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AVMATRIX VS0601U Mini 6 Channel Multi-Format Streaming Video Switcher Instruction Manual

Contents

AVMATRIX VS0601U Mini 6 Channel Multi-Format Streaming 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 properly grounded at all times 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.

BRIEF INTRODUCTION

Overview

VS0601U is a miniature design metal housing 6-channel SDI/HDMI multi-format video switcher that allows video switching, audio mixing, and different transition effects. Inputs signal is auto-detected while for PGM output can be scaled, which can be compatible with more different equipment for more flexible application. The unit also allows stream performances and presentations easily through a computer's USB3.0 port. The cost-effective video switcher will be your perfect choice for various events production applications etc.


Main Features

- 6 channel inputs:4×SDI & 2×HDMI inputs
- 1×USB type-C output, 2×SDI & 1×HDMI PGM outputs, 1×SDI & 1×HDMI multiview outputs
- Uncompressed capture for live streaming, comply with UVC & UAC
- 1×SDI AUX output, can be selected as PGM or PVW
- Multi-format support, input format auto-detected and PGM outputs selectable
- T-Bar/ AUTO/ CUT transitions
- Mix/ Fade/ Wipe transition effects
- PIP mode size and position adjustable
- Support audio MIXING and AFV mode
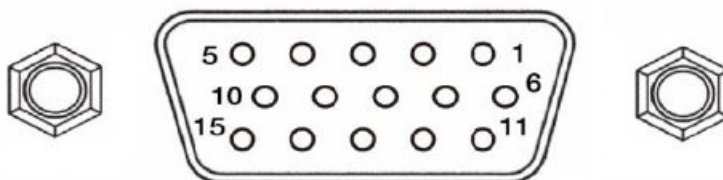- GPIO for Tally, FTB for emergency

iNTERFACES

Rear Interfaces
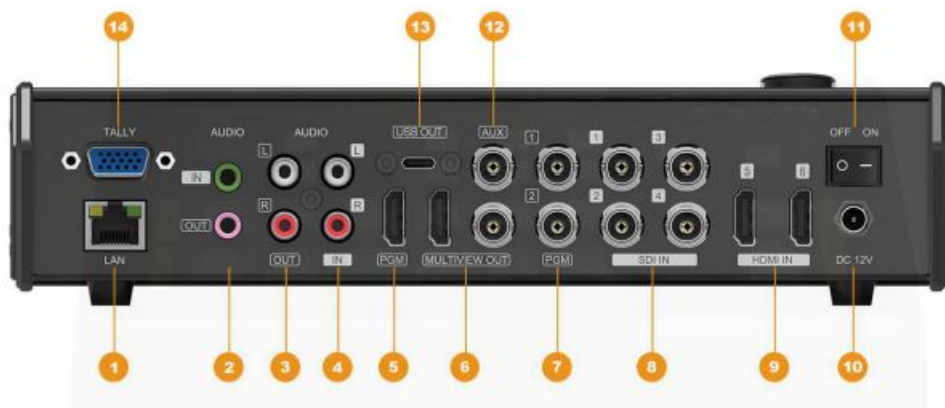
1	LAN (for update)
2	3.5mm AUDIO IN/ OUT
3	AUDIO OUT
4	AUDIO IN
5	HDMI PGM OUT
6	HDMI &SDI MULTIVEW OUT
7	SDI AUX OUT
7	SDI PGM OUT
8	SDI IN
9	HDMI IN
10	DC 12V
11	Power Switch
12	SDI AUX OUT(for PVW/PGM)
13	USB OUT (for live streaming)
14	GPIO (for tally)

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
15	PGM-IN5	10	PVW-IN5
3	PGM-IN6	4	PVW-IN6

5	GND		

SPECIFICATION

	Video Inputs	4×3G/HD/SD-SDI, 2×HDMI

		1080p 60/59.94/50/30/29.97/25/24/23.98
	SDI Input Format	1080psF 30/29.97/25/24/23.98
		1080i 60/59.94/50
		720p 60/59.94/50/30/29.97/25/24/23.98
		1080p 60/59.94/50/30/29.97/25/24/23.98/23.976
Inputs	HDMI Input Format	1080i 50/59.94/60
		720p 60/59.94/50/30/29.97/25/24/23.98
		576i 50, 576p 50
	SDI Video Rate	Auto detection, SD/HD/3G-SDI
	SDI Compliance	SMPTE 259M/ SMPTE 292M/ SMPTE 424M
		SDI: YUV 4:2:2, 10-bit;
	Color Space and Precision	HDMI: RGB 444 8/10/12bit; YUV 444 8/10/12bit;
		YUV 422 8/10/12bit
Video Outputs	PGM Outputs	2×3G/HD/SD-SDI; 1×HDMI Type A
	PGM Output Format	1080p 60/50/30/25/24; 1080i 50/60
	Multiview Output	1×3G-SDI; 1×HDMI Type A
	Multiview Output Format	1080p 60
USB Output	USB interface	1×USB3.0 Type-C (USB3.1 Gen1, up to 200MB/s)
	Output Format	1920×1200, 1920×1080, 1680×1050, 1440×900, 1368×768,1280×1024, 1280×960, 1280×800, 1280×720, 1024×768, 1024×576, 960×540, 856×480, 800×600, 768×576, 720×576, 720×480, 640×480, 640×360
	Frame Rate	Up to 60fp
	Supports OS	Windows 7/8/10, Linux (Kernel version 2.6.38 and above), Mac OS (10.8 and above)
	Software compatibility	OBS studio, Skype, ZOOM, Teams, Google Meet, Youtube Live, QuikcTime Player, Face time, Wirecast, CAMTASIA, Ecamm.live, Twitch.tv, etc. (Windows) etc.

Audio	Audio Input	1×3.5mm Stereo audio; 1×RCA(L/R)

|	Audio Output	1×3.5mm Stereo audio; 1×RCA(L/R)
	GPIO	Tally
	LAN	RJ45
	Power	DC 12V, 1.8A
	Consumption	≤ 22W
	Operation Temperature	-20℃~60℃
	Storage Temperature	-30℃~70℃
	Operation Humidity	20%~70%RH
	Dimension	330×243.5×67mm
Others	Weight	1kg
	Warranty	2-Year Limited
Accessories	Accessories	1×Power Supply (DC12V 2A), 1×USB3.0 Cable Type-C to Type-A

FRONT CONTROL PANEL
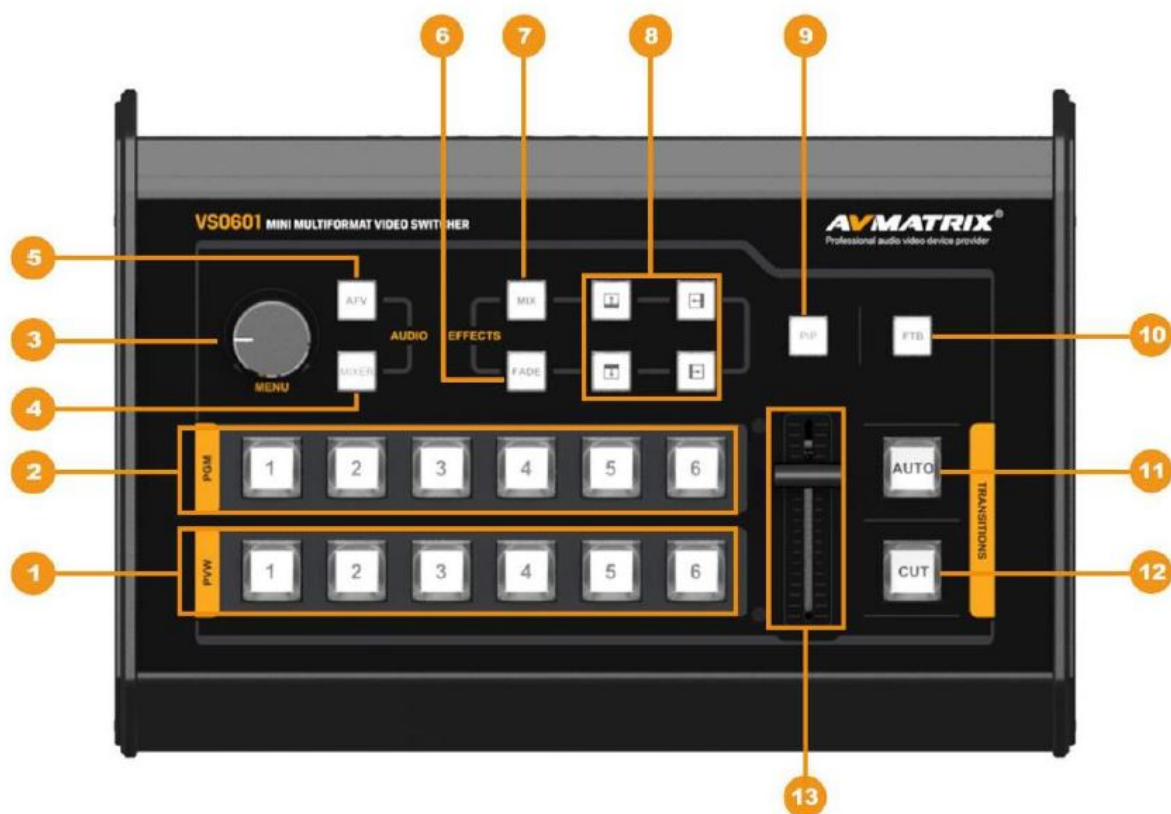
1	PVW:1-6	Selecting the signal source for Preview.
2	PGM:1-6	Selecting the signal source for Program

3	MENU	Menu Setting
4	MIXER	Support 2-ch audio mixing
5	AFV	Audio follow video mode
6	FADE	Fade transition effect
7	MIX	Mix transition effect
8		Wipe transition effect
9	PIP	Picture in Picture
10	FTB	Fade to Black, used for emergency
11	AUTO	Performs an automated switch between Program and Preview.
12	CUT	Performs a simple immediate switch between Program and Preview.
13	T-bar	T-bar Manual Transition

OPERATION INSTRUCTION

Multiview Output Layout

PGM and PVW as Preview and Program displayed as the following image. The level meter of PGM audio is shown only in multiview. SDI/HDMI PGM out is without any overlays.
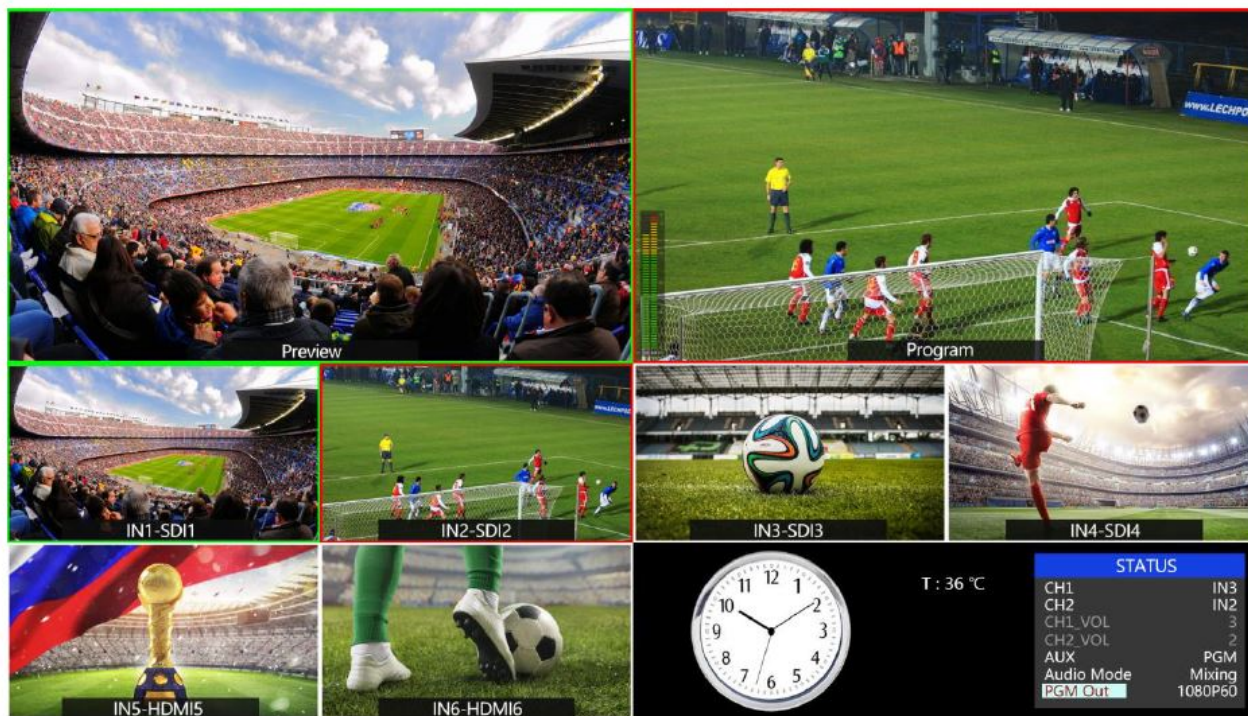

The following 6 windows come from the 6 input signals.

The lower right corner display of the menu and status information. The CH1, CH2 are the channel selection of the 2 audio sources for audio mixer. There is a real-time Digital clock/Analog clock displayed beside the menu.

PGM PVW Switching

Below 1-6 buttons from PGM and PVW are corresponding with the 6 windows in the below of the multiview layout. The selected button from PGM turns on to red LED, and the selected button from PVW turns on to green LED.The selected PGM source will be circled in red border, while the selected PVW source will be circled in green border.
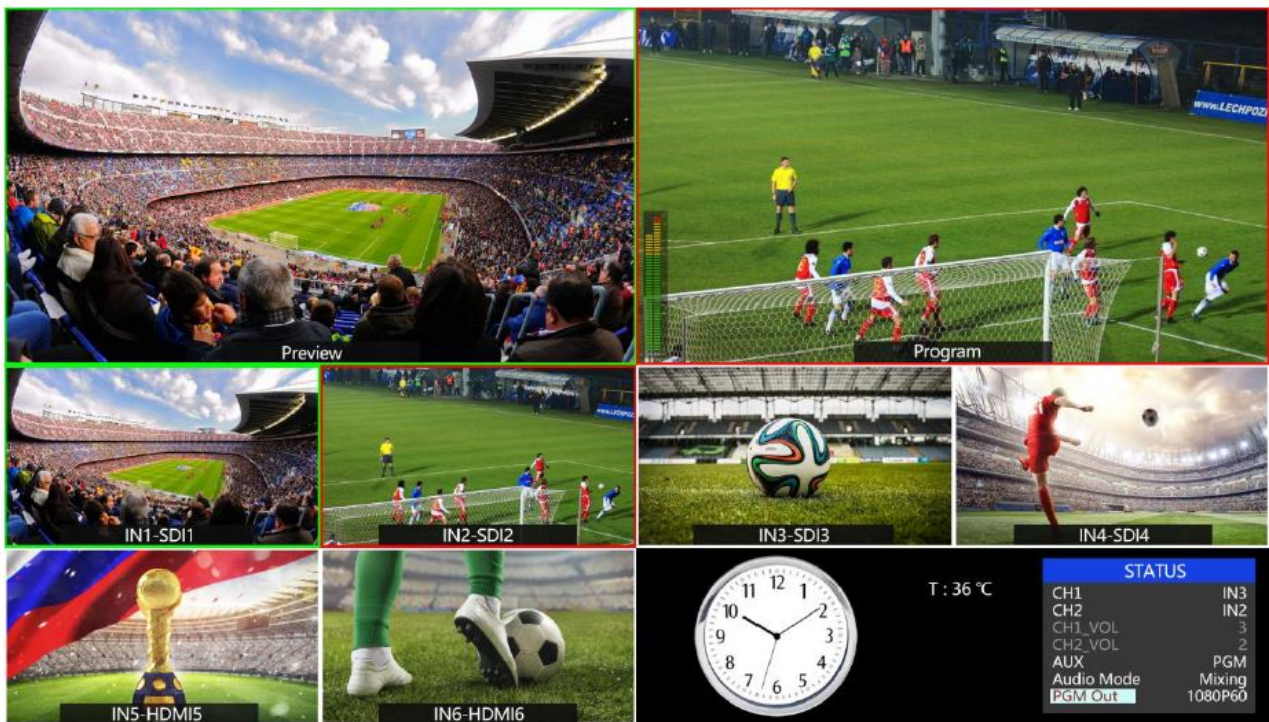
For example, switching the PGM source to SDI 1 and PVW source to SDI 2. The button selection as below.

Transition Control

There are two transition control types for this video switcher: Transition without effects and Transition with effects.

Transition without Effects

CUT performs a simple immediate switch between Preview and Program views. This is no delay seamless switching and the selected transition effect WIPE, MIX or FADE is not used.

Transition with Effects
AUTO performs an automated switch between Preview and Program views. The timing of the transition is set by the chosen speed button. The selected transition WIPE, MIX or FADE will also be used. T-Bar manual transition performs like AUTO, but it is more flexible that the timing of the transition depends on the speed of the manual switch.

FTB (Fade to Black)

Press FTB button it will fade the current video Program source to black. The button will flash to indicate that it's active. When press the button again it acts in reverse from complete black to the currently selected Program video source, and button stop flashing. FTB is usually used for emergency conditions.

Note:
When the PGM window display black and keep black even after transition, please check if the FTB button flashing. Press the button again when it is flashing to stop black.
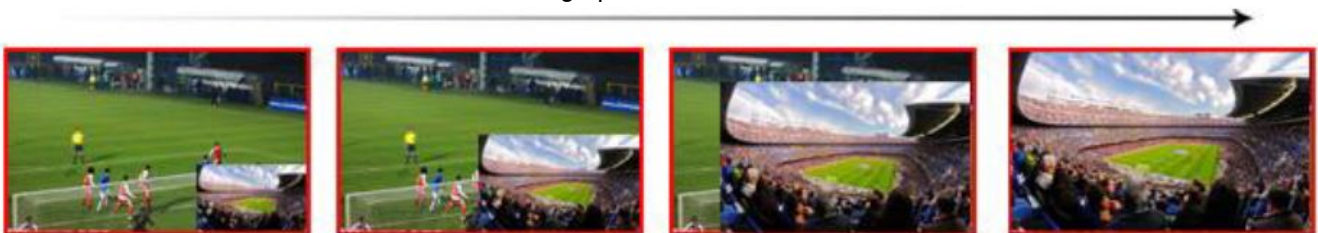
Transition Effects
MIX Transition
Pressing the MIX button selects a basic A/B Dissolve for the next transition. When the button LED turns on it is active. Then use T-Bar or AUTO to operate the transition. The MIX transition effect as below

WIPE Transition
WIPE is a transition from one source to another and is achieved by replacing the current source by another source. Press the WIPE button and the LED turns on then it is active. There are total 8 WIPEselections wiping start from different directions. Such as if choosing operate the transition, the WIPE effect as follows: ,

INV button is an alternative button. Press it first and then press a Direction button, the WIPE will start from an inverse direction.

FADE Transition

Fade is a transition from one source to another with fade gradually transition effect. Press the FADE button and use T-Bar or AUTO to operate the FADE transition.

Audio Mixer Setting

Audio Description
This video switcher is coming with 1 channel 3.5mm Stereo audio & 1 channel RCA(L/R) analog audio input & output and 4 channel SDI embedded audio.

USB3.0 Live Streaming
The USB3.0 streaming output transmits the PGM as an uncompressed Video and Audio signal. The USB3.0 streaming output is based on UVC (USB video class) and UAC (USB audio class) standard. No additional drivers need be installed. After the installation in the operating system, the relevant video and audio devices will be added in the Windows Device Manager. There will appear two new devices:

- Under Imaging Devices: AVMATRIX USB Capture Video
- Under Audio inputs and outputs: AVMATRIX USB Capture Audio

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

MENU SETTING

SDI PGM/ AUX and Multiview Output Format
The output format of multiview is fixed at 1080p60, and for PGM output can be set by the knob. Except PVW and PGM output, there is a AUX for choice, you can quickly select the auxiliary output between PVW and PGM via Menu knob. The default setting is PGM after reset. There are resolutions 1080P 50/60/30/25/24Hz, 1080I 50/60Hz selectable for SDI/HDMI PGM and AUX outputs.

Audio Setting
This video switcher is coming with 1 channel L/R analog audio input & output and 1 channel 3.5mm stereo audio input and output, support both audio following video mode and audio mixing mode.

Mixing Mode

Press button MIXER to set audio mode as mixing. Press menu and choose audio for 2 channel audio mixing, each channel, users can select audio source from IN1/ IN2/ IN3/ IN4/ IN5 / IN6/ Phone/ RCA IN.

AFV Mode

Press AFV button to enable the audio follow video mode. When the audio is in follow mode the audio is coming from the embedded audio of Program video source. User can control the audio volume by adjusting the master fader (the left one).


PIP Mode

When press PIP, there will be a small image display on the top left corner of PVW window as following image. And the menu will enter an interface as below image. The window size, position and border of PIP can be set from menu.

Main Menu Setting

When STATUS menu is not selected, press the MENU button to enter main menu directly. In case one of the items is selected (see below), rotate the MENU button rotate anticlockwise to exit the choice, then press the MENU button to enter main menu.
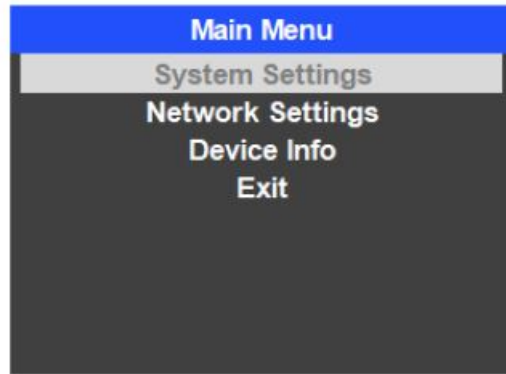
System Settings

Entering system settings from the menu to switch the system language between English and Chinese. Entering system settings from the menu to switch the real-time clock shown in Analog or Digital.
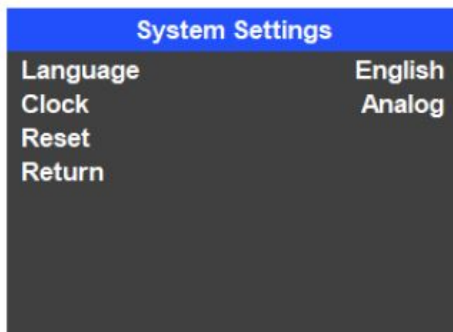
Connect video switcher to a PC and download a time control software from AVMATRIX official website www.avmatrix.net/download/ Open the software and click Scan to search and connect the device, then the clock time will be changed to same time to the PC's time.

Network Settings

Network

There are two ways to acquire the IP: Dynamic (IP configured by router) and Static (set IP freely by yourself) . Select the method you need by knob 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 video switcher's IP address to the same IP range as PC's IP address.

NetMask
Set the NetMask. The default setting is 255.255.255.0.
 GateWay
Set the GateWay according to a current IP address. Save the configuration when the network setting finishes.

Documents / Resources

VS0601U MINI 6 CHANNEL MULTI-FORMAT STREAMING VIDEO SWITCHER	**AVMATRIX VS0601U Mini 6 Channel Multi-Format Streaming Video Switcher** [pdf] Instruction Manual VS0601U Mini 6 Channel Multi-Format Streaming Video Switcher, VS0601U, Mini 6 Channel Multi-Format Streaming Video Switcher
VS0601U MINI 6 CHANNEL MULTI-FORMAT STREAMING VIDEO SWITCHER	**AVMATRIX VS0601U Mini 6 Channel Multi-Format Streaming Video Switcher** [pdf] Instruction Manual VS0601U Mini 6 Channel Multi-Format Streaming Video Switcher, VS0601U, Mini 6 Channel Multi-Format Streaming Video Switcher, Streaming Video Switcher

References

- **Twitch**
- **DOWNLOAD - AVMATRIX**

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