SEADA SD-MV-CMU51 4K 5×1 Multiviewer with USB Capture Streaming Owner's Manual

Contents

SEADA SD-MV-CMU51 4K 5×1 Multiviewer with USB Capture Streaming

Specifications:

- Video Input Interface: 4x HDMI 2.0 and 1x USB Type-C
- Video Input Resolution: HDMI 2.0 up to 3840×2160@60Hz, USB-C up to 3840×2160@30Hz
- Video Output Interface: 1x HDMI 2.0
- Video Output Resolution: HDMI 2.0 up to 3840×2160@60Hz
- Audio Input Interface: 4x HDMI and 1x USB Type-C
- Audio Input Signal: RAW PCM, 16bit, 32/44.1/48KHz sps; PCM2.0
- Audio Output Interface: 1x HDMI, 1x 3.5mm Audio, and 1x USB 2.0
- Audio Output Signal: RAW PCM, 16bit, 32/44.1/48KHz sps; PCM2.0

Product Usage Instructions

Front Control Panel:

- OFF/ON: Power ON/OFF switch
- IR: Remote control receiver
- SYS: Power and system indicator
- IN1/2/3/4/5: LED for connected input source
- OUT: HDMI output cable connection indicator
- IN1/IN2/IN3/IN4/IN5: Buttons for input selection and quad-view mode
- Upgrade: USB-A firmware upgrading

Working Modes:
The device supports single-view and quad-view modes for displaying inputs. Use the front control panel or remote control to switch between different working modes.

IR Remote Control:

- Reset: Press RESET 6 times to reset the device.
- Remote control lock/unlock: Press RES3 and RECALL 3 times to lock/unlock the remote control.
- Scene Save/Recall: Press SAVE/RECALL and select from IN1 to IN4 to save or recall scenes.

- Signal Switch: Press RES3 to select the window and switch inputs using the IN1-IN4 and V- buttons.

RS232 Control Commands:
The device supports RS232 control via a straight-through RS232 cable with specific communication protocol settings. Refer to the manual for detailed RS232 commands.

FAQ

Q: What is the default output mode of the device?
A: By default, the output will be on a quad multiview with a resolution of 1920×1080@60Hz.

Q: How many audio output options are available?
A: The device provides audio output through HDMI, a 3.5mm audio jack, and a USB 2.0 port.

Overview

SD-MV-CMU51 is a 4K@60Hz multiviewer designed to display multiple video inputs on a single screen and USB capture & streaming simultaneously. It features 4 HDMI 2.0 and 1 USB Type-C input, along with 1 HDMI 2.0 output, 1 3.5mm audio, and USB 2.0 capture. The resolution of both inputs and outputs supports up to 4K@60Hz 4:4:4 with a bandwidth of up to 18Gbps. The unit accommodates up to 8 predefined layouts including full-screen viewing with seamless switching and side-by-side split viewing, which simplifies the system management. Control of SDC-MV-CMU51 is also quick and easy, which allows operating via front panel push buttons, IR remote control, and RS232 commands. Overall, SD-MV-CMU51 is highly flexible and capable of seamless switching, making it ideal for applications such as broadcasting, security, boardrooms, TV studios, and more.

Key Features

- Support 4 HDMI 2.0 input and 1 USB Type-C input
- Support 1 HDMI 2.0 output
- Support 1 3.5mm jack for audio
- Support 1 USB 2.0 for video capture
- Support up to 3840×2160@60Hz for both input and output
- Support 8 predefined layouts
- Support seamless switching on single window layout
- Auto scaler on each input
- Support audio embedding and de-embedding
- Support multiple control methods, including front panel buttons, IR remote, and the RS232 control.
- Support USB upgrading

Package Content

Unit x1	Power Adapter x1
Remote Control x1	Download Card x1

Specification

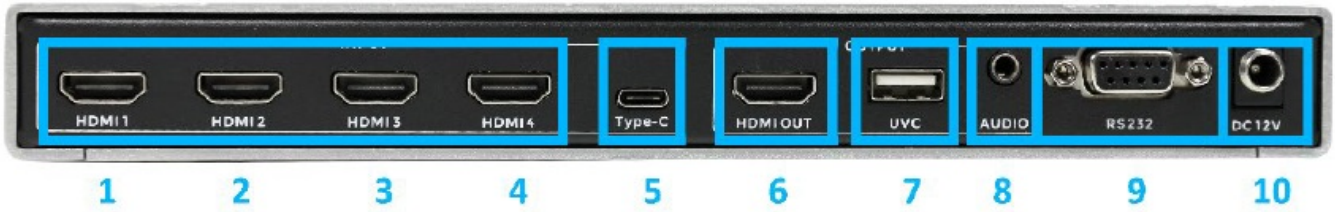
Video Input Interface	4x HDMI 2.0 and 1x USB Type-C	
Video Input Resolution	HDMI 2.0: Up to 3840×2160@60Hz USB-C: Up to 3840×2160@30Hz	
Video Output Interface	1x HDMI 2.0	
Video Output Resolution	HDMI 2.0: Up to 3840×2160@60Hz UVC (USB 2.0): Up to 1920×1080@60	
Audio Input Interface	4x HDMI and 1x USB Type-C	
Audio Input Signal	RAW PCM, 16bit, 32/44.1/48KHz sps; PCM2.0	
Audio Output Interface	1x HDMI, 1x 3.5mm Audio and 1x USB 2.0	
Audio Output Signal	RAW PCM, 16bit, 32/44.1/48KHz sps; PCM2.0	
Front Control	IN1: Input 1 IN2: Input 2 IN3: Input 3 IN4: Input 4 IN5: Input 5	Single View
	: Input 1 to input 4	Quad-view
IR Control	Remote control	
Serial Port Control	DB9	
Operating Temperature	0 to 45°C (32 to 113 °F)	
Storage Temperature	-20 to 70°C (-4 to 158°F)	
Humidity	10% to 90%	
Static Protection	Human body discharge mode: ±8kV (air gap discharge)/ ±4kV (contact discharge)	
Power Adapter	DC 12V 1.5A	
Power Consumption	10W (Max)	
Product Dimension	240x124x28 (mm)	
Weight	2kg	

Panel Layout

Hardware Interface – Front

ID	Name	Description
1	OFF/ON	For the power ON/OFF switch
2	IR	Remote control receiver
3	SYS	For the power and system indicator
4	IN1/2/3/4/5	LED illuminates when the device is connected to the input source.
5	OUT	For the HDMI output cable connection indicator
6	IN1/IN2/IN3/IN4/IN5/	Push buttons for the 5 inputs selection to be one full screen and for a quic k quad-view mode
7	Upgrade	For the USB-A firmware upgrading

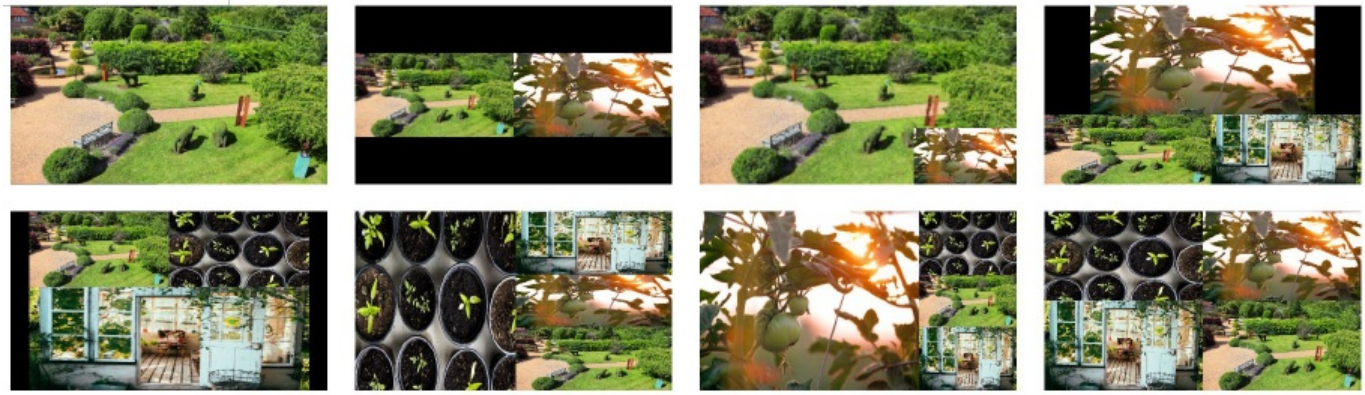
Hardware Interface – Back



ID	Name	Description
1-4	HDMI Input	HDMI input ports, all support 4K60
5	Type-C Input	Type-C input port supports 4K30
6	HDMI Output	HDMI output port supports 4K60 with scaling
7	UVC Capture	US 2.0 port for UVC capture
8	Audio	Audio port for de-embedded audio
9	RS232	Support RS232 commands control
10	DC12V	DC12V power adapter

System Diagram

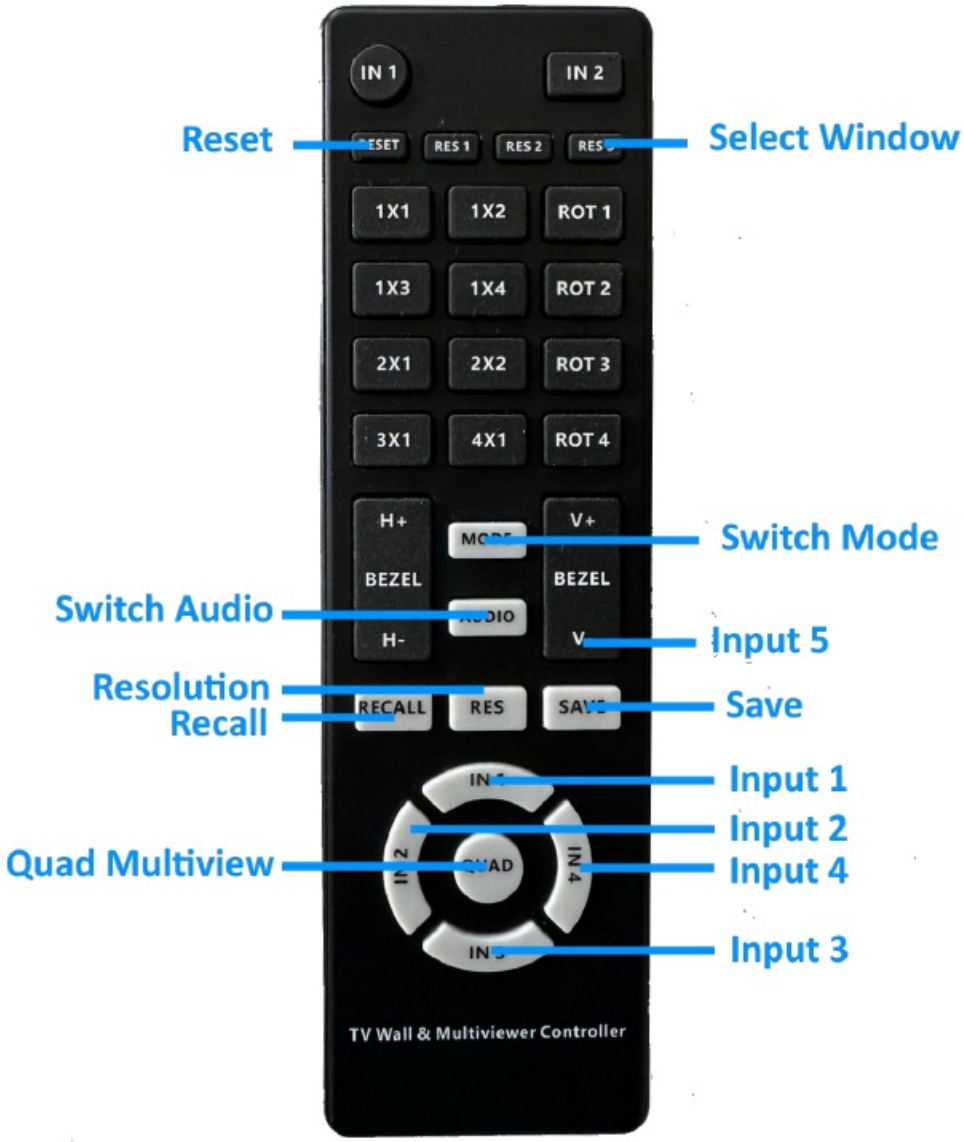
Working Modes



IR Remote Control

Reset: Press RESET 6 times. (By default, the output will be on a quad multiview with 1920×1080@60Hz output resolution) **Remote control lock**: Press RES3 and then press RECALL 3 times. Remote control unlocks: Press RES3 and then press RECALL 3 times. **Scene Save/Recall:** Press SAVE/RECALL and select from IN1 to IN4. Signal Switch: Press RES3 to select the window and then switch the input by pressing IN1- IN4 and V-. **Note:** There is no need to press RES3 when the output is on a single window mode.

RES3	Select window
MODE	Switch between 8 different working modes
AUDIO	Switch output audio between each input
RES	Switch output resolution (720P60, 1080P60, 4K30 and 4K60)
QUAD	Quad Multiview mode



RS232 Control Commands

RS232 cable with straight-through connection Communication protocol:

- Baud rate: 115200
- Data bit: 8
- Stop bit: 1
- Check bit: None
- Commands in ASCII format:
  - All commands start with GET or SET, and end with. (point)
  - Command ignore letter case. For example, ‘GET HELP.’ is the same as ‘get help.’
  - Command ‘SET WIN1 IN1.’ or ‘SET WIN 1 IN 1.’ or ‘Set Win1 In1.’ are the same
  - Command parameters show as ‘_’

————SYSTEM————————-

- GET HELP. //Get command list
- GET VERSION. //Get Software verion

- SET RESET. //Set to factory reset
- SET REBOOT. //Set the machine to reboot
- GET IN STATUS //Set input1~4 cable status

————RESOLUTION————

- SET OUT RES _ _ _. //Set output resolution
- SET OUT RES 1920 1080 60.
- GET OUT RES. //Get current output resolution
- SET IN_ RES RESET. //Set input y resolution to default
- SET IN1 RES RESET.
- SET INS RES RESET. //Set all input resolution to default
- SET IN_ RES _ _ _. //Set input y resolution
- SET IN1 RES 1920 1080 60.
- SET INS RES _ _ _. //Set all input resolution
- SET INS RES 1920 1080 60.

————WINDOWS————-

- SET WIN_ IN_. //Set win x to in y
- SET WIN1 IN1. -> Set win1 to in1
- SET WINS IN_. //Set win1~4 to input1~y
- SET WINS IN 1. ->Set win 1~4 to in1
- SET WINS IN 2. ->Set win 1 2 to in 1 2
- SET WINS IN1 2 3. ->Set win 1 2 3 to in 1 2 3
- SET WINS IN 1 2 3 4. ->Set win 1 2 3 4 to in 1 2 3 4
- SET WINS IN4 3 2 1. ->Set win 1 2 3 4 to in 4 3 2 1
- SET WIN_ CROP ON. //Enable win x current input crop
- SET WIN1 CROP ON.
- SET WIN_ CROP OFF. //Disable win x current input crop
- SET WIN1 CROP OFF.
- SET WIN_ CROP _ _ _ _. //Enable and set win x current input crop(Hstart,Vstart,Hsize,Vsize)
- SET WIN1 CROP 0 0 960 540.
- SET WIN_ POS SIZE _ _ _ _. //Set win x coordinate(Hstart,Vstart,Hsize,Vsize)
- SET WIN1 POS SIZE 0 0 800 600.
- SET WIN_ POS _ _. //Set win x position(Hstart,Vstart)
- SET WIN1 POS 0 0.
- SET WIN_ SIZE _ _. //Set win x size(Hsize,Vsize)
- SET WIN1 SIZE 800 600.
- SET _WIN MODE_. // Set multi- x win mode N
- SET 1WIN MODE1. -> 1WIN MODE1
- SET 2WIN MODE1. -> 2WIN MODE1 to N
- SET 3WIN MODE1. -> 3WIN MODE1 to N
- SET 4WIN MODE1. -> 4WIN MODE1 to N

- SET TEMPLATE_. //Set multi-win templates 1 to 8
- SET TEMPLATE 1.
- SET WIN_ ROT _. //Set win x rotation y, y can be 0 90 180 270 SET WIN1 ROT 270. ->win1 rot 270
- SET WINS ROT _. // Set win 1~4 rotation, rotation can be 0 90 180 270 SET WINS ROT 270. ->win1~4 rot 270
- SET WINS ROT 270 90. ->win1 rot 270, win2 rot 90
- SET WINS ROT 270 90 180. ->win1 rot 270, win2 rot 90, win3 rot 180
- SET WINS ROT 270 90 0 180. ->win1 rot 270, win2 rot 90, win3 rot 0, win4 rot 180

————MOSAIC————————-

- SET WIN_ MOSAIC _x_ _ _. //Enable and set winx mosaic (hUnit,vUnit,hPos,vPos) SET WIN1 MOSAIC 4×4 2 2.
- SET WIN_ MOSAIC ON. //Enable win x mosaic
- SET WIN1 MOSAIC ON.SET WIN_ MOSAIC OFF. //Disable win x mosaic SET WIN1 MOSAIC OFF.

————COLOR————————

- SET BRIGHTNESS_. //Set brightness value 0~255, default: 128 SET BRIGHTNESS 200.
- SET BRIGHTNESS RGB _ _ _ //Set brightness R/G/B value 0~255, defaul 200 100 50. ->Set brightness t: 128
- SET BRIGHTNESS RGB 200. ->Set brightness R t 100. ->Set brightness RG to 200 SET
- BRIGHTNESS RGB 200o 200 100
- SET BRIGHTNESS RGBRGB to 200 100 50
- SET CONTRAST _. //Set contrast value 0~100, default: 50 SET CONTRAST 80.

————MODE————————-

- SET LOAD MODE_. // Load mode 1 ~ 10 SET LOAD MODE1.=SET SAVE MODE_. // Save mode 1 ~ 10
- SET SAVE MODE1.

————AUDIO————————-

- SET AUDIO MUTE ON. //Audio mute
- SET AUDIO MUTE OFF. //Audio Unmute
- SET AUDIO VOL_. //Set audio volume value 0 ~ 100, default: 100
- SET AUDIO VOL 80.
- SET AUDIO VOL+. //Audio volume+1
- SET AUDIO VOL-. //Audio volume-1
- SET AUDIO WIN_. //Set Audio to win x
- SET AUDIO WIN1.
- SET AUDIO IN_. //Set Audio to in y
- SET AUDIO IN1.

Documents / Resources

	SEADA SD-MV-CMU51 4K 5x1 Multiviewer with USB Capture Streaming [pdf] Owner's Manual SD-MV-CMU51, SD-MV-CMU51 4K 5x1 Multiviewer with USB Capture Streaming, 4K 5x1 Multiviewer with USB Capture Streaming, Multiviewer with USB Capture Streaming, USB Capture Streaming, Capture Streaming, Streaming

References

- User Manual