Avenview

Control Your Video

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

PRODUCT MANUAL

Model: SW-HDM2-T4K-4X4

Front

Back

4X4 HDMI 4K60 Matrix Switcher with HDR/ IR/RS232/Telnet and Web GUI Support

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SECTION 1: GETTING STARTED

1.1 IMPORTANT SAFEGUARDS

Please read all of these instructions carefully before you use the Fiber Optic cable. 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 SAFTEY INSTRUCTIONS

The SW-HDM2-T4K, HDMI 4K Matrix Switcher has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the SW-HDM2-T4K 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.

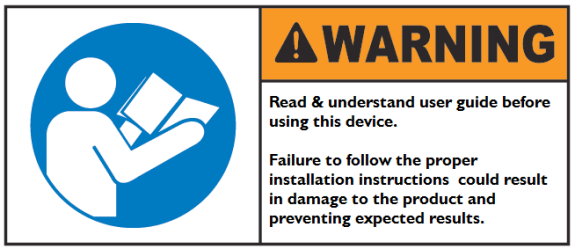
- ⚠ Do not dismantle the housing or modify the module.
- ⚠ Dismantling the housing or modifying the module may result in electrical shock or burn.
- ⚠ Refer all servicing to qualified service personnel.
- ⚠ Do not attempt to service this product yourself as opening or removing housing may expose you 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 COMMUNICATION COMMISSION (FCC)

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Avenview is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to 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.
	THIS WARNING SYMBOL MEANS DANGER. WHEN THIS SYMBOL IS PLACED, YOU ARE IN AN ENVIROMENT THAT CAN CAUSE BODILY INJURY.
	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.



2. INTRODUCTION

The SW-HDM2-T4K matrix switcher features four HDMI inputs and four HDMI outputs. It provides true matrix routing for HDMI signals. It supports the transmission of video (resolutions up to 2160p@60Hz Ultra HD 4:4:4) and supports high resolution digital audio formats such as LPCM 7.1CH, Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio. It works with Blue-Ray players, Set-Top boxes, Home Theater PCs, and game consoles. Inputs and outputs switching are accessible at all times via IR Remote Control, RS-232, TCP/IP or the selection buttons on the front panel. This device supports all HDMI 3D formats.

FEATURES:

- HDMI2.0, HDCP2.2/HDCP1.4 compliant
- Support video format up to 4K2K@60Hz with 24bit RGB/YCbCr 4:4:4/YCbCr 4:2:2, and up to 4k2k@60Hz with 12bit YCBCR 4:2:0
- Support color space conversions among RGB, YCbCr4:4:4, YCbCr4:2:2 and xvYCC video formats
- Support all HDMI 3D formats up to 2160p@30
- Support high resolution VESA mode video format up to QSXGA@60Hz
- Support reception of any audio data conforming to the HDMI specification such PCM at up to 192kHz, compressed audio (IEC 61937), DSD, DST, DTS and HBR
- Support simultaneous HDMI, Coax and L/R audio outputs
- Support smart EDID management
- Support RS-232, remote control, on-panel control and TCP/IP Control

2.1 PACKAGE CONTENTS

Before starting setup, please check the package contents.

1	SW-HDM2-T4K-4X4	X 1	
2	POWER ADAPTER (12V 2A) Either Standard US power connector or International power connector (UK,EU,AUS)* *Based on the order request.	X 1	
3	IR Remote	X 1	
4	IR Receiver Cable	X 1	
5	Mounting ears	X 2	
6	User's Manual	X 1	

2.2. BEFORE INSTALLATION

ATTENTION

- Place the product on an even and stable surface. If the product falls, it may cause an injury to a person or malfunction.
- Do not place the product in high temperatures (over 50°C), or 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.
- Take care when connecting units to the electrical power circuit, incase the maximum rated circuit is not overloaded
- Installation of the equipment must comply with local and national electrical codes.
- Do not twist or pull by force ends of the UTP /HDMI cable. It can cause malfunction.
- Keep the device away from water. If the unit becomes wet, power off immediately.
- To prevent airflow restriction, allow clearance around the ventilation openings to be at least: ONE Inch (25.4 mm).
- Unauthorized changes or modifications could void the user's authority to operate the equipment.
- Before you work on any equipment, be aware of the hazards involved with electrical circuitry and be familiar with standard practices for preventing accidents.

2.3 APPLICATION DIAGRAM

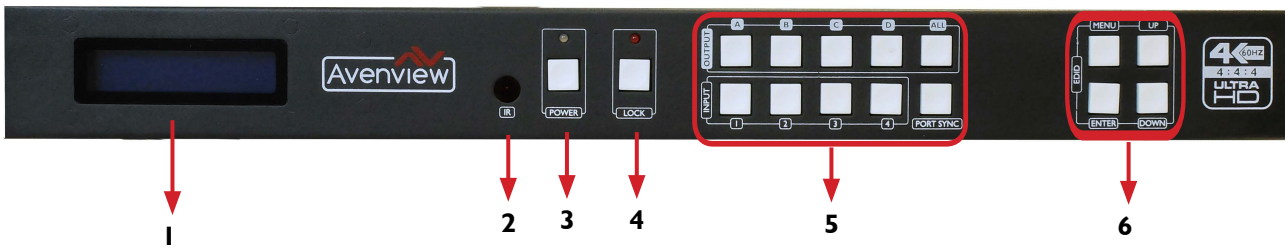
SW-HDM2-T4K-4X4

CABLE INDEX
- Input/Output
- Digital and Analog AUDIO
- Control CAT5E/6
- Control RS232

4K(4096X2160) = 5m (16 feet) **HDMI**
UHD(3840X2160) = 5m (16 feet) **HDMI**
FHD(1920X1080) = 15m (50 feet) **HDMI**
MATRIX FUNCTION
LAYOUT 1

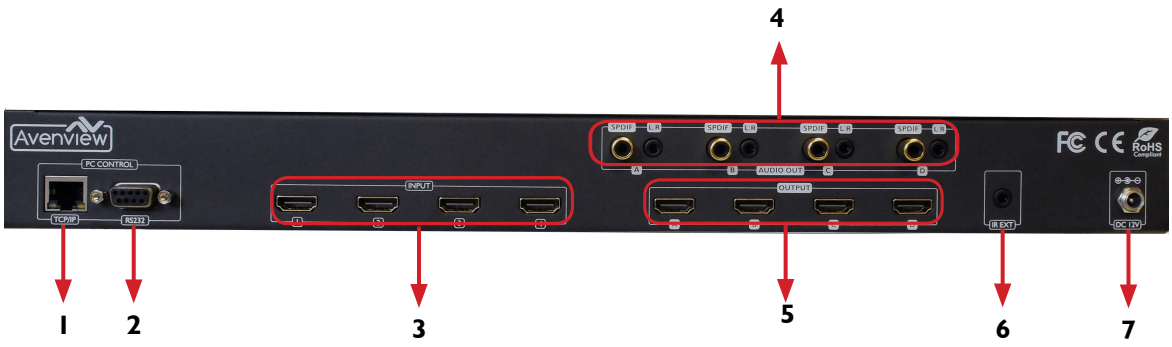
3. PANEL DESCRIPTION

3.1 Front Panel



1. **LCM:** Liquid Crystal Monitor displays device status and selections	2. **IR Window:** Receives IR signals from the device remote control (Included in package)
3. **Power Button:** Toggle ON/Off first press power On , Second press Standby Mode. **Note : Quick Factory Reset** HOID power button then connect power supply to the unit.	4. **Lock Button :** Shows the OSD Menu on the screen **Menu with "-" button :** switches the output timing to 720@60Hz **Menu with "+" button :** switches the output timing to XGA (1024x768@60Hz)
5. **Input IN 1- IN 4 /Output OUT1- OUT4:** Press OUTPUT and INPUT buttons to select the output corresponding input. e.g: Press OUTPUT ALL > INPUT 1, The OUTPUT A, B, C, D will be set to INPUT 1. Press PTP button, The OUTPUT A, B, C, D will be corresponding INPUT 1, 2, 3, 4	6. **EDID:** Smart EDID management, the LCM will display the EDID operation. Press the MENU button and enter the EDID management window. Press UP or DOWN button to select the needed EDID setting. Press ENTER button to download EDID into input source, it can easily download any EDID setting to any input port. *Check page 15 for more details*

3.2 Rear Panel

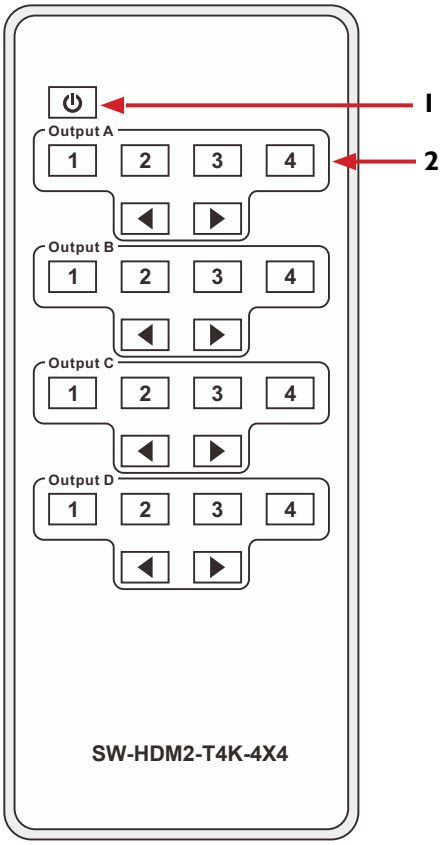


1. **TCP/IP:** This port is the link for TCP/IP control and connects to an active Ethernet link by an RJ-45 cable.	2. **RS 232:** Connect to a PC or control system by D-Sub 9-pin cable for the transmission of RS-232 commands.
3. **HDMI INPUT:** Connect to the HDMI sources device such as a DVD player or a Set-top Box by HDMI cable.	4. **AUDIO OUTPUT:** The coaxial and L/R audio output to audio amplifiers or speakers.
5. **HDMI OUTPUT:** Connect to HDMI equipped TVs or monitors.	6. **IR EXT:** If the front IR sensor of unit is obstructed or the unit is installed in a closed area out of infrared line of sight, the IR RX receiver included can be inserted into the IR EXT port at the rear to extend the IR sensor range and enable local control of the matrix.
7. **DC POWER INPUT:** Connect to 12V/2.5A DC power adapter.	

4. IR REMOTE CONTROL

1. **POWER BUTTON:** Powers on the switcher or set it to standby mode

2. **OUTPUT SELECTION:** Select INPUT source (1, 2, 3, 4) on each OUTPUT (A, B, C, D) port



4.1 WEB GUI (GRAPHICAL USER INTERFACE)

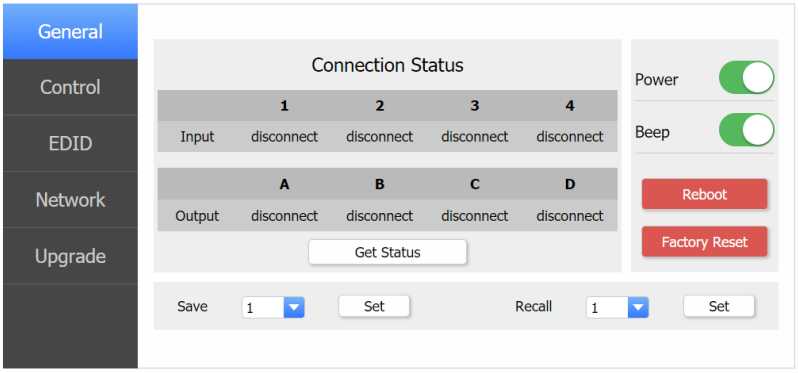
Follow the steps below to access and use the web GUI:

1. Connect the SW-HDM2-T4K TCP/IP port to an active network service like the LAN (local area network) connection with an RJ-45 terminated CAT5e/6 cable and it will grab an IP address via DHCP.

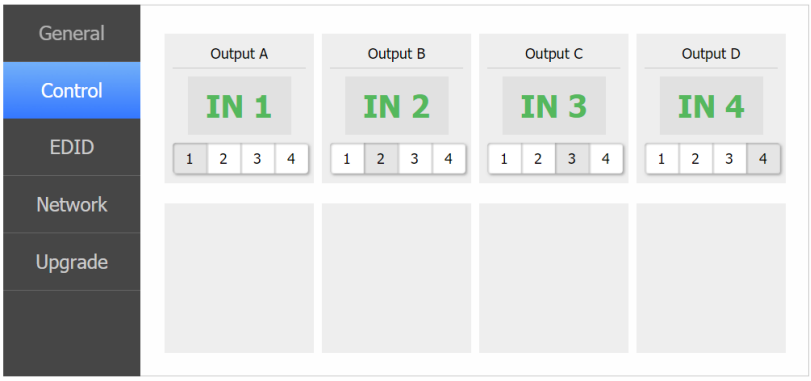
2. Open a web browser from a PC/laptop and enter device's IP address on the web address entry bar then hit enter. If you did not change the devices IP address to a static one using the PC Software and require the IP address or do not know the IP address; simply click and hold the 'Menu' button on the front panel for about ~5 seconds and the IP address will show on the front LCM panel.

3. Once the browser has loaded it will load the web GUI where you are able to see 5 tabs; General , Control, EDID, Network and Upgrade.

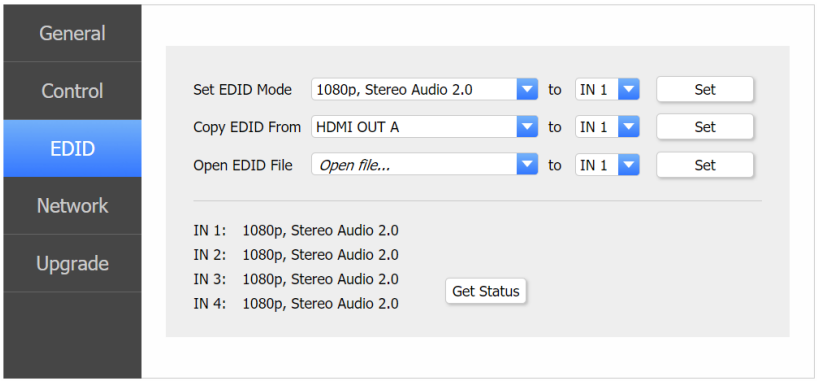
GENERAL: The general tab allows user to see input & output connection status, toggle power and beep noise, reboot or factory reset the unit and save or recall presets.



CONTROL: The control tab will able users to switch to different inputs signals.

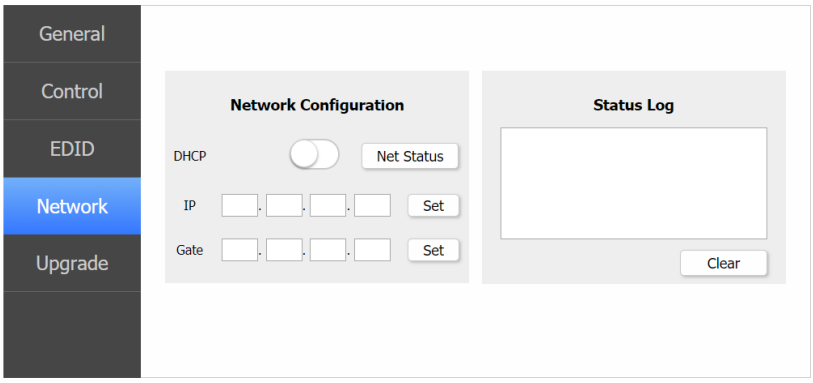


EDID: The EDID tab will allow users for smart EDID managment.

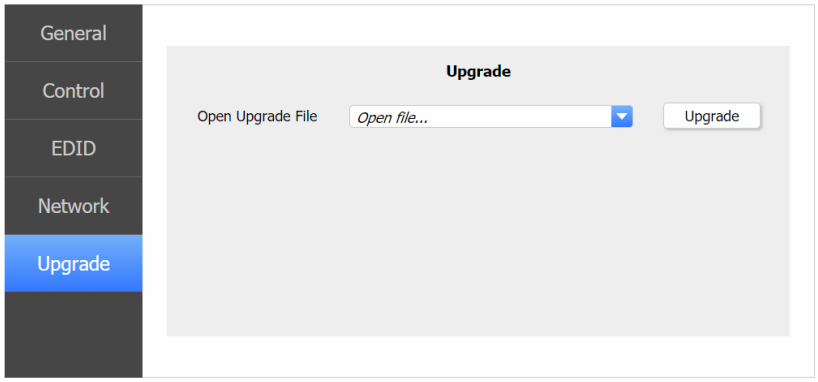


4.1 WEB GUI (GRAPHICAL USER INTERFACE)

NETWORK: The network tab can be used to configure the IP address of the unit to either static or DHCP.



UPGRADE: The upgrade tab is used to perform firmware upgrades to the unit.



5. INSTALLATION

To setup the Avenview SW-HDM2-T4K-4X4 Matrix Switcher please follow these steps for connecting the device:

1. Turn off all devices including monitors / TV.
2. Connect up to 4 sources such as a Blu-Ray Player, game console, A/V Receiver, Cable or Satellite Receiver, etc. to each HDMI input port. Do not hot plug. Plug and unplug HDMI cords carefully with the power switched off. Connecting and disconnecting while the unit is powered on can result in permanent damage.
3. Connect each HDMI output to high-definition displays such as a HDTV or HD projector that has HDMI input. Note that high-speed HDMI cables are recommended for the distances that are required for each connection.
4. Plug in the IR receiver cord to IR EXT on the matrix switch for remote control functions.
5. Plug in supplied DC power adapter (12V 2A) to power on the matrix switcher.
6. Power on HDCP HDMI display.
7. Power on HDMI Sources.

6. SPECIFICATIONS

Item	Description
UNITS	SW-HDM2-T4K-4X4
UNIT DESCRIPTION	4X4 HDMI 4K60 Matrix Switcher
HDCP COMPLIANCE	yes
VIDEO BANDWIDTH	594MHz [18Gbps]
SUPPORTED RESOLUTIONS	480i, 576i, 480p, 576p, 720p, 1080i, 1080p24/30/50/60, 2160p24/25/30/50/60;
INPUT	4×HDMI, 1×IR Receiver, 1×RS-232, 1xRJ-45(Control)
OUTPUT	4×HDMI, 4×Coax (RCA), 4×L/R
3.5mm CONNECTOR	IR Receiver
RJ45 CONNECTOR	WE/SS 8p8C with 2 lED indicators
CHASSIS MATERIAL	Metal
UNIT WEIGHT	4 lbs
DIMENSIONS (L X W X H)	17.2" x 8" x 1.8"
POWER SUPPLY	12V/2.5A DC (uS/Eu standards, CE/fCC/ul certified)
POWER CONSUMPTION	9 W (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)

7. INPUT / OUTPUT SUPPORT TIMINGS

7.1 Input Support Resolution

INPUT SUPPORT RESOLUTION
480i@59
480p@60
576i@50
576p@50
720p@25,30,50,60,
1080i@50,60
1080p@24,25,30,50,60
640x480@60,72,75,85
720x400@70
800x600@56,60,72,75,85
1024x768@60,70,75,85
1152x864@70,75
1280x720@60cvt
1280x768@60RB,60,75
1280x800@60RB,60,75
1280x1024@60,60cvt,75
1360x768@60
1366x768@60RB,60
1400x1050@60RB,60
1440x900@60RB,60,75
1600x900@60RB
1600x1200@60
1680x1050@60RB,60
1920x1200@24/30/50/60RB
3840x2160@24/25/30/50/60RB
4096x2160@24/25/30/50/60RB

7.2 Output Support Resolution

VIDEO RESOLUTION	PC RESOLUTION
480p60	1024x768@60
576p50	1280x800@60
720p50	1280x1024@60
720p60	1366x768@60
1080i50	1440x900@60
1080i60	1600x900@60RB
1080p24	1600x1200@60
1080p50	1680x1050@60
1080p60	1920x1200@60RB
2160p50	3840x2160@60RB
2160p60	4096x2160@60

8. EDID MODES

EDID Mode	EDID Description
1	1080p, 2CH AUDIO
2	1080p, DOLBY/DTS 5.1
3	1080p, HD AUDIO
4	1080i, 2CH AUDIO
5	1080i, DOLBY/DTS5.1
6	1080i, HD AUDIO
7	3D,1080p, 2CH AUDIO
8	3D, 1080p,DOLBY/DTS 5.1
9	3D,1080p, HD AUDIO
10	4K30_444, 2CH AUDIO
11	4K30_444, DOLBY/DTS 5.1
12	4K30_444, HD AUDIO
13	4K60_420, 2CH AUDIO
14	4K60_420, DOLBY/DTS 5.1
15	4K60_420, HD AUDIO
16	4K60_444, 2CH AUDIO
17	4K60_444, DOLBY/DTS 5.1
18	4K60_444, HD AUDIO
19	Copy from HDMI OUTPUT A
20	Copy from HDMI OUTPUT B
21	Copy from HDMI OUTPUT C
22	Copy from HDMI OUTPUT D

Notes

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 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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