
User manual



Quad screen multi-viewer capture

Introduction

This product is a high-performance 4K60Hz Quad screen multi-viewer and capture that supports 4 channels HDMI2.0 signals and 1 channel Type-C signal simultaneous input. It can achieve three major functions: 1. convert 4 channels UHD video signals (from 5 channels to Select any 4 channels) and display them on the same screen at the same time, and users can choose different screen display methods; 2. it supports seamless switching between 5 channels, without any black screen or screen pause during the switching process; 3. it supports one channel of UVC signal output protocol can be directly connected to the USB interface of the computer, and can be connected to software of video conferencing and live broadcast. This product supports HDMI2.0 format output (4K60 4:4:4, 18G bandwidth). The screen multi-viewer also supports audio switching, which can switch the sound of any input signal, and the output terminal supports audio embedded-embedding. This product supports a variety of control methods. Users can control the device through front panel buttons, IR remote control and RS232 serial port.

Features:

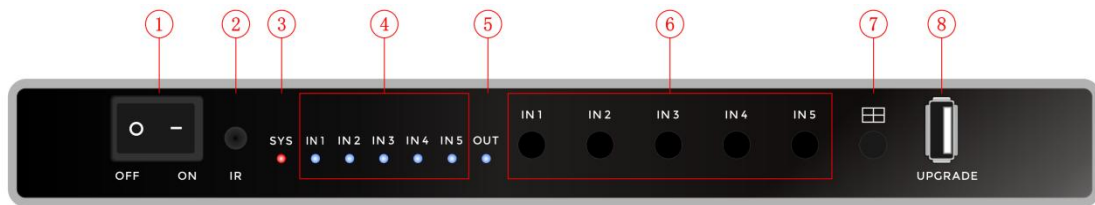
- Support 5 in 1 out(4 HDMI in , 1 Type-C out)
- Support one channel UVC Protocol signal output, capture resolution is 1080P
- Support seamless switching
- Support audio switching
- Support RS232 control
- Support HDMI 2.0 4K@60Hz 4:4:4
- Support output capture 1080P
- Plug and play
- Switching method: Panel button, IR and RS232

Specification

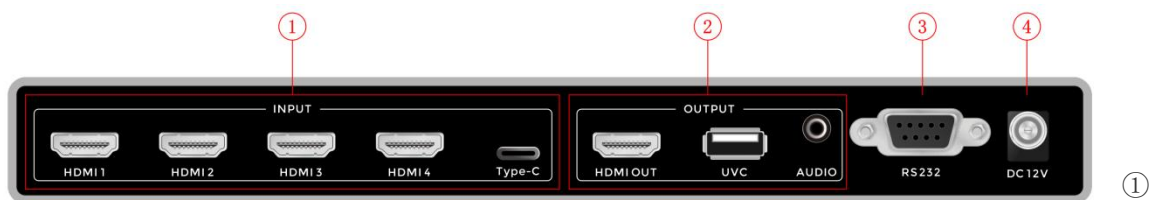
Video	
Input interface	4 x HDMI2.0 1 x Type-C
Input resolution	• HDMI2.0: 640x480⁸, 800x600⁸, 1024x768⁸, 1280x768⁸, 1280x800⁸, 1280x1024⁸, 1360x768⁸, 1366x768⁸, 1440x900⁸, 1400x1050⁸, 1600x1200⁸, 1680x1050⁸, 1920x1200⁸, 720x480⁸ (480p), 720x576⁶ (576p), 1280x720⁵ (720p30), 1280x720⁶ (720p50), 1280x720⁸ (720p60), 1920x1080² (1080p24), 1920x1080³ (1080p25), 1920x1080⁵ (1080p30), 1920x1080⁶ (1080p50), 1920x1080⁸ (1080p60), 3840x2160⁵(2160p30),3840x2160⁶ (2160p50), 3840x2160⁸ (2160p60)

Output interface	1 x HDMI2.0 1 x UVS
Output resolution	HDMI2.0: 1920x1080 ⁶ (1080p50), 1920x1080 ⁸ (1080p60), 3840x2160 ⁵ (2160p30) , 3840x2160 ⁶ (2160p50) , 3840x2160 ⁸ (2160p60) 1 = 23.98 Hz, 2 = 24 Hz, 3 = 25 Hz, 4 = 29.97 Hz, 5 = 30 Hz, 6 = 50 Hz, 7 = 59.94 Hz, 8 = 60 Hz, 9 = 75 Hz
Audio	
Input interface	4 x HDMI 1 x Type-C
Input audio signal	RAW PCM, 16 bit, 32/44.1/48KHz sps; PCM 2.0
Output interface	1 x HDMI2.0; 1 x Analog Audio
Output audio signal	RAW PCM, 16 bit, 32/44.1/48KHz sps; PCM 2.0
Control method	
Panel button	IN1: input 1 st single signal IN2: input 2 nd single signal IN3: input 3 rd single signal IN4: input 4 th single signal IN5: input 5 th single signal 田: switch to 4 image multi-viewer mode
IR	Function the same as panel button
RS232	DB9 serial control interface
Environment	
Operation Temp.	0 to +45°C (32 to + 113 °F)
Storage Temp.	-20 to +70°C (-4 to + 158 °F)
Humidity	10% to 90%, non-condense
ESD	HBM: ±8kV (Air charge)/ ±4kV (Touch charge)
Power	12 V 1.5 A DC
Consumption	7W
Size	240X124X28MM
NW	0.7kg

Interface:



- ① Power button
- ② IR---IR receiver port
- ③ Power--- Power LED indicator
- ④ 1-5--- Input signal LED indicator
- ⑤ OUT---OUT signal LED indicator
- ⑥ IN1-IN5--input 1-5channel single display, after selected, the signal LED indicator will change from blue to red
- ⑦ switching to 4 multi-viewer display mode, hold about 6s can reset.
- ⑧ USB upgrade interface

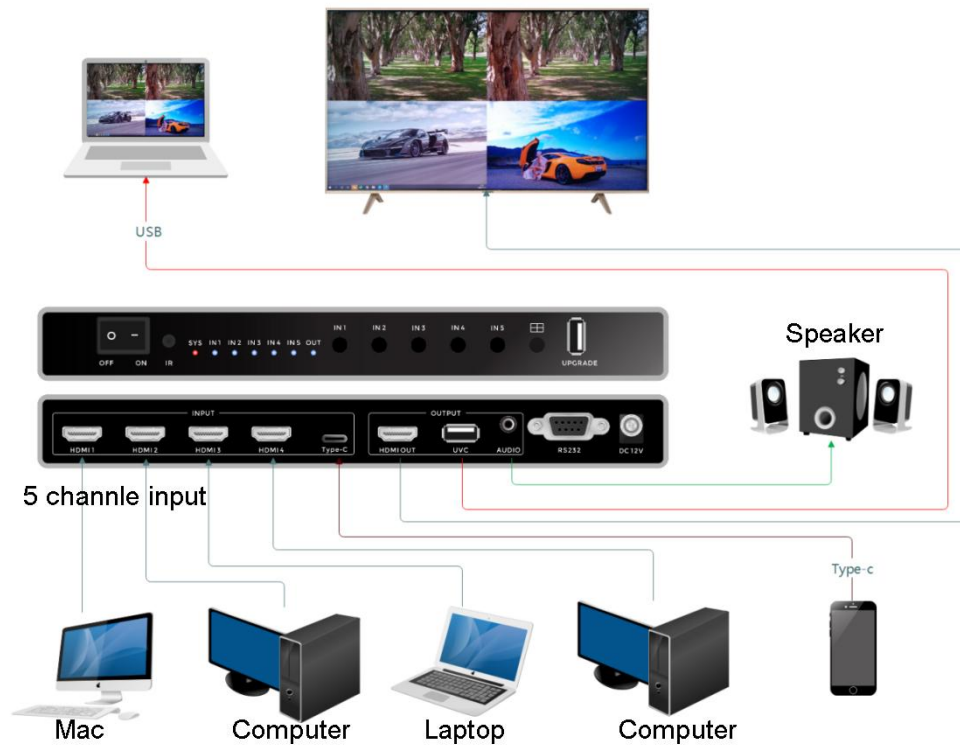


INPUT: 1-5 input interface

- ② OUTPUT--output interface
- ③ RS232 serial interface
- ④ DC-12V power

The SYS red indicator light flashes when powered on; Insert the output device to HDMI OUT, and the OUT indicator blue light remains on; Switch to IN1-IN5, the corresponding indicator light is always on blue light (the blue light flashes when there is no signal)

Connection diagram:



Dimension:



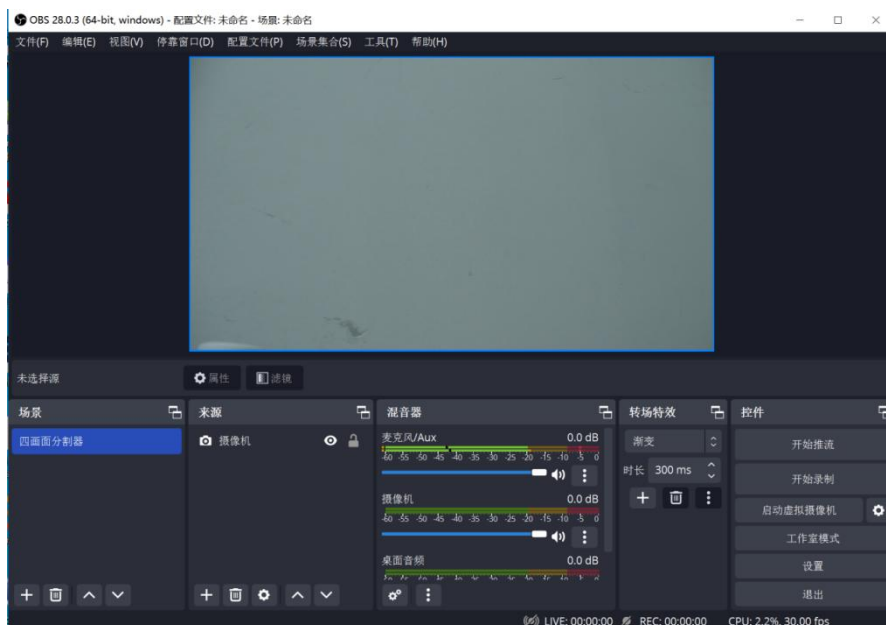
Display mode:



Operation introduce

UVC function

The UVC function is audio and video capture function, which can be connected to the USB port of the computer through the UVC interface on the device. The input channel signals can be collected through the camera or OBS software, as shown in the following figure: recording signals and sound through OBS software



Upgrade

Step1: Copy the upgrade file (bin file) to the root directory using a USB flash drive, and the subdirectory upgrade will not be successful

MERGE.bin	2021/8/15 17:52	BIN 文件	579 KB
更新内容	2021/8/15 17:55	文本文档	1 KB

Step2:

Plug in the power, insert the USB drive into the USB upgrade port on the front panel of product, turn on the power, and wait for a few seconds. The following picture shows the state when the power is just turned on, and the SYS light is flashing



After the upgrade is completed, the 5 lights on the front panel will resume normal flashing and require shutdown and restart

Step 3: Press the RESET button on the IR remote control 6 times to reset

IR remote introduce

RESET

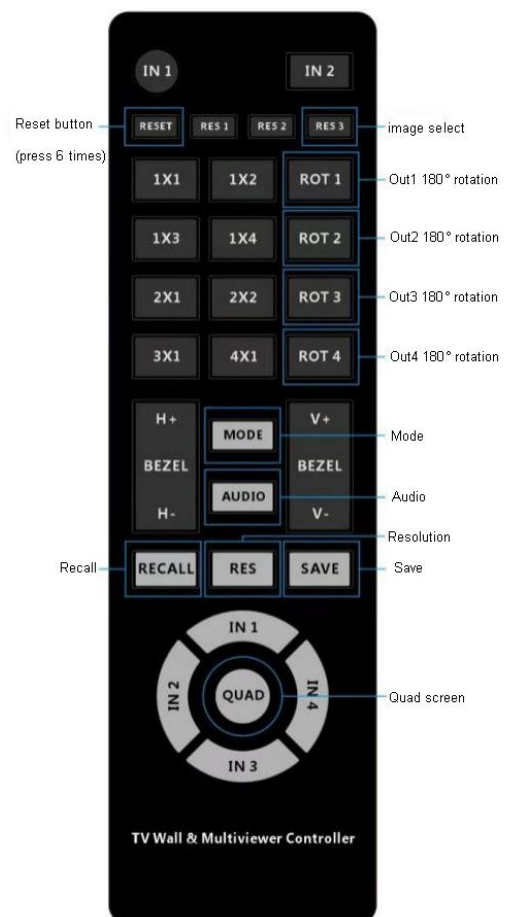
Remote control reset function RESET:

Press continuously for 6 times to reset

Lock screen function: RES 3+RECALL

Pressing it three times will lock the screen

Press three consecutive times again to unlock



Central control command operation

RS232 communication protocol and central control instruction code description:

Control by directly inserting the USB-RS232 conversion cable into the serial port

Communication protocol: (Baud rate 115200, data bit 8, stop bit 1, check bit none)

The corresponding instruction can be obtained by sending get help through ASCII code

The hexadecimal instructions are as follows:

Type	Commands	Function
Restore factory set	EB 90 00 12 00 ff 21 00 00 00 00 00 00 00 00 00 00	Restore to: Four screen, output resolution is 1080P@60
Set resolution	EB 90 00 12 00 ff 23 00 00 00 00 00 00 00 00 00 00	Output resolution set to: 1920x1080@60

	EB 90 00 12 00 ff 23 01 00 00 00 00 00 00 00 00 00	Output resolution set to: 1920x1080@50
	EB 90 00 12 00 ff 23 14 00 00 00 00 00 00 00 00 00	Output resolution set to: 1920x1080@30
	EB 90 00 12 00 ff 23 02 00 00 00 00 00 00 00 00 00	Output resolution set to: 1920x1200@60
	EB 90 00 12 00 ff 23 03 00 00 00 00 00 00 00 00 00	Output resolution set to: 1360x768@60
	EB 90 00 12 00 ff 23 04 00 00 00 00 00 00 00 00 00	Output resolution set to: 1280x720@60
	EB 90 00 12 00 ff 23 05 00 00 00 00 00 00 00 00 00	Output resolution set to: 1024x768@60
	EB 90 00 1200 ff 23 06 00 00 00 00 00 00 00 00 00	Output resolution set to: 2560x1600@60
	EB 90 00 12 00 ff 23 07 00 00 00 00 00 00 00 00 00	Output resolution set to: 2560x1600@50
	EB 90 00 12 00 ff 23 08 00 00 00 00 00 00 00 00 00	Output resolution set to: 3840x2160@60
	EB 90 00 12 00 ff 23 09 00 00 00 00 00 00 00 00 00	Output resolution set to: 3840x2160@50
	EB 90 00 12 00 ff 23 0A 00 00 00 00 00 00 00 00 00	Output resolution set to: 3840x2160@30
	EB 90 00 12 00 ff 23 0B 00 00 00 00 00 00 00 00 00	Output resolution set to: 3840x2160@25
	EB 90 00 12 00 ff 23 0C 00 00 00 00 00 00 00 00 00	Output resolution set to: 3840x2160@24
	EB 90 00 12 00 ff 23 0D 00 00 00 00 00 00 00 00 00	Output resolution set to: 4096x2160@60
	EB 90 00 12 00 ff 23 0E 00 00 00 00 00 00 00 00 00	Output resolution set to: 4096x2160@30
	EB 90 00 12 00 ff 23 11 00 00 00 00 00 00 00 00 00	Output resolution set to: 2560x1080@60
	EB 90 00 12 00 ff 23 12 00 00 00 00 00 00 00 00 00	Output resolution set to: 2560x1440@60
	EB 90 00 12 00 ff 36 01 00 00 00 00 00 00 00 00 00 00 00	Out change to : DVI format

	EB 90 00 12 00 ff 36 00 00 00 00 00 00 00 00 00 00 00	Out change to: HDMI format
Recall scene	EB 90 00 12 00 ff 2E 00 00 00 00 00 00 00 00 00 00	Recall scene 1
	EB 90 00 12 00 ff 2E 01 00 00 00 00 00 00 00 00 00	Recall scene2
	EB 90 00 12 00 ff 2E 02 00 00 00 00 00 00 00 00 00	Recall scene3
	EB 90 00 12 00 ff 2E 03 00 00 00 00 00 00 00 00 00	Recall scene4
	EB 90 00 12 00 ff 2E 04 00 00 00 00 00 00 00 00 00	Recall scene5
	EB 90 00 12 00 ff 2E 05 00 00 00 00 00 00 00 00 00	Recall scene6
	EB 90 00 12 00 ff 2E 06 00 00 00 00 00 00 00 00 00	Recall scene7
	EB 90 00 12 00 ff 2E 07 00 00 00 00 00 00 00 00 00	Recall scene8
	EB 90 00 12 00 ff 2E 08 00 00 00 00 00 00 00 00 00	Recall scene9
	EB 90 00 12 00 ff 2E 09 00 00 00 00 00 00 00 00 00	Recall scene10
Scene save	EB 90 00 12 00 ff 2F 00 00 00 00 00 00 00 00 00 00	Save scene1
	EB 90 00 12 00 ff 2F 01 00 00 00 00 00 00 00 00 00	Save scene2

	EB 90 00 12 00 ff 2F 02 00 00 00 00 00 00 00 00 00 00	Save scene3
	EB 90 00 12 00 ff 2F 03 00 00 00 00 00 00 00 00 00 00	Save scene4
	EB 90 00 12 00 ff 2F 04 00 00 00 00 00 00 00 00 00 00	Save scene5
	EB 90 00 12 00 ff 2F 05 00 00 00 00 00 00 00 00 00 00	Save scene6
	EB 90 00 12 00 ff 2F 06 00 00 00 00 00 00 00 00 00 00	Save scene7
	EB 90 00 12 00 ff 2F 07 00 00 00 00 00 00 00 00 00 00	Save scene8
	EB 90 00 12 00 ff 2F 08 00 00 00 00 00 00 00 00 00 00	Save scene9
	EB 90 00 12 00 ff 2F 09 00 00 00 00 00 00 00 00 00 00	Save scene10
Recall display mode	EB 90 00 12 00 ff 32 00 00 01 02 03 00 00 00 00 00 00	Mode1 Single image
	EB 90 00 12 00 ff 32 01 00 01 02 03 00 00 00 00 00 00	Mode2 two image (left+right)
	EB 90 00 12 00 ff 32 02 00 01 02 03 00 00 00 00 00 00	Mode3 two image (PIP, upper left)
	EB 90 00 12 00 ff 32 03 00 01 02 03 00 00 00 00 00 00	Mode4 two image (PIP, lower right)
	EB 90 00 12 00 ff 32 04 00 01 02 03 00 00 00 00 00 00	Mode5 Three image (one upper big image and two lower small image, two image with zoom)
	EB 90 00 12 00 ff 32 05 00 01 02 03 00 00 00 00 00 00	Mode6 Three image (one upper big image

		and two lower small image, Two small original sizes)
	EB 90 00 12 00 ff 32 06 00 01 02 03 00 00 00 00 00 00	Mode7 Three image (PIP, lower left and lower right)
	EB 90 00 12 00 ff 32 07 00 01 02 03 00 00 00 00 00 00	Mode8 Four image (2X2Equal proportion)
Window signal switching Note 1	EB 90 00 12 00 ff 31 00 01 02 03 00 00 00 00 00 00 00	Win1~4 corresponding to 1~4
	EB 90 00 12 00 ff 31 00 00 00 00 00 00 00 00 00 00 00	Win1~4 all to input 1
	EB 90 00 12 00 ff 31 01 01 01 01 00 00 00 00 00 00 00	Win1~4 all to input 2
	EB 90 00 12 00 ff 31 02 02 02 02 00 00 00 00 00 00 00	Win1~4 all to input 3
	EB 90 00 12 00 ff 31 03 03 03 03 00 00 00 00 00 00 00	Win1~4 all to input4
Stop	EB 90 00 12 00 ff 2A 00 00 00 00 00 00 00 00 00 00 00	All the window stop
Restore	EB 90 00 12 00 ff 2A 01 01 01 01 00 00 00 00 00 00 00	All the window Restore
Multi screen audio channel switching	EB 90 00 12 00 ff 30 00 00 00 00 00 00 00 00 00 00 00	Switch audio channel 1
	EB 90 00 12 00 ff 30 01 00 00 00 00 00 00 00 00 00 00	Switch audio channel 2
	EB 90 00 12 00 ff 30 02 00 00 00 00 00 00 00 00 00 00	Switch audio channel 3
	EB 90 00 12 00 ff 30 03 00 00 00 00 00 00 00 00 00 00	Switch audio channel 4

Note 1: The bold font on the right can be changed to 00/01/02/03 to modify the signal displayed in the corresponding window. The window numbers correspond to win1, win2, win3, and win4 from left to right, from top to bottom. If there are only two windows, they correspond to win1 and win2.

Packing list

1* multi-viewer and capture

1* IR remote

1* 12V power adapter