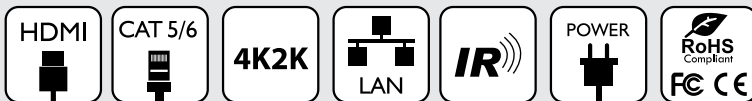




AV Connectivity, Distribution And Beyond...

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

HDBaseT HDMI **1X4 CAT5/6/7 Splitter** **with Bi-Directional IR/POE/Ethernet & Local Out**



Model #: HBT-C6POE-SP4

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Product Application & Market Sectors



Corporate



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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 HBT-C6POE-SP4, HDBaseT HDMI 1x4 CAT5/6/7 Splitter has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HBT-C6POE-SP4 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
	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.
	DO NOT TAMPER WITH THE UNIT. DOING SO WILL VOID THE WARRANTY AND CONTINUED USE OF THE PRODUCT.
	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.
	<div><div> WARNING</div><div>Read & understand user guide before using this device.</div><div>Failure to follow the proper installation instructions could result in damage to the product and preventing expected results.</div></div>

2. INTRODUCTION

The Avenview HBT-C6POE-SP4 HDBaseT 1x4 HDMI CAT5/6/7 Splitter with POE, Bi-Directional IR and Ethernet has been designed to extend High Definition video and multi-channel digital audio formats to (4) four Monitors.

Video Signals: 4K2K@30 (Ultra HD), 3D, Deep Color, and Full HD 1080p 48-bit color depth.

Audio signals: Lossless Multi-channel audio formats (DTS-HD Master Audio, Dolby TrueHD).

Data Signals: Bi-Directional IR signals 30 KHz to 50 KHz over CAT5/6.

The HBT-C6POE-SP4 includes (1) one unit: Transmitting unit (Tx) HBT-C6POE-SP4 with (3) Three UTP output ports and (1) HDMI output port which allows the user to extend video and audio via HDMI cable 35ft.

The bonus features with this device it can support PoE (Power over the CATx cable to the RX) also Internet (100Mbps Ethernet service when connected to a Router). These features has been added to this unit to give the installer and user a complete solution with the new trends in online streaming, network connected devices and new demand in Smart TV, Ultra HD monitors and content. The HBT-C6POE-SP4 allows bi- directional IR control of the source connected to the unit from the users IR remote control at the monitor side.

- INPUT: HDMI with 3D & 4Kx2K, 1080p, HDCP and DVI compliant source devices
- DATA RATE: From 250Mbps up to 3Gbps
- PC RESOLUTIONS: Up to VGA to WUXGA
- HD RESOLUTIONS: Up to 4Kx2K (3840x2160@30Hz and 4096x2160@24Hz) 1080p (1920x1080@60Hz)
- AUDIO SUPPORTED: LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio
- AUDIO TRANSMISSION: (32-192kHz sample rate)
- DISTANCE: Up to 100 meters through CAT6e/6a/7 cables
- ETHERNET TRANSMISSION: Rate up to 100Mbps
- MODE: Standard 1080p@60Hz or TV EDID timing
- SERVICE: USB for Manufacturer USE ONLY
- 3D SUPPORT: Follow by Display / TV's EDID
- POE SUPPORT: ONLY with capable Receiver (Rx units)
- IR CONTROL: Bi-directional IR Control
- NOTE:
 - The PoE function is designed for powering compatible Receiver units only.
 - The non-PoE Receivers has to be powered with a power supply.
 - Receivers (Rx) from different manufactures would not be compatible.
 - Displaying HDMI 4Kx2K resolution would require the standard 4Kx2K HDMI cable and display for accurate results.



The User has the ability to choose

HBT-C6POE-R - Full 5 play HDBaseT Receiver - Video/Audio/IR/RS232/Ethernet/POE over a single CAT5/6/7 up to 100m (330ft).



HBT-C6POE-RL - HDBaseT Lite Receiver - Video/Audio/IR/RS-232/POE over a single CAT5/6/7 up to 60m (200ft).



NOTE: The QUALITY and TRANSMISSION of the video signals depends on the characteristics and quality of the UTP cables. Higher resolutions and longer transmission distances require low skew cables (<25ns/100m) for best performance.

Unshielded CAT6 with metal RJ-45 connectors is recommended.



2.1 PACKAGE CONTENTS

1	HBT-C6POE-SP4	X1	
2	LOCKING POWER ADAPTER/BRICK (+24V 2.7A DC) & POWER CORD FOR THE BRICK	X1	
	IR RECEIVER	X1	
	IR BLASTER	X1	
	USER'S MANUAL	X1	



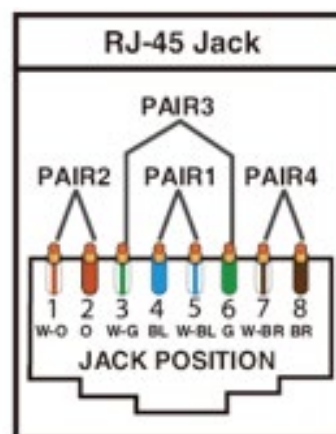
2.2 BEFORE INSTALLATION

- 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 and supplied with the unit. If improper power supply is used the unit may malfunction and cause a fire.
- Do not twist or pull by force ends of the UTP cable. It can cause malfunction.

2.3 CABLE SPECIFICATIONS

Cable Type	Range	Pixel clock rate	Video Data Rate	Supported Video
CAT5e/6/7	100m	$\leq 225\text{MHz}$	$\leq 5.3\text{Gbps}$ (HD Video)	Up to 1080p, 60Hz, 36 bits, 3D (Data rates lower than 5.3 Gbps or below 225 Mhz TMDs clock).
	70m	$> 225\text{MHz}$	$> 5.3\text{Gbps}$ (Ultra HD Video)	4K2K, 30Hz video formats
CAT6A/7	100m	$> 225\text{MHz}$	$> 5.3\text{Gbps}$ (Ultra HD Video)	4K2K, 30Hz video formats

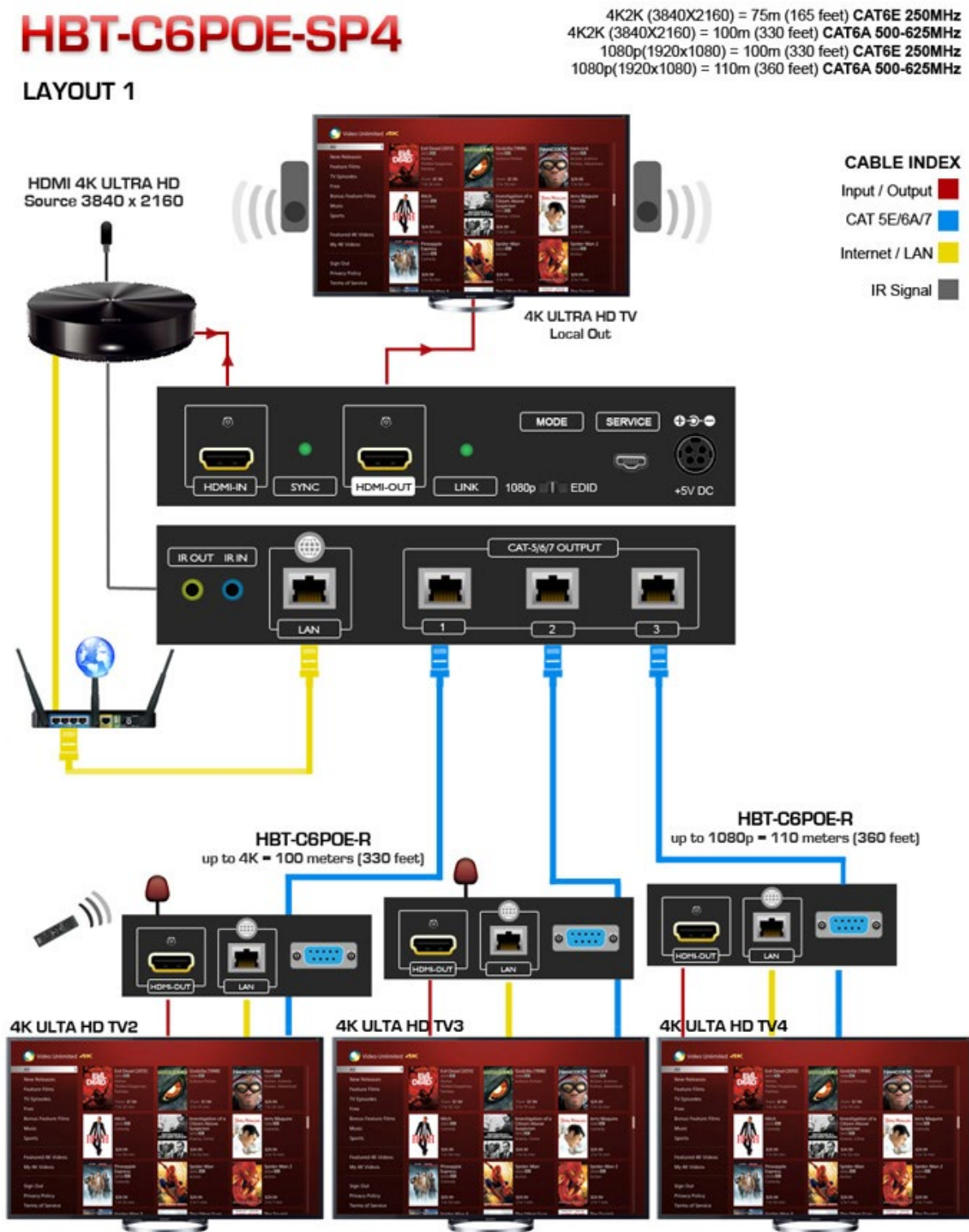
Data Link TIA/EIA-568-B		
PIN	Color	Function
1	W-O	TX0-
2	O	TX0+
3	W-G	TX1-
4	BL	TX2-
5	W-BL	TX2+
6	G	TX1+
7	W-BR	TXC-
8	BR	TXC+



3. APPLICATION DIAGRAM

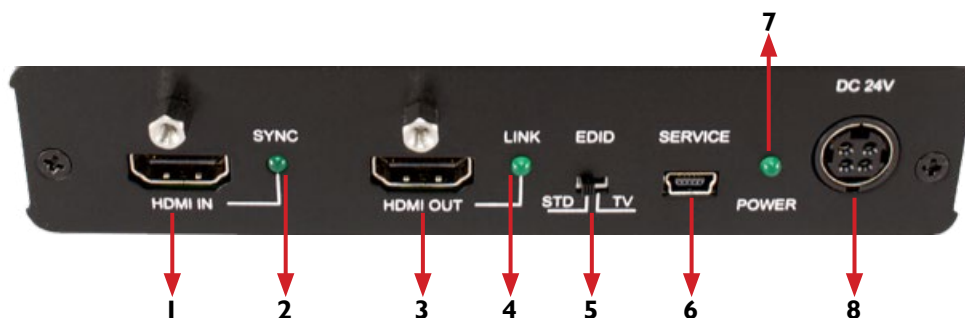
HBT-C6POE-SP4

LAYOUT 1



4. PANEL DESCRIPTION

INPUT PANEL (TRANSMITTER, HBT-C6POE-SP4) Front



1. HDMI IN: To receive the source INPUT	2. SYNC LED: Illuminates when HDMI Input port is connected to an active source.
3. HDMI OUT: Connect to HDMI display Max 35ft via HDMI Cable or cascade with another Avenview type Transmitter.	4. LINK LED: illuminates when HDMI output is connected to TV or display monitor
5. EDID: Configure Mode (see Details below *)	6. SERVICE: This connector is reserved for factory service only.
7. POWER LED: Illuminates when power is connected.	8. DC 24V: To power the unit via the 24V DC power supply (supplied)

EDID TV: The default factory setting is TV; don't adjust if the image is displayed properly.

EDID STD: Switch to STD to use built-in EDID if the image is not displayed properly.

STD EDID's video at 1080p@60Hz and audio at LPCM 2CH.

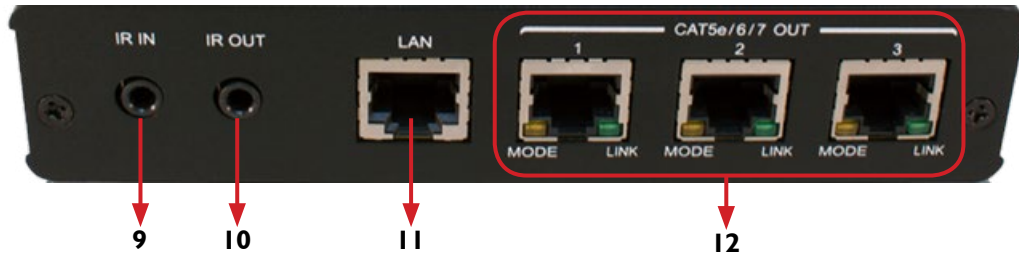
Notice

The unit will detect the PORT (1) one CAT5e/6/7 output's EDID. When it obtains a (4Kx2K) Ultra HD EDID the unit sends the signal accordingly to other (2) two output ports. If PORT (1) one CAT5e/6/7 output is without a (4Kx2K) Ultra HD EDID the unit will detect all (3) output's EDID and send the signal that all (3) outputs ports can accept.

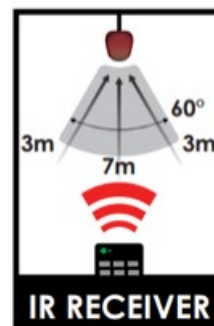
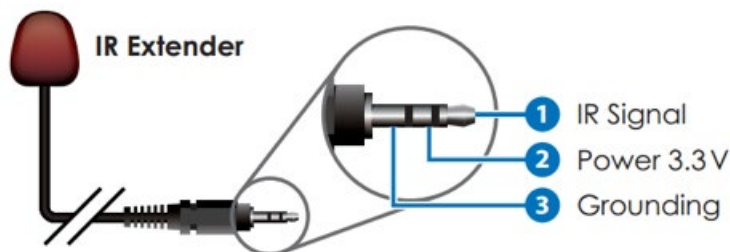
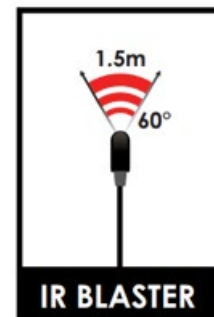
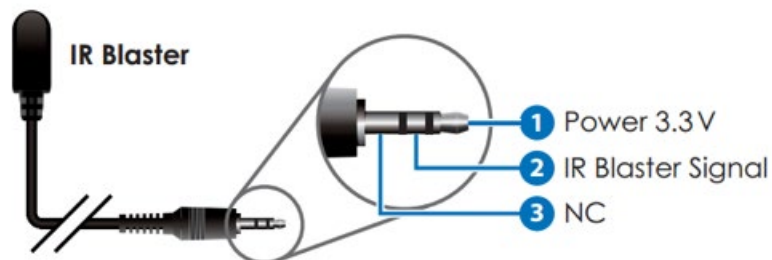
This device obtains the last memory function. It will default use the last output PORT (1) one EDID when output PORT (1) one is not connected to a display after power cycling or switch in between the EDID setting.



INPUT PANEL (TRANSMITTER, HBT-C6POE-SP4) Rear



9. IR IN: Use IR Extender in this port.	10. IR OUT: Use IR Blaster in this port
11. LAN: Connect to Internet service sharing rate of 100Mbps within the link of Transmitter. Warning: DO NOT connect this Port with any of the HDBaseT Receivers, this may trigger a power shot down and damage device.	12. CAT5e/6/7 OUT 1~3: Connect these ports to CAT5e/6/7 HDMI Receivers (with or without PoE function) with CAT5e/6/7 cable to extend the signal up to 60m/100m



IR Sockets

- IR BLASTER: plug in the IR blaster to the HBT-C6POE-SP4 to emit all IR command signals received from the IR Extender plugged into the Rx (Monitor Side) to control the devices corresponding to the IR signals. Example: Set Top Box or DVD player (The Source).
- IR EXTENDER: plug in the IR Extender into the (RX) Receiver (Monitor Side) to receive all IR command signals from the IR remote controls of the corresponding source. Example: Set Top Box or DVD player (IR Remote Control).

WARNING

- NOTE: Incorrect placement of IR Blaster and IR Extender into the extender may result in the failure of the IR extenders.
- Please check carefully before plugging in the IR extender to the respective IR sockets.
- It is clearly marked and IR IN: IR EXTENDER /IR OUT: IR BLASTER
- WARRANTY WILL NOT COVER THE DAMAGE.



6. INSTALLATION (HBT-C6POE-SP4)

To setup Avenview HBT-C6POE-SP4 please follow these steps for connecting to a device:

1. Turn off all devices including monitors / TV
2. Connect to a HDMI source (such as a Blu-Ray Disc player) to the Transmitter HBT-C6POE-SP4
3. Connect HBT-C6POE-R 100m or HBT-C6POE-RL 60m with a CAT5/6/7 cable with shielded ends, then connect to display with HDMI cable.
4. Plug in 24V 2.7A DC Power (supplied).
5. Plug in the IR BLASTER: into IR out and the blinker on the IR eye (Source)
6. Plug in the IR Extender to IR IN to receive IR Signals from Remote
7. Power on the HDMI display
8. Power on HDMI Sources.

Notice

- Additional info on Guidelines to Test & Troubleshoot HDBaseT Systems
- Can be retrieved from our website under the category Downloads for this product HBT-C6POE-SP4



7. GENERAL TROUBLESHOOTING

PROBLEM	POSSIBLE SOLUTION
NO IMAGE	<ul style="list-style-type: none"> • Check if connection to the source and the display are correct. • Ensure that display device supports 480p, 720p and 1080p 4K@30 resolution • Terminated to 568B standard with Shielded Ends Recommended • High Quality CAT5/6/7 Cable helps signal transmission • Please use the supplied power supply-DC 24V 2.7A • Check LED Link light see (Section 3 Panel Description) • Check LED Sync light see (Section 3 Panel Description)
EDID ISSUE	<ul style="list-style-type: none"> • EDID MODE-TV: The default factory setting is on TV. The unit will detect the 1st CAT5e/6/7 output's EDID. When obtained a (4K2K) Ultra HD 3840x2160 EDID the signal is transmitted. • If the 1st CAT5e/6/7 output is without a Ultra HD 3840x2160 EDID the unit will detect all output's EDID and Transmit the signal that all outputs can accept. • EDID MODE-STD: Switch to STD to use built-in EDID if the display has No Image. STD EDID's video at 1080p@60Hz and audio at LPCM 2CH.
SET-TOP BOX NO PICTURE	<ul style="list-style-type: none"> • HDBaseT and HDMI 1.3 standards support CLOCK STRETCHING for i2c buss protocol • Example set top boxes like Scientific Atlantic results no picture. This can be resolved by swapping out the box for a newer version that supports HDMI 1.3 not HDMI 1.2
NO INFRARED COMMUNICATION	<ul style="list-style-type: none"> • Ensure the UTP cable is run within the wall away from EMI and High Voltage power Lines. • Please check manual of device to ensure proper placement of IR Blaster on IR EYE. • Some LED /Plasma TV have EMI interference with the IR Extender, please place the IR Rx 3-6" away from Screen
Recommended TEST	
END-TO-END TESTING	HDBaseT system, a final end-to-end test of all the A/V components should take place. These tests include checking the HDMI stream at the far end (sink end), the clock rate, frame compare, video pattern, audio, EDID and HDCP with Quantum 780 (recommended)
PASSIVE MONITORING	Passive monitoring enables an integrator to view the HDCP transactions, EDID exchange, as well as the connection events between the actual devices in the network.



8. SPECIFICATIONS

Item	Description
UNITS	HBT-C6POE-SP4
UNIT DESCRIPTION	HDBaseT HDMI Transmitter
HDMI COMPLIANCE	YES HDBaseT
HDCP	Yes 1.4
VIDEO BANDWIDTH	Single-link 340MHz [10.2Gbps]
SUPPORTED RESOLUTIONS	480i / 480p / 720p / 1080i / 1080p60 / 4K@30 Up to Ultra HD (3840x2160@24/25/30Hz) 4K2K-(4096x2160@24Hz)
HDMI INPUT/OUTPUT	DISTANCE: Up to 10m@1080p 8/12-bit
CAT5/6/7 CABLE	4K2K: (3840X2160@30Hz) ~ 75meter (250feet) (CAT6e) / 100meter (330feet) (CAT6a) FULL HD: (1080p) ~ 100meter (330feet) (CAT6e) / 110meter (360feet) (CAT6a)
AUDIO SUPPORT	LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio
INPUT TMDS SIGNAL	1.2 Volts (peak-to-peak)
INPUT DDC SIGNAL	5 Volts (peak-to-peak, TTL)
ESD PROTECTION	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
INPUT	1x HDMI 1x 3.5mm IR IN 1x mini-USB Service only 1x LAN port
OUTPUT	1x HDMI Local OUT 1x 3.5mm IR OUT 3x CAT5e/6/7
HDMI CONNECTOR	Type A (19 pin female)
RJ45 CONNECTOR	WE/SS 8P8C with 2 LED indicators
USB CONNECTOR	Mini B
IR FREQUENCY	30~50kHz
DIMENSIONS (L X W X H)	3" x 3.5" x 1" 145 mm(W) x 190 mm(D) x 30 mm(H)
WEIGHT	0.5lbs 590g
POWER SUPPLY	24V / 2.7A DC (US/EU standards, CE/FCC/UL certified)
POWER CONSUMPTION	36 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 (non-condensing)



Notice

- All HDMI over CAT5 transmission distances are measured using Belden CAT6A (625MHz), 4-Pair, U/UTP- Unshielded, Riser-CMR, Premise Horizontal Cable, 23 AWG Solid Bare Copper Conductors, Polyolefin Insulation, Patented Double-H spline, Ripcord, PVC Jacket using Quantum 980 signal HDMI Video Generator Module Video Pattern Testing.
- 2. The transmission length is largely affected by the type of category cables, also 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 connectors are better suit than unshielded UTP connectors. A solid UTP CAT5e cable shows longer transmission length than stranded STP CAT6 cable. For long extension users, solid cables are your only choice.
- 3. EIA/TIA-568-B termination (T568B) for category cables is recommended for better performance.
- 4. To reduce the interference among the unshielded twisted pairs of wires in category cable, you can use shielded STP cables with shielded connector to improve EMI problems, which occurs in long transmission.
- 5. Because the quality of the category 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 category cables. For resolution greater than 1080i or 1280x1024, a solid CAT6 cable is the only viable choice.



Notes



Avenview Warranty Certificate

AVENVIEW CORP. ("Avenview") warrants Avenview-branded product(s) contained in the original packaging against defects in materials and workmanship when used normally in accordance with Avenview's enclosed manual guidelines for a period of THREE (3) YEARS from the date of original retail purchase - Warranty Period. Avenview's published guidelines include but are not limited to information contained in technical specifications, user manuals and service communications.

LABOR: During the Warranty Period of THREE (3) YEARS, Avenview will repair or replace the product(s) at no cost using new or used parts equivalent to novel performance and reliability if the product(s) is determined to have abide by Avenview's published guidelines. Cost of Labor applicable to product(s) after Warranty Period. For labor costs, please contact support@avenview.com.

PARTS: During the Warranty Period of THREE (3) YEARS, Avenview will supply new or rebuilt replacements in exchange for defective parts of the product(s) at no cost if the product(s) is determined to have abide by Avenview's published guidelines. Cost of Parts applicable to product(s) after Warranty Period. For part(s) costs, please contact support@avenview.com.

To obtain Warranty: (a) proof of purchase in the form of a bill of sale or receipted invoice reflecting that the registered product(s) is within warranty period must be presented to obtain warranty service; (b) product(s) must be registered at time of purchase. Failure to do so will result in applicable parts and labor charges. Returning product(s) must be shipped in Avenview's original packaging or in packaging pertaining equal degree of protection to Avenview's. Both Avenview and purchaser are responsible for freight charges and brokerages when shipping the product(s) to the receiver.

NOT COVERED BY THIS WARRANTY

This warranty does not apply to any non-Avenview branded product(s); non-registered Avenview product(s). This warranty does not apply: (a) to cosmetic damage, including but not limited to scratches, dents and broken cords; (b) to damage caused by use with another product; (c) to damage caused by accident, abuse, misuse, liquid contact, fire, earthquake or other external cause; (d) to damage caused by operating the Avenview product(s) outside Avenview's manuals or guidelines; (e) to damage caused by service performed by anyone who is not a representative of Avenview or an Avenview authorized personnel; (f) to defects caused by normal wear and tear or otherwise due to the normal aging of the Avenview product(s), or (g) if any serial number has been removed or defaced from the Avenview product(s).

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Some states do not allow the inclusion or limitation of incidental or consequential damages, or allow limitations on duration implements of the Warranty Period; therefore the above limitations or exclusions may not be applicable to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



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AV Connectivity, Distribution And Beyond...

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