



Control Your Video...

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

2x2 HDMI MATRIX SWITCH



Model #: SW-HDM-2X2

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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.1 IMPORTANT SAFETY

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 SW-HDM-2x2 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-HDM-2X2 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>



2. INTRODUCTION

Avenview SW-HDM-2x2 Matrix Switcher allows the user to display and switch HDMI video/audio signals from any of its two inputs and simultaneously display it on any of its two HDMI outputs and switch between. SW-HDM-2x2 Matrix Switcher can transfer Deep Color video and bit stream digital audio with maximum performance and it supports HDMI 1.3, HDCP 1.1 and DVI 1.0. This unit can be easily controlled with RS-232 and IR remote.

- HDMI 1.3, HDCP 1.1 and DVI 1.0 compliant.
- Supports digital video formats in Deep Color 12bit and new lossless compressed (Dolby TrueHD, Dolby Digital Plus and DTS-HD Master Audio) digital audio.
- HDMI input compensation, clock phase adjustment, and jitter free.
- Supports input source LED indicators on each output.
- Compatible with all HDMI sources and displays.
- Supports a wide range of PC and HDTV resolutions from VGA to UXGA and 480i to 1080p.
- Dolby Digital, DTS digital audio transmission (32-192 kHz Fs sample rate).
- Supports LPCM7.1 channels output from each independent HDMI ports.
- HDMI cable distance testing showed that with 1080p/8-bit or 12-bit resolution, the input/output distance can be up to 15/15 meters.
- Switchable EDID function for choosing the desired resolution to display.
- Define HDCP, HDMI and DVI source. The LED will turn on to define the input source's format.
- HDMI signal re-timed, and level-compensated.
- Supports RS-232 control.
- Supports IR remote control and IR extender.



3. PACKAGE CONTENTS

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

1	SW-HDM-2x2	X 1	
2	POWER ADAPTER 5V 3.2A	X1	
	IR REMOTE	X1	
	USER'S MANUAL	X 1	

4. 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 HDMI cable. It can cause malfunction.



Pro AV/IT Series High Speed HDMI Cables

Featuring ProGrip®, SureLength® Indicators and Color Identification

4K UHD

Original Pro AV/IT <small>Heavy Duty, 26/24 Gauge Construction</small>	Active <small>Long Lengths Featuring Redmere™ Technology</small>	MicroFlex <small>Perfect for Racks, Up to 40% Smaller</small>	Plenum <small>Heavy Duty CL2P Plenum Rated</small>
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To achieve best results with SW-HDM-2x2 we highly recommend you acquire a high quality 26 or 24 AWG HDMI cable with the below specifications to maintain signal integrity and distances.

Features

- Full UHD 4K/ 60 to 18Gbps High Speed at up to 48 Bit Deep Color
- UHD 4K/60 to 10.2 Gbps High Speed Deep Color up to 50ft (Active Series), 25ft Passive
- Full HD Up to 1080p/60 up to 75ft
- True Professional grade heavy-duty 24 or 26 gauge oxygen-free construction
- ProGrip connector utilizes up to 16 lbs of retention force to help keep connector in place
- SureLength length indicators on the connector heads make it easy to organize for installations
- Available in 7 colors for easy cable identification
- Up to 32 audio channels and 21:9 aspect ratio
- Simultaneous delivery of dual video and audio streams to multiple users
- Pro Grade Triple Shielding with 2x 100% coverage and 85% Premium Tinned Copper Braid construction
- Ethernet Capable
- 3D Ready
- Supports Deep Color and x.v. Color (Up to 48 Bit)
- 5.1/7.1 Lossless Dolby TrueHD and DTS-HD Surround Sound
- Audio Return Channel & Lip-sync
- ATC Certified
- 99.9% High Purity Copper Center Conductor
- Molded 24k Gold Plated HDMI male connectors on each end
- X-tra Flex CL3 rated jacket for easy installation
- RoHS Certified
- Lifetime Warranty



HDMI Premium Certified Cable label

This label ensures that the product was tested under the Premium HDMI Cable Certification Program

SECURE QR Code

Encrypted data in the QR code to identify the product with the Premium HDMI Cable app

SECURE fingerprint

Random elements in the hologram are recognized by the Premium HDMI Cable app, thus each label has its unique "fingerprint" and ensure the authenticity and quality of the product

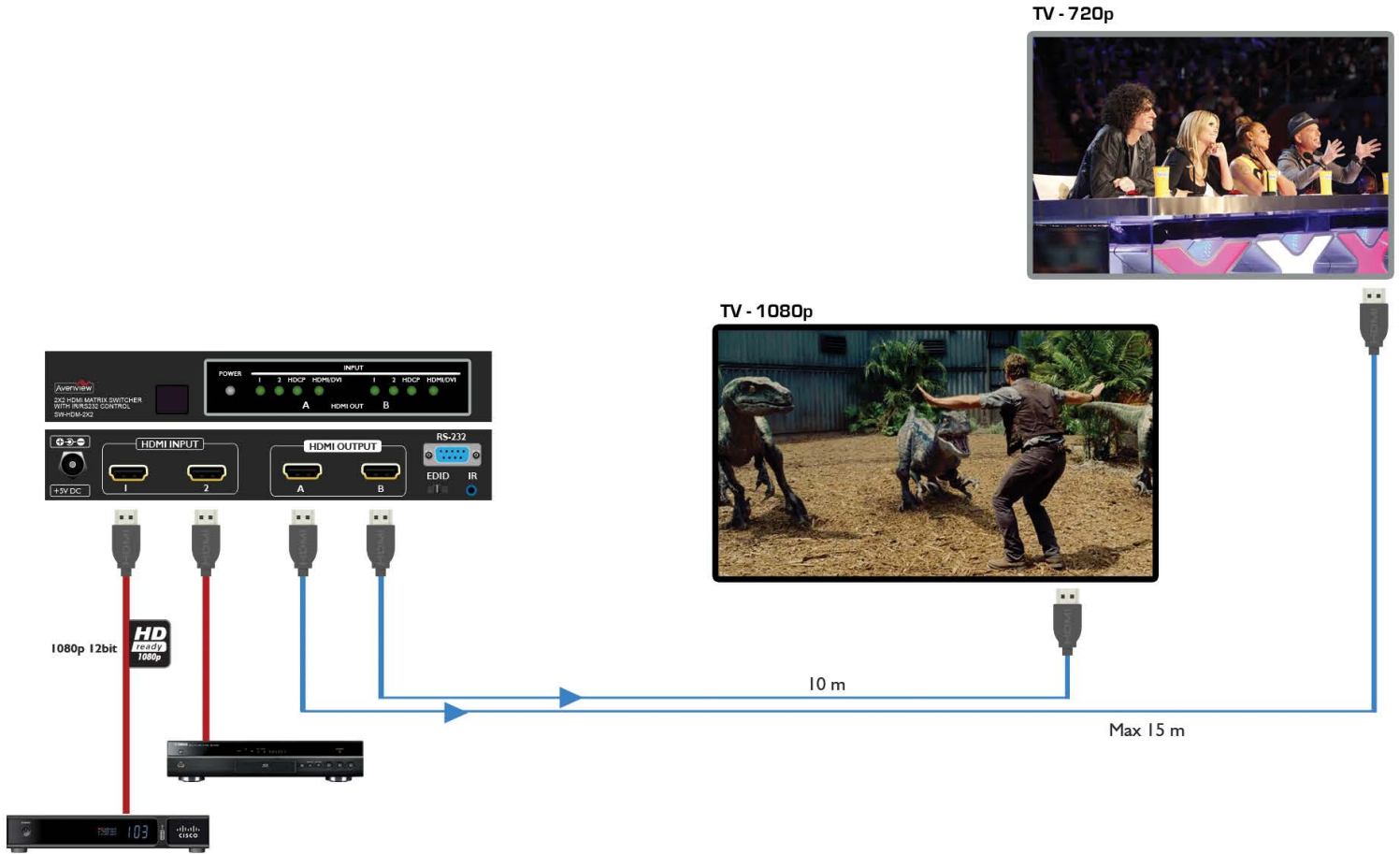


6. APPLICATION DIAGRAM

SW-HDM-2X2

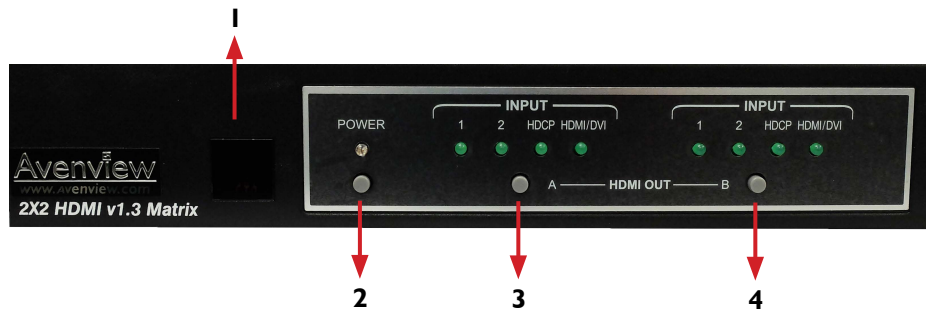
1080p = 15m (16 feet) HDMI 1.3
 1080p = 15m (50 feet) HDMI 1.3
LAYOUT 1

- CABLE INDEX**
- HDMI CABLE ■
 - INPUT SOURCE ■
 - EDID MODE ■



7. PANEL DESCRIPTION

7.1 INPUT PANEL (SW-HDM-2x2) Front Panel



1. **IR Window:** Remote Control Sensor.
2. **Power Switch & LED Indicator:** The green LED will turn on when the power is switched on and the red LED will turn on when powered off.
3. **Input Select Indicator (A):** Press the HDMI out “A” button repeatedly to switch to your desired source and the LED will turn on to indicate which input source is being selected and routed to HDMI output A. Also, when the input source is HDMI/DVI the HDMI/DVI LED will be on, if the input source has HDCP protection the HDCP LED will turn on.
4. **Input Select Indicator (B):** Press the HDMI out “B” button repeatedly to switch to your desired source and the LED will switch on to indicate which input source is being selected and routed to HDMI output B. When the input source is HDMI/DVI the HDMI/DVI LED will turn on, if the input source has HDCP protection the HDCP LED will be on.

7.2 INPUT PANEL (SW-HDM-2x2) Rear Panel



1. **IR IN:** Place the IR receiver cable in front of the displays and then use the sources remote to the device through an IR receiver cable.
2. **RS-232:** Connect to the COM port of your PC for long distance control over RS-232.
3. **EDID:** EDID control switch, the default factory setting is on TV, leave as is when the displays are working properly. Switch to STD to use the built-in EDID.
Note:
 1. STD means using an internal EDID, TV means using an external EDID.
 2. When EDID is switched to TV, the unit will detect the first HDMI output source's EDID and will record it in the unit. If the first detected output source is DVI it will pass on to the next source, until the first HDMI source has been detected. The detection priority is HDMI v1.3 > HDMI v1.2 > DVI.
 3. When EDID is on STD the unit will use the built-in EDID which supports: Video → 1080p 12-bit (max) but not supporting xvYCC Audio → PCM2
 4. Your EDID selection will only be activated when the unit is re-plugged and powered on.



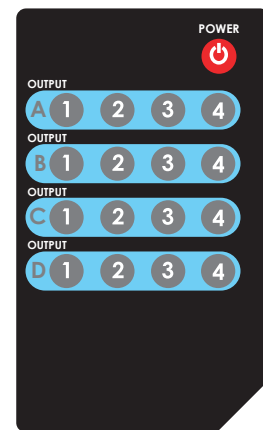
- | |
|--|
| 4. HDMI Output (A) & (B): Connect each of these output ports to the HDMI display(s). |
| 5. HDMI Input (1) & (2): Connect these input ports to the HDMI/DVI output port of the source. |
| 6. DC 5V: Plug the 5V DC power supply into the unit and connect the adaptor to an AC outlet. |

8. IR REMOTE

REMOTE CONTROL

1. **Power:** Press the button to turn the unit on or off.
2. **Input Select for HDMI OUT A:** Press 1 or 2 to select the desired input source for HDMI OUT A.
3. **Input Select for HDMI OUT B:** Press 1 or 2 to select the desired input source for HDMI OUT B.

**Note: Output C & D with selection 3 & 4 are not functioning for this model.*



9. INSTALLATION (SW-HDM-2x2)

To setup Avenview SW-HDM-2x2 please follow these steps for connecting to a device:

1. Turn off all devices including monitors / TV.
2. Connect an HDMI source (Via HDMI port) (such as a Blu-Ray Disc player or PC) to the desired HDMI IN.
4. Connect an HDMI cable to any HDMI OUT Port to a Display/Monitor.
5. Ensure all cable connections are secure and not loose.
6. plug in 5V DC power (supplied).
7. power on HDMI Source.
8. power on the HDMI display.



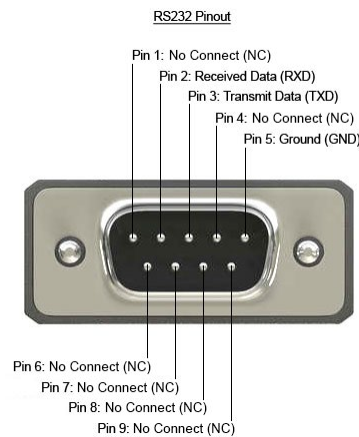
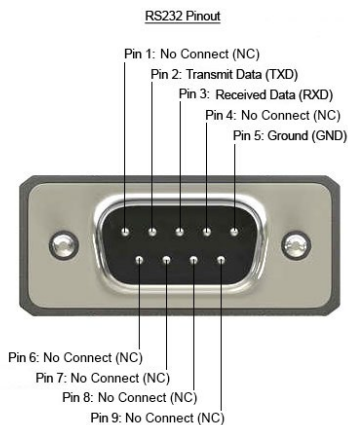
COMMAND PROTOCOL FORMAT (RS-232 SERIAL PORT)

10. SERIAL PORT SETTING

- Baud Rate: 9600 bps
- Data Bit: 8 bits
- Parity: None
- Flow Control: None
- Stop Bit: 1

RS-232 Wiring (Cross Cable Connection)

SW-HDM-2x2		Remote Controller(PC)	
PIN	Assignment	PIN	De finition
1	NC	1	NC
2	TxD	2	RxD
3	RxD	3	TxD
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC



COMMAND	ACTION
POWER 00	Power Off (standby)
POWER 01	Power On
PORT 11	Output A select Input1
PORT 12	Output A select Input2
PORT 13(No Function)	
PORT 14(No Function)	
PORT 21	Output B select Input1
PORT 22	Output B select Input2



11. SPECIFICATIONS

ITEM	DESCRIPTION
Model	SW-HDM-2X2
UNIT DESCRIPTION	Matrix Switcher
HDMI COMPLIANCE	Yes
HDCP	Compliant
FREQUENCY BANDWIDTH	2.25Gbps (single link)
INPUT PORTS	2 x HDMI
OUTPUT PORTS	2 x HDMI
HDMI AUDIO OUTPUT	PCM2, PCM5.1, PCM7.1, Dolby5.1, DTS5.1, DD+, D-TrueHD, DTS-HD
HDMI IN DISTANCE	1080p 8bit (15M), 1080p 12bit (15M)
HDMI OUT DISTANCE	1080p 8bit (15M), 1080p 12bit (15M)
HDMI RESOLUTION	480i~1080p 50/60, 1080p 24, VGA~UXGA
DVI RESOLUTION	480i~1080p 50/60, 1080p 24, VGA~UXGA
ESD PROTECTION	Human body model — ±8kV (air-gap discharge) & ±4kV (contact discharge)
LED	Front panel Indicators
DIMENSIONS (L X W X H)	9.4" x 6.6" x 1.7"
WEIGHT	2.7 lbs
POWER SUPPLY	5V / 3.2A DC (uS/Eu standards, CE/FCC/UL certified)
POWER CONSUMPTION	9 Watt (max)
<i>Environmental</i>	
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

Resolutions

3840×2160, also known as Ultra HD, is commonly known to be four times the resolution of 1080p, resulting from doubling both the horizontal and vertical pixel count of 1920×1080. Therefore, it has the same aspect ratio as FULL HD – 16:9. Most, but not all, 4K display devices have a native resolution of 3840×2160.

4096×2160, referred to as 4K DCI, is used mainly in movie production and in commercial cineplexes. There are some display devices with a native resolution of 4096×2160, but it is not as common as 3840×2160. Many 4K cameras and source devices can be set to either of the two resolutions listed.

In the AV world professionals will recall the SXGA PC resolution of 1280×1024, which had a non-standard aspect ratio of 5:4 when nearly every other signal was 4:3. This led to problems – displays and sources had to be carefully matched and correctly configured in order to display all of the information without unwanted cropping or stretching.



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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TECHNICAL SUPPORT

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