

## Blackmagic Design SmartScope Duo 4K

# Blackmagic Design SmartScope Duo 4K Instruction Manual

## INTRODUCTION

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The Blackmagic Design SmartScope Duo 4K is a dual-screen rack-mountable unit designed for professional video monitoring and analysis. It features two independent 8-inch LCD displays, each capable of showing either a video picture or a variety of scope views, including waveform, vectorscope, RGB parade, YUV parade, histogram, and audio phase with level displays. This device allows for accurate technical analysis of video and audio signals, making it suitable for broadcast, post-production, and live event environments. Its ultra-thin design facilitates integration into equipment racks and mobile setups.

## KEY FEATURES

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- **SDI Video Input:** Automatically switches between SD, HD, and 6G-SDI. Includes reclocked loop-through output.
- **SDI Video Output:** 1 x 10-bit loop-through SD, HD, and 6G-SDI switchable.
- **SDI Audio Input:** 16 channels embedded in SD and HD.
- **SDI Audio Output:** 16 channels embedded in SD and HD.
- **Multi-Rate Support:** Compatible with standard definition SDI, high definition SDI, and 6G-SDI.
- **Integrated Waveform Monitoring:** Provides waveform, vectorscope, RGB parade, YUV parade, histogram, and audio phase with level displays.
- **Independent Displays:** Each of the two 8-inch displays can independently show video or any scope view.
- **Ultra-Thin Design:** Suitable for rack mounting and mobile production units.

## SETUP

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This section details the initial setup of your SmartScope Duo 4K unit.

### 1. Physical Installation

The SmartScope Duo 4K is designed for rack mounting. Secure the unit into a standard equipment rack using appropriate screws. Ensure adequate ventilation around the unit.

## 2. Power Connection

Connect the provided power supply to the DC input on the rear panel of the SmartScope Duo 4K and then to a suitable power outlet. The unit will power on automatically.

## 3. Video and Audio Connections

Connect your SDI video and audio sources to the SDI input ports on the rear panel. The unit supports SD, HD, and 6G-SDI signals. Use the SDI loop-through output if you need to pass the signal to another device.



**Figure 1:** Rear panel connections. This image displays the various input and output ports on the back of the SmartScope Duo 4K, including SDI inputs, SDI outputs, Ethernet, and power input.

## 4. Network Connection (Optional)

For remote control and configuration, connect an Ethernet cable from the unit's Ethernet port to your network switch or router. Refer to the Blackmagic Design website for software utilities required for network control.

## OPERATING

The SmartScope Duo 4K offers flexible monitoring options for video and audio signals.

### 1. Display Modes

Each of the two screens can be independently configured to display either the incoming video signal or one of the available scope views. Use the control buttons on the front panel or network software to switch between modes.

- **Video View:** Displays the live video feed from the selected SDI input.
- **Waveform:** Shows the luminance and chrominance levels of the video signal.
- **Vectorscope:** Displays the color information (hue and saturation) of the video signal.
- **RGB Parade:** Separates and displays the Red, Green, and Blue components of the video signal.
- **YUV Parade:** Separates and displays the Luminance (Y) and Chrominance (U, V) components.
- **Histogram:** Illustrates the distribution of luminance values in the video image.
- **Audio Phase & Level:** Displays audio levels and phase relationships for embedded audio channels.



**Figure 2:** Front panel displays. This image shows the two independent screens, with one displaying a video feed and the other showing a vectorscope or similar analysis tool.

## 2. Switching Inputs and Views

Use the dedicated buttons on the front panel, typically labeled for input selection and scope type, to cycle through the available options for each screen. For advanced configuration and precise adjustments, utilize the Blackmagic Design software application connected via Ethernet.

## MAINTENANCE

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Proper maintenance ensures the longevity and optimal performance of your SmartScope Duo 4K.

- **Cleaning:** Regularly clean the exterior of the unit, especially the screens, with a soft, dry, lint-free cloth. For stubborn marks, slightly dampen the cloth with water. Avoid abrasive cleaners or solvents.
- **Ventilation:** Ensure that the ventilation openings are not obstructed to prevent overheating.
- **Environmental Conditions:** Operate the unit within the specified temperature and humidity ranges to prevent damage. Avoid exposing the unit to direct sunlight or extreme temperatures.
- **Firmware Updates:** Periodically check the Blackmagic Design website for firmware updates. Keeping the firmware current can improve performance and add new features.

## TROUBLESHOOTING

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This section provides solutions to common issues you might encounter.

### No Power

- Verify the power cable is securely connected to both the unit and a working power outlet.
- Check if the power outlet is active by plugging in another device.

### No Video Signal

- Ensure the SDI input cables are correctly connected to the SmartScope Duo 4K and the source device.
- Confirm that the source device is outputting a valid SDI signal.
- Check the selected input on the SmartScope Duo 4K.
- Verify that the video format (SD, HD, 6G-SDI) from the source is supported by the unit.

### Incorrect Scope Display

- Ensure the correct scope view (waveform, vectorscope, etc.) is selected for the display.
- If using network control, verify that the software settings match the desired display.

## Network Connectivity Issues

- Check the Ethernet cable connection.
- Verify network settings on both the SmartScope Duo 4K (via its configuration utility) and your computer.
- Ensure no firewall is blocking communication with the device.

## SPECIFICATIONS

Feature	Detail
Brand	Blackmagic Design
Model Name	SmartScope Duo 4K (HDL-SMTVHD)
Screen Size	8 Inches (x2)
Resolution	4K UHD 2160p (3840 x 2160 native)
Aspect Ratio	16:9
Screen Surface	Matte
Refresh Rate	60 Hz
Display Type	LCD
Item Weight	4 Pounds
Connectivity Technology	SDI
Hardware Connectivity	Ethernet
Additional Features	Waveform Monitoring (Waveform, Vectorscope, RGB Parade, YUV Parade, Histogram, Audio Phase)
SDI Video Input	Automatic switching between SD, HD, and 6G-SDI with reclocked loop-through output.
SDI Video Output	1 x 10-bit loop-through SD, HD, and 6G-SDI switchable.
SDI Audio Input	16 channel embedded in SD and HD.
SDI Audio Output	16 channel embedded in SD and HD.

## WARRANTY

The Blackmagic Design SmartScope Duo 4K comes with a **Limited Warranty**. For specific terms, conditions, and duration of the warranty, please refer to the warranty card included with your product or visit the official Blackmagic Design website. Keep your proof of purchase for warranty claims.

## SUPPORT

For technical assistance, software downloads, and additional product information, please visit the official

Blackmagic Design support website. You can find drivers, manuals, and frequently asked questions (FAQs) there. Ensure you have your product model number (HDL-SMTVHD) and serial number ready when contacting support.

**Blackmagic Design Website:** [www.blackmagicdesign.com/support](http://www.blackmagicdesign.com/support)