

# 1x2 HDMI V2.1 8K Splitter with Audio Out



Model: **AVA-EXHD12/8K**

# User Operation Guide

## PRODUCT DESCRIPTION

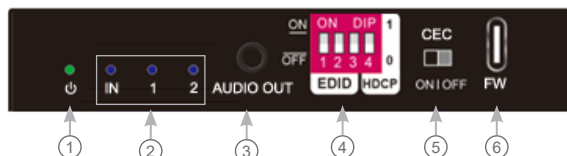
AVA-EXHD12/8K HDMI V2.1 1x2 Splitter, which can distribute one HDMI input to two outputs. The splitter supports HDMI video resolution up to 8K@60Hz 4:4:4 and DTS/Dolby audio formats. Besides passing EDID information from the display, there are multiple built-in EDID settings can be selected by the 4-pin DIP switch. Moreover, the splitter supports convenient firmware upgrade through type-C port.

## FEATURES

- Supports HDMI V2.1 and the video resolution up to 8K@60Hz 4:4:4.
- HDMI input supports HDCP 2.3 and the outputs support HDCP Active or HDCP Passive mode.
- Supports video resolution down-scaling, the 8K/4K input can be automatically degraded to 4K/1080p output for compatibility with 1080p display.
- 48Gbps high bandwidth.
- Advanced EDID management: multiple built-in EDID and user defined settings can be selected.
- Supports ALLM, VRR and audio de-embedding
- Supports CEC pass-through.
- Provides LEDs to indicate the current operating status.
- Firmware upgrade by USB-C port.

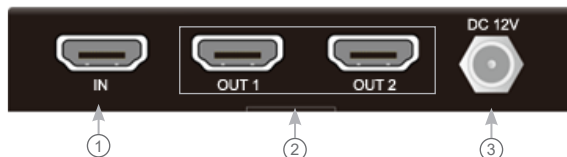
## PANEL DESCRIPTION

### Front Panel



1. **POWER LED:** The LED illuminates green when power is applied.
2. **INPUT and OUTPUT LEDs:**
  - Input LED:** The LED illuminates blue when the HDMI input signal is connected and HDCP is connected, flashing when the HDMI input signal without HDCP, light off when there is no input signal.
  - Output LEDs:** The LED illuminates blue when there is HDMI output signal on the corresponding channel.
3. **AUDIO OUT:** Output de-embedded audio from HDMI IN.
4. **EDID:** 4-pin DIP switch for EDID setting and HDCP mode selection. Please refer to the *EDID Management* for more details.
5. **CEC:** Used for CEC on/off.
6. **FW:** USB-C port for firmware upgrade

### Rear Panel



1. **INPUT:** Type-A female HDMI input port to connect a HDMI source.
2. **OUTPUTS:** Two type-A female HDMI output ports to connect HDMI displays.
3. **DC 12V:** DC port to connect DC power adapter.

## DIP SWITCH OPERATION

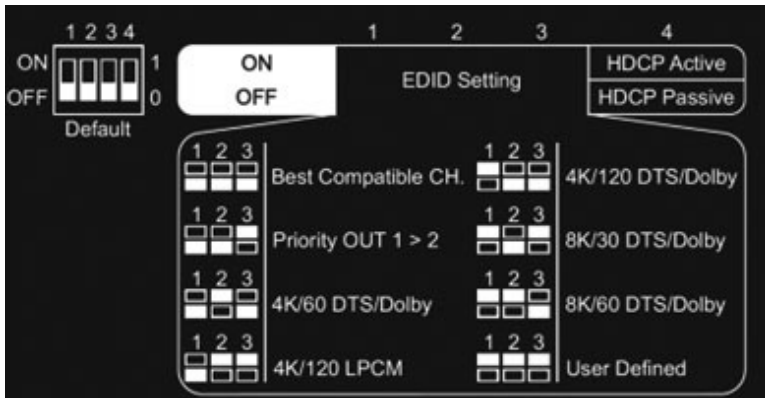
### EDID Management

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 DIP switch on the front panel can be used to set the EDID to a fixed value to ensure the compatibility in video resolution.

The switch represents “0” when in the lower (OFF) position, and it represents “1” while putting the switch in the upper (ON) position.



Switch 1~3 are used for EDID setting. The DIP switch status and its corresponding setting are shown at the back of the product.



## DIP SWITCH OPERATION

Switch Status	Video Resolution	Audio Format
000	Obtain the EDID of output 1-2, then compare EDIDs and output the highest level of video resolution and the lowest color space. <i>Example: If there is 4:4:4 and 4:2:0 color space, it will retain the 4:2:0 after compare procession, and if there is 8K, 4K and 1080P, the machine will output the 8K resolution.</i> <i>Note: The output EDID supports up to 8K @ 60 4:2:0</i>	
001	Priority the EDID of output 1.	
010	4K@60Hz 4:4:4 HDR	DTS/Dolby
011	4K@120Hz 4:2:0 HDR	LPCM
100	4K@120Hz 4:4:4 HDR	DTS/Dolby
101	8K@30Hz 4:4:4 HDR	DTS/Dolby
110	8K@60Hz 4:4:4 HDR	DTS/Dolby
111	User Defined	

### HDCP Mode

Put switch 4 on “ON” position to select HDCP Active mode, or to “OFF” for HDCP Passive mode.

Switch Status	Mode	HDCP
<b>OFF (0)</b>	Passive (Default)	Automatically follows the input's HDCP version.
<b>ON (1)</b>	Active	The input supports up to HDCP 1.4, and the output HDCP follows the input.

## SYSTEM CONTROL COMMANDS

### EDID Upgrade

1. Connect the FW port on the front panel of the machine to be tested to the computer with a USB Type-A to Type-C cable, and power on the machine to be tested;
2. Open the serial port tool on the computer, select the correct serial port number and baud rate 115200, and power on the device under test;
3. Send the command > EDIDUpgrade first, and then select the EDID file to be uploaded
4. Click Upload. When you receive upgrade success feedback, it means that the EDID has been uploaded successfully. Otherwise, please repeat the above steps.

### Firmware Upgrade

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

1. Connect the FW port on the front panel of the machine to the computer with a USB Type-A to Type-C cable, and power on the machine;
2. Open the stm32\_upgrade.exe upgrade tool on the computer, select the correct serial port number and baud rate 115200;
3. Click the Open button first, and then click the Connect button. The Connect button turns green to indicate that it is connected, and the button turns to red to indicate that the connection is not successful;
4. Click the OpenFile button to load the application layer corresponding to the machine, and click the Upgrade button to start the upgrade.

**Note:** 08009000 must be added after the software name to be recognized by this software.

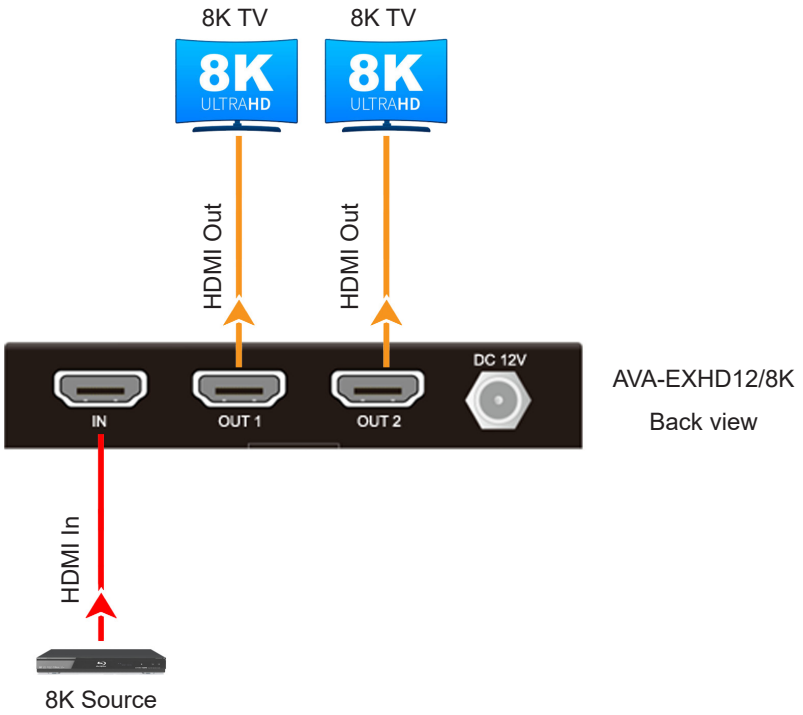
### Command

Baud rate: 115200 Data bit: 8 Stop bit: 1 Parity bit: none

Note: The commands need to be ended with <CR><LF>

Command	Description	Feedback
>EDIDUpgrade	Upload user defined EDID	<Please Upload the EDID File Through RS232 In 10s ... <Save Failed, The EDID File Was Not Uploaded Within 10s. <Saved Successfully, User EDID Is Ready.
>Reset	Factory reset	<Factory Reset
>Reboot	Restart the machine	<Reboot

DIAGRAM



**Note: When connecting, there may be over-edge problems. At this time, you need to set over-scanning in the graphics card settings.**

## SPECIFICATION

### Video

Input	1 x HDMI
Input Connector	1 x Type-A female HDMI
HDMI Input Resolution	Up to 8K@60Hz 4:4:4 8bit
HDMI Standard	2.1
HDCP Version	2.3, 2.2, 1.4 compliant
CEC	Supported

Output	(2) HDMI
Output Connector	(2) Type-A female HDMI
HDMI Output Resolution	Up to 8K@60Hz 4:4:4 8bit
HDMI Standard	2.1
HDCP Version	2.3, 2.2, 1.4 compliant
CEC	Supported

### General

Control Part	1 x EDID 4-pin DIP switch, (1) USB-C port
Bandwidth	48Gbps
HDMI V2.1 Cable Length	8K@60Hz 4:4:4 ≤ 3m, 4K@60Hz 4:4:4 ≤ 5m, 4K@60Hz 4:2:0 ≤ 10m, 1080p ≤ 15m
Operation Temperature	-5 to +55°C (+23° to +131°F)
Storage Temperature	-25 to +70°C (-13° to +158°F)
Relative Humidity	10% to 90%, Non-condensing
Power Supply	12V DC 1A
Power Consumption	4W (Max)
Dimension (W*H*D):	96.0mm x 17.6mm x 70.4mm
Net weight:	155g

*Note: Please adopt high-qualified HDMI cable fully compliant with HDMI V2.1 for reliable transmission and connection.*

