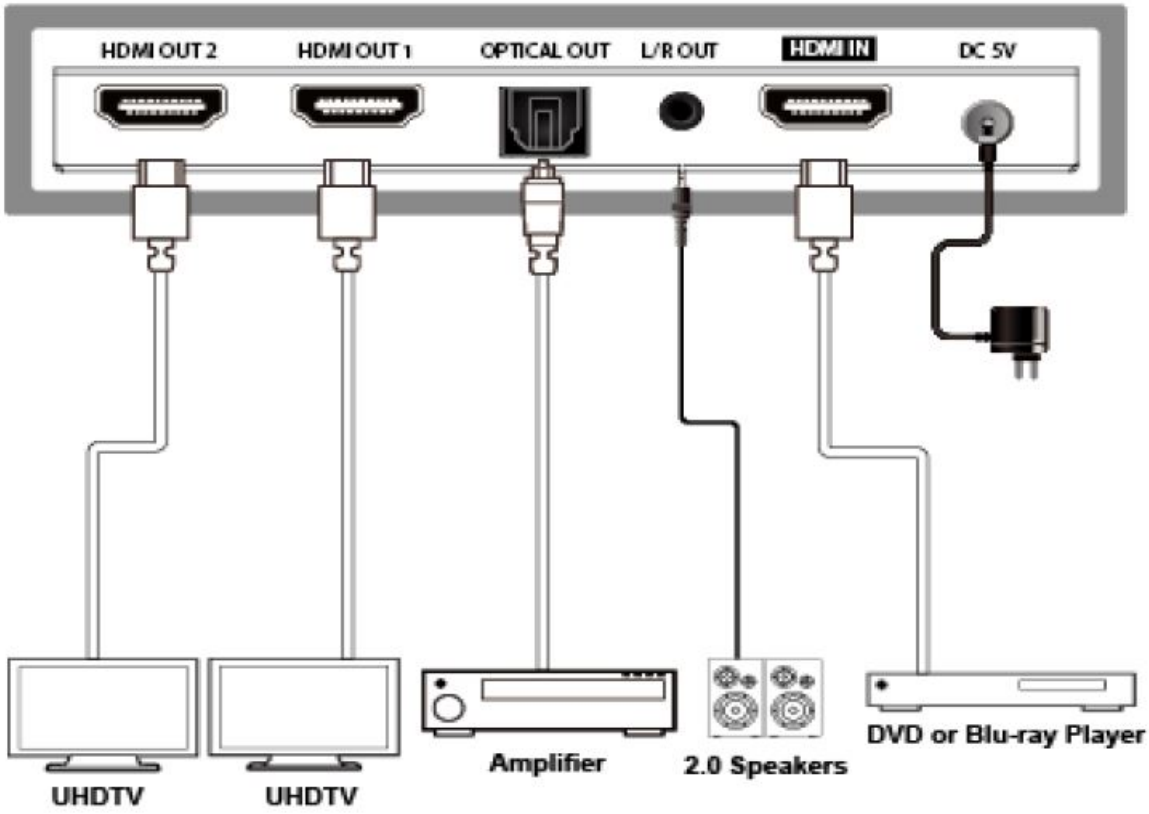
Number	Name	Function description
1	POWER LED	This blue LED will illuminate when the unit has connected power supply.
2	HDMI INPUT LED	This blue LED will illuminate when the HDMI IN has connected an active HDMI source device with a HDMI cable.
3	HDMI OUTPUT LED	These blue LEDs will illuminate when the HDMI OUT port has connected an active display device with a HDMI cable.
4	SERVICE PORT	Firmware update use. (Manufacturer use only.)
5	EDID	AUTO: Compares OUT 1 and OUT 2 displays EDID settings, then selects the lowest resolution of the two. The source will transmit the signal again to all outputs. COPY: Copies the HDMI OUT 1 port EDID setting. The source device will transmit again the signal to all outputs.
6	DIP switch (4K→1080 P)	OFF: When the DIP switch is in 'OFF' position, signal input and output is bypass status. ON: When the DIP switch is in 'ON' position, the signal input will downscale(4k->1080P) output.

Rear Panel



Number	Name	Function description
1	HDMI OUTPUT	Connect to HDMI display device such as TV or monitor.
2	OPTICAL OUT	Optical audio output.
3	L/R OUT	Analog audio output.
4	HDMI IN	Connect to HDMI source device such as DVD player or PS4.
5	DC 5V	Plug the 5V/1A DC power supply into the unit and connected the adapter to an AC outlet.

Application Example



Warranty

Should you feel that this product does not function adequately due to defects in materials or workmanship, we (referred to as “the warrantor”) will, for the length of the period indicated below (starting from the original date of the purchase) either a) repair the product with new or refurbished parts. Or b) Replace the product with new or refurbished product. All Simplified MFG products are covered by a 3-year PARTS and LABOR warranty. During this period there will be no charge for unit repair, replacement of unit components or replacement of the product if deemed necessary. The decision to repair or replace is made by the warrantor. The purchaser must mail in the

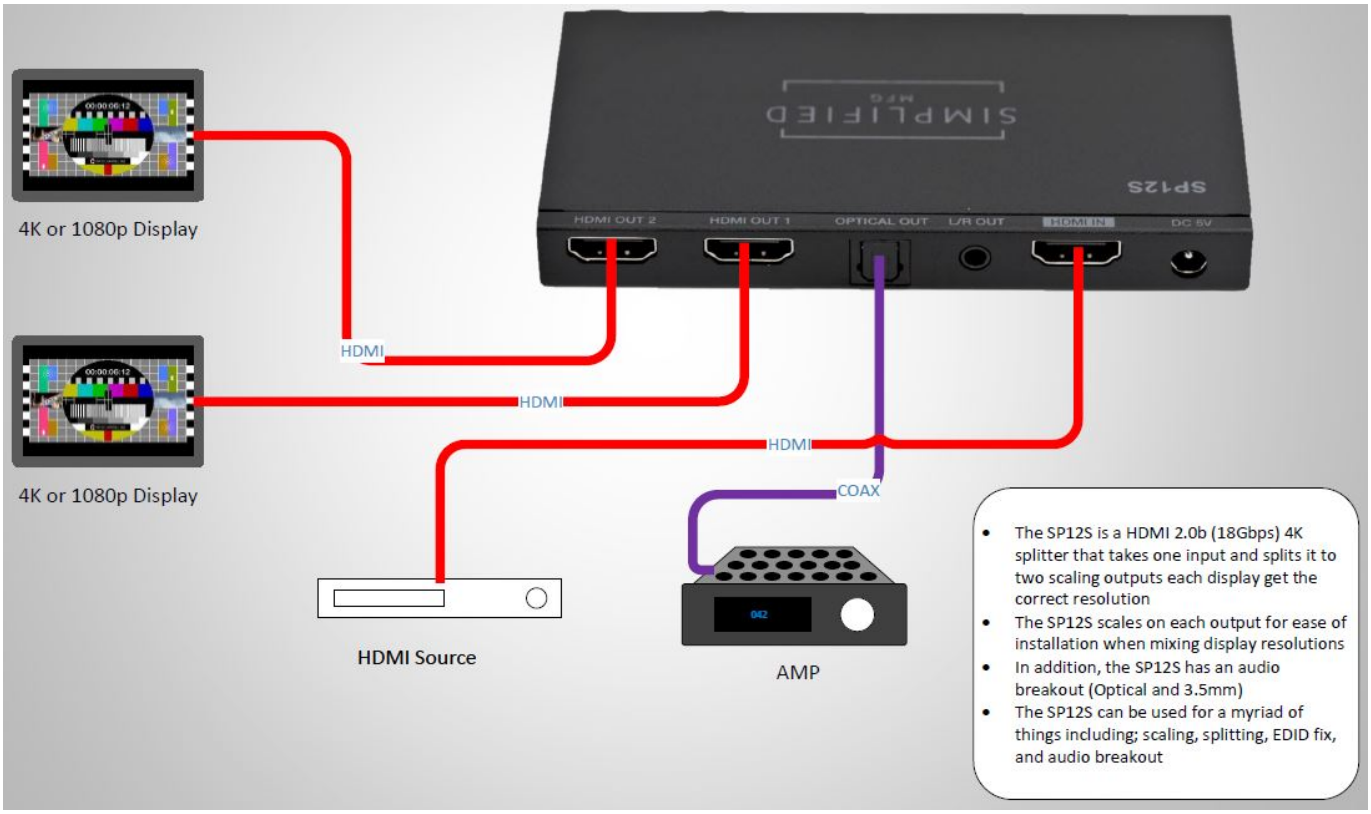
product during the warranty period. This limited warranty only covers the product purchased as new and is extended to the original purchaser only. It is non-transferable to subsequent owners, even during the warranty period. A purchase receipt or other proof of purchase date is required for the limited warranty service.

Contact

Sales and Tech Support

- P. 833-HDMI-411 (833-436-4411)
- E. **info@simplifiedmfg.com**.
- Simplified MFG • 550 W Baseline Rd Ste 102-121 • Mesa AZ 85210.

SP12S Quick Start Guide



- The SP12S is an HDMI 2.0b (18Gbps) 4K splitter that takes one input and splits it to two scaling outputs each display get the correct resolution
- The SP12S scales on each output for ease of installation when mixing display resolutions
- In addition, the SP12S has an audio breakout (Optical and 3.5mm)
- The SP12S can be used for a myriad of things including; scaling, splitting, EDID fix, and audio breakout

Tech Bulletin 6/13/2022
Re: Non-Scaling Splitter (RSP1:2 & SP1:8)

Description of terms used in this paper:
EDID = Extended Display Identification Data. This is information that the display sends when the communication is set up between the source and the display. The display sends this information and the source decides what signal to send. Scaling = The ability to change a signal to another format. The most common scaling is to scale down from 4K/UHD to 1080p.

The way a non-scaling splitter works is that is copies the EDID of output one. Essentially the source sees only this signal request (EDID). For example, if you had a 4K/UHD display in output one of an RSP1:2, the source would see the EDID of the 4K display only and send a signal that is appropriate for the 4K/UHD display in output 1. If the display in output 2 is not capable of displaying this signal, you will not have an image on this display. The solution is to swap the outputs so that the “lessor” display is in output one and the source will then send a signal that is compatible with that display.

For example, the display that was in output 2 is 1080p, then the source will now output a 1080p signal. The 4K/UHD display that was moved to output 2 will now get a 1080p signal. Although rare, it is possible that neither request is compatible with both of the displays. In this case, you will need to override the EDID of the displays by using the switch on the splitter. The switch when moved from TV to STD will now send a 1080p stereo EDID request to the source. It is nearly a 100% guarantee that both displays will be able to process a 1080p signal. The exceptions are very old displays that were created before 1080p and they may not be able to process this signal. A more complex solution should be used, such as a scaling device on that output.

Simplified MFG makes other solutions that will allow you to use a 4K/UHD display and a 1080p display simultaneously and still process both signals and the device is called an SP12S or SP14S. These devices have a simple scaling circuit that is designed for mixing 1080p and 4K/UHD displays. In the case of the SP12S and SP14S, you can simultaneously process 4K/UHD and 1080p. This is done by telling the device to copy the EDID of the superior display that should be used in output 1 (this is where the device looks to copy EDID in copy mode). Then each output has a scaling switch so that you can decide to use the copied EDID or to scale down to 1080p were needed either by specification or choice as some 4K/UHD displays may not be compatible with each other. A decision can be made by swapping different displays in output one to see if you can get the desired signal on each display with either a small compromise or to just decide to scale to lesser 4K/UHD displays to 1080p to have the superior signal on the superior display.

Documents / Resources

	SIMPLIFIED MFG SP12S HDMI 1 to 2 Splitter with Audio Breakout and Scaling [pdf] User Manual SP12S, HDMI 1 to 2 Splitter with Audio Breakout and Scaling, SP12S HDMI 1 to 2 Splitter, HD MI 1 to 2 Splitter, Splitter, SP12S HDMI 1 to 2 Splitter with Audio Breakout and Scaling, Splitter with Audio Breakout and Scaling, Audio Breakout and Scaling

References

- Simplified MFG Cutting Edge HDMI Solutions

Manuals+,