AVMATRIX®

TB-C12-4K

1-CH 4K HDMI | DOCKING STATION

CONTENTS

1. INTRODUCTION

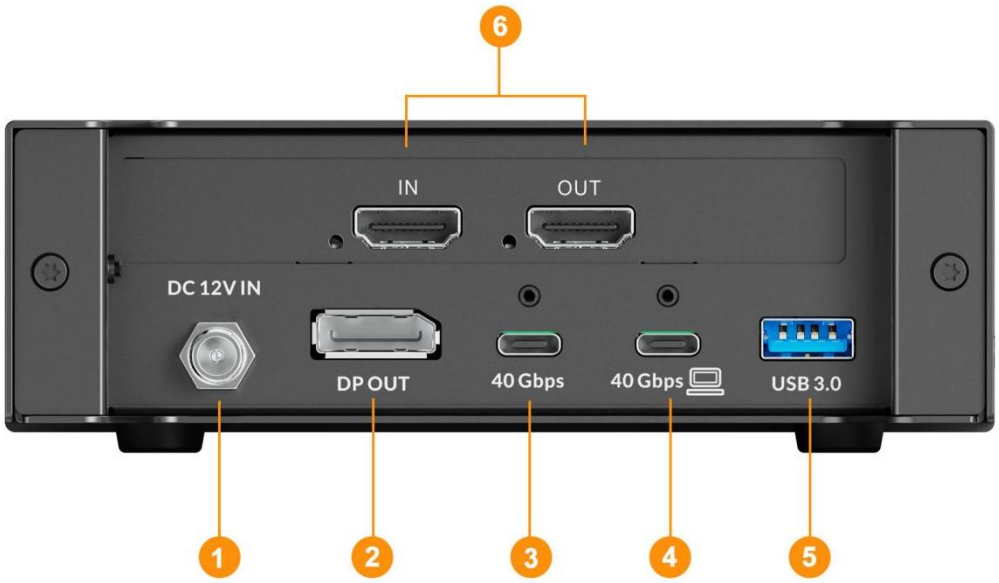
1.1 Overview

TB-C12-4K is a high-performance docking station equipped with 1 4K HDMI input and loopout, supporting lossless capture in YUY2 and RGB formats. It can achieve a maximum transmission rate of 40Gbps through the Ultra-speed port to meet the needs of multi-channel HD video processing. The product has rich interfaces such as USB 3.1 Gen2, DP1.4, supports daisy chain, supports PD power supply (up to 60W), is compatible with Windows and Linux systems, and is equipped with an active cooling system, which can achieve 7×24 hours of stable operation.

1.2. Main Features

- 1-channel 4K HDMI input and loopout
- Dual Ultra-speed ports, with a maximum rate of 40Gbps, supporting daisy chain
- A variety of video input and output interface versions are optional and replaceable
- Support lossless acquisition formats such as YUY2 and RGB
- Expand computer interface, interface USB3.1 Gen2 10Gbps, DP1.4 interface 4*8Gbps (support windows platform DP MST daisy chain display)
- Supports up to 60W USB Type-C external power supply through PD protocol
- Widely compatible with operating systems
- Active cooling, 7*24 hours stable operation

2. INTERFACE



1	DC 12V IN
2	DP OUT (DP1.4 output, for external DP display)
3	Downlink port (for data transmission, achieving a maximum transmission rate of 40Gbps)
4	Uplink port (used for high-speed data transmission and power supply, supports a maximum transmission rate of 40Gbps and a maximum power supply of 60W.) Note: The power supply function must be used with a 20V4A adapter.
5	USB-A port (extended USB port , USB3.1 Gen2 port for connecting keyboard and mouse)
6	1 × 4K HDMI input and loopout

3. SPECIFICATIONS

Interface	Slot interface	PClex4 (Gen2)
	Video interface	1 × 4K HDMI input and loopout
	Video Format	Supports up to 1080p60
Video Format	Data interface	1×DC 12V input 1×DP video output 2×Ultra-speed ports (supporting data, video, power supply, daisy chain; compatible with USB4& Thunderbolt 3/4/5-like Protocols) 1×USB3.1 Gen2 input
	Audio Sampling	48kHz 24bit

	Color Space	REC 601, REC 709
	Device Support	Support XBOX, PS4, SWITCH, video players, TV boxes and media boxes, etc.
Support	System Support	Windows 7/8/10/11, 64-bit, Linux (Note: Windows 7/8 requires the system digital signature to be turned off)
	Software Compatibility	OBS, XSplit, VLC, VirtualDub, VMix, VidBlaster, Wirecast, Microsoft Media Encoder, Adobe Flash Media Encoder, any other DirectShow/V4L2
Other	DC power supply	12V-21V
	Ultra-speed port rate	40Gb/s
	PD power output	60W/45W/27W/15W
	Power consumption	12W
	temperature	Working temperature: 0~40℃
	Relative humidity	0%~90% non-condensing
	size	139.8×138×42.6mm
	weight	Net weight:775g, Gross weight: 1470g
	Warranty	2 years

4. INSTALLATION

4.1 Connect

Step 1: Use a high speed cable, plug one end into the Ultra-speed port on your computer, and the other end into any Ultra-speed port on the docking station. Your computer must have a Ultra-speed port (same shape as USB-C, but with a lightning icon)

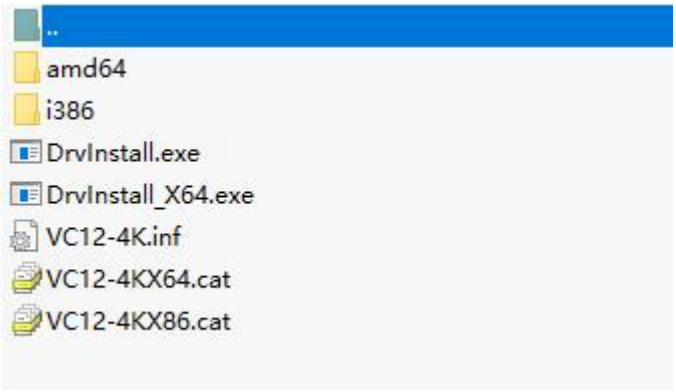
Step 2: Make sure the computer has installed the relevant driver (download the driver from the AVMATRIX website www.avmatrix.com and open the driver).

Step 3: After the connection is completed, the system will automatically recognize the device and you can connect the HDMI signal source or display device according to your needs.

4.2 Driver Installation

Step1.Download the driver from the AVMATRIX website at www.avmatrix.com and opening the driver.

Step 2. When the driver is opened a notification of "Find Video Capture Card Driver: 1" will pop up, which indicates that the PCIE capture card has been recognized, then click "Install". Finally, Click "OK" to complete the installation.



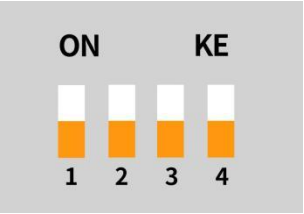
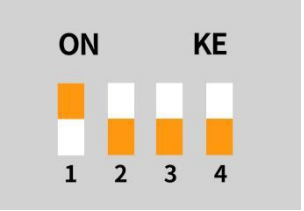
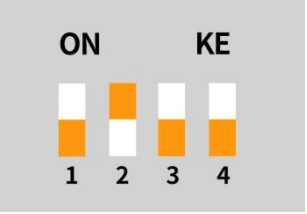
In particular, if any Blackmagic Design PCIe capture card or output card driver is installed in your computer, please uninstall the Blackmagic Design driver before installing the AVMATRIX PCIe output card driver. Otherwise, the AVMATRIX PCIe capture card will not work properly.

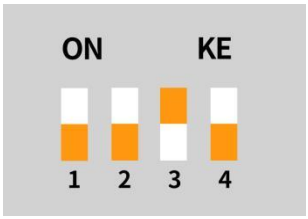
Note: Supports Windows 7 and above, Linux 18.04 and above.

5. DIAL FUNCTION

When using multiple PCIE capture cards at the same time, you need to adjust the dip switch on the PCIE card.

The dip switches on the PCIE card provide the following settings. Please make sure that the setting dip switches for each PCIE card are different.

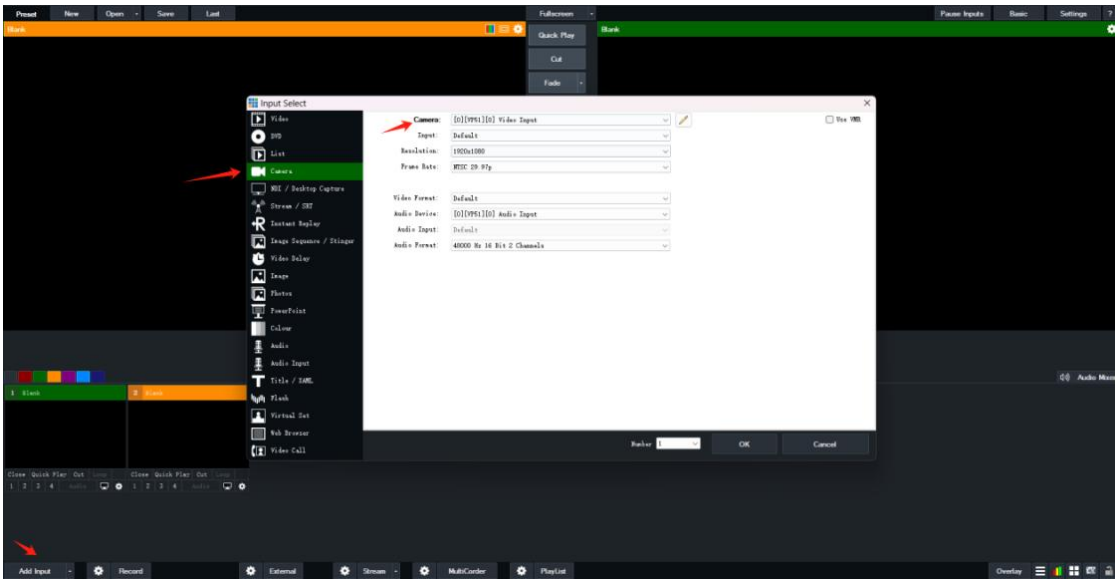
	**1. First card** When (SW1, SW2, SW3, SW4) are set to down, it means that the PCIE capture card is set as the first card.
	**2. Second card** When (SW1) is set to up, (SW2, SW3, SW4) are set to down. Indicates setting the PCIE capture card as the second card.
	**3. The third card** When (SW2) is set to UP, and (SW1, SW3, SW4) are set to DOWN. Meaning it sets the PCIE capture card as the third card.

	**4. The fourth card** When (SW3) is set to UP, and (SW1, SW2, SW4) are set to DOWN. Indicates that it sets the PCIE capture card as the fourth card.

6.OPERATION INSTRUCTIONS

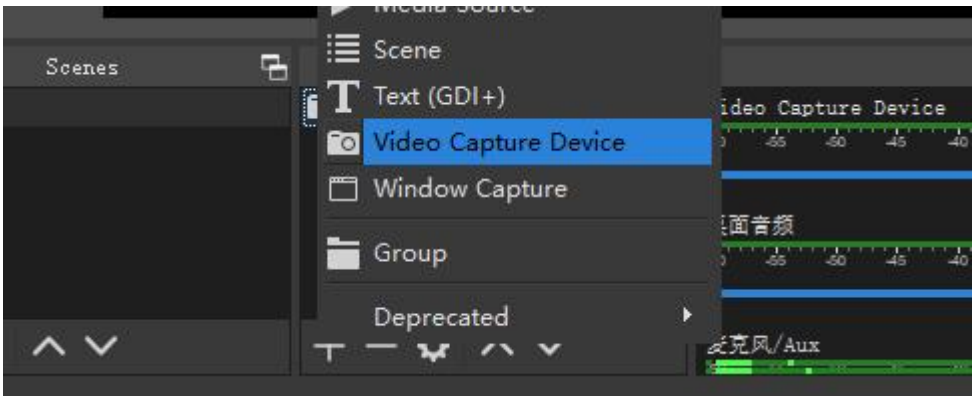
6.1 Vimx Input Collection Settings

Steps: Click "Add Input" - "Camera", select the input source to be collected in the camera options, configure the parameters according to the requirements, and click "OK" to complete the collection.

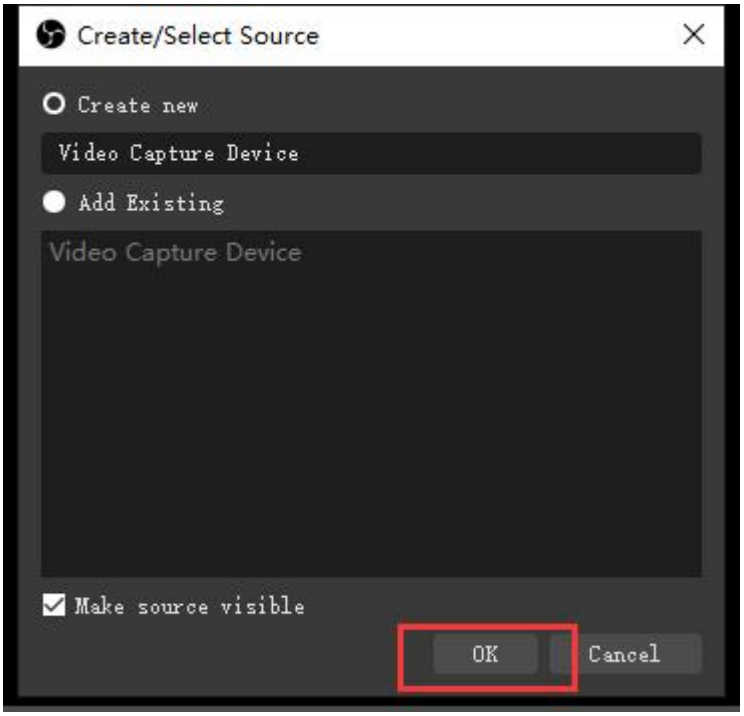


6.2 OBS Operating Instructions

Step1. Open OBS Studio , click ”+” and select ”Video Capture Device”.

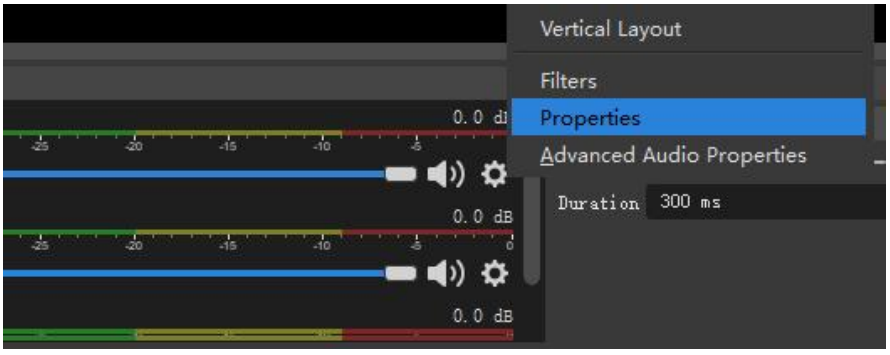


Rename the name of the signal source and click OK.



Step2. Right-click "Video Capture Device" and select properties, enter the properties interface, and select the signal source as your device. Users can set other parameter setting in the properties pages and then click OK.

Step3. Click on the audio setting icon to setting audio, as shown in the picture. Then enter the properties, and select the device.



Step4. Enter “Advanced Audio properties” can change the setting about the volume, balance, audio monitoring, and Tracks etc.