BZB GEAR®
Solutions to Amplify Your World™

BG-MKVM41R

4X1 1080P Full HD HDMI/USB 2.0 Seamless Quad KVM Multiviewer

User Manual

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Statement

Please read these instructions carefully before connecting, operating, or configuring this product. Please save this manual for future reference.

Safety Precaution

- Unpack the equipment carefully and save the original box and packing material for possible future shipment.
- Follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent damaging this product, avoid heavy pressure, strong vibration, or immersion during transportation, storage, and installation.
- Do not dismantle the housing or modify the module.
- Using supplies or parts not meeting the products' specifications may cause damage, deterioration or malfunction.
- Do not put any heavy items on the extension cable in case of extrusion.
- Install the device in a place with fine ventilation to avoid damage caused by overheating.
- Do not twist or pull by force ends of the optical cable. It can cause malfunction.
- The housing of this product is made of organic materials. Do not expose to any liquid, gas, or solids which may corrode the shell.
- Unplug this device during lightning storms.
- Do not use liquid or aerosol cleaners to clean this unit. Clean only with a soft dry microfiber cloth.
- Always unplug the power to the device before cleaning.
- If an object or liquid falls or spills on to the housing, unplug the module immediately.
- To prevent the risk of electric shock, do not open the case. Installation and maintenance should only be carried out by qualified technicians.
- Do not use the product beyond the specified temperature, humidity, or power supply specifications.
- This product does not contain parts that can be maintained or repaired by users. Damage caused by dismantling the product without authorization from BZBGEAR is not covered under the warranty policy.
- Installation and use of this product must strictly comply with local electrical safety standards.
- Product specifications may be subject to technical upgrades without further notice.
- Unplug the power cord when left unused for a long period of time.
- Information on disposal for scrapped devices: do not burn or mix with general household waste, please treat them as normal electrical wastes.

Introduction

The KVM switcher allows 4 PCs with HDMI ports to share one display and one keyboard & mouse, allowing the display to switch seamlessly between 4 PCs. In addition, it supports the unique 4 in 1 Multi-Viewer mode, which allows you to operate 4 PCs with a keyboard & mouse on the same screen without switching. It provides 2 additional USB 2.0 sharing ports, allowing 4 PCs to share one printer or other USB2.0 device.

It supports resolutions of up to 1080p@60Hz. Also, it is fully compatible with a wide variety of Windows and Mac OS operating systems. The product can be controlled in various ways: through the mouse button, keyboard hotkey, front panel button, IR control, etc.

Features

- Compliant with HDMI 1.3a, HDCP 1.2
- Multiplexed HDMI 4-input and 1-output
- Up to 1080p@60Hz High Definition resolution
- 4 in 1 Quad Multi-viewer and seamless switch (with same resolution)
- Unique 4 in1 Multi-Viewer mode, which allows you to operate 4 PCs with a keyboard & mouse on the same screen without switching
- Mouse button, keyboard hotkeys, front panel button, IR control
- Multi-output resolution

Packing List

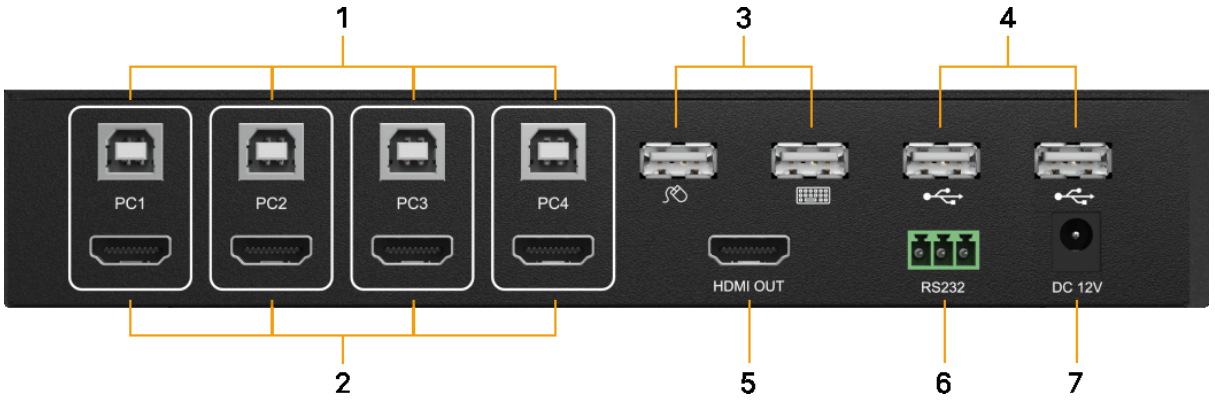
- 1x BG-MKVM41R 4x1
- 1x 12V/DC, 2A Power Supply
- 1x Remote Control
- 2x L shape stand feet
- 6x Screw
- 1x Phoenix plugs for RS232 cable termination
- 1x User Manual
- 1x Quick Start Guide

Technical Specifications

Signal Inputs/Output	
Maximum Single Link Range	1920x1080@60
HDMI Input/Output Connector	Type A 19 pin
Operating Frequency	
Vertical Frequency Range	50/60Hz
Video Amplifier Bandwidth	2.25Gbps
Resolutions	
Input Resolution	480i60Hz, 480p60Hz, 576i50Hz, 576p50Hz, 720p50/60Hz, 1080i50/60Hz, 1080p24/25/30/50/60Hz
Output Resolution	720p, 1080p
Mechanical Data	
Chassis Material	Metal
Color	Black
Environmental	
Operating Temperature	32°F to +158°F / 0°C to +70°C
Operating Humidity	10% to 85% RH (no condensation)
Storage Temperature	14°F to 176°F / -10°C to +80°C
Storage Humidity	5% to 90% RH (no condensation)
Power Requirement	
External Power Supply	12V DC@2A
Power Consumption (max)	24W
Regulatory Approvals	
Main Unit	FCC, CE
Power Supply	UL, CE, FC C, REACH, ROHS

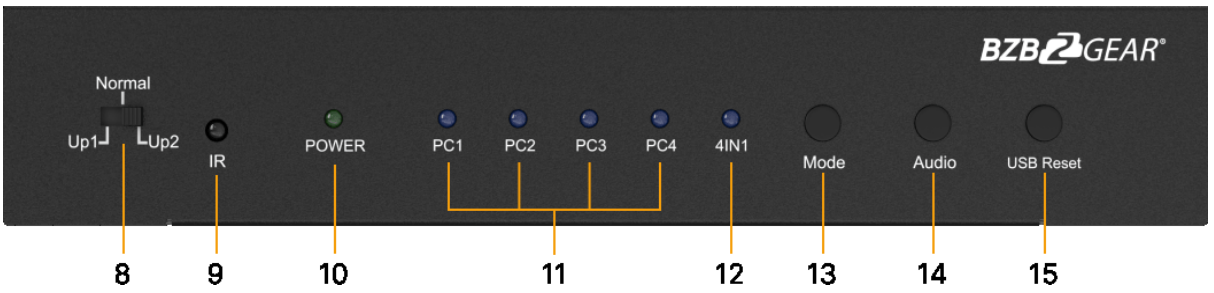
Operation Controls and Functions

Front Panel



1. **USB 2.0 Type B Inputs (PC1-PC4)**: Connect to USB 2.0 ports of 4 PCs respectively.
2. **HDMI Inputs (PC1-PC4)**: Connect to HDMI ports of 4 PCs respectively.
3. **USB 2.0 Type A**: Connect the keyboard and mouse.
4. **USB 2.0 Type A**: Provides 2 additional USB 2.0 sharing ports to connect USB 2.0 devices (such as USB Hard Disk, Printer, etc).
5. **HDMI Output**: Connect to a display to view the signal sources.
6. **RS-232**: Upgrade firmware.
7. **DC 12V**: Plug the 12V DC power supply into the unit and connect the adapter to the AC wall outlet.

Rear Panel

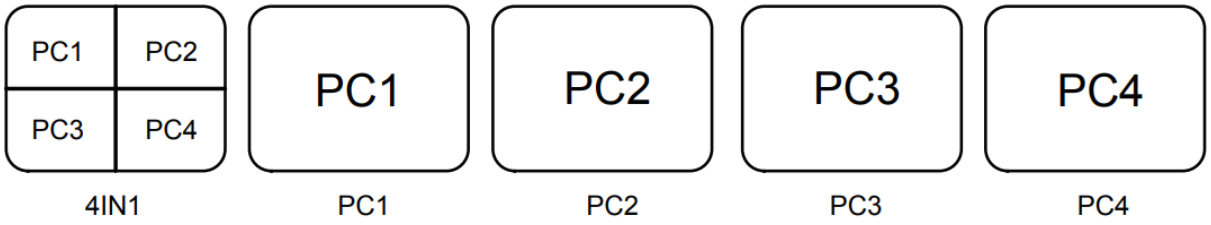


8. **Update function select switch**:
    - **Normal**: Normal use
    - **Up_1**: Upgrade data for MCU_1 via RS232
    - **Up_2**: Upgrade data for MCU_2 via RS232.
9. **IR**: Remote control receiver window.
10. **Power LED**: The blue LED illuminates when the device is connected to the power supply.
11. **PC1-PC4 LED**: Input LED - Indicate which input is selected.
12. **4IN1 LED**: Indicates 4IN1 mode is selected.
13. **Mode Button**: Press this button to select the input.
14. **Audio Button**: In the 4IN1 mode, press this button to select the audio from the input sources.
15. **Reset Button**: Press this button to reset the KVM switch.

Connection And Operation

1. Connect up to 4 PCs using HDMI and USB cables to their respective ports on each device.
2. Connect the HDMI output of the HDMI Switcher to a high-definition display device via HDMI Cable.
3. Connect the keyboard, mouse and USB2.0 device to the corresponding interface of the KVM switcher.
4. The Switcher is powered by an external power supply which is included. Connect power first to the source.
5. Select the computer screen you want to operate by mouse button, keyboard hot keys, front panel button, IR control.

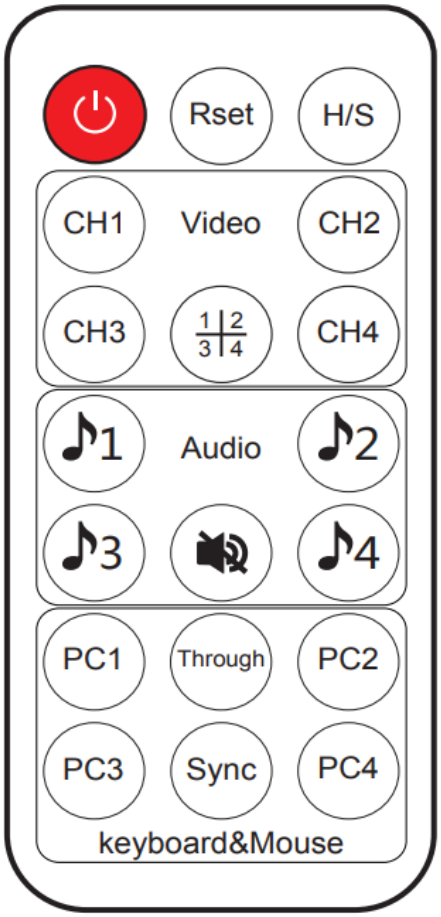
Detail Description of Display Mode



The product provides 5 Screen Modes as below Mode 1 ~ 5.

- **4IN1**: The 4 PCs are displayed in 2x2 on one screen. You can operate 4 PCS without switching
- **PC1**: PC1 full screen mode, you can operate PC1 only
- **PC2**: PC2 full screen mode, you can operate PC2 only.
- **PC3**: PC3 full screen mode, you can operate PC3 only.
- **PC4**: PC4 full screen mode ,you can operate PC4 only

Remote Control



ON/OFF: Power on/off switch

Reset button: Reset the KVM Switcher

H/S Resolution button: upscale 720P signal into 1080P or downscale 1080P signal into 720P

Mode select button (Ch1-Ch4, 1|2 3|4): Press these buttons, the quad multi-viewer will select the corresponding mode; see the detail description of display mode

Audio Select button(♪1- ♪4): Press these buttons to select the audio from the input sources in the 4IN1 mode

Mute button: Turn off Sound

Keyboard & Mouse Mode select button (PC1-PC4): Press these buttons to select the PC you want to operate at the 4IN1 mode. At this point, the keyboard & mouse can only operate the selected PC

Through/Sync button: Select Through or Sync mode

Through Mode & Sync Mode

There are 2 modes for Keyboard & mouse in the 4 in 1 mode:

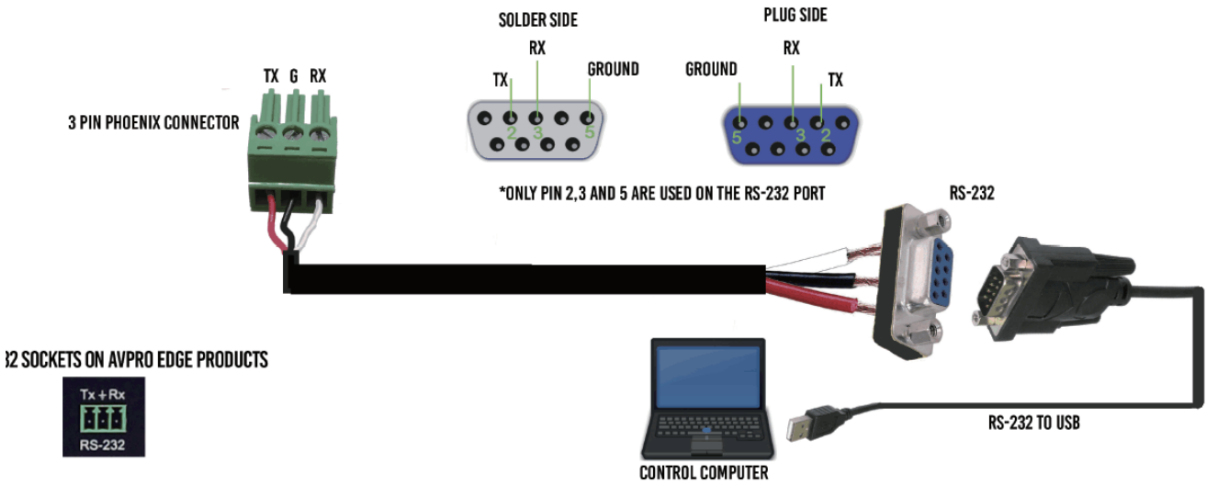
- **Through Mode**: In this mode, the mouse can move across the screen of the 4 PCs. You can operate any PC at will. The Keyboard and USB 2.0 device will be switched to the PC where the mouse is located.
- **Sync Mode**: In this mode, the keyboard & mouse will operate the last selected PC.

Hotkey Commands

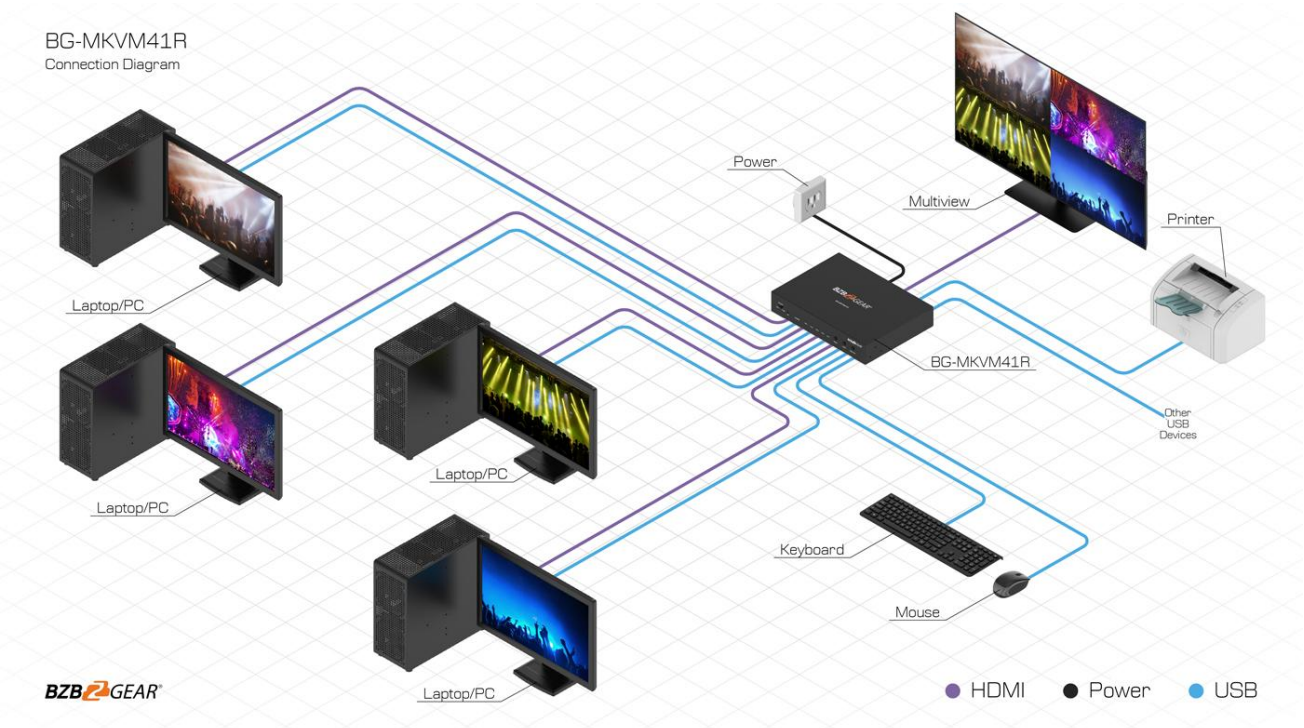
Command	Function
Mouse HOTKEY	
[wheel key]+[wheel key]	1.At 4IN1 mode, switch to full screen mode 2.At full screen mode, Switch to 4IN1 mode
Keyboard HOTKEY	
[*]+[1]	Switch to PC1
[*]+[2]	Switch to PC2
[*]+[3]	Switch to PC3
[*]+[4]	Switch to PC4
[*]+[5]	Switch to 4IN1 Mode
[*]+[0]	At 4IN1 Mode.Keyboard&Mouse switch to Sync Mode
[*]+[S]	At 4IN1 Mode.Keyboard&Mouse switch to Through Mode
[*]+[F1]	At 4IN1 Mode.Keyboard&Mouse and USB2.0 switch to PC1
[*]+[F2]	At 4IN1 Mode.Keyboard&Mouse and USB2.0 switch to PC2
[*]+[F3]	At 4IN1 Mode.Keyboard&Mouse and USB2.0 switch to PC3
[*]+[F4]	At 4IN1 Mode.Keyboard&Mouse and USB2.0 switch to PC4
[*]+[Page Up]	At 4IN1 Mode,switch the audio from the input sources
[*]+[Page Down]	Switch to next PC

RS232 Connection

Please connect the product and PC with serial port cable as pictured below to control via RS232.



Application Example



Tech Support

Have technical questions? We may have answered them already!

Please visit BZBGEAR's support page (bzbgear.com/support) for helpful information and tips regarding our products. Here you will find our Knowledge Base (bzbgear.com/knowledge-base) with detailed tutorials, quick start guides, and step-by-step troubleshooting instructions. Or explore our YouTube channel, BZB TV (youtube.com/c/BZBTVchannel), for help setting up, configuring, and other helpful how-to videos about our gear.

Need more in-depth support? Connect with one of our technical specialists directly:

Phone	**Email**	**Live Chat**
1.888.499.9906	support@bzbgear.com	bzbgear.com

Warranty

BZBGEAR Pro AV products and cameras come with a three-year warranty. An extended two-year warranty is available for our cameras upon registration for a total of five years.

For complete warranty information, please visit bzbgear.com/warranty.

For questions, please call 1.888.499.9906 or email support@bzbgear.com.

Mission Statement

BZBGEAR is a breakthrough manufacturer of high-quality, innovative audiovisual equipment ranging from AVoIP, professional broadcasting, conferencing, home theater, to live streaming solutions. We pride ourselves on unparalleled customer support and services. Our team offers system design consultation, and highly reviewed technical support for all the products in our catalog. BZBGEAR delivers quality products designed with users in mind.

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