

User Manual

ALTIMIUM

SP8H2-4K

HDMI 2.0 1x8 Splitter with 4K to 1080P

Down-scaling



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Version: SP8H2-4K_2019V1.0

Statement

Thanks for purchasing this product, please read this user manual carefully before using this product. The functions described in this version are updated till April, 2019. In the constant effort to improve our product, we reserve the right to make functions or parameters changes without notice or obligation.

Safety Precaution

- Do not dismantle the housing or modify the module to avoid electrical shock or burn.
- Using supplies not meeting the products' specifications may cause damage, deterioration or malfunction.
- Do not expose the unit to rain, moisture or install this product near water.
- Install the device in a place with fine ventilation.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- Do not use liquid or aerosol cleaners to clean this unit.
- Always unplug the power to the device before cleaning.
- Unplug the power when not used for a long period of time.
- Refer all servicing to qualified service personnel.

After-sales Service

We provide limited warranty for the product within three years.

Packing List

- 1x HDMI 2.0 1x8 Splitter
- 2x Mounting Ears with 4 Screws
- 4x Plastic Cushions
- 1x Power Adapter (12V DC 1A)
- 1x User Manual

Note: Please contact your distributor immediately if any damage or defect in the components is found.

Product Introduction

Thanks for choosing the HDMI 2.0 1x8 Splitter, which can distribute one HDMI input to eight outputs. The splitter supports HDMI video resolution up to 4K@60Hz 4:4:4, 1080P 3D and multichannel audio formats. Except passing EDID information from the display, there are multiple built-in EDID settings can be selected by the 4-pin DIP switch on the rear panel.

CEC technology is adopted to turn on/off displays and adjust volume by the control buttons on the front panel. Moreover, the splitter supports convenient firmware upgrade through Micro-USB port.

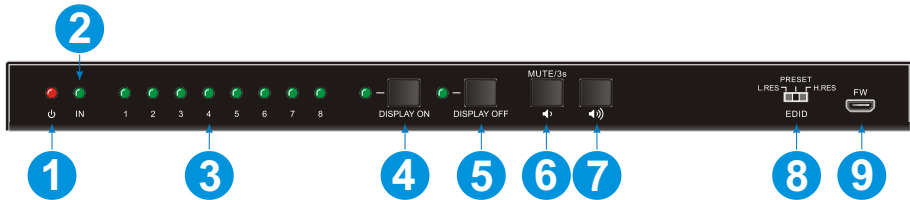
Features

- Supports HDMI 2.0 and the video resolution up to 4K@60Hz 4:4:4.
- HDMI input supports HDCP 2.2 and the outputs support HDCP1.4.
- Supports video resolution down-scaling, the 4K input can be automatically degraded to 1080P output for compatibility with 1080P display.
- 18Gbps high bandwidth.
- Advanced EDID management: multiple preset and user defined allowed.
- Built-in equalizer for signal enhancement to avoid signal attenuation in transmission.
- Supports CEC control to turn on/off displays and adjust their volume.
- Provides LEDs to indicate the current operating status and to assist troubleshooting and installation.
- Firmware upgrade by Micro-USB port.

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Panel Description

Front Panel

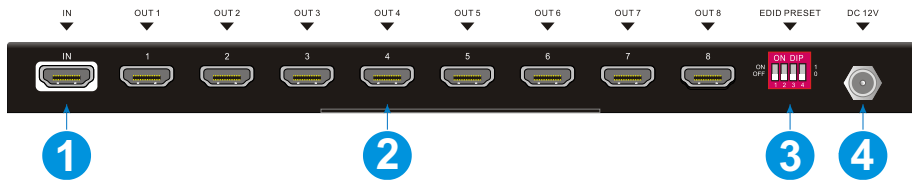


- ① **POWER LED:** The LED illuminates red when power is applied.
- ② **INPUT LED:** The LED illuminates green when there is HDMI input.
- ③ **OUTPUT LEDs:** The LED illuminates green when there is HDMI output on the corresponding channel.
- ④ **DISPLAY ON Button and LED:** Press the button to turn on displays. The LED blinks green when press this button to send control signal.
- ⑤ **DISPLAY OFF Button and LED:** Press the button to turn off displays. The LED blinks green when press this button to send control signal.
- ⑥ **VOLUME DOWN/MUTE Button:** Press the button to decrease the volume of displays. Press and hold this button at least three seconds to mute the displays.
- ⑦ **VOLUME UP Button:** Press the button to increase the volume of displays or exit mute mode if the displays is already in the mute mode.
- ⑧ **EDID:** 3-pin DIP Switch for the Extended Display Identification Data (EDID) value setting. Please refer to the **EDID Management** for more details.
- ⑨ **FW:** Micro-USB port for firmware upgrade.

Note: Only the displays which support CEC can be controlled by **DISPLAY ON**, **DISPLAY OFF**, **VOLUME UP** and **VOLUME DOWN** buttons.

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Rear Panel



- ① **INPUT:** Type-A female HDMI input port to connect a HDMI source.
- ② **OUTPUTS:** Eight type-A female HDMI output ports to connect HDMI displays.
- ③ **EDID:** 4-pin DIP switch for EDID setting. Please refer to the **5.EDID Management** for more details.
- ④ **DC 12V:** DC barrel port to connect an AC power adapter.

EDID Management

The Extended Display Identification Data (EDID) is used by the source device to match its video resolution with the connected display. By default, the source device obtains its EDID from the first connected display. Meanwhile, since the displays with different capabilities are connected to the splitter, the 3-pin DIP switch on the front panel and the 4-pin DIP switch on the rear panel can be used in combination to set the EDID to a fixed value to ensure the compatibility in video resolution.



Switch Status	Description
L.RES	The splitter reads all EDID information from all connected displays, and choose the one with lowest resolution passing to the source.
PRESET	In this mode, the 4-pin DIP switch on the rear panel can be used to select predefined EDID and customize a specific EDID as need.
H.RES	The splitter reads all EDID information from all connected displays, and choose the one with highest resolution passing to the source.

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● Predefined EDID setting

When the 3-pin DIP switch on the front panel is in **PRESET** mode, the 4-pin DIP switch on the rear panel can be used to set the EDID to a built-in fixed value. Use the following table to determine the settings for the 4-pin DIP switch for specific video resolution and audio capabilities.

When in the lower position, the switch represents “0”, while putting the switch in the upper position, it represents “1”.



Switch Status	Video Resolution	Audio Format
0000	Obtains EDID from the display connected to the HDMI output port 1.	
0001	Obtains EDID from the display connected to the HDMI output port 2.	
0010	Obtains EDID from the display connected to the HDMI output port 3.	
0011	Obtains EDID from the display connected to the HDMI output port 4.	
0100	Obtains EDID from the display connected to the HDMI output port 5.	
0101	Obtains EDID from the display connected to the HDMI output port 6.	
0110	Obtains EDID from the display connected to the HDMI output port 7.	
0111	Obtains EDID from the display connected to the HDMI output port 8.	
1000	720P	LPCM
1001	1080P	LPCM
1010	1080P	DTS/Dolby
1011	3840x2160@30Hz	LPCM
1100	3840x2160@30Hz	DTS/Dolby
1101	3840x2160@60Hz	LPCM
1110	3840x2160@60Hz	DTS/Dolby

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● User defined EDID setting

Except directly invoking the built-in EDID, the specific EDID can be customized by following the below operation process.

- 1) Rename the user defined EDID according the following format.

EC_xx_xxxx_xxx.bin

- EC: Represents EDID.
- xx: Represents EDID ID. It is "15".
- xxxx: Represents the video parameter.
- xxx: Represents the audio format.

Example: EC_15_720P_LPCM.bin

- 2) Power on the splitter, and then connect to the PC with USB cable. The PC will automatically detect a U-disk named of "BOOTDISK".
- 3) Double-click to open the U-disk, a file named of "READY.TXT" will be showed.
- 4) Copy the user defined EDID (such as **EC_15_720P_LPCM.bin**) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check the filename "READY.TXT" whether automatically becomes "SUCCESS.TXT", if yes, the user defined EDID was imported into the splitter and saved as its corresponding EDID ID successfully.
- 6) Remove the USB cable, and then reboot the splitter.
- 7) The new EDID now can be invoked via the 4-pin DIP switch directly. The EDID ID and its corresponding switch status is shown in the below list.

ID	Switch Status
15	1111

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Video Resolution Down-scaling

The product supports video resolution down-scaling, the 4K input can be automatically degraded to 1080P output for compatibility with 1080P display, shown in the below chart.

#	Input			Output	
	Resolution	Refresh	Color Space	Downscale	1080P Specs
1	3840x2160	60	4:4:4	Support	1080P@60Hz 4:4:4
2	3840x2160	30	4:4:4	Support	1080P@30Hz 4:4:4
3	3840x2160	24	4:4:4	Support	1080P@24Hz 4:4:4
4	3840x2160	60	4:2:0	Support	1080P@60Hz 4:2:0
5	3840x2160	30	4:2:0	Support	1080P@30Hz 4:2:0
6	3840x2160	24	4:2:0	Support	1080P@24Hz 4:2:0
7	3840x2160	60	4:2:2	Support	1080P@60Hz 4:4:4
8	3840x2160	30	4:2:2	Support	1080P@30Hz 4:4:4
9	3840x2160	24	4:2:2	Support	1080P@24Hz 4:4:4

Firmware Upgrade

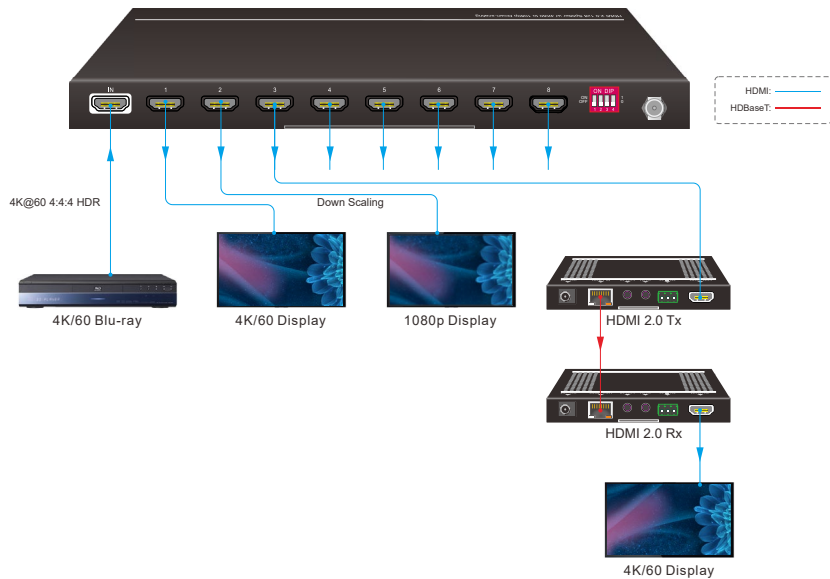
Please follow the below steps to upgrade firmware by the Micro-USB port:

- 1) Connect the splitter to the PC with USB cable.
- 2) Power on the splitter, and then the PC will automatically detect a U-disk named of "BOOTDISK".
- 3) Double-click to open the U-disk, a file named of "READY.TXT" will be showed.
- 4) Directly copy the latest upgrade file (.bin) to the "BOOTDISK" U-disk.
- 5) Reopen the U-disk to check the filename "READY.TXT" whether automatically becomes "SUCCESS.TXT", if yes, the firmware was upgraded successfully, otherwise, the firmware updating is fail, the name of upgrade file (.bin) should be confirm again, and then follow the above steps to upgrade again.
- 6) Remove the USB cable after firmware upgrade.

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System Connection

The following diagram illustrates the typical input and output connection of the splitter:



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Technical Specification

Video Input	
Input	(1) HDMI
Input Connector	(1) Female type-A HDMI
HDMI Input Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
HDMI Standard	2.0
HDCP Version	2.2
CEC	Supported
Video Output	
Output	(8) HDMI
Output Connector	(8) Female type-A HDMI
HDMI Output Resolution	Up to 4Kx2K@60Hz 4:4:4 8bit
HDMI Standard	2.0
CEC	Supported
Control	
Control Part	(4) Control buttons; (1) EDID 3-pin DIP switch; (1) EDID 4-pin DIP switch; (1) Micro-USB port
General	
Bandwidth	18Gbps
Operation Temperature	-10°C ~ +55°C
Storage Temperature	-25°C ~ +70°C
Relative Humidity	10%-90%
Power Supply	Input:100V~240V AC; Output: 12V DC 1A
Power Consumption	7W(Max)
Dimension (W*H*D)	260mm x 20mm x 70mm
Net Weight	500g

Note: Please adopt high-qualified HDMI cable fully compliant with HDMI 2.0 for reliable transmission and connection.



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