



2X8 HDMI 1.3 Extender / Splitter over Single CAT5



Model #: HDM-C5SP-8SRSR

HD ready 1080p **HDMI HDCP** **7.1CH Audio** **X.V.Color**

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Section 1: Getting Started

1.1 Important Safeguards

Please read all of these instructions carefully before you use the device. Save this manual for future reference.

What the warranty does not cover

- Any product, on which the serial number has been defaced, modified or removed.
- Damage, deterioration or malfunction resulting from:
 - Accident, misuse, neglect, fire, water, lightning, or other acts of nature, unauthorized product modification, or failure to follow instructions supplied with the product.
 - Repair or attempted repair by anyone not authorized by us.
 - Any damage of the product due to shipment.
 - Removal or installation of the product.
 - Causes external to the product, such as electric power fluctuation or failure.
 - Use of supplies or parts not meeting our specifications.
 - Normal wear and tear.
 - Any other causes which does not relate to a product defect.
- Removal, installation, and set-up service charges.

1.2 Safety Instructions

The Avenview HDM-C5SP-8SR HDMI 1.3 Extender / Splitter over CAT5 Cascading Distribution Amplifier have been tested for conformance to safety regulations and requirements, and have been certified for international use. However, like all electronic equipment's, the HDM-C5SP-8SR should be used with care. Read the following safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Do not dismantle the housing or modify the module.
- Dismantling the housing or modifying the module may result in electrical shock or burn.
- Refer all servicing to qualified service personnel.
- Do not attempt to service this product yourself as opening or removing housing may expose you to dangerous voltage or other hazards
- Keep the module away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on to the housing, unplug the module immediately.
- Have the module checked by a qualified service engineer before using it again.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.

1.3 Regulatory Notices Federal Communications Commission (FCC)

This equipment has been tested and found to comply with Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

Any changes or modifications made to this equipment may void the user's authority to operate this equipment.

1.4 Introduction

The Avenview HDM-C5SP-8SR HDMI 1.3 over Single CAT5 Cascading Distribution Amplifier provides the most flexible solution by which the high definition video and high quality audio can be transmitted to different locations over a long distance. The devices are cascable, allowing you to extend HDMI compliant displays almost anywhere. The 2 input HDMI source (only 1 input can be used at a time) can be duplicated and distributed to up to 8 HDMI enable displays through cost effective Cat-5/5e cables and RJ-45 to HDMI mini-extenders HDM-C5-R-M. With the built in equalization, the input HDMI cable can be extended up to 20 meters (66 feet) long under Full HD, and make the overall transmission distance superior than regular HDMI splitters or matrix switches in the market.

- Silicon Image chipset embedded for best quality, compatibility and reliability
- HDMI 1.3c compliant
- HDCP compliant
- Regenerates the HDMI signal
- Acts as 2X1 HDMI Switch and 1X8 HDMI over CAT5 Splitter
- HDMI video distribution to up to 7 displays and one CAT5e Receiver or cascade to another HDM-C5SP-8SR
- Supports default HDMI EDID and has the ability to learn the EDID of the displays
- Input up to 15m (50ft) using HDMI cables
- Extends up to 60m (200ft) (720p / 1080i) of output CAT5/6 cable
- Outputs up to 15m (50ft) using HDMI cables
- Pure unaltered uncompressed 7.1ch digital HDMI over LAN cable transmission
- Allows cascading
- 1U rack mountable with interlocking power adapter for fixedness
- Perfectly integrated with other HDM-C5XD Series products

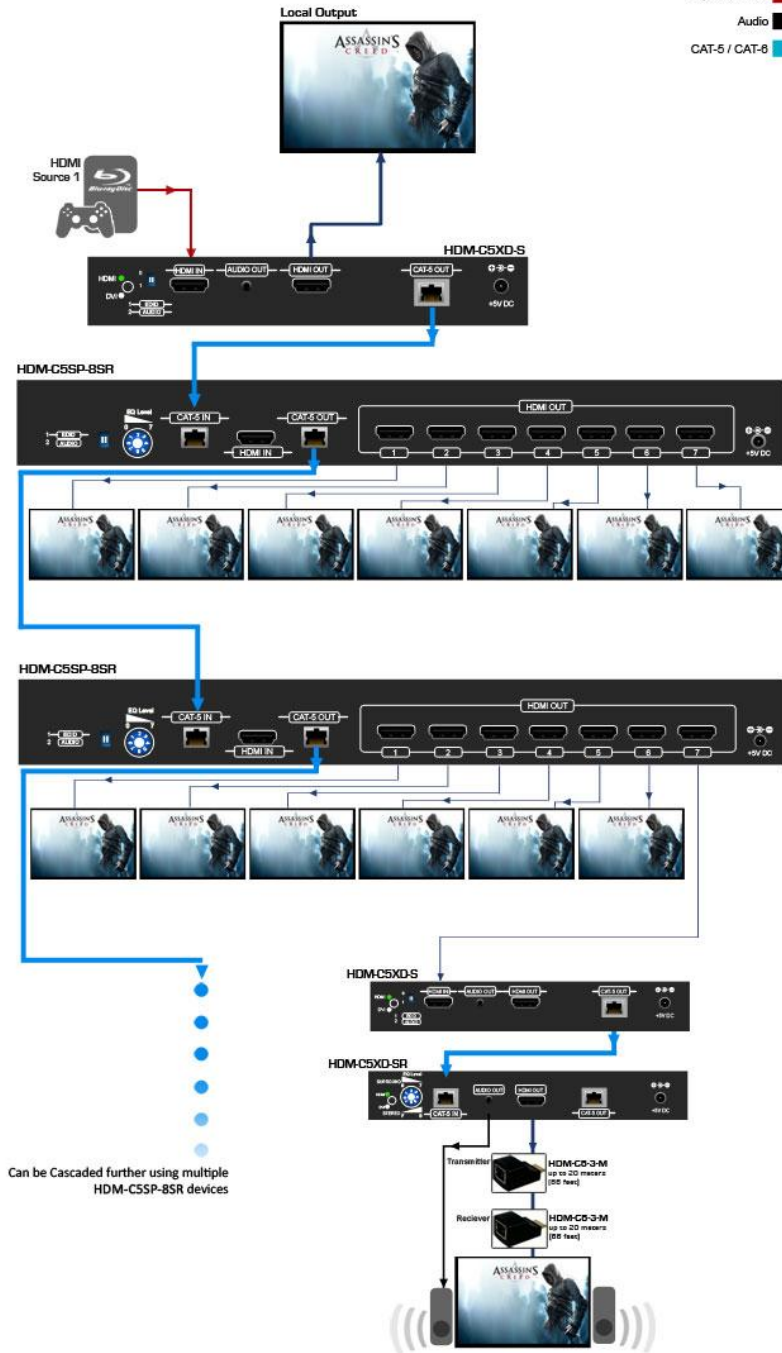
HDM-C5SP-8SR

LAYOUT 1

720p/1080i = 50m (165 feet) CAT5
 720p/1080i = 55m (200 feet) CAT6
 1080p = 30m (130 feet) CAT5
 1080p = 40m (185 feet) CAT6

CABLE INDEX

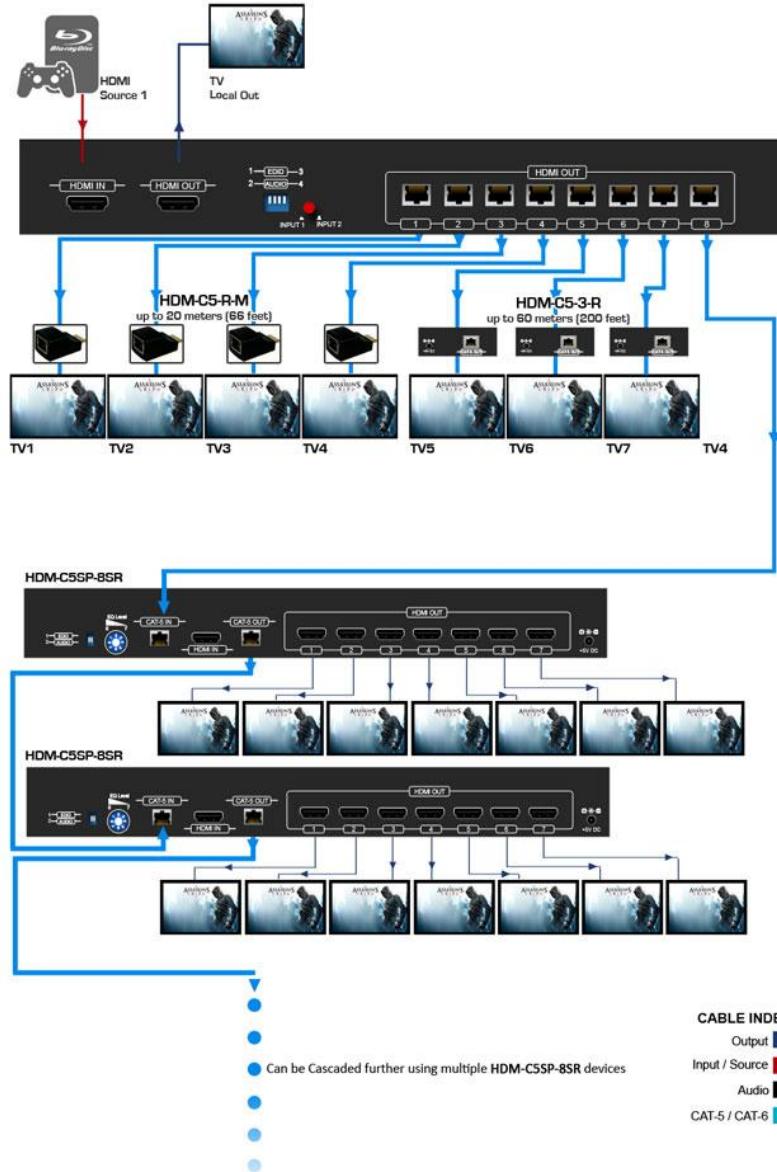
- Output ■
- Input / Source ■
- Audio ■
- CAT-5 / CAT-6 ■



HDM-C5SP-8SR

720p/1080i = 50m (165 feet) CAT5
 720p/1080i = 55m (200 feet) CAT6
 1080p = 30m (130 feet) CAT5
 1080p = 40m (165 feet) CAT6

LAYOUT 2



CABLE INDEX
 Output ■
 Input / Source ■
 Audio ■
 CAT-5 / CAT-6 ■

1.5 Package Contents

Before you start the installation of the converter, please check the package contents.

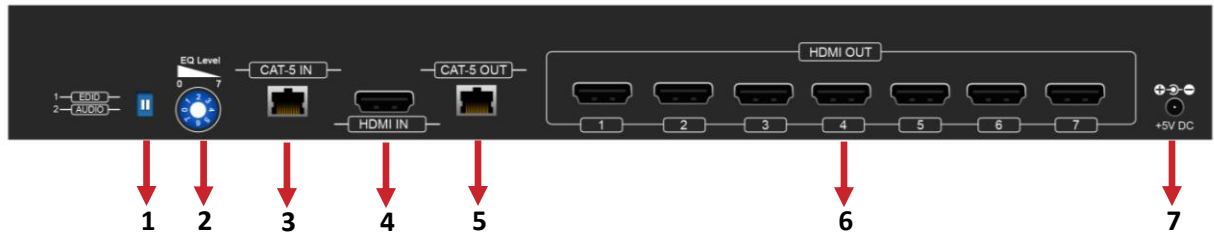
- HDM-C5SP-8SR x 1
- Rack-mounting ears x 2
- Power Adapter x 1
- User's Manual x 1

1.6 Before Installation

- Put the product in an even and stable location. If the product falls down or drops, it may cause an injury or malfunction.
- Don't place the product in too high temperature (over 50°C), too low temperature (under 0°C) or high humidity.
- Use the DC power adapter with correct specifications. If inappropriate power supply is used then it may cause a fire.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.

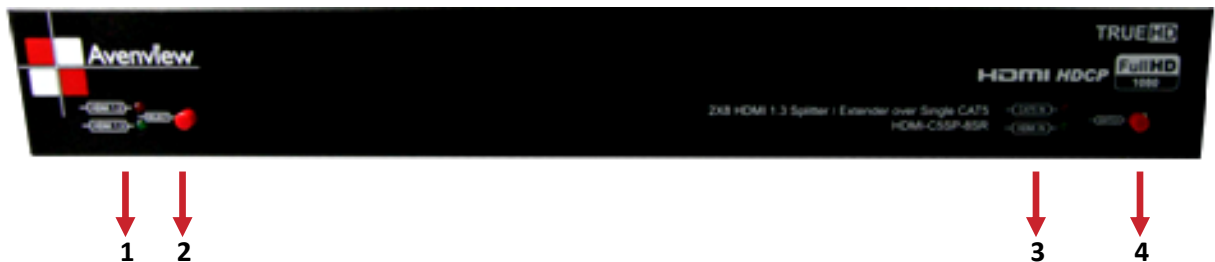
1.7 Panel Description

1.7.1 Rear Panel



1. DIP Switches (details below)	2. EQ Level
3. CAT-5 IN: HDMI Signal In from HDM-C5SP-SR or HDM-C5XD-S	4. HDMI IN
5. HDMI Output over RJ45	6. HDMI Output (1 – 7)
7. Power Jack	

1.7.2 Front Panel



1. LED indicator for HDMI output format	2. Push button for HDMI output format switch
3. LED indicator for input selection	4. Push button for input selection

1.7.3 Dip Switch

DIP Switch Position		Video	Audio	Description
PIN # 1	PIN # 2			
OFF ↑	OFF ↑	1080p	Stereo ¹	Default Mode² : Up to 1080p & Stereo output.
OFF ↑	ON ↓	720p/1080i	Stereo	Safe Mode³ : Forces system to output at 720p/1080i with Stereo Audio.
ON ↓	OFF ↑	Bypass ⁴	Bypass	EDID Learning Mode⁵ : for learning EDID from the display while playing any received HDMI Audio format.
ON ↓	ON ↓	Bypass	Stereo	EDID Learning & Stereo Mode : For learning EDID from the display while enforcing stereo output.

1 If the HDTV shows video but without audio, please try to set audio mode to stereo

2 Factory default: Pin#1-OFF[↑], Pin#2- OFF[↑] for 1080p with stereo.

3 If you encounter any unsolved audio/video output problem during system installation, please turn to Safe Mode (Pin#1-OFF[Ⓚ] & Pin#2-ON[Ⓚ]) to enforce the most compatible 720p stereo output for system check.

4 Bypass means the matrix will maintain playing the original format of HDMI signals in video and perhaps audio. By setting at this mode, the users may encounter compatibility issue among different kinds of HDMI sources and displays. If you cannot get the audio and/or video output normally at the system installation, please change the DIP switch setting to default mode or even safe mode to verify the functionality of the device.

5 Set Pin#1 at ON[Ⓚ] first then connect the HDMI Input to HDTV through a HDMI cable. Wait for 20 seconds. The EDID learning procedure will be finished. If you want to learn the EDID from another HDTV, you must set Pin#1 at OFF first and repeat this procedure.

1.7.4 EDID Learning

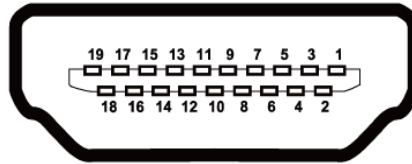
1. Power up the HDM-C5SP-8SR. Connect to HDMI OUT7 with the display you want the HDM-C5SP-8SR to learn its EDID.
2. The HDM-C5SP-8SR is only bound to learn the EDID from the display for the HDMI source device connected to HDMI IN. For HDMI signal input at CAT5 IN, please use the transmitting device that sends the HDMI signals over CAT5 to the HDMI Signal IN1 of the HDM-C5SP-8SR to learn the EDID of the display.
3. To learn the display's EDID for source device connected to HDMI IN, pull both DIP switch pin#1 & pin#2 up-and-down to stay at ON[]-ON[] and wait for about 5 seconds to complete the EDID learning process. You DON'T NEED to pull up the DIP switch again unless you want to learn another display's EDID by pulling both DIP switch pin#1 & pin#2 up-and-down one more time.

1.7.5 EQ Level Control

In order to adapt the CAT5 cable, HDM-C5SP-8SR offers 8-level equalization control on the received HDMI signal level. 0-to-7 = strongest-to-weakest signal level for respective transmission length [long to short]. It is recommended to switch from 7 to 0 to find the optimal visual experience.

1.7.6 HDMI Output Format Selection

When input signal exists, the output format LED turns on. If the input HDMI source is HDMI 1.3 format, you can set the output format to HDMI 1.2 mode and Red LED will be on. If the input HDMI source is HDMI 1.2, the output format is always set to HDMI 1.2. The main purpose of lower the HDMI 1.3 resolution [36~48-bit color depth] to HDMI 1.2 [24-bit color depth] is to increase the transmission distance without creating noticeable video quality distortion still at 1080p. By pressing the push-in button, users can enforce the HDMI output at HDMI 1.2 format for longer transmission to the display. The HDM-C5SP-8SR cannot upgrade the HDMI 1.2 source content to become HDMI 1.3 format.



Type A (Receptacle) HDMI

Pin 1	TMDS Data2+	Pin 11	TMDS Clock Shield
Pin 2	TMDS Data2 Shield	Pin 12	TMDS Clock-
Pin 3	TMDS Data2-	Pin 13	CEC
Pin 4	TMDS Data1+	Pin 14	Reserved (N.C. on device)
Pin 5	TMDS Data1 Shield	Pin 15	SCL
Pin 6	TMDS Data1-	Pin 16	SDA
Pin 7	TMDS Data0+	Pin 17	DDC/CEC Ground
Pin 8	TMDS Data0 Shield	Pin 18	+5V Power
Pin 9	TMDS Data0-	Pin 19	Hot Plug Detect
Pin 10	TMDS Clock+		



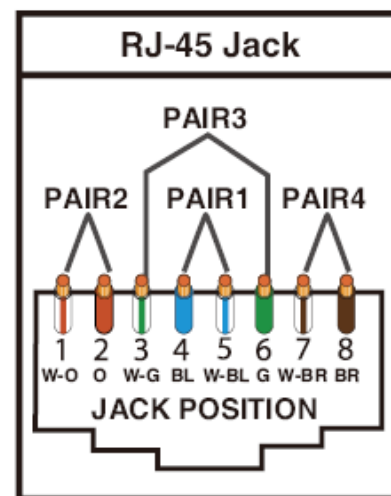
1.8 Installation

To setup Avenview HDM-C5SP-8SR follow these steps for connecting to a device:

1. Connect Cat-5e cable if using any Cat-5e HDMI video transmitter as cascading source
2. Connect HDMI input to HDMI compliant sources (such as a Blu-ray Disc player)
3. Connect all HDMI outputs to the HDMI displays
4. Connect RJ-45 output to HDMI over CAT5 receiver through Cat-5e cable
5. Plug in 5V 4A DC power supply.
6. Power on the HDM-C5SP-8SR
7. Power on the HDMI displays.
8. Power on the HDMI source(s)

1.9 PIN & Wiring Standard Definition

Data Link TIA/EIA-568-B		
PIN	Color	Function
1	W-O	TX0-
2	O	TX0+
3	W-G	TX1-
4	BL	TX2-
5	W-BL	TX2+
6	G	TX1+
7	W-BR	TXC-
8	BR	TXC+



Notice

1. If the DVI or HDMI device requires the EDID information, please use EDID Reader/Writer to retrieve and provide DVI/HDMI EDID information.
2. All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz LAN cable and ASTRODESIGN Video Signal Generator VG-859C.3
3. The transmission length is largely affected by the type of LAN cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid LAN cables (usually in bulk cable 300m or 1000ft form) can transmit a lot longer signals than stranded LAN cables (usually in patch cord form). Shielded STP cables are better suit than unshielded UTP cables. A solid UTP CAT5e cable shows longer transmission length than stranded STP CAT6 cable. For long extension users, solid LAN cables are your only choice.
4. EIA/TIA-568-B termination (T568B) for LAN cables is recommended for better performance.
5. To reduce the interference among the unshielded twisted pairs of wires in LAN cable, you can use shielded LAN cables to improve EMI problems, which is worsen in long transmission.
6. Because the quality of the LAN cables has the major effects in how long transmission distance will be made and how good is the received display, the actual transmission length is subject to your LAN cables. For resolution greater than 1080i or 1280x1024, a CAT6 cable is recommended.
7. If your HDMI display has multiple HDMI inputs, it is found that the first HDMI input [HDMI input #1] generally can produce better transmission performance among all HDMI inputs.

Performance Guide for HDMI over Category Cable Transmission

Performance rating		Type of category cable		
Wiring	Shielding	CAT5	CAT5e	CAT6
Solid	Unshielded (UTP)	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★ ★
	Shielded (STP)	★ ★ ★	★ ★ ★	★ ★ ★ ★
Stranded	Unshielded (UTP)	★	★ ★	★ ★
	Shielded (STP)	★	★	★ ★
Termination		Please use EIA/TIA-568-B termination (T568B) at any time		

Section 2: Specifications

Item	Description
Units	HDM-C5SP-8SR
Unit Description	2x8 HDMI 1.3 Transmitter / Splitter over CAT5 / CAT6 Cascadable
HDMI Compliance	HDMI 1.3c
HDCP Compliance	Yes
Video Bandwidth	Single Link 225 MHz (6.75Gbps)
Supported Resolutions	480i / 480p / 720p / 1080i / 1080p60
Resolution and Distance	Full HD: (1080p) ~ 40meter (130feet) (CAT5e) / 50meter (165feet) (CAT6) HD: (720p/1080i) ~ 50meter (165feet) (CAT5e) / 60meter (200feet) (CAT6)
Audio Support	Surround Sound (up to 7.1 Ch) or Stereo Digital Audio
Equalization	-
Input TMDS Signal	1.2 Volts (peak-to-peak)
Input DDC Signal	5 Volts (peak-to-peak, TTL)
ESD Protection	- Human body model — ±15kV (air-gap discharge) & ±8kV (contact discharge) - Core chipset — ±8kV
Input	1 x HDMI 1 x RJ45
Output	7 x HDMI 1 x Rj45
HDMI Connector	Type A (19 pin female)
RJ45 Connector	WE/SS 8P8C with 2 LED indicators
Dimensions (L x W x H)	13" x 4.3" x 1.7"
Power Supply	5V 4A DC
Power Consumption	13 Watt (max)
Environmental	
Operating Temperature	32° ~ 104°F (0° to 40°C)
Storage Temperature	-4° ~ 140°F (-20° ~ 60°C)
Relative Humidity	20~90% RH (no condensation)



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