



AV Connectivity, Distribution
And Beyond....

VIDEO WALLS VIDEO PROCESSORS
VIDEO MATRIX SWITCHES
EXTENDERS SPLITTERS WIRELESS
CABLES & ACCESSORIES

HDMI Extender over Single CAT5



Model #: HDM-C5-R-M



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SECTION I: GETTING STARTED

I.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.

I.2 SAFETY INSTRUCTIONS




The Avenview HDM-C5-R-M, HDMI Passive Extender over Single CAT5 Mini has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipment's, the HDM-C5-R-M 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.

Warning symbols	Description
	<p>ONLY USE THE PROVIDED POWER CABLE OR POWER ADAPTER SUPPLIED. DO NOT TAMPER WITH THE ELECTRICAL PARTS. THIS MAY RESULT IN ELECTRICAL SHOCK OR BURN.</p>
	<p>DO NOT TAMPER WITH THE UNIT. DOING SO WILL VOID THE WARRANTY AND CONTINUED USE OF THE PRODUCT.</p>
	<p>THE VIDEO BOARDS ARE VERY SENSITIVE TO STATIC. PLEASE ENSURE IF RACK MOUNTED OR INSTALLED ON A SURFACE, IT SHOULD BE IN A GROUNDED ENVIROMENT.</p>

	<p>⚠ WARNING</p> <p>Read & understand user guide before using this device.</p> <p>Failure to follow the proper installation instructions could result in damage to the product and preventing expected results.</p>
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2. INTRODUCTION

The HDM-C5-R-M, HDMI Single CAT5 Passive Extender Mini extends your HDMI transmission distance up to 15m (65ft) at 1280 x 720 and 12m (40 ft) at 1920x1080 resolutions. With HDM-C5-R-M, users can transmit high quality digital video applications through one cost effective CAT-5e LAN cables to the remote monitor or projector, instead of using short and expensive HDMI cables. The VIDEO SOURCE will continue to send the digital video even when the monitor is not connected. The user can then disconnects the monitor, place it in a remote location and reconnect it without rebooting the operating system.

The HDM-C5-R-M includes ONE unit: A receiving unit. The powered transmitting unit is connected to your HDMI Source and the passive receiving unit is connected to the monitor. While successfully connected, the two LED lights on the RJ-45 connector will blink. With compact size, HDM-C5-R-M is the most cost effective choice for bringing your impressive digital video to the remote display.

- Extends the transmission length from the sources up to up to 15m (65ft) at 1280 x 720 and 12m (40 ft) at 1920x1080 resolutions. Units can used as Transmitter or Receiver
- Direct CAT5/6 plug-in at any Avenview Powered Transmitter Out and IN Receiver



2.1 PACKAGE CONTENTS

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

I	- HDM-C5-R-M	
I	- HDM-C5-XD-S SOLD SEPERATELY	
I	User's Manual	

2.2 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 UTP cable. It can cause malfunction.



2.3 APPLICATION DIAGRAM

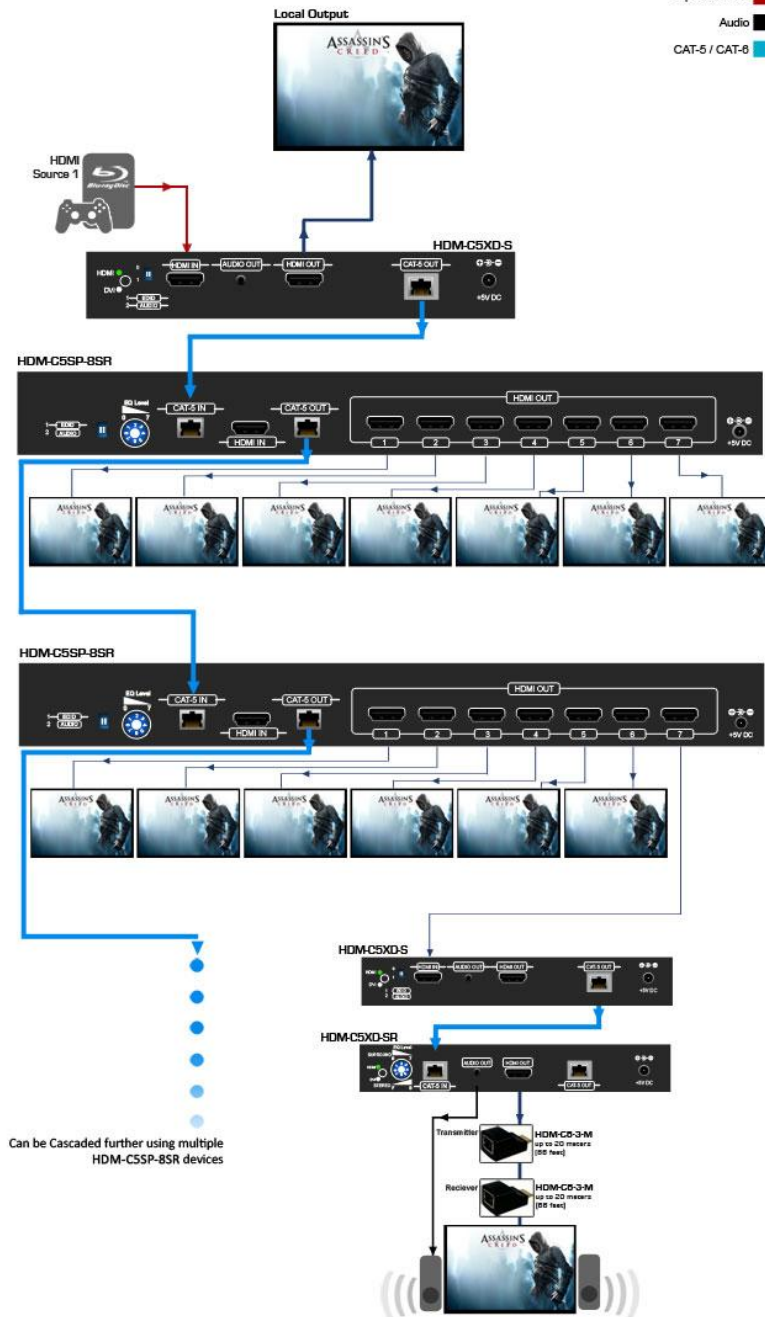
HDM-C5SP-8SR

LAYOUT 1

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

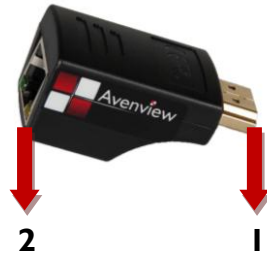
CABLE INDEX

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



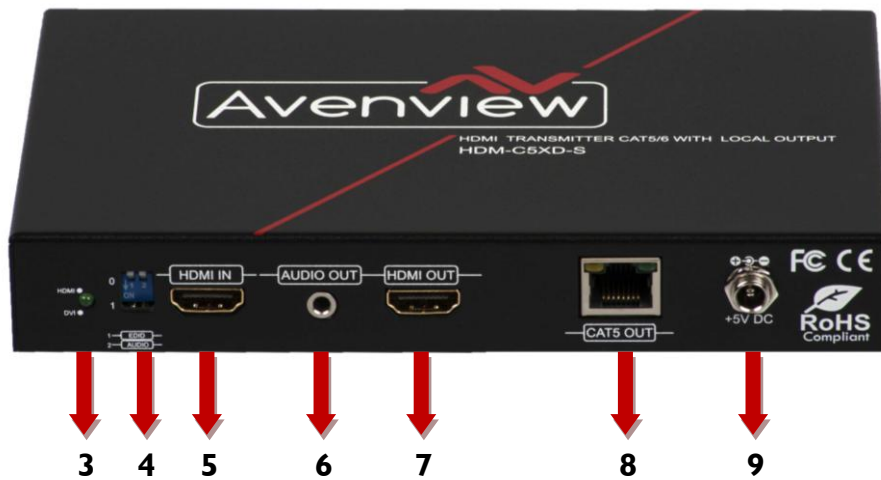
3. PANEL DESCRIPTION

INPUT PANEL (Receiver, HDM-C5-R-M)



1. HDM OUTPUT (MALE Connector)	2. CAT-5/6 OUT from to powered TX
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INPUT PANEL (Transmitter, HDM-C5XD-S) Rear



3. Input signal format indicator (Bright: HDMI Single) (Dim: DVI Signal)	4. DIP Switch (See Section 3.1)
5. HDMI IN: Connect HDMI source	6. Audio Out: Plug in Local Speaker
7. HDMI OUT: HDMI Local Output	8. HDMI Signal Out: RJ45 connection to connect to HDM-C5XD-SR, HDM-C5-3X-R or HDM-C5-R-M
9. Power Connector: 5V 4A DC	





4. INSTALLATION (HDM-C5-R-M)

To setup Avenview HDM-C5-R-M please follow these steps for connecting to a device:

1. Turn off all devices including monitors / TV.
2. Connect a CAT 5/6 UTP/STP cable between the two HDM-C5-R-M & HDM-C5-R-M.
3. Connect to a HDMI source.
4. Power on the HDMI display.
5. Power on HDMI Sources.
6. Also can be connected with HDM-C5-R-M to compatible devices listed below with a CAT5E/CAT6 cable:-
 - HDM-C5XD-SR
 - HDM-C5SP-8SR
 - HDM3D-C5-3X-S
 - HDM3D-C5-SP4/8

5. EXAMPLE INSTALLATION FOR EXTENDED DISPLAY (HDM-C5XD-S)

To setup optional Avenview HDM-C5XD-S please follow these steps:

1. Turn off all devices including Monitors /HDTV.
2. Connect a Local HDMI display to the HDMI out of the HDM-C5XD-S and then connect a Receiver/Speaker to the 3.5mm audio socket.
3. Connect a Ethernet (UTP, STP) cable to CAT5 IN which is connected to CAT5 OUT on HDM-C5-R-M.
4. Plug in 5V 4A DC Power (supplied).
5. Power on the HDMI display.
6. Power on HDMI Sources.

NOTE: SEE APPLICATION DIAGRAM ON PAGE 7



6. GENERAL TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTION
NO IMAGE	<ul style="list-style-type: none"> • Check if cables connection to the source and the display are correct. • Ensure that display device supports 480p, 720p and 1080p resolution
SCREEN DEFECTS APPEAR	<ul style="list-style-type: none"> • This product supports up to 1080p resolution. • Check the HDMI connection • If outputting from a PC. Check the maximum resolution range of the graphics card. • Check the resolution of display equal to to resolution output of the graphics card.
LEARN EDID TO TRANSMITTER (Only From Example 5)	<ul style="list-style-type: none"> • To learn the EDID of HDMI display for respective resolutions signals. • Connect the HDTV to the HDMI local output via HDMI cable • 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.











SECTION 2: SPECIFICATIONS

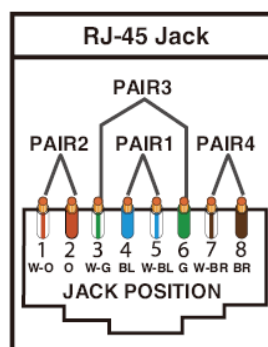
ITEM	DESCRIPTION
UNITS	HDM-C5-R-M
UNIT DESCRIPTION	HDMI SHORT RANGE PASSIVE RECEIVER
HDMI COMPLIANCE	YES
HDCP COMPLIANCE	YES
VIDEO BANDWIDTH	SINGLE LINK 225 MHZ (6.75GBPS)
SUPPORTED RESOLUTIONS	480I / 480P / 720P / 1080I / 1080P60
RESOLUTION AND DISTANCE (8-BIT)	FULL HD: (1080P) ~12 METER (40FEET) (CAT5E) / 12METER (40FEET) (CAT6) HD: (720P/1080I)-20 METER (60FEET) (CAT5E) / 20METER (60FEET) (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 RJ45
OUTPUT	1 X HDMI
HDMI CONNECTOR	TYPE A (19 PIN FEMALE)
RJ45 CONNECTOR	WE/SS 8P8C WITH 2 LED INDICATORS
DIMENSIONS	1.8" X 1" X 0.9" (L X W X H)
POWER SUPPLY	-
POWER CONSUMPTION	0.5 WATT (MAX)
ENVIRONMENTAL	
OPERATING TEMPERATURE	32° ~ 104°F (0° TO 40°C)
STORAGE TEMPEARTURE	-4° ~ 140°F (-20° ~ 60°C)
RELATIVE HUMIDITY	20~90% RH (NO CONDENSATION)



NOTICE

1. If the HDMI or HDMI/HDMI device requires the EDID information, please use C-EDID-RW EDID Reader/Writer to retrieve and provide HDMI/HDMI EDID information.
2. All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz UTP cable and ASTRODESIGN Video Signal Generator VG-859C.
3. The transmission length is largely affected by the type of category cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 300m or 1000ft bulk cable) can transmit a lot longer signals than stranded UTP cables (usually in the form of patch cords). 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 cables are your only choice.
4. EIA/TIA-568-B termination (T568B) for category cables is recommended for better performance.
5. To reduce the interference among the unshielded twisted pairs of wires in category cable, you can use shielded STP cables to improve EMI problems.
6. The quality of UTP/STP cables can affect the transmission distance.
7. The video quality is subject to the resolution of the source, also the connected display should be compatible with the resolution of the source .

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+



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		





TECHNICAL SUPPORT

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