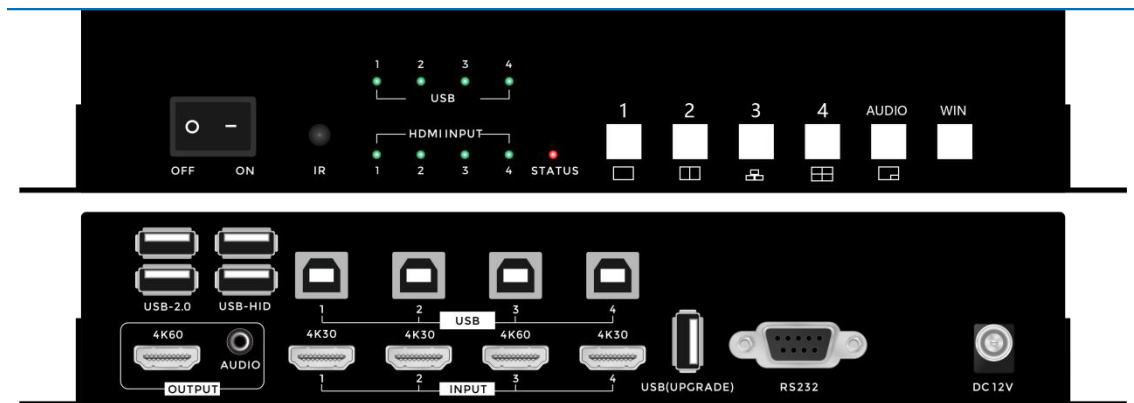


USER MANUAL

4K60 4x1 HDMI Multiviewer with KVM, IR remote, Hot-key and RS232 control
VPX401KVM



Important Safety Information

1. Read, follow, and keep these instructions.
2. Heed all warnings.
3. Do not use this product near water. Keep away from wet places, such as: spas, pools, sinks, laundries, wet basements, etc.
4. When cleaning, unplug the switcher and wipe with a dry cloth. Do not use damp cloths, cleaning fluids, or aerosols which may result in electric shock, fire, or switcher damage.
5. Operate this product using only the included power supply and/or power cable. Use of an unapproved power implement may impair performance, damage the product, or cause fires.
6. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
7. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the product.
9. Only use attachments/accessories specified by BC to avoid fire, shock, or other hazards.
10. To reduce the risk of electric shock and/or damage to this product, never handle or touch this switcher or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
11. Unplug this product during lightning storms or when unused for long periods of time.
12. Never open, remove switcher panels, or make any adjustments not described in this manual. Attempting to do so could result in electric shock, damage to the switcher, or other hazards.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

CAUTION

TO REDUCT THE RISK OF ELECTRIC SHOCK
DO NOT OPEN ENCLOSURE OR EXPOSE
TO RAIN OR MOISTURE.
NO USER-SERVICEABLE PARTS
INSIDE REFER SERVICING TO
QUALIFIED SERVICE PERSONNEL.

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1. Introduction

This is a high-performance 4K60 4X1 HDMI Multi-Viewer with fast switching switcher, which can display 4 channels of ultra-high-definition video signals on the same screen at the same time. Users can choose different screen splitting methods and switch between 4 channels of input signals. It supports 4K60/ 4K30/ 1080P/720P output and 3.5mm audio de-embedded, the input resolutions can up to 4K(three 4K30 inputs and one 4K60 input), when the 4 input signals are 1080p60 or below can truly realize the point-to-point lossless display. This multi-viewer also supports audio switching, which can switch the sound of any input signals. It can supports multiple control methods, users can control the device through the front push-button,IR remote or the professional RS232. In general, it is a very practical 4K60 multi-viewer with stable performance, simple installation, flexible control, which can be widely used in games, professional conferences, radio and television, security monitoring, securities markets and other fields .

2. Feature

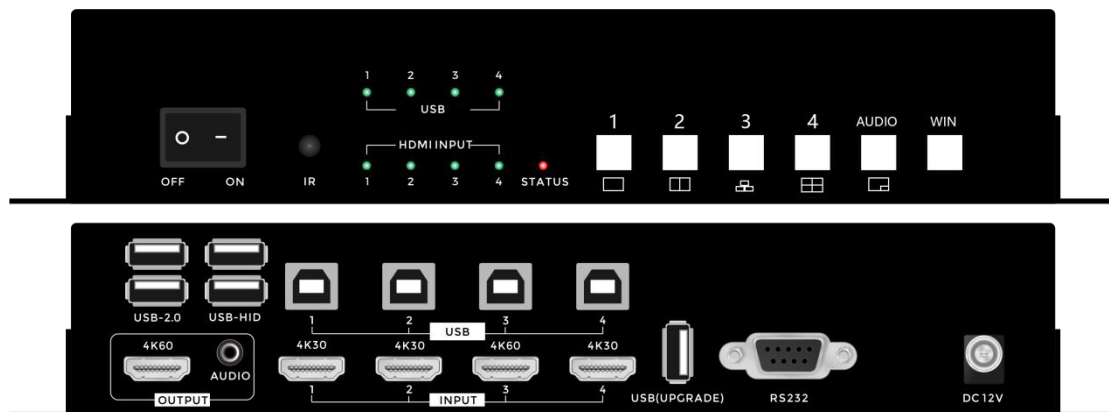
- Supports multiple working modes
- Support up to 4K inputs and 4K60 output
- Supports front panel push-button, hot-key and IR and RS-232 control
- Supports the audio switching
- Supports the 3.5mm audio de-embedded
- Supports the mouse roaming

3. Specification

Input	1 x HDMI2.0(4K60); 3 x HDMI1.4(4K30)
Input resolution	<ul style="list-style-type: none"> • 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) • HDMI1.4: 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) <p>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</p>
Output	1 x HDMI2.0
Output resolution	<p>HDMI2.0: 1920x1080⁶ (1080p50), 1920x1080⁸ (1080p60), 3840x2160⁵ (2160p30) , 3840x2160⁶ (2160p50) , 3840x2160⁸ (2160p60)</p> <p>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</p>
Audio	
Input	4 x HDMI
Input audio signal	RAW PCM, 16 bit, 32/44.1/48KHz sps; PCM 2.0
Output	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	

Front panel button	<p>MODE: Select display mode</p> <p>WIN1: Switch/select the inputs for Window 1</p> <p>WIN2: Switch/select the inputs for Window 2</p> <p>WIN3: Switch/select the inputs for Window 3</p> <p>WIN4: Switch/select the inputs for Window 4(*Long press for 5 seconds to switch different output resolutions)</p> <p>AUDIO: Select the corresponding input signal(*Long press for 7 seconds to reset to factory model)</p>
IR	Can realize all the functions of the button, also support fast switching
RS232	The interface is a 3pin phoenix segment, which support third-party control
General parameters	
Operating temperature	0 to +45°C (32 to + 113 °F)
Storage temperature	-20 to +70°C (-4 to + 158 °F)
Relative humidity	10% to 90%,
Static Protection	Human body discharge mode:±8kV (Air gap discharge)/ ±4kV (Contact discharge)
Power supply	12 V 1.5 A DC
Power consumption	10W(Max)
Measure	223X27X97(mm)
Net weight	0.8kg

4. Front and rear panel



OFF/ON: For power ON/OFF switch

IR: Remote control receiver

Input source Led: These green LED illuminate when the device is connected to the input source

STATUS: This red LED illuminates when the device is connected to the power supply

MODE: Press this button to select the multi-view display mode

WIN1: Press this button to select the input source for window 1

WIN2: Press this button to select the input source for window 2

WIN3: Press this button to select the input source for window 3

WIN4: Press this button to select the input source for window 4(*long-press for 5s can switch output resolution)

AUDIO: Press this button to switch audio output channel(*long-press 7s can reset to factory model)

OUTPUT: 4K60 HDMI output and 3.5mm audio output

INPUT: Input ports, three 4K30 inputs and one 4K60 input

USB(Upgrade): For the upgrading service port

RS232: supports the RS232 commands control

DC12V: DC12V power adapter

5. Working Modes



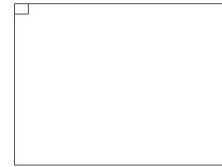
Mode one: quad view (will display 4 inputs



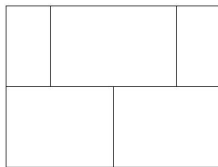
Mode two: will separately display each input



Mode three: display 3 inputs (one up plus two below, the below two zoom out



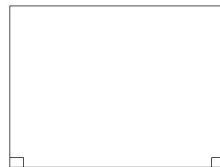
Mode four: dual view (PIP, the smaller picture is on the left top)



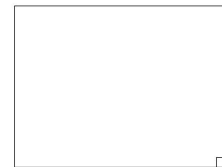
Mode five: will display 3 inputs, one up and two below, the below two with original size



Mode six: dual view (left and right)

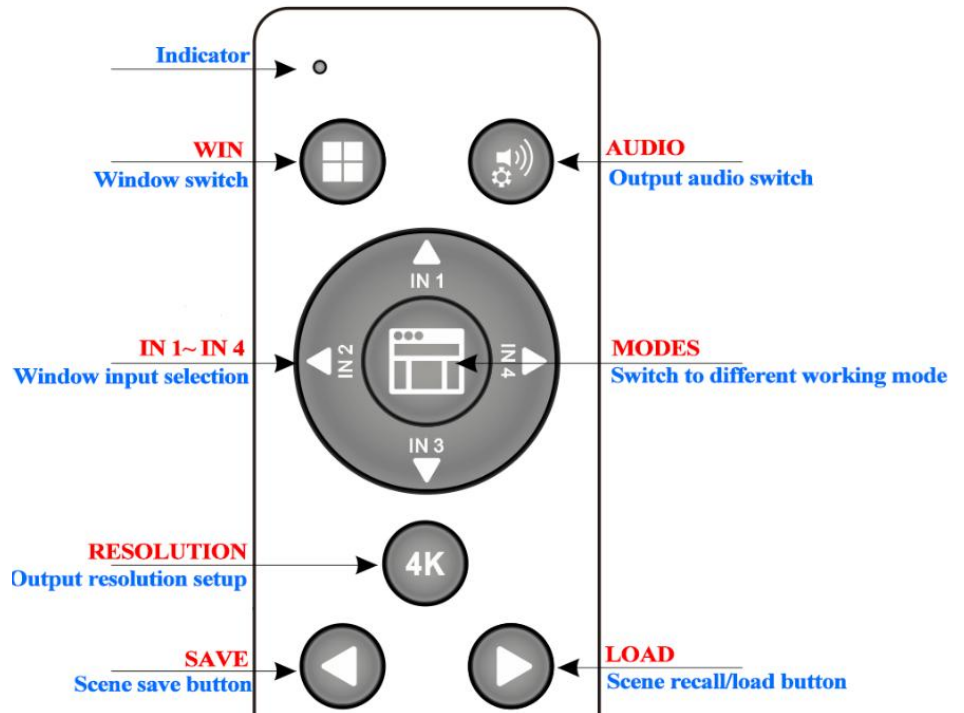


Mode seven: will display 3 pictures(one big plus two small)



Mode eight: dual view (PIP, the smaller picture is on the right bottom)

6. IR Remote controller



Reset to factory: WIN+LOAD+SAVE

*press all 3 buttons 3 times

Front button Lock: WIN+LOAD

*press all 2 buttons 3 times

Front button Unlock: WIN+LOAD

*press all 2 buttons 3 times

7. RS232 Control Commands

RS232 cable with straight-through connection

Communication protocol:

Baud rate: 115200

Data bit: 8

Stop bit: 1

Check bit: None

All control instructions are sent in hexadecimal mode

Factory Reset:

EB 90 00 12 00 ff 21 00 00 00 00 00 00 00 00 00 00

Resolutions:

EB 90 00 12 00 ff 23 00 00 00 00 00 00 00 00 00 00 //1920x1080@60
EB 90 00 12 00 ff 23 01 00 00 00 00 00 00 00 00 00 //1920x1080@50
EB 90 00 12 00 ff 23 02 00 00 00 00 00 00 00 00 00 //1920x1200@60
EB 90 00 12 00 ff 23 03 00 00 00 00 00 00 00 00 00 //1360x768@60
EB 90 00 12 00 ff 23 04 00 00 00 00 00 00 00 00 00 //1280x720x60
EB 90 00 12 00 ff 23 05 00 00 00 00 00 00 00 00 00 //1024x768x60
EB 90 00 1200 ff 23 06 00 00 00 00 00 00 00 00 00 //2560X1600x60
EB 90 00 12 00 ff 23 07 00 00 00 00 00 00 00 00 00 //2560X1600x50
EB 90 00 12 00 ff 23 08 00 00 00 00 00 00 00 00 00 //3840x2160x60
EB 90 00 12 00 ff 23 09 00 00 00 00 00 00 00 00 00 //3840x2160x50
EB 90 00 12 00 ff 23 0A 00 00 00 00 00 00 00 00 00 //3840x2160x30
EB 90 00 12 00 ff 23 0B 00 00 00 00 00 00 00 00 00 //3840x2160x25
EB 90 00 12 00 ff 23 0C 00 00 00 00 00 00 00 00 00 //3840x2160x24
EB 90 00 12 00 ff 23 0D 00 00 00 00 00 00 00 00 00 //4096x2160@60
EB 90 00 12 00 ff 23 0E 00 00 00 00 00 00 00 00 00 //4096x2160@30
EB 90 00 12 00 ff 23 0F 00 00 00 00 00 00 00 00 00 //720x480@60
EB 90 00 12 00 ff 23 10 00 00 00 00 00 00 00 00 00 //720x576@50
EB 90 00 12 00 ff 23 11 00 00 00 00 00 00 00 00 00 //2560x1080@60
EB 90 00 12 00 ff 23 12 00 00 00 00 00 00 00 00 00 //2560x1440@60
EB 90 00 12 00 ff 23 FF 10 00 05 90 3C 00 00 00 00 00 //4096X1424@60

Resolution Customizing:

EB 90 00 12 00 ff 23 FF 00 00 00 00 00 00 00 00 00 00

Red is for the Width, Blue is for the Height, Yellow is for the frame rate

Eg, resolution 1920X1080@60

EB 90 00 12 00 ff 23 FF 07 80 04 38 3C 00 00 00 00 00 //1920X1080@60

Or resolution 2000 X 1000@60

EB 90 00 12 00 ff 23 FF 07 D0 03 E8 3C 00 00 00 00 00 //2000x1000@60

Scenes Recall:

Scene 1: EB 90 00 12 00 ff 2E 00 00 00 00 00 00 00 00 00 00
Scene 2: EB 90 00 12 00 ff 2E 01 00 00 00 00 00 00 00 00 00
Scene 3: EB 90 00 12 00 ff 2E 02 00 00 00 00 00 00 00 00 00
Scene4: EB 90 00 12 00 ff 2E 03 00 00 00 00 00 00 00 00 00
Scene 5: EB 90 00 12 00 ff 2E 04 00 00 00 00 00 00 00 00 00
Scene 6: EB 90 00 12 00 ff 2E 05 00 00 00 00 00 00 00 00 00
Scene 7: EB 90 00 12 00 ff 2E 06 00 00 00 00 00 00 00 00 00
Scene 8: EB 90 00 12 00 ff 2E 07 00 00 00 00 00 00 00 00 00

Scene 9: EB 90 00 12 00 ff 2E 08 00 00 00 00 00 00 00 00 00

Scene 10: EB 90 00 12 00 ff 2E 09 00 00 00 00 00 00 00 00 00

Scenes Save:

Scene 1: EB 90 00 12 00 ff 2F 00 00 00 00 00 00 00 00 00 00

Scene 2: EB 90 00 12 00 ff 2F 01 00 00 00 00 00 00 00 00 00

Scene 3: EB 90 00 12 00 ff 2F 02 00 00 00 00 00 00 00 00 00

Scene 4: EB 90 00 12 00 ff 2F 03 00 00 00 00 00 00 00 00 00

Scene 5: EB 90 00 12 00 ff 2F 04 00 00 00 00 00 00 00 00 00

Scene 6: EB 90 00 12 00 ff 2F 05 00 00 00 00 00 00 00 00 00

Scene 7: EB 90 00 12 00 ff 2F 06 00 00 00 00 00 00 00 00 00

Scene 8: EB 90 00 12 00 ff 2F 07 00 00 00 00 00 00 00 00 00

Scene 9: EB 90 00 12 00 ff 2F 08 00 00 00 00 00 00 00 00 00

Scene 10: EB 90 00 12 00 ff 2F 09 00 00 00 00 00 00 00 00 00

8 Working Modes:

Single-Window: EB 90 00 11 00 ff 32 00 00 01 02 03 00 00 00 00 00

2-Window(LeftRight_Middle): EB 90 00 12 00 ff 32 01 00 01 02 03 00 00 00 00 00

2-Window(Pip_LeftTop): EB 90 00 11 00 ff 32 02 00 01 02 03 00 00 00 00 00

2-Window(Pip_RightBotom): EB 90 00 12 00 ff 32 03 00 01 02 03 00 00 00 00 00

3-Window(Up1Down2): EB 90 00 11 00 ff 32 04 00 01 02 03 00 00 00 00 00

3-Window(Up1Down2_02): EB 90 00 12 00 ff 32 05 00 01 02 03 00 00 00 00 00

3-Window(Pipx2_Down): EB 90 00 12 00 ff 32 06 00 01 02 03 00 00 00 00 00

4-Window(2x2): EB 90 00 12 00 ff 32 07 00 01 02 03 00 00 00 00 00

Window sources switching:

Win1~4 switch to PORT1~4(one on one): EB 90 00 12 00 ff 31 00 01 02 03 00 00 00 00 00

Win1~4 switch to PORT1(All windows showing same PORT1): EB 90 00 12 00 ff 31 00 00 00 00 00 00 00 00 00

Win1~4 switch to PORT1(All windows showing same PORT2): EB 90 00 12 00 ff 31 01 01 01 01 00 00 00 00 00

Win1~4 switch to PORT1(All windows showing same PORT3): EB 90 00 12 00 ff 31 02 02 02 02 00 00 00 00 00

Win1~4 switch to PORT1(All windows showing same PORT4): EB 90 00 12 00 ff 31 03 03 03 03 00 00 00 00 00

Image/Frame Freeze:

Freeze: EB 90 00 12 00 ff 2A 01 01 01 01 00 00 00 00 00 00

Unfreeze: EB 90 00 12 00 ff 2A 00 00 00 00 00 00 00 00 00 00

Audio Channel Switching:

Audio channel 1: EB 90 00 12 00 ff 30 00 00 00 00 00 00 00 00 00

Audio channel 2: EB 90 00 12 00 ff 30 01 00 00 00 00 00 00 00 00

Audio channel 3: EB 90 00 12 00 ff 30 02 00 00 00 00 00 00 00 00

Audio channel 4: EB 90 00 12 00 ff 30 03 00 00 00 00 00 00 00 00

8. Keyboard and Mouse control

Hot-key combination	Functions
Ctrl +Ctrl +1	Switch to input 1
Ctrl +Ctrl +2	Switch to input 2
Ctrl +Ctrl +3	Switch to input 3
Ctrl +Ctrl +4	Switch to input 4
Ctrl +Ctrl +F1	Switch to single-window working mode with mouse roaming
Ctrl +Ctrl +F2	Switch to dual-window working mode with mouse roaming
Ctrl +Ctrl +F3	Switch to three-window working mode with mouse roaming
Ctrl +Ctrl +F4	Switch to quad-view working mode with mouse roaming
Ctrl +Ctrl +F5	720p60
Ctrl +Ctrl +F6	1080p60
Ctrl +Ctrl +F7	1920*1200
Ctrl +Ctrl +F8	2560*1600
Ctrl +Ctrl +F9	4K30
Ctrl +Ctrl +F10	4K60
Ctrl +Ctrl +F11	Mouse roaming
Ctrl +Ctrl +F12	Mouse stop roaming
CTRL+CTRL+A+ 1	Audio from input 1
CTRL+CTRL+A+ 2	Audio from input 2
CTRL+CTRL+A+ 3	Audio from input 3
CTRL+CTRL+A+ 4	Audio from input 4

9. After-Sales

9.1 Warranty Information

The Company warrants that the process and materials of the product are not defective under normal use and service for 2 (2) years following the date of purchase from the Company or its authorized distributors.

If the product does not work within the guaranteed warranty period, the company will choose and pay for the repair of the defective product or component, the delivery of the equivalent product or component to the user for replacement of the defective item, or refund the payment which users have made.

The replaced product will become the property of the Company.

The replacement product could be new or repaired.

Whichever is longer, any replacement or repaired of the product or component is for a period of ninety (90) days or the remaining period of the initial warranty. The Company shall not be responsible for any software, firmware,

information, or memory data contained in, stored in, or integrated with the product repaired by the customer's return, whether or not during the warranty period.

9.2 Warranty limitations and exceptions

Except above limited warranty, if the product is damaged by over usage, incorrectly use, ignore, accident, unusual physical pressure or voltage, unauthorized modification, alteration or services rendered by someone other than the Company or its authorized agent, the company will not have to bear additional obligations. Except using the product properly in the proper application or normal usage