



# HVS0401

**MINI 4 CHANNEL HDMI/DP LIVE STREAM  
MULTI-FORMAT VIDEO SWITCHER**

## USING THE UNIT SAFELY

Before using this unit, please read below warning and precautions which provide important information concerning the proper operation of the unit. Besides, to assure that you have gained a good grasp of every feature of your new unit, read below manual. This manual should be saved and kept on hand for further convenient reference.



### Warning And Cautions

- ※ To avoid falling or damage, please do not place this unit on an unstable cart, stand, or table.
- ※ Operate unit only on the specified supply voltage.
- ※ Disconnect power cord by connector only. Do not pull on cable portion.
- ※ Do not place or drop heavy or sharp-edged objects on power cord. A damaged cord can cause fire or electrical shock hazards. Regularly check power cord for excessive wear or damage to avoid possible fire / electrical hazards.
- ※ Ensure unit is always properly grounded to prevent electrical shock hazard.
- ※ Do not operate unit in hazardous or potentially explosive atmospheres. Doing so could result in fire, explosion, or other dangerous results.
- ※ Do not use this unit in or near water.
- ※ Do not allow liquids, metal pieces, or other foreign materials to enter the unit.
- ※ Handle with care to avoid shocks in transit. Shocks may cause malfunction. When you need to transport the unit, use the original packing materials, or alternate adequate packing.
- ※ Do not remove covers, panels, casing, or access circuitry with power applied to the unit! Turn power off and disconnect power cord prior to removal. Internal servicing / adjustment of unit should only be performed by qualified personnel.
- ※ Turn off the unit if an abnormality or malfunction occurs. Disconnect everything before moving the unit.

Note: due to constant effort to improve products and product features, specifications may change without notice.

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# 1. BRIEF INTRODUCTION

## 1.1. Overview

HVS0401 is a micro-designed metal case with a 4-channel HDMI/DP multi-format video Switcher that allows video switching, audio mixing, and different conversion effects. Input signal automatic detection, PGM output can be scaled, compatible with a variety of equipment, more flexible. USB output can be directly connected to a computer. The cost-effective switcher will be your perfect choice for live streaming applications.

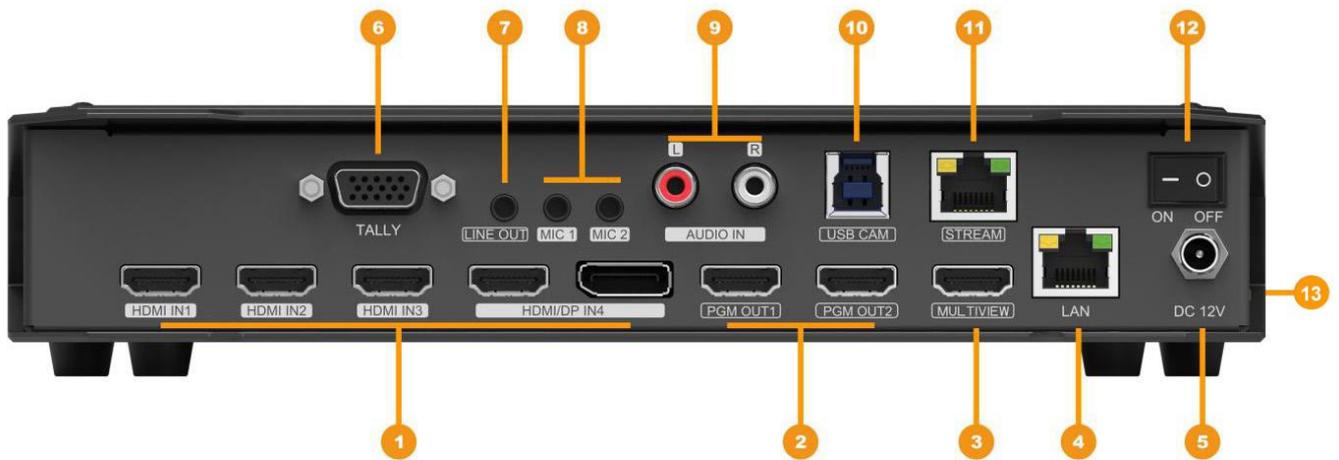


## 1.2. Main Features

- 4 channel inputs: 4×HDMI,1×DP (for optional).
- Outputs:2×HDMI PGM,1×HDMI multiview.
- USB3.0 to connect PC to realize live streaming.
- Auto/Cut transitions and Mix/Fade effects.
- PIP function, both size and position is adjustable.
- Audio mixer: 3.5mm stereo/RCA Audio& HDMI.
- GPIO interface for live tally system embedded audio.
- FTB for emergency.

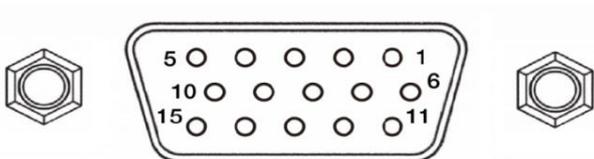
## 2. INTERFACES

### 2.1. Rear Interfaces



1	HDMI/ Display Port IN
2	HDMI PGM OUT
3	HDMI MULTIVIEW OUT
4	RJ45 (PC SOFTWARE CONTROL, TIME SETTING, FIRMWARE UPGRADE)
5	DC 12V IN
6	GPIO (TALLY PORT)
7	ANALOG AUDIO OUT (3.5mm, LINE OUT)
8	ANALOG AUDIO IN (3.5mm, LINE IN)
9	ANALOG AUDIO IN (RCA L/R)
10	USB TYPE-B (WEB CAM)
11	RJ45 (RESERVED)
12	POWER SWITCH
13	TFCARD SLOT (RESERVED)

### 2.2. Tally PIN Definition

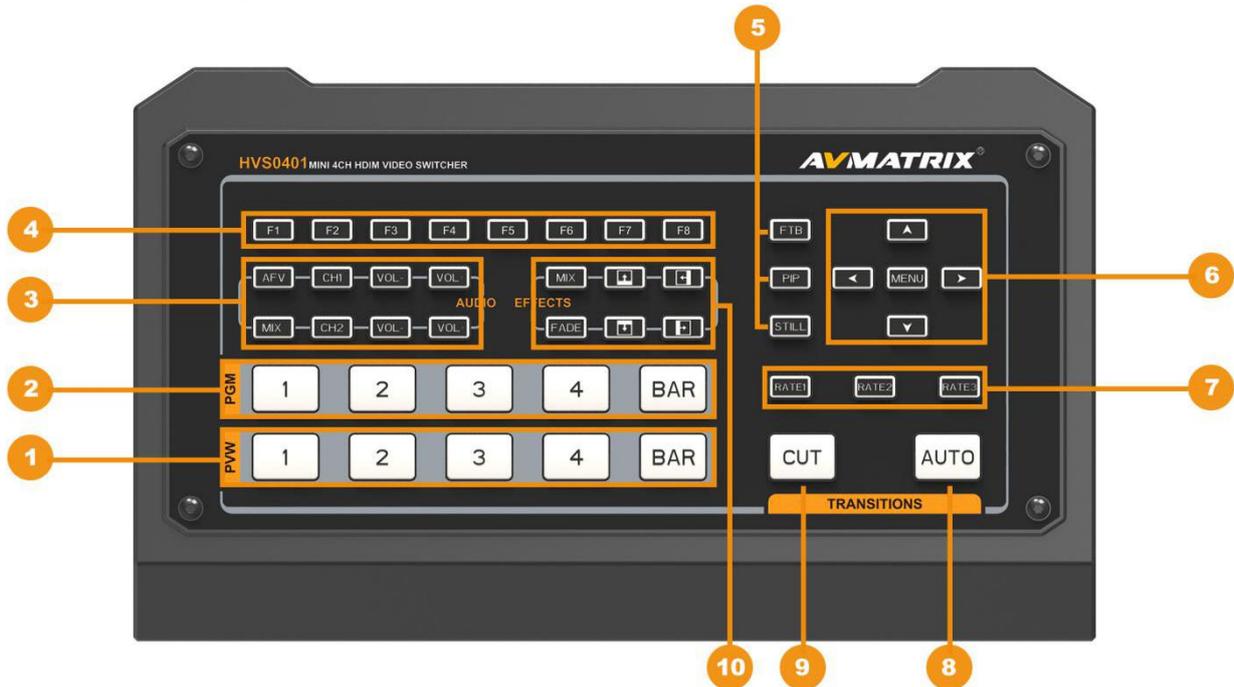


PIN	Definition	PIN	Definition
11	PGM-IN1	6	PVW-IN1
12	PGM-IN2	7	PVW-IN2
13	PGM-IN3	8	PVW-IN3
14	PGM-IN4	9	PVW-IN4
5	GND		

### 3. SPECIFICATION

CONNECTION	
Video In	CH1~CH3: HDMI type-A(100Ω) ×3; CH4: HDMI type-A(100Ω)/ Display Port×1
Video Out	PGM: HDMI type-A(100Ω) ×2; Multiview: HDMI type-A(100Ω) ×1, USB CAM: USB2.0 type B×1; RJ45×1: Reserved for Live Stream
Analog Audio In	3.5mm stereo audio (Line in) ×2, RCA(L/R) ×1
Analog Audio Out	3.5mm stereo audio (Line out) ×1
PC Control Port	RJ45×1
Other Interface	Tally: DB-15 port×1, TF Card Slot ×1: Reserved
FUNCTIONS	
Transitions	AUTO/ CUT
Functions	Wipe/ Mix/ Fade/ FTB
Layouts	PIP/ Multiview
STANDARDS	
HDMI In Format Support	1080p 60/59.94/50/30/29.97/25/24/23.98/23.976, 1080i 50/59.94/60, 720p 60/59.94/50/30/29.97/25/24/23.98, 576i 50, 576p 50, 480p 59.94/60, 480i 59.94/60
PC HDMI/DP In Format Support	1920×1080, 1680×1050, 1600×900, 1440×1050, 1366×768, 1360×768, 1280×1024, 1280×960, 1280×800, 1280×768, 1280×720, 1280×600, 1152×864, 1024×768, 800×600
HDMI PGM Out	1080p 60/50/30/25/24, 1080i 60/50
USB Capture Out	Up to 1080p 60
Multiview Out	1080p 50/60
HDMI Color Space	RGB 444/ YUV 444/ YUV 422
OTHERS	
Current	12V, 1.5A, 18W
Dimension (LWD)	238.5 × 140.5 × 43.5mm
Weight	785g
Temperature	Working: -20℃~60℃, Storage: -30℃~70℃

## 4. FRONT CONTROL PANEL



1	PVW	Select Preview source from 4 HDMI signals and BAR (Color bar)
2	PGM	Select Program source from 4 HDMI signals and BAR (Color bar)
3	AUDIO	Audio mode AFV: Program audio follows video Audio mode MIX: Program audio mix 2-CH audios from 6 sources CH1/CH2: Select audio source from 4 HDMI audio/ two analog audios Volume+/Volume-: Adjust the audio volume
4	F1-F8	F1: Set PGM out format from 1080P 50/60/30/25/24Hz, 1080I 50/60Hz. F2: Switch IN4 source between HDMI and DP. F3: Set audio volume of USB streaming media OFF/20/40/60/80/100%. F4: Set the audio of PGM mute. F5: Rotate USB streaming media 90 degrees clockwise. F6-F8: Reserved.
5	FUNCTION	FTB: Fade to Black PIP: Picture in Picture. STILL: PGM output still.
6	MENU	For menu control
7	SPEED	Three levels of transition speed rate
8	AUTO	Performs an automated switch between Program and Preview.
9	CUT	Performs a simple immediate switch between Program and Preview.
10	EFFECTS	MIX, FADE & WIPE transition effects

## 5. OPERATION INSTRUCTION

### 5.1. Multiview Output Layout

The Multiview includes PGM (Program), PVW (Preview), 4 HDMI signal sources, menu, clock, and status display of Function key, Still, UVC, and working temperature.



## 6. USB Capture

The video switcher's USB output is based on UVC (USB video class) and UAC (USB audio class) standard. No additional drivers must be installed. After installation in operating system, the relevant video and audio devices will be added. In the Windows Device Manager, for example, it will appear two new devices:

- Under Camera: Switcher USB Video
- Under Audio inputs and outputs: Switcher USB audio

Use a third-party Video Media Player software like OBS, PotPlayer, VLC, Windows Media Player to play and store the captured video content.

## 7. MENU SETTING

### 7.1. PGM and Multiview Out Format

The video switcher's PGM output format can be set from menu or F1 button (refer to part 4). There are 1080P 50/60/30/25/24Hz, 1080I 50/60Hz selectable for PGM outputs. The Multiview output is following PGM at 1080P 50/60Hz format.

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P60

## 7.2. Audio Settings

This video switcher is coming with 1 channel L/R analog audio input & output and 1 channel 3.5mm stereo audio input and output, supports both Mxing mode and Follow mode (audio follows video).

### 7.2.1. Mixing Mode

Press button MIX to set audio mode as mixing. Press CH1/CH2 to switch the audio sources from IN1/ IN2 /IN3 /IN4 /RCA IN/MIC\_IN. Press button VOL- or VOL+ to adjust the corresponding audio volume.

Besides, you also can set the audio though menu. Press UP/DOWN to select and press MENU to confirm.

STATUS	
CH1	IN1
CH2	IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P60

STATUS	
CH1	IN1
CH2	MIC_IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Mixing
PGM Out	1080P60

### 7.2.2. AFV Mode

Press AFV button to enable the audio-follow-video mode. Under Follow mode the audio is coming from the embedded audio of Program video source. You can control the audio volume by adjusting the button VOL- and VOL+.

STATUS	
CH1	IN1
CH2	MIC_IN2
CH1_VOL	0
CH2_VOL	0
Audio Mode	Following
PGM Out	1080P60

### 7.3. PIP Mode

When press PIP, there will be a small image display on the top left corner of PVW window as below image. And the menu will enter an interface as below image for PIP settings. The window size (Small, Large, Medium), position (Horizontal position and Vertical position) and border (Border enable, Border width, Border color) of PIP can be set from menu.

Press PIP again, the menu returns to STATUS page.



### 7.4. Main Menu Setting



When STATUS menu is not selected, press the MENU button to enter the Main Menu directly.

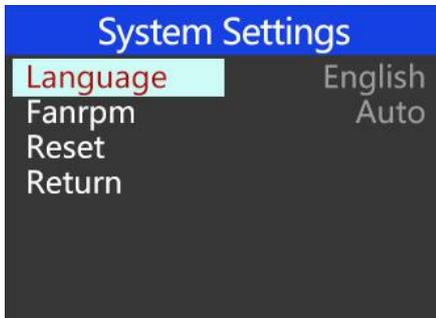


When the STATUS menu is selected, adjust the selected item to the top, and press UP button to exit and become unselected. Press MENU button to enter the Main Menu.

## 7.4.1. System Settings

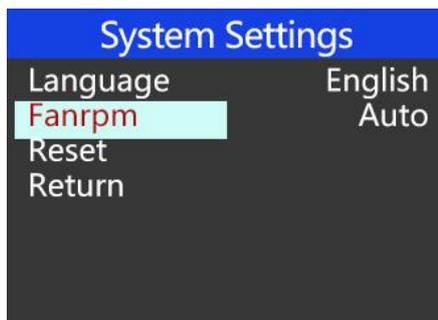
- Language

Entering system settings from the menu to switch the system language between English and Chinese.



- Fanrpm

Setting the cooling fan speed to control the temperature and noise of the switcher. There are Auto/ Mode1/ Mode2/ Mode3/ Mode4/ Mode5/ Mode6/ Mode7/ Mode8/ Mode9/ Mode10 options.



- Reset

Restore all settings to default Factory Settings.

## 7.4.2. Network Settings

- Network

There are two methods to acquire the IP: Dynamic (IP configured by router) and Static (set IP freely by yourself). Select the method you need by menu. The default setting is Dynamic.

**Dynamic:** Connecting the video switcher with a router with DHCP features, then it will auto obtain an IP address automatically. Make sure that the video switcher and PC are in the same local area network.

**Static:** Select static IP acquire method when the PC is without DHCP. Connect the video switcher with PC via network cable, set the PC's IP address to the same IP range as video switcher (the video switcher's default IP address 192.168.1.215), or set the switcher's IP address to the same range as PC's IP address.

System Settings		System Settings	
IP Acquisition	Dynamic	IP Acquisition	Static
IP	192 .168 . 1 .215	IP	192 .168 . 1 .215
NetMask	255 .255 .255 .255	NetMask	255 .255 .255 .255
GateWay	192 .168 . 1 . 1	GateWay	192 .168 . 1 . 1
Save		Save	
Return		Return	

- NetMask

Set the NetMask. The default setting is 255.255.255.0.

- GateWay

Set the GateWay according to current IP address.

Save the configuration when network setting finish.

### 7.4.3. Device Info

SN (Serial number) is the current firmware version number of the switcher.

## 8. Software Control and Time Setting

### 8.1. Software control

The video switcher comes with a software for remote control. You can connect the switcher to a Windows computer by LAN network cable. Download the software from AVMATRIX official website

[www.avmatrix.net/download/](http://www.avmatrix.net/download/).

### 8.2. Time Setting

Connect video switcher to a PC via LAN port and download a time setting software from AVMATRIX official website [www.avmatrix.net/download/](http://www.avmatrix.net/download/). Open the software and click Scan to search and connect the device, then the clock time will be changed to same time to the PC's time.