

**Control Your Video** 

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

# HDMI H.264 IP VIDEOWALL DECODER/ENCODER OVER CAT/X WITH MATRIX MODE SUPPORT



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# **Product Application & Market Sectors**



Corporate



House Of Worship



Military



Residential



Education



Industrial



Medical



Aviation



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### SECTION I: GETTING STARTED

### I.I IMPORTANT SAFE GUARDS

#### 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.
- External causes to the product, such as electric power fluctuation or failure.
- u se 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-C6MWIP-SET, HDMI H.264 IP Matrix Decoder/Encoder has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HDM-C6MWIP-SET 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.
- A 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.
- A 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.
- A 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.

## **I.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
	ONIY USE THE PROVIDED POWER CABLE OR POWER ADAPTER SUPPLIED. DO NOT TAMPER WITH THE ELECTRICAI PARTS. THIS MAY RESULT IN EI ECTRICAL SHOCK OR BURN.
	DO NOT TAMPER WITH THE UNIT. DOING SO WIII VOID THE WARRANTY AND CONTINUED USE OF THE PRODUCT
BEWARE this unit contains static sensitive devices	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.

Read & understand user guide before using this device.

Failure to follow the proper installation instructions could result in damage to the product and preventing expected results.

### 2. INTRODUCTION

The Avenview HDM-C6MWIP-SET, HDMI H.264 IP Videowall/Matrix Decoder/Encoder delivers end-to-end streaming media over IP networks. The HDM-C6MWIP-SET is composed of two units a Decoder and an Encoder. The Decoder H.264/ MPEG-4 AVC video compression format, it receives the encoded IP signal through LAN port and decodes video/audio signal out through HDMI interface, it also supports stereo de-embeding and streaming resolutions up to 1920 x 1200@60Hz.

#### FEATURES:

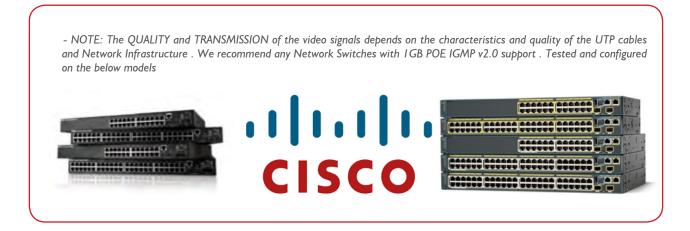
- Flexible PC,WEB GUI iPad control;
- CEC Function on the RX;
- Supports live IP video stream decoding 480p@60Hz to 1920 x 1200@60;
- Supports POE;
- Allows video previewing via iPad App and Windows 7 software 352x288@5Hz;
- Supports multiple interfaces HDMI, DVI signals over IP networks;
- Supports audio embedding and de-embedding;
- Built in-auto scaler;
- Supports H.264 features baseline profile, main profile and high profile;
- Supports H.264, TCP/IP, Telnet, UDP and IGMP;
- Support Telnet, WEB GUI control and 3rd Party control sytems API commands;
- Supports Auto IP, Zero-configuration networking (zeroconf)
- Seamless switching, no black screen, no frame lock.
- Configurable encoding bit rate up to 30 Mbps
- Auto input format detection
- HDCP compliant

#### Other features include:

Point to Point - (Direct Connection with CAT5/6) - 330ft

**Point to Multi** - point with CAT5/6 requires a POE Network Switch which supports port based, IGMP v2.0 or above protocol. For large application, we would recommend Cisco SG family and the Cisco Catalyst.

**Videowall and Matrix Function** – with CAT 5/6 cable without any signal loss add multiple Sources to multiple encoders which links via LAN by cascading any POE Gigabit Ethernet switches up to 3 levels, to the decoder connected to the HD Monitors at different locations on the Network. Transporting full HD 1080p video and internally H.264 video compression adapts to available network bandwidth if needed while retaining vivid picture with PCM audio.





# 2.1 PACKAGE CONTENTS

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

I	HDM-C6MWIP-SET (HDM-C6MWIP-S) (HDM-C6MWIP-R)	
2	Power Adapter (+12V DC 1A) + International Adapters X2	
3	I x Right and Left Ear Rack Sets X2	
5	Phoenix Connector (Male, 3.5 mm, 3 pins) X 4 x2 Sender x2 Receiver	
6	User Guide X I	

### 2.2 **BEFORE INSTALLATION**

- Put the product in a level and stable location. If the product falls, it may cause damage or malfunction to components within the casing.
- Do not place the product in temperatures under 0°C or over 50°C. High humidity may also cause the unit to malfunction.
- Use the DC power adapter with correct specifications supplied with the unit. If the improper power supply is used, this may result in malfunction of the unit and may cause fire.
- Do not twist or pull by force the ends of the UTP cable. It will cause malfunction.



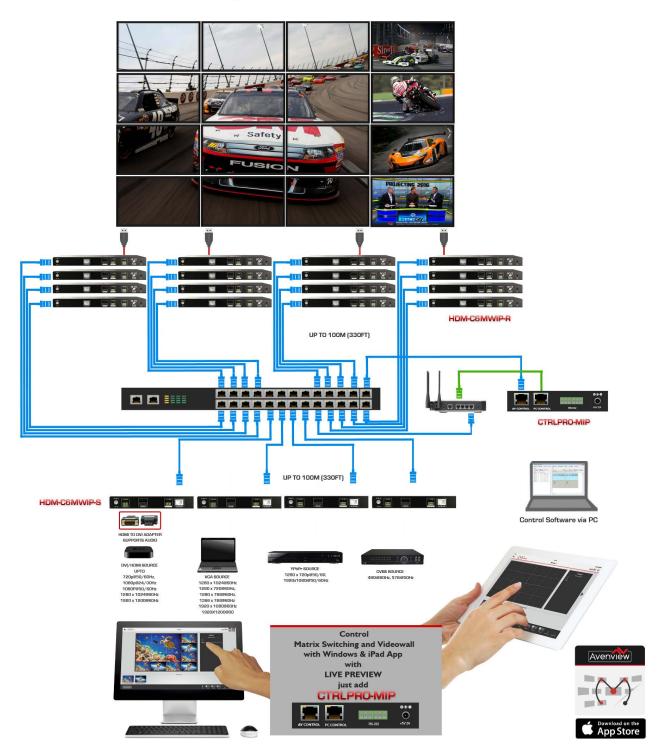
## 2.3 APPLICATION DIAGRAM

#### HDM-C6MWIP-SET

CABLE INDEX Input / Output CAT-5e / CAT-6



Application Diagram 2 MULTI SOURCE TO MULTI DISPLAY 1080p60 = 100m (328 feet) CAT6 WUXGA = 100m (328 feet) CAT6





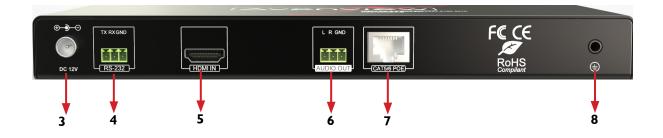
## 2.4 PANEL DESCRIPTION

### 2.4.1 FRONT PANEL (Sender/Encoder, HDM-C6MWIP-S)



Power LED: Indicates if the unit is powered OFF or ON by a RED LED
 Status LED: Steady Blue Light ON indicates unit is communicating properly. LED blinking waiting on Source

### 2.4.2 REAR PANEL (Sender/Encoder, HDM-C6MWIP-S)



3. Power Jack: DC 12V 1A	4. RS 232: RS-232 Data pass-through port for receiving /sending commands to RS 232 devices.
5. HDMI IN: Connect to HDMI/DVI Source.	<ol> <li>Stereo Audio OUT: Connects to an audio output device such as an amplifier for audio de-embedding.</li> </ol>
<ol> <li>CAT5/6: Used for transporting video/audio streams to Decoder RX units connected.</li> </ol>	8. Ground Screw: Ground connection prevent device from voltage damage.

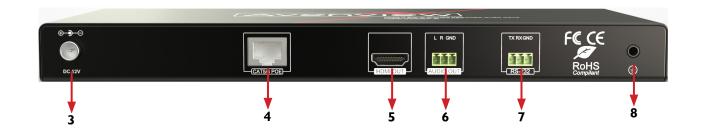


### 2.4.3 FRONT PANEL (Receiver/Decoder, HDM-C6MWIP-R)



- I. Power LED: Indicates if the unit is powered OFF or ON by a RED LED.
- 2. Status LED: Steady Blue Light ON indicates unit is communicating properly. LED blinking waiting on Encoder.

### 2.4.4 FRONT PANEL (Receiver/Decoder, HDM-C6MWIP-R)



3. Power: 12V IA DC Power Jack.	4. Used for accepting video/audio streams from the Encoder TX units connected.
5. HDMI OUT: Connect to HDMI Display.	<ol> <li>Stereo Audio OUT: Connects to an audio output device such as an amplifier for audio de-embedding.</li> </ol>
7. RS 232 : RS-232 Data pass-through port for receiving /sending commands to RS 232 devices.	8. Ground Screw: Ground connection prevent device from voltage damage.



### 3. INSTALLATION (HDM-C6MWIP-SET) POINT to POINT

To setup Avenview HDM-C6MWIP-SET please follow these steps for connecting to a device:

- I. Turn off all devices including monitors / TV.
- 2. Connect an HDMI source (such as a Blu-Ray Disc player or PC) to the Encoder HDM-C6MWIP-S.
- 3. Connect CAT5/6 from Encoder to Decoder at the CAT5/6 port.
- 4. Connect an HDMI out from HDM-C6MWIP-R decoder to a Display/Monitor.
- 5. Connect Audio out to Speakers or Amplifier.
- 6. Ensure all cable connections are secure and not loose.
- 7. Plug in I2V DC power (supplied) and connect the HDM-C6MWIP-S and HDM-C6MWIP-R to power jack respectively.
- 8. Power on HDMI Source.
- 9. Power on the HDMI display.

**NOTE:**For network setup please see the Network switch configuration guide and Network Connection guide to acheive best results.

## 3.1 APPLICATION

#### 3.1.1 IP Matrix Switch Guide

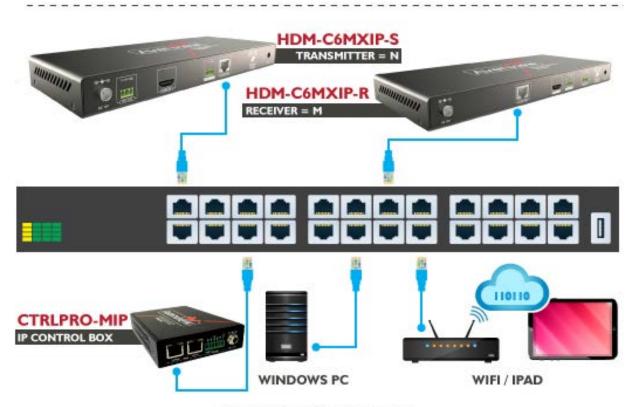
TX and RX	( Guide	Networking Switch Guide	
Distribution Status	ution Status Total Network Quantity Topology		Recommended Switches
	equal to 20     HUAWEI 24-port 1000 Mbps Ether       TX/RX     Single Switch		Cisco SG 300 24-port 1000 Mbps Ethernet Switch HUAWEI 24-port 1000 Mbps Ethernet Switch
Centralized	Less than or equal to 40 TX/RX	- Networking	Cisco SG300 /500 48-port 1000 Mbps Ethernet Switch HUAWEI 48-port 1000 Mbps Ethernet Switch
	More than 40 TX/RX	Cascading	Cisco switch SG Series or Catalyst:
Distributed	No requirement	Switch Networking	Core switches uses 1000 Mbps Ethernet switches. Extended switches use 1000 Mbps Ethernet switches



### 3. SINGLE SWITCH NETWORKING GUIDE

### 24-Port Single Switch Networking

N + M (No more than 20)



Deployed by the field requirement

The illustration above is an example of how the user can connect using a 24 port network switch. The following brands are recommended and was tested resulting in stable working conditions.

I. Cisco brand

24-port 100Mbps Ethernet switch: WS-C2960-24TC-L

24-port 1000Mbps Ethernet switch: SG300-28

24-port 1000Mbps PoE Ethernet switch: SG300-28P, WS-C2960S-24PS-L, WS-C2960X-24PSQ-L

2. HUAWEI Brand

24-port 100Mbps Ethernet switch: S2700-26TP-EI-AC

24-port 1000Mbps PoE Ethernet switch: S5700-28P-PWR-LI-AC



# 3.3 NETWORKING GUIDE

Avenview M-Series HDMI over IP units can be networked together with a recommended Layer 2 Gigabit Smart Switches. As mentioned previously in section 3 the importance of calculation for the capacity of the switch meets the requirements of the number of encoders/decoders you have on your network. These units can perform well over a standard network infrastructure, however the quality of this infrastructure is critical. We have tested many brands of switches all of which perform well in small system configurations of around 10 Encoders and Decoders. However, for larger installations, Avenview highly recommends using CISCO SG300/500 or CATALYST series switches.

#### 3.3.1 Simple Setup Guide for Network switch

M-series should be connected to a Layer 2 managed switch which supports Multicast & IGMP snooping.

Do not connect any units to the switch until all the network switch configuration has been. For recommended switches and PDF configuration guides please see the 'downloads' section of any M-series device at avenview.com.

#### 3.3.2 POE Requirements

It is not necessary to change the IP addresses of the encoders and decoders units – factory default AutoIP is used to configure correct IP addresses to simply work out of the box.

DHCP addresses are not recommended, while Static addresses are for supervised setups and network strict environments.

Failure to note the IP settings of any unit changed may result in a complicated reset procedure.

Most M-Series installations use the POE (Power Over Ethernet) function to power the encoder & decoders units.

HDM-C6MXIP & HDM-C6MWIP devices are Class 0 rated POE devices, they can require up to 15.4W of power each, but tested their

actual power draw is between 5-7W. In order to calculate the number of devices that is recommended on a network switch please

divide the total POE power capacity of the switch by 15.4.

Please see the example:

CISCO SG300-52P with a POE power output of 375W: 375 / 15.4 = 24.35. From the answer 24 devices can be powered by this switch. In order to have all ports powered by POE on a network switch, please see the example:

SG300-52MP which provides 740W. 740 / 15.4 = 48. From the answer 48 devices can be powered by this switch.

#### 3.3.3 Data Bandwidth

Each HDM-C6MXIP-S encoder will produce up to 50Mb/s of data > therefore  $10 \times 10 \times 10 \times 10 \times 10 \times 10 \times 10^{-10}$  km s = 0.5 Gbps.



### 4. PC CONFIGURATOR

You can connect multiple HDM-C6MWIP-S and the HDM-C6MWIP-R H.264 decoder to build a modular IP matrix. With the PC configurator, you can configure and manage this function. For more information, see the user guide of PC configurator.

#### Minimum System Requirements PC Software

Operating System: Microsoft® Windows® XP, Windows® Vista, Windows® 7 or Windows® 8 CPU: 1.5 GHz Memory: 1 GB of RAM HDD: 32 GB of available hard disk space Network: 10/100 NIC

#### 4. I Setting a Static IP on Your Computer

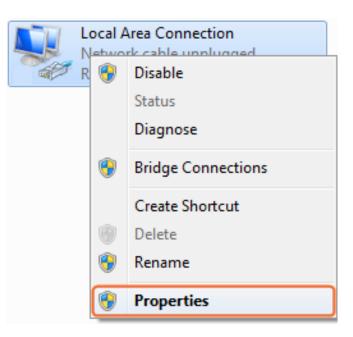
Before using the Avenview PC Configurator, please ensure you download the most recent version from the product HDM-C6MWIP-S Sender and HDM-C6MWIP-R Receiver website link /downloads PC control software .

All devices must be are in the same network segment. To verify and properly control the devices, please set a static IP on your computer. See the instructions below if not sure on how to proceed:

The Sender and Receiver units are pre-configured with AutoIP. Upon connecting the units to a stand alone network switch (without router attached), the units will be on IP address range at 169.254.1.1 and subnet mask 255.255.0.0. Set your computer's IP address as 169.254.X.X and subnet mask as 255.255.0.0.

A Windows 7 PC/Laptop is used as an example to configure a static IP address.

- I. Click Start.
- 2. Choose Control Panel > Network and Internet > Network and Sharing Center > Change Adapter Settings, right click Local Area Connection, and then choose Properties.





3. Double-click Internet Protocol Version 4 (TCP/IPv4).

Local Area Connection Properties	×	
Networking Sharing		
Connect using:		
Realtek PCIe GBE Family Controller		
Configure		
<ul> <li>Client for Microsoft Networks</li> <li>QoS Packet Scheduler</li> <li>File and Printer Sharing for Microsoft Networks</li> <li>Internet Protocol Version 6 (TCP/IPv6)</li> <li>Internet Protocol Version 4 (TCP/IPv4)</li> <li>Internet Protocol Version 4 (TCP/IPv4)</li> <li>Link-Layer Topology Discovery Mapper I/O Driver</li> <li>Link-Layer Topology Discovery Responder</li> </ul>		
Install Uninstall Properties		
Description Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.		
ОК Са	ncel	



- 4. Select **Use the following IP address**. After configuring the settings in the following example, click **OK**.
  - > IP address: 169.254.2.5
  - Subnet mask: 255.255.0.0

General	
You can get IP settings assigned au this capability. Otherwise, you need for the appropriate IP settings.	itomatically if your network supports d to ask your network administrator
Obtain an IP address automat	ically
Use the following IP address:	
IP address:	169.254.2.5
S <u>u</u> bnet mask:	255.255.0.0
<u>D</u> efault gateway:	
Obtain DNS server address au	tomatically
• Use the following DNS server a	addresses:
Preferred DNS server:	
Alternate DNS server:	• • •
Validate settings upon exit	Ad <u>v</u> anced
	OK Cancel

5. Click OK.

## **Configuring Your Operating System**

#### Firewall

Your operating system firewall may block some features of PC Configurator and prevent it from communicating with Sender and Receiver. A computer running Windows 7 is used as an example to configure your operating system firewall through either of the following two approaches.

#### Method I

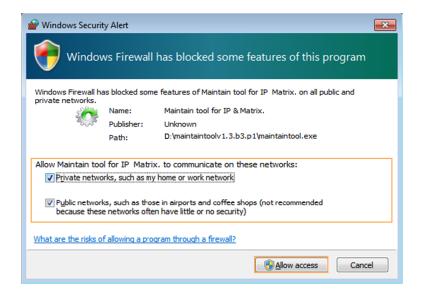
You can configure the firewall in the **Windows Firewall** panel on your computer, for example select both **Home/Work (Private)** and **Public** for **PC Configurator & Matrix**.



🔾 💭 🗢 🔐 « System and Security 🔸 Windows Firewall 🕨 Allowed Programs	✓ 4 Sear	ch Control Panel	
Allow programs to communicate through Window To add, change, or remove allowed programs and ports, click Char What are the risks of allowing a program to communicate?	nge settings.	nge settings	
Allowed programs and features:			
Name	Home/Work (Private)	Public	
Maintain tool for IP & Matrix. Connect to a Network Projector			
Connect to a Network Projector			
Create a System Repair Disc			
Distributed Transaction Coordinator			
File and Printer Sharing			
HomeGroup			
iSCSI Service			
Media Center Extenders			
Microsoft Office Groove		₹	
Microsoft Office OneNote			
Microsoft Office Outlook		<b>v</b> •	
	Details	Remove	
	Allow anothe	er program	
	ОК	Cancel	

#### Method 2

You can also configure the firewall in the **Windows Security Alert** window. When starting MaintainTool, the **Windows Security Alert** may display. If so, use the administrator privileges to select a network you allow this software to communicate on, for example select both private and public networks, and then click **Allow access**.





# 5. SPECIFICATIONS



	1400 x 1050@60Hz 1680 x1050@60Hz, 1920 x1080@60Hz, 1920 x 1200@60Hz <b>YPbPr:</b> 720 x 480i@60Hz,720 x 480p@60Hz, 720 x 576i@50Hz,720 x 576P@50Hz, 1280 x720p@50Hz,1280x720p@60Hz 1920 x1080i@50Hz,1920 x 1080i@60Hz <b>CVBS:</b> 480i@60Hz,576i@50Hz	
Input Video Signal	0.5~1.2 V p-p	NA
Encoding Data Rate	Up to 30 Mbps, configurable	NA
Output Video Ports	I x CAT5/6	I x HDMI
Output Video Type	H.264/MPEG-4 AVC	HDMI 1.3
Output Video Resolutions	Large IP stream: 480p@60Hz~1920 x 1200@60Hz Small IP stream: 352x288@5Hz	HDMI: 480p@60Hz,576p@50Hz,800 x 600@60Hz,1024 x768@60Hz, 720p@50Hz, 720p@60Hz, 1280 x 800@60Hz,1280x1024@60Hz,1366 x 768@60Hz,1440x900@60Hz,1600 x 1200@60Hz,1680 x 1050@60Hz, 1080p@24Hz,1080p@25Hz,1080p@3 0Hz,1080p@50Hz, 1080p@60Hz, 1920 x 1200@60Hz
Video Impedence	100 Ω	Ι00 Ω
Input DDC Signal	5 V p-p (TTL)	NA
End-to-End Time Latency	About 60ms-90ms (Low latency mode) About 250ms-300ms (High quality mode)	About 60ms-90ms (Low latency mode) About 250ms-300ms (High quality mode)
Input Audio Ports	I x Audio jack	I x CAT5/6
Input Audio Format	Stereo	Audio embedded in streaming media input
Output Audio Ports	I x Phoenix connector	I x Phoenix connector
Output Audio Format	Stereo	Stereo
Control Method	Rear panel CAT5/6 port, PC configurator and RS-232	PC configurator and RS-232
Power Supply		
Power Consumption	6W (Max.)	6W (Max.)
Shipping Dimensions (L X H X D)	12.2" x 3.0" x 7.1"	12.2" x 3.0" x 7.1"
Product Dimensions (L X H X D) Weight	9.3" x 1.0" x 3.7"   lbs	10.5" x 1.0" x 4.4" 1.3 lbs
ESD Protection	Human body model: -±8kV (air-gap discharge) -±4kV (contact discharge)	Human body model: -±8kV (air-gap discharge) -±4kV (contact discharge)
Environmental		
Environmental OPERATING TEMPERATURE	32° ~ 104°F (0° to 40°C)	32° ~ 104°F (0° to 40°C)
	32° ∼ 104°F (0° to 40°C) -4° ∼ 140°F (-20° ∼ 60°C)	32° ∼ 104°F (0° to 40°C) -4° ∼ 140°F (-20° ∼ 60°C)



# 6. TROUBLESHOOTING

Problem	Possible Solution		
PC Configurator cannot find devices	<ul> <li>Check the Windows Firewall.</li> <li>Taking Windows 7 as an example: Click Start menu, go to Control Panel</li> <li>System and Security &gt; Windows Firewall &gt; Allowed Programs, select</li> <li>Home/Work (Private) and Public for PC configurator.</li> </ul>		
	Image: The states of the states o		
	PC Configurator (HDMI over IP) Maintain Tool		
	<ul> <li>The computer, Sender, Receiver and switch should be in the same network segment. Therefore, set your computer's IP address as 169.254.X.X and subnet mask as 255.255.0.0.</li> <li>For more information, see the description in the networking guide.</li> <li>Check the switch configuration, and that IGMP snooping and all the other functions are enabled.</li> </ul>		
	1. Check all devices are powered on.		
	2. Check all cables are securely seated and connected properly.		
Display Showing No Picture	3. Check the LED STATUS indicators on the Receivers to see if Senders and Receivers are linked correctly. Blue Steady=OK Blue Blinking=standby To link the devices use the PC configurator on your PC/Laptop, drag the TX to the RX and click apply.		
	<ol> <li>Check that source device is powered on and the HDMI cable is connected.</li> </ol>		
	Check the displays are powered on and the correct input selection. Check the HDMI cable is plugged into the correct port.		

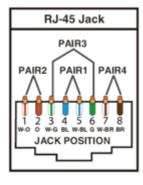


	Example switch to HDMI I if a display's HDMI I port is connected to Receiver via an HDMI cable.		
6.	Ensure the displays/monitor support HDCP.		
	7. Check native EDID timings from the manufactures guide to match the Receiver output resolution. If so, replace the displays with other models.		
r	8. Check that Sender supports the resolutions of the input signals. For more information about the resolutions, see "Specifications" of "Introduction" section.		
	<ol> <li>Check the switch configuration, and that IGMP snooping and all the other functions are enabled.</li> </ol>		
1.0	I. Check all the devices are powered on.		
2	2Check all cables are securely seated and connected properly.		
F	3. Check the LED STATUS indicators on the Receivers to see if Senders and Receivers are linked correctly. Blue Steady=OK Blue Blinking=standby To link the devices use the PC configurator on your PC/Laptop, drag the TX to the RX and click apply.		
No audio 4.	4. Check the A/V device is playing a video with sound.		
	5. Check the A/V devices audio output with an RCA jack to a speaker or amplifier, also use a headphones if the equipment has a 3.5mm audio out.		
6. 0	6. Check the A/V devices are not set to mute or 0 for volume.		
	<ol> <li>Check Receiver is not set to mute, open PC configurator and right click on the Receiver and on the drop down select mute . For more information, see the user guide of PC configurator.</li> </ol>		
	<ol> <li>Please ensure your HDM-C6MWIP-S, CTRLPRO-MIP and your wirless router is on the same network segment.</li> </ol>		
No Live preview on Windows7 or iPad App	For Window 7/iPad app, please ensure the units are Version HDM-C6MXIP-S V2.8.3 HDM-C6MXIP-R V2.8.2 CTRLPRO-MIP-v1.5/5.1.0 (v5.1.1) Windows M V2.5.10 CTRLPRO-M PC V7.0.0		



- All HDMI over CATx transmission distances are measured using Belden CAT6A (625MHz), 4-Pair,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 with Video Pattern Testing and shielded ends.
- 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 CAT6A cable shows longer transmission length than solid UTP CAT5E/6E cable.
- 3. EIA/TIA-568-B termination (T568B) for category cables is recommended.
- 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 poor wiring environments with unplanned cable runs situated away from EMI interference.
- 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 signal on the display, the actual transmission length is subject to high quality category cables. For resolution greater than 1080i or 1280x1024, a solid CAT6E 250MHz cable is the only viable choice.

	Data Link TIA/EIA-568-B					
PIN	Color	Function				
1	<b>●</b> ₩-0	TX0-				
2	• •	TX0+				
3	🐑 W-G	TX1-				
4	📁 BL	TX2-				
5	W-BL	TX2+				
6	🗊 G	TX1+				
7	ФЭЭW-BR	TXC-				
8	e BR	TXC+				



#### PERFORMANCE GUIDE FOR HDMI OVER CATEGORY CABLE TRANSMISSION

PERFORM	MANCE RATING	TYPE OF CATEGORY CABLE		
WIRING	SHIELDING	CAT5	CAT5E	CAT6
SOLID	u NSHIEI DED (u Tp)	***	****	****
	SHIEI DED (STp)	***	****	****
STRANDED	u NSHIEI DED (u Tp)	*	**	**
	SHIEI DED (STp)	*	*	**
TERMINATION		PLEASE USE EIA/TIA-568-B TERMINATION (T568B) AT ANY TIME		









**Control Your Video** 

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