

Control Your Video

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

HDMI 2.0a 4K@60 QUAD MULTIVIEWER W/ROTATION & USB VIDEO CAPTURE



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SECTION I: GETTING STARTED

I.I 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 HDM2-SPLITPRO-T4K-V3 is a 4K UHD 4x2 HDMI 2.0a Quad multiviewer with USB video capture and audio out. It has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HDM2-SPLITPRO-T4K-V3 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.

- A Do not dismantle the housing or modify the module.
- A 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
	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.
\bigcirc	DO NOT TAMPER WITH THE UNIT. DOING SO WILL 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

This 4 x2 Quad multiviewer was developed for the purpose of supporting higher output resolution (4K@60) UHD for multiple sources on a single screen with built in USB 3.0 FHD video capture to output 4K video to a computer.

This HDMI device can accept 4 HDMI 4K input digital sources and combine (4) four video signals onto a single HDMI UHD or HD monitor. The user can easily manage each input via the supplied Control Software and create any layout and position of any of the 4 (four) Inputs on a single monitor. This device supports full range of input video resolutions up to 4K and audio RCA breakout supported for external audio distribution systems. Audio channels can be selected to playback with input or can be muted.

Fast Switching – This device can input any 4 HDMI input digital sources and then combine, (4) four video signals onto a single HDMI UHD monitor. The user will benefit with from its processing power to switch between the 8 user defined function using control software via Ethernet or RS232, cloud, 4 IR Remote preset.

Crop – This device can Crop any 4 HDMI input digital sources to remove black bars and then combine, (4) four video signals onto a single HDMI HD monitor. This device can be configured using the supplied Control software via Ethernet or RS232 to set the desired layout on the connected screens.

PIP, PAP, Overlay – This device can input any 4 HDMI digital sources and then combine, (4) four video signals onto a single HDMI HD monitor, which the user can select picture in picture (PIP), picture Aside picture (PAP) or overlay with the supplied Control Software via Ethernet or RS232 to set the desired layout configuration.

Window Scale and Position – The user can easily change the individual channel size and choose different position and layout on the single monitor with the Control Software via Ethernet or RS232 to set the desired layout configuration.

Scalable Rotation (90° & -90°) – The user can easily Rotate/Scale only a single input/window image 90° left and right. This device can be configured with the Control Software, IR Remote, Ethernet, RS232 or front panel buttons.

USB 3.0 Built in 4K Video Capture – The user can capture up to 4K video via the built in USB 3.0 capture to computer.



2.1 FEATURES

- 4 HDMI 4K Inputs & 2 HDMI 4K Outputs (HDMI 2 OUT auto downscale to connected display)
- Output resolution support up to 4K@60 (3840x2160);
- Output resolution support Full HD or to 4K@60 (3840x2160);
- USB 3.1 FHD Video Capture (up to 4K2K @30, UVC 1.0, deinterlace & scaler)
 - Supports USB 3.1 Gen 1 (RGB/YUY2/NV12) (capture up to 4K2K@30)
 - USB 2.0 (YUY2/NV12) (capture up to 720P@30)
- HDCP 1.4/2.2 compliant
- Fast switching between input channels and combined multiple images on single UHD display;
- Cropping the (4) four HDMI Input Channels;
- Supports PIP, PAP and multi-windows layout configurations;
- Single Input Rotation (90° left & right) functions;
- Background picture & logo support
- Resize, position, zoom & pan and blend output video
- Fade-in-&-out, wipe and dissolve transitions in full screen mode
- 8 preset Hot keys with 4 Custom layouts and 4 Full screen layouts within the supplied control software;
- 4 Custom saved layout buttons via the IR Remote;
- Input resolution support full range of video resolutions up to WUXGA@60 (RB) or full HD1080p;
- Uncompressed 7.1ch digital over HDMI
- RS 232 port for Service mode and firmware upgrade;
- Supports RS 232, Ethernet, IR Remote and front panel buttons and remote control via cloud platform.
- Factory Reset feature.
- Low Latency



2.2 PACKAGE CONTENTS

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

I	HDM2-SPLITPRO-T4K-V3 X I	
2	POWER SUPPLY (12V 5A) X 1	
3	IR REMOTE X I	
4	RACKMOUNT BRACKET X 2	
5	USER MANUAL X I	
6	Software CD Software and User guide available on X I The Product page on Avenview.com	

2.3 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. If inappropriate power supply is used, then it may cause a fire.
- Do not twist or pull by force ends of the video cable. It can cause malfunction.







3.1 INPUT PANEL (HDM2-SPLITPRO-T4K-V3) Front



I. Preset Layouts	2.: Quad Screen / Full Screen Mode Buttons
3. IR Sensor: Receive IR commands from IR remote	4. Resolution Button: 4K UHD/1080p
5. Reserved Buttons: FI & F2	6. Rotation Button: +90 & -90
7. OSD Menu: Menu control button	8. Window Source Selection: Source A/B/C/D

3.2 INPUT PANEL (HDM2-SPLITPRO-T4K-V3) Rear



I. Power Switch	2. DC 12V: plug the 12V DC power supply into the unit
	supplied to an AC 110v outlet.
3. IR Input: 3.5mm socket for plugging in the extension	4. HDMI IN 1-4: Connect up to 4 HDMI devices to the
cable of IR receiver	INPUT ports I-4(Blu-Ray Player, Media Box or PC)
5. Stereo Audio Out L/R: Audio Out	6. HDMI OUT I: Connect HDMI 4K monitor/ Display to
	view the four inputs connected.
7. HDMI OUT 2: Automatically downscale according to	8. RS-232: D-Sub 9pin port for sending and controlling
EDID of connected display	the unit by PC/Notebook via RS232 cable.
9. Ethernet: RJ45 jack for sending and controlling the	10. USB C: Connect to computer to capture up to 4K
unit by PC/Notebook via Ethernet cable.	video out and Firmware update port



4. IR REMOTE CONTROL

* Some display/monitor brands the window border may have interference, adjusting the display's motion setting may resolve the interference issue.

Button	Function	
POWER	Power on/off the unit	
LOCK	Lock/unlock the unit	
	Navigate up	
MENU	OSD menu	
AUDIO	Select audio sources	
	Navigate right	
ОК	Trigger the setting	
	Navigate left	
MUTE	Turn off the audio	
BACK	Back to previous page of OSD menu	
▼	Navigate down	
EXIT	Exit from the menus	
F1	Rotate 90 ⁰	
720P	Switch output resolution to 720p 60Hz	
1080P	Switch output resolution to 1080p 60Hz	
4K2K	Switch output resolution to 4K2K 60Hz	
QUAD	Fast switch to quad-view mode	
FULL	Fast switch to full screen mode	
Background	To set up the background picture of window	
LABEL	Window label ON/OFF	
Α	Select source A to be the input source	
В	Select source B to be the input source	
C	Select source C to be the input source	
D	Select source D to be the input source	
Preset 1	User preset 1	
Preset 2	User preset 2	
Preset 3	User preset 3	
Preset 4	User preset 4	





4.1 INSTALLATION (HDM2-SPLITPRO-T4K-V3)

HARDWARE SETUP

To setup Avenview HDM2-SPLITPRO-T4K-V3 follow these steps below:

- I. Mount or fix the HDM2-SPLITPRO-T4K-V3 on a secure shelf, AV rack or steady surface;
- 2. Ensure the power is off on the HDM2-SPLITPRO-T4K-V3, all source devices and displays that will be connected;
- 3. Connect your (4) four HDMI cables to the (4) four HDMI sources such as (Media Box, Blu-ray player, Laptop or Set-Top-Box or Gaming device);
- 4. Connect your HDMI cables to the single HD Displays, LCD or PC monitors that is receiving the video signals.
- 5. Power on all devices.
- 6. Connect your computer to HDM2-SPLITPRO-T4K-V3 via RS232 using an RS-232 to USB Cable or Ethernet cable in order to control via RS232 or Telnet.

SERIAL PORT SETTING

RS-232 Wiring (Cross Cable Connection)

Remote Controller(PC)			
PIN	Assignment		
Ι	NC		
2	TxD		
3	RxD		
4	NC		
5	GND		
6	NC		
7	NC		
8	NC		
9	NC		



HDM-SPLITPRO-4K-V2		
PIN	Definition	
I	NC	
2	RxD	
3	TxD	
4	NC	
5	GND	
6	NC	
7	NC	
8	NC	
9	NC	



RS-232 SETTINGS Baud Rate: 115200bps Data Bit: 8 bits parity: None flow Control: None Stop Bit: 1



Control through RS-232 port / Ethernet port

- 1. Please note when power cycling device, please restart unit at least 5 to 15 seconds after to allow the power capacitors to discharge.
- 2. The HDM2-SPLITPRO-T4K-V3 PC control software operates with Microsoft Windows 7, 8, 10, 11 through the interface of Ethernet or RS-232 serial control.
- 3. Through software and COM port you can assign an IP address before connecting via RJ45.

Please NOTE: (Under Microsoft Windows 7, please run software as administrator). Once the software is installed click on the ICON, the following dialog will pop-up. First time connection, please connect via RS232 serial cable.

RS-232 serial Mode: Use RS-232 to connect the port on device and computer. Select the correct COM port and click the OK button.

Ethernet Mode: Enter the IP address of the device and click the OK button and power cycle the unit. The default IP: 192.168.1.46

S S	oftware Control	×
۲	R\$232	
	COM Port: COM3 👻	
O	Ethernet	
	IP: 192 . 168 . 1 . 46	





I. Connection Status:

This shows the active connection status. If connected by RS-232 serial Mo	ode	device, the icon is	 . If connecte	d by
ethernet 🖬 . Easily change the control method, by clicking on the		button.		

2 Output Settings

Users can set up the designated inputs, to each window $A \sim D$ or duplicate, output resolution, PAP predefined layout setting or single input rotation.

(I) Source Selection

For each display window, you can assign the video source the caption below:

	(a	_
Window A:	Source 1	•
Window B:	Source 2	•
Window C:	Source 3	•
Window D	Source 4	



(2) Quick Selection Tabs

Provided in the software 9 default modes (5 PAP and 4 Full Screen) and 8 custom modes for you to create. Switching effects include (Seamless, Fade in/out, Dissolve, Wipe)

Quick Se	PAP 2 PAP 3 PAP 4 PAP 5
Full Scre	en
A	BCD
Switch N	Aode
Seamless	•
Wipe M	ode
Left to Rigl	ht +
Custom	Layout
custom	

(3) Output Resolution

Set the output resolution from 640x480-4K@60 to match the connected Monitor Timings

Output Selection	
Output Resolution:	1920 x 1080 @60Hz 🗸 🗸
	3840 x 2160 @60Hz 3840 x 2160 @50Hz
	1920 x 1080 @60Hz 1920 x 1080 @50Hz
	1280 x 720 @60Hz 1280 x 720 @50Hz
	720 x 576 @50Hz 720 x 480 @60Hz

(4) Save Layout

Also the user can define their own 8 custom layouts and save the frequently used scenarios into the flash memory.



(5) Display Panel

As illustrated below, users can resize any window by simply dragging the highlighted box with the mouse and immediately see the results on the attached monitor. The different colors of the frames represent the different inputs for easy identification. The Horizontal and Vertical coordinate shows the position of input source on the screen. In addition, the display ratio can be adjusted to view the layout in software (Zoom in Zoom out).





3. Advanced Setting

Label Text	Background
Windows Input Source	Background: Disable 🔹
	OK
	Burn OSD Splash
	File Start
Sound	
Sound from: Source1	Background 1 - Width: 0
(*	Height: 0
OK	
Window Label	
	Status :
Selected Window: Window A	Claud Satting
	Cloud Setting
Window label V Border	Register mode : Get Code
	Cloud mode: Set
Source label Border Tally	
V Source label Border Tally	MAC: Read
Source label Border Tally	MAC: Read

(1) Window settings

Users can adjust each display area and input source as desired. To proceed with this function user have to click on the specific channel A, B, C, or D, as indicated by the icons 🗐 🗉 🖸 in the control panel as shown above. After the specific channel is chosen, users can click on the "CROP ENABLE" box, then crop the display area of that and other channels. The control panel of the software illustrates by preview on how those settings would to be presented at the output. Using "DIVIDE- Horizontal/Vertical"

Windows	Input Source	
🔲 Window A	1 Input 1	
Window B	2 Input 2	
Window C	3 Input 3	
Window D	Input 4	

(2) Label Text

In here, users can easily rename /label the input to be shown on the window with the video to identify the input.



(3) Sound

To see and match which addie source to the output mate the type channels.

	Sound
	Sound from: Source 1
Background	
To set up the background of default picture, please click t slot Background 1 fo	f each window. The CS has 4 default pictures for the user to select. To cha the File button to select the picture that would be used choose or the image save reference then select Start
	Background
	Background: Disable -
	Burn OSD Splash File Start
	Background 1 Vidth: 0 Height: 0
	Status :

(5) Window Label

Users can simply determine if the window's label/border can be shown or invisible.

Window Label		
📃 🗉 🗲		Selected Window: Window A
📝 Window label	V Border	
Source label	Border	Tally



4. EDID (Extended Display Identification Data)

Ð 🗘	EDID	
Learn EDI		
From	Default:	
	1. Full-HD(1080p@60)-24bit 2D &2ch -	
To:	Input 1 Learn	
From	Display:	
To:	- Learn	

(I) Learn EDID from Default

➤ Select Default EDID	
	1. Full-HD(1080p@60)-24bit 2D &2ch 🔻
	1. Full-HD(1080p@60)-24bit 2D &2ch
	2. HD(1080i/720p@60)-24bit 2D &2ch
> Select Input	
	Input 1
	Input 1
	Input 2
	Input 3
	Input 4
	All Inputs
🦐 Click Learn butte	on to learn default EDID.



5. System Setting

ED ID EDID	
FIRMWARE UPDATE	

(I) Firmware Update

- There are 2 connections that's needed (1) RS-232 on the unit to the PC, (2) USB-C firmware update port to the PC via the USB C cable provided. These will give you 2 new com port items in your windows device manager.
- > Click FIRMWARE UPDATE button to perform authorized firmware update.
- > The "Firmware update" window pops up as below.

Please follow the	steps to update the device.
Update Setting Firmware Update	Please select the correct comport or push the "Scan" button to set the number automatically. Com Port COM4 COM3
	Scan

Please select the correct COM port (corresponding to the USB-C) or click "Scan" button then select the correct COM port (corresponding to the USB-C firmware port) to update the device.



> Click "update" button to do firmware update. The unit will power cycle atomically when done.

Please follow the steps to update the device.			
Update Setting	Please push the "Update" button And if you want update other fi the "" button to select.	n to execute the process. irmwares, please push	
Firmware Update	1. Update the correct firmware version.		
	Device Version:	Ver 1.06	
	Update Version	Ver 1.06	
	Updat	8	

(2) Factory Reset

- > Click to perform a factory default reset.
- > The process will take approx. 25 seconds.

EDID C		
FIRMWARE UPDATE		
FACTORY RESET		
	Please wait for Factory Reset 22 sec.	



6. IP Configure

To use Ethernet control users should click on the **IP CONFIGURE** button to set the network IP range. Please see the caption below. After the information has been complete, please click the **Apply** button. The default IP: 192.168.1.46

	102		168	_	- E		46
IP Address:	154	*	100	-	: €: 10000	×.	40
Mask:	255	4	255	é	255	34	0
Gateway:	192	2	168	2	1	:	1
Primary DNS:	8	3	8	5	8	3	8
Second DNS:	8	•	8		8		8

7. Info

Displays the Software and firmware version.

ersion	
Software Version:	Ver 1.0
Firmware Correct Version - 1:	Ver 1.06
Status	
Firmware Device Version - 1:	Ver 1.06

Software/firmware information is subject to change without prior notice

8. Refresh

This function will gather the changes made within software and hardware. Then update the software interface state with its current info.



5. SPECIFICATIONS

ltem	Description					
UNITS	HDM2-SPLITPRO-T4K-V3					
UNIT DESCRIPTION	HDMI 2.0a 4K@60 QUAD MULTIVIEWER W/ROTATION & USB VIDEO CAPTURE					
HDCP COMPLIANCE		Yes 1.4, 2.2				
VIDEO BANDWIDTH	HD	MI 600MHz [18Gbps]				
HDMI COMPLIANCE	Input: HDM	11 I.4 /Output: HDMI 2.0a				
VIDEO FORMAT SUPPORT		HDMI 2.0				
INPUT SUPPORTED RESOLUTIONS	720p 50Hz, 720p 60Hz, 1080p 24Hz, 1080p 25Hz, 1080p 30Hz, 1080p 50Hz, 1080p 60Hz, 1920X1200 Hz 3840x2160 60 Hz and 4K2K@60 (4:4:4 8bits)					
OUTPUT SUPPORTED RESOLUTIONS	720p 50Hz, 720p 60Hz, 1080p 24Hz, 1080p 25Hz, 1080p 30Hz, 1080p 50Hz, 1080p 60Hz, 1920X1200 Hz, 3840x2160 60 Hz and 4K2K@60 (4:4:4 8bits)					
USB VIDEO SUPPORT	Up to 4K2K@30Hz					
USB VIDEO FORMAT	YUY2 (USB3.0), MJPG (USB2.0/3.0)					
USB CONNECTOR	USB 3.0 Type A (SuperSpeed USB)					
AUDIO SUPPORT	LPCM 2CH, 6CH, 8CH/AC3/DTS/Dolby Digital Plus/ Dolby TruHD/DTS-HD					
INPUT	4x HDMI + 1xRS-232 + 1x RJ-45(Ethernet) + 1x 3.5mm (IR)					
OUTPUT	2x HDMI + 1x USB-C + 2x RCA					
CONTROL	RS 232 / IP Control / IR / Front Panel					
RJ45 CONNECTOR	WE/SS 8P8C with 2 LED indicators					
ESD PROTECTION	Human body model ± 15kV [air-gap discharge] & ± 8kV [contact discharge]					
WEIGHT	Unit: 2.3 kg [5 lbs]	Package: 3.5 kg [7.8 lbs]				
DIMENSIONS (L X W X H)	Unit (Metal enclosure): 440 x 237 x 44mm [1'4" x 9.3" x 1.7"] Package: 526 x 318 x 156mm [1'7" x 12.5" x 6.1"]					
POWER SUPPLY	I 2V/5A DC (US/E	U standards, CE/FCC/UL certified)				
POWER CONSUMPTION		22W (max)				
Environmental						
OPERATING TEMPERATURE	32° ~	104° F (0° to 40° C)				
STORAGE TEMPERATURE	-4° ~ I	40° F (-20° ~ 60° C)				
RELATIVE HUMIDITY	20~90% RH (no condensation)					









Control Your Video

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