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

HDMI H.264 IP STREAM DECODER WITH TELNET AND AUDIO SUPPORT



Model #: HDM-XTRM-IPR

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Product Application & Market Sectors



Corporate



House Of Worship



Military



Residential



Education



Industrial



Medical



Aviation



TABLE OF CONTENTS

1.	GETTING STARTED	1
1.1	IMPORTANT SAFEGUARDS.....	1
1.2	SAFETY INSTRUCTIONS	1
1.3	REGULATORY NOTICES FEDERAL COMMUNICATIONS COMMISSION (FCC).....	2
2.	INTRODUCTION.....	3
2.1	PACKAGE CONTENTS	4
2.2	BEFORE INSTALLATION	4
2.3	APPLICATION DIAGRAM.....	5
2.4	PANEL DESCRIPTION.....	6
2.4.1	FRONT PANEL (DECODER, RECEIVER)	6
2.4.2	REAR PANEL (DECODER, RECEIVER)	6
3.	INSTALLATION(HDMI-XTRM-IPR).....	7
3.1	NETWORK SWITCH CONFIGURATION.....	7
3.2	DECODING USING PC SOFTWARE.....	8
3.3	CHANGING STREAM TYPE AND MODE	8
3.4	DECODING WITH HARDWARE DECODER.....	9
4.	SPECIFICATIONS.....	10

SECTION I: GETTING STARTED

I.1 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.
- 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-XTRM-IPR H.264 IP stream Decoder has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HDM-XTRM-IPR 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 ENVIRONMENT.</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>

2. INTRODUCTION

The Avenview HDM-XTRM-IPR, HDMI H.264 IP stream Decoder delivers end-to-end streaming media over IP networks. The HDM-XTRM-IPR is a total architecture based on the TCP/IP protocol family. This device is engineered to deliver A/V signal over WAN or LAN, video extension - with the help of matching network equipments - can be achieved over several thousands of km's

FEATURES:

- H.264 video decoder;
- Decodes audio and video from ethernet port to HDMI;
- Streams media through LAN or WAN;
- Output Resolutions: From 640x480@60Hz to 1080p@24/25/30/50/60Hz;
- Can be used using the Encoder only with Avenview PC decoding software over IP;
- Receive TS data with unicast or multicast method;
- Supports RTSP protocol;
- Output Resolution: From 640x480@60Hz to 1080p@24/25/30/50/60Hz;
- Supports audio format including LPCM or AAC standard;
- Displays can be controlled using RS-232 or CEC;
- Telnet CLI and Web UI supported;
- Supports static IP, DHCP and AutoIP;
- Video Bitrate: 2m~30Mbps;
- AAC Audio Bitrate: 32~240Kbps;
- LPCM Audio Bitrate: 1.6Mbps;
- Supports video timing up to 1920x1080@60Hz and 1920x1200@60Hz;
- Low Latency Mode: 120ms end-to-end latency.

- NOTE: The QUALITY and TRANSMISSION of the video signals depends on the characteristics and quality of the UTP cables and Network Infrastructure . We recommend any Network Switches with 1GB POE IGMP v2.0 support . Tested and configured on the below models



2.1 PACKAGE CONTENTS

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

1	HDM-XTRM-IPR	X1	
2	Power Adapter (+12V DC 1A) + International Adapters	X1	
3	1 x Right and Left Ear Rack Sets	X2	
4	User Guide	X1	

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.



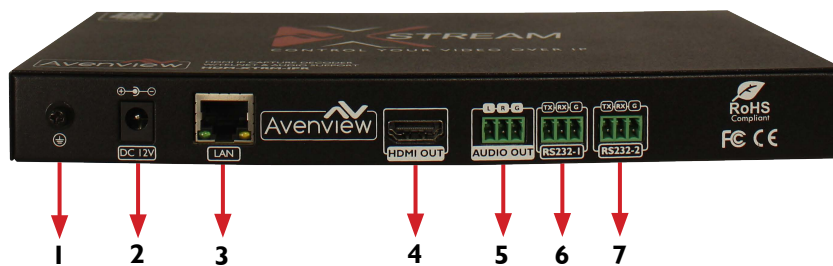
2.4 PANEL DESCRIPTION (DECODER/RECEIVER)

2.4.1 FRONT PANEL



- | |
|--|
| 1. 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 Source |

2.4.2 REAR PANEL



- | |
|--|
| 1. GROUNDING SCREW: Connects to the ground for preventing from electric shock and device damage. |
| 2. POWER JACK: 12V DC Power Jack. |
| 3. LAN: Used to receive video/audio streams to from Encoder. |
| 4. HDMI OUT: Connect to display/TV. |
| 5. AUDIO OUT: Connects to an audio output device such as an amplifier for audio de-embedding. |
| 6. RS-232-1: RS-232 Data pass-through port for receiving /sending commands to RS 232 device. |
| 7. RS-232-2: RS-232 Data pass-through port for receiving /sending commands to RS 232 device. |



3. INSTALLATION (HDM-XTRM-SET)

To setup Avenview HDM-XTRM-SET please follow the following steps:

1. 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-XTRM-IPS.
3. Connect CAT5/6 from Encoder to existing network or the network switch.
4. Download the compatible video player software on PC. (*Player that support live network IP streaming*)
5. Power on all devices and follow the instructions on how to start IP streaming.

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

3.1 NETWORK SWITCH CONFIGURATION

Power on the switch and change configurations following the steps below*:

1. If your switch is supplied with our products, it has been configured correctly and passed our tests. Therefore, it can be used without any configuration.
2. If we do not provide any switch with our products or you want to use other switches, we would recommend that you use a switch tested by us and configure it by following our instructions.
3. If you use a switch which is not tested by us, configure it by referring to the following requirements.
 - Disable green or energy-saving feature
 - Enable Multicast forwarding or filtering
 - Enable IGMP Snooping
 - Assign a valid IP address to the IGMP Querier
 - Enable IGMP Querier
 - Enable IGMP fast leave
 - Disable dynamic multicast router port
 - Disable forwarding unknown multicast

All related settings above must be configured in global configuration and VLAN configuration. For more detailed information on configuring the network switch please check network guide at:
http://www.avenview.com/images/manuals/Avenview%20HDM-C6MXIP-SET%20Network_Switch%20%20Cisco%20rv01.pdf

* Menu configuration might differ depending on the network switch used.



3.2 DECODING USING PC SOFTWARE

1. Power on source device, encoder and PC.
2. Configure your PC's network settings with IP address 192.168.1.11 and subnet mask 255.255.0.0, leaving gateway and DNS blank.
3. Launch Avenview media player.
4. In the menu bar, select Media -> Open Network Stream, input rtp://@226.1.1.1:12345, then click Play.
5. The software will start playing the video content of the source device.
6. Configure the encoder to alter the encapsulation and transmission mode of the media stream, and control the Avenview media player to play the media stream with the corresponding parameter.

3.3 CHANGING STREAM TYPE AND MODE

The default stream type is TS over UDP, to use other stream type and mode follow below steps:

1. Launch a web browser in your PC and type in 192.168.10.254 in the address bar;
2. In the displayed login dialog box, enter the default password admin;
3. In the Functions page, expand the Stream section;
4. For the item Transport type, set its value to tsoverudp, then click Apply;
5. For the item Dest IP address, set its value to 192.168.1.11, namely, the IP address of your PC, then click Apply;
6. Launch Avenview media player, in the menu bar select Media -> Open Network Stream, input udp://@:12345, then click Play.

Notice:

The URL assigned to Avenview Media Player depends on the configurations, stream type and Destination IP address, please refer to the following details:

Transport type	Dest IP address	URL for VLC
tsoverrtp	226.1.1.1	rtp://@226.1.1.1:12345
tsoverudp	226.1.1.1	udp://@226.1.1.1:12345
tsoverrtp	192.168.1.11 (PC's IP address)	rtp://@:12345
tsoverudp		udp://@:12345



3.4 DECODING WITH HARDWARE DECODER

When using the HDM-XTRM-IPR hardware decoder you must make sure it is connected to the same LAN (Local Area Network) network as the HDM-XTRM-IPS encoder and has the correct network configuration.

1. Power on the source device and the standard encoder.
2. Configure your PC's network settings with IP Address **192.168.x.x** and subnetmask **255.255.0.0**, leaving gateway and DNS blank.
3. Launch a web browser in your PC and input the decoders IP address (the default is **192.168.10.253**) in the address bar.
4. In the displayed login dialog box, enter the default password **admin**.
5. In the **Functions** page, expand the **Stream** section.
6. For the item **Encoder IP**, set it's value to the corresponding **encoder's** IP address (the default is **192.168.10.254**), then click **Apply**.

Now the device should receive and decode the A/V stream from the encoder and output to the connected display.



4. SPECIFICATIONS

Item	Description
Units	HDM-XTRM-IP-S
Unit Description	HDMI Transmitter/Encoder
Input Video Port	1 x HDMI IN
Input Video Type	HDMI 1.4, DVI 1.0
Input Resolution	<p>HDMI:</p> <p>640 x480@60Hz, 480i@60Hz 480p@60Hz, 576i@50Hz,576P@50Hz, 800 x600@60Hz, 1024 x768@60Hz, 720p@50Hz,720p@60Hz, 1280 x 800@60Hz,1280 x1024@60Hz, 1366 x 768@60Hz,1366 x 768@60Hz, 1400 x 1050@60Hz,1440 x900@60Hz, 1680 x1050@60Hz, 1080i@50Hz,1080i @60Hz, 1080p@24Hz,1080p@25Hz,1080p@30Hz, 1080p@50Hz,1080p@60Hz, 1920 x 1200@60Hz</p> <p>DVI:</p> <p>640 x480@60Hz, 480i@60Hz, 480p@60Hz, 576i@50Hz,576P@50Hz, 800 x 600@60Hz, 1024 x768@60Hz, 720p@50Hz,720p@60Hz, 1280 x 800@60Hz,1280 x1024@60Hz, 1366 x 768@60Hz,1366 x 768@60Hz, 1400 x 1050@60Hz,1440 x 900@60Hz, 1680 x 1050@60Hz, 1080i@50Hz,1080i @60Hz, 1080p@24Hz, 1080p@25Hz,1080p@30Hz, 1080p@50Hz,1080p@60Hz, 1920 x 1200@60Hz</p> <p>VGA:</p> <p>640 x 480@60Hz, 800 x 600@60Hz 1024 x 768@60Hz, 1280 x1024@60Hz 1280 x720@60Hz, 1280 x 768@60Hz, 1280 x 800@60Hz, 1366 x 768@60Hz,1366 x 768@60Hz, 1440 x 900@60Hz</p>



	<p>1400 x 1050@60Hz 1680 x 1050@60Hz, 1920 x 1080@60Hz, 1920 x 1200@60Hz</p> <p>YPbPr: 720 x 480i@60Hz, 720 x 480p@60Hz, 720 x 576i@50Hz, 720 x 576P@50Hz, 1280 x 720p@50Hz, 1280x720p@60Hz 1920 x 1080i@50Hz, 1920 x 1080i@60Hz</p> <p>CVBS: 480i@60Hz, 576i@50Hz</p>
Input Video Signal	0.5~1.2 V p-p
Encoding Data Rate	Up to 30 Mbps, configurable
Output Video Ports	1 x CAT5/6
Output Video Type	H.264/MPEG-4 AVC
Output Video Resolutions	<p>Large IP stream: 480p@60Hz~1920 x 1200@60Hz Small IP stream: 352x288@5Hz</p>
Video Impedence	100 Ω
Input DDC Signal	5 V p-p (TTL)
End-to-End Time Latency	<p>About 60ms-90ms (Low latency mode) About 250ms-300ms (High quality mode)</p>
Input Audio Ports	HDMI
Input Audio Format	Audio embedded in streaming media input
Output Audio Format	Stereo
Control Method	Rear panel CAT5/6 port, PC configurator and RS-232
Power Supply	12 V 1 A DC
Power Consumption	6W (Max.)
Shipping Dimensions	12.2" L x 3.0" H x 7.1" D
Product Dimensions	9.3" L x 1.0" H x 3.7" D
Weight	3 lbs
ESD Protection	<p>Human body model: -±8kV (air-gap discharge) -±4kV (contact discharge)</p>

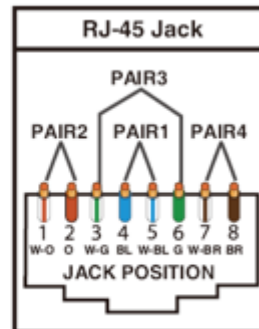
Environmental

OPERATING TEMPERATURE	32° ~ 104°F (0° to 40°C)
STORAGE TEMPERATURE	-4° ~ 140°F (-20° ~ 60°C)
RELATIVE HUMIDITY	20~90% RH (no condensation)



1. 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	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	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		



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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