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> AVMATRIX S4 Plus Video Switcher User Manual

## AVMATRIX SHARK S4 PLUS

# AVMATRIX S4 Plus Video Switcher User Manual

MODEL: SHARK S4 PLUS

Brand: AVMATRIX

## 1. INTRODUCTION

The AVMATRIX S4 Plus is a versatile video switcher equipped with a 10.1-inch IPS FHD real-time monitoring screen. This integrated display allows users to simultaneously monitor 4 input channels, Preview (PVW), and Program (PGM) feeds without requiring an external monitor, enhancing convenience during live productions. It is designed for various live streaming applications, supporting multiple device connections and advanced video production features.

## 2. KEY FEATURES

- **Integrated 10.1-inch IPS FHD Display:** Real-time monitoring of 4 input channels, PVW, and PGM.
- **Multiple Device Connectivity:** 2x HDMI and 2x SDI inputs for cameras, gaming consoles, computers, and camcorders.
- **Virtual Live Studio Capabilities:** Chroma Key and Luma Key for real-time post-production and scene switching.
- **Advanced Transitions:** Includes WIPE, DIP, and MIX effects for dynamic live streaming.
- **Flexible Output Options:** 2x HDMI PGM output, 1x HDMI multiview output, and 1x Type-C output, assignable from various sources.
- **Direct Recording:** SD card and USB interface for direct PGM signal recording up to 32Mbps (MP4/TS formats).
- **Dual Live Streaming Methods:** LAN port for IP streaming (RTMP(S), RTSP, SRT) and USB Type-C for capturing PGM video/audio to platforms like OBS, vMIX, ZOOM, Teams, Skype, and Twitch.
- **Web Control Interface:** Remote control via web browser for encode, stream, and record settings.

## 3. SETUP

### 3.1 Unboxing and Components

Upon opening the package, ensure all components are present:

- S4 PLUS Video Switcher
- Power supply
- USB cable (Type A-C)
- Tally connector (DB-15)



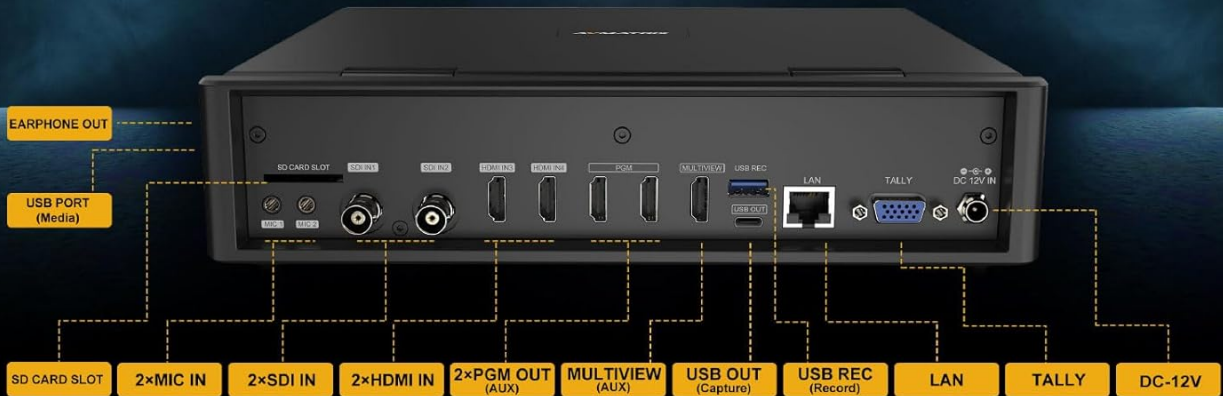
Figure 3.1: Overview of the AVMATRIX S4 Plus Video Switcher with its main features.

### 3.2 Connecting Devices

The S4 Plus offers a rich interface for connecting various video and audio sources. Refer to the diagram below for port identification and connection examples.

## Rich Interface

Compact design with a variety of interfaces, including SDI inputs, HDMI inputs, PGM outputs, multiview output, audio inputs, streaming interfaces, and recording ports. The hidden interfaces protect them from damage.



## Configurable Output

With the four auto-detected inputs and three scaling outputs, the video switcher is quite flexible to connect with a variety of devices and signals. Besides, all the three outputs can be configured to IN1-4, PVW, PGM, Clean PGM, Color Bar and Multiview out to meet your various application needs.



Figure 3.2: Rear panel connections including SDI, HDMI, LAN, USB, and audio ports.

- **Video Inputs:** Connect up to two HDMI sources and two SDI sources (e.g., cameras, computers) to the respective input ports.
- **Audio Inputs:** Use the MIC/LINE inputs for external audio sources.
- **Power:** Connect the provided power supply to the DC 12V input.
- **Network:** Connect an Ethernet cable to the LAN port for web control and IP streaming.
- **USB:** Use the USB Type-C port for direct streaming to a computer or the USB REC port for recording to an external drive.

### 3.3 Initial Power On

After connecting all necessary devices, power on the switcher. The integrated 10.1-inch display will show the multiview interface, allowing you to see all input sources, PVW, and PGM feeds.



Figure 3.3: The 10.1-inch display showing the multiview layout with various inputs and outputs.

## 4. OPERATING INSTRUCTIONS

### 4.1 Switching and Transitions

The S4 Plus allows for seamless switching between input sources and applying various transition effects. Use the dedicated buttons and T-bar for manual or automatic transitions.

- Select an input for Preview (PVW) and another for Program (PGM).
- Use the T-bar or AUTO button to execute transitions (WIPE, DIP, MIX).

### 4.2 Recording

Record your PGM output directly to an SD card or USB disk. The switcher supports MP4/TS formats with an encoding bit rate up to 32Mbps.

# USB and SD Card Recording

SD card and USB interface enable direct recording of PGM signal, making it easy to record high-quality videos. Bitrate of encode up to 32Mbps, and the supported file formats are MP4/TS.



Figure 4.1: SD card slot and USB REC port for direct program recording.

## 4.3 Live Streaming

The S4 Plus supports two primary methods for live streaming:

- **Ethernet Streaming:** Connect the LAN port to your network for IP streaming via RTMP(S), RTSP, and SRT protocols.
- **USB Type-C Streaming:** Connect the USB Type-C port to a computer to capture PGM video and audio for streaming on platforms like OBS, vMIX, ZOOM, Teams, Skype, and Twitch. Compatible with Windows, Linux, and Mac.

# Specifications

CONNECTION	Display	10.1 Inch IPS FHD
	Video Input	HDMI×2, SDI×2
	Video Output	HDMI PGM × 2, HDMI Multiview × 1, LAN × 1 (RJ45 Stream), USB type-C × 1 (Capture)
	Other Interface	USB-A × 1 & SD Card × 1 (Record), USB-A × 1 (Image import and upgrade), Tally × 1 DB-15 GPIO
	Audio	Inputs: MIC/ Line × 2 (3.5mm stereo audio), Outputs: Earphone Slot × 1 (3.5mm stereo audio)
STREAM & RECORD	Encoding Bitrate	2/ 4/ 8/ 12/ 16/ 24/ 32Mbps, Support CBR/ VBR
	Stream Protocols	RTMP/ RTMPS/ SRT
	Storage Format	USB/ SD card, Support FAT32/ exFAT/ NTFS
	Recrod File Format	MP4, TS
FUNCTION	Recrod File Segment	1/ 5/ 10/ 20/ 30/ 60/ 90/ 120mins
	Transitions	T-Bar/ AUTO/ CUT
	Effects	WIPE(11×3 patterns)/ MIX/ DIP/ STILL(freeze)/ PATTERN/ MUTE/ FTB
	Layouts	2 styles of Multiview layout(Landscape and Portrait)
	Keys	Upstream Key: Luma Key × 1/ Chroma Key × 1/ PIP × 2/ POP ; Downstream Key: DSK × 1/ Logo × 1
	Media Format	Default image: 39 preset patterns, Local image: Up to 16 imported images, Capture image: Up to 16 captured images
	Generators	Pattern Generator × 1, Color Generators × 2
	Audio Mixer	Video Input × 4 and MIC/ Line × 2
STANDARD	Audio delay	0-500ms
	Input Format Support	Multi-format Auto Signal Detection, Up to 1080p 60
	Color Space	HDMI: RGB/ YUV, SDI: YUV
	HDMI PGM/ MV Out	1080p 60/ 59.94/ 50/ 48/ 47.95/ 30/ 29.97/ 25/ 24/ 23.98, 1080i 60/59.94/50
OTHERS	USB Capture Out	Up to 1080p 60
	DC Power In	Wide Voltage: 7~24V
	Consumption	≤24W (12V 2A)
OTHERS	Dimension (LWD)	261.4 × 193.9 × 58mm
	Weight	Net: 1734.5g, Gross: 2240g
	Working Temp.	-20°C~50°C

## Accessories



12V 2A Power Adapter



USB A-C Cable



Tally Connector

Figure 4.2: Live streaming setup showing Ethernet and USB connections to popular platforms.

### 4.4 Special Effects (Chroma Key / Luma Key)

Create immersive virtual live studios using the built-in Chroma Key and Luma Key features for real-time background removal and post-production.

# Upgraded Chroma Key

Enhanced chroma key technology delivers precise background removal for virtual studios and live events.

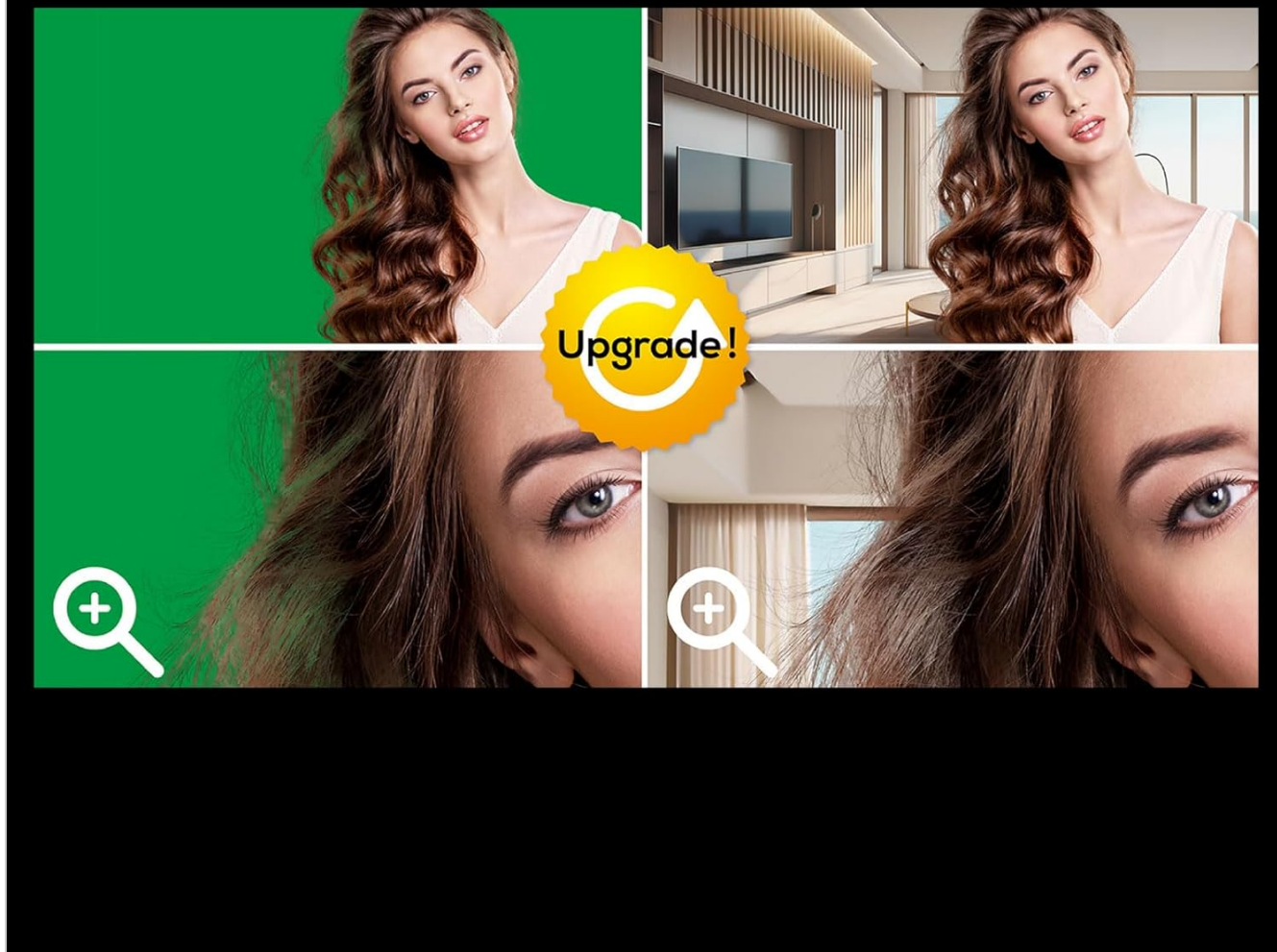


Figure 4.3: Enhanced Chroma Key technology for precise background removal.

## 4.5 Audio Mixer

The integrated audio mixer allows for precise control over audio levels from various inputs, ensuring high-quality sound for your production.

## 4.6 Web Control Interface

Access the device's IP address in a web browser to remotely control settings such as encoding, streaming, and recording. This provides flexible management options.

## 5. MAINTENANCE

To ensure the longevity and optimal performance of your AVMATRIX S4 Plus Video Switcher, follow these maintenance guidelines:

- Keep the device clean and free from dust. Use a soft, dry cloth for cleaning.
- Avoid exposing the switcher to extreme temperatures, humidity, or direct sunlight.
- Ensure proper ventilation to prevent overheating.

- Regularly check cable connections for secure fit.
- Update firmware as recommended by AVMATRIX for new features and bug fixes.

## 6. TROUBLESHOOTING

If you encounter issues with your AVMATRIX S4 Plus, refer to the following common troubleshooting steps:

- **No Power:** Ensure the power adapter is securely connected and the power outlet is functional.
- **No Video Input:** Verify that input sources are correctly connected and powered on. Check cable integrity and ensure input resolution/frame rate is supported.
- **No Audio:** Check audio cable connections, input levels on the audio mixer, and ensure the correct audio channel is selected.
- **Streaming Issues:** Verify network connectivity, streaming settings (RTMP server URL, stream key), and ensure your computer's firewall is not blocking the streaming software.
- **Recording Failure:** Check if the SD card or USB disk has sufficient free space and is formatted correctly (FAT32/NTFS). Ensure the recording bit rate is compatible with your storage device.

For further assistance, please contact AVMATRIX customer support.

## 7. SPECIFICATIONS

Feature	Description
Display	10.1 Inch IPS FHD
Video Input	HDMI x 2, SDI x 2
Video Output	HDMI PGM x 2, HDMI Multiview x 1, LAN x 1 (RJ45 Stream), USB Type-C x 1 (Capture)
Other Interface	USB-A x 1 & SD Card x 1 (Record), USB-A x 1 (Image import and upgrade), Tally x 1 DB-15 GPIO
Audio	Inputs: MIC/Line x 2 (3.5mm stereo audio), Outputs: Earphone Slot x 1 (3.5mm stereo audio)
Encoding Bitrate	2/4/8/12/16/24/32Mbps, support CBR/VBR
Stream Protocols	RTMP/RTMP(S)/RTSP/SRT
Storage Format	USB/SD card, Support FAT32/exFAT/NTFS
Record File Format	MP4, TS
Transitions	T-Bar/AUTO/CUT
Effects	WIPE (11x3 patterns), MIX, DIP, STILL (freeze), PATTERN, MUTE, FTB
Layouts	2 styles of Multiview layout (Landscape and Portrait)
Keying	Upstream Key: Luma Key x 1 / Chroma Key x 1 / PIP x 2 / POP; Downstream Key: DSK x 1 / Logo x 1
Media Format	Default image: 39 preset patterns, Local image: Up to 16 imported images, Capture image: Up to 16 captured images
Generators	Pattern Generator x 1, Color Generators x 2
Audio Mixer	Video Input x 4 and MIC/Line x 2

Feature	Description
Audio Delay	0-500ms
Input Format Support	Multi-format Auto Signal Detection, Up to 1080p 60
Color Space	HDMI: RGB/YUV, SDI: YUV
HDMI PGM/MV Out	1080p 60/59.94/50/48/47.95/30/29.97/25/24/23.98, 1080i 60/59.94/50
USB Capture Out	Up to 1080p 60
DC Power In	Wide Voltage (7~24V)
Consumption	≤24W (12V 2A)
Dimension (LWD)	261.4 x 193.9 x 58mm
Weight	Net: 1734.5g, Gross: 2240g
Working Temp.	-20°C~50°C

## 8. WARRANTY & SUPPORT

### 8.1 Warranty Information

The AVMATRIX S4 Plus Video Switcher comes with a 2-year warranty. Please retain your proof of purchase for warranty claims.

### 8.2 Customer Support

If you have any questions or require technical assistance, please contact AVMATRIX customer support. We are always at your service.

For additional resources and product information, visit the official AVMATRIX Store: [AVMATRIX Store on Amazon](#)

## 9. OFFICIAL PRODUCT VIDEO

Your browser does not support the video tag.

This video provides an overview of the AVMATRIX 6-channel SDI/HDMI multi-camera video switcher, demonstrating its features and capabilities. While the video title mentions a 6-channel switcher, it showcases general functionality relevant to AVMATRIX video switchers, including unboxing and interface overview.