

# QKVM4K

## 4X2 MULTIVIEWER KVM SWITCH



## USER MANUAL

QKVM4K	4x2 Multiviewer KVM switch
--------	----------------------------



Designed and Manufactured in the USA

**Smart-AVI**

1-800-284-2131  
www.smartavi.com

# TABLE OF CONTENT

TECHNICAL SPECIFICATIONS	3
WHAT'S IN THE BOX?	4
QKVM4K FRONT AND REAR	4
INSTALLATION	5-6
SYSTEM OPERATION	6
FRONT PANEL CONTROL	7
HOTKEY AND RS-232 SERIAL CONTROL	8
OSD MENU	9
TROUBLESHOOTING	10
TECHNICAL SUPPORT	10
LIMITED WARRANTY STATEMENT	11

# TECHNICAL SPECIFICATIONS

VIDEO	
Format	HDMI
Host Interface	(4) HDMI 19-pin (female)
User Console Interface	(2) HDMI 19-pin (female)
Max Resolution	3480 x 2160 @ 60 Hz
DDC	5 volts p-p (TTL)
Input Equalization	Automatic
Input Cable Length	Up to 20 ft.
Output Cable Length	Up to 20 ft.
USB	
Signal Type	USB 2.0, 1.1, and 1.0 w/ internal hub
Input Interface	(4) USB Type B
Output Interface	(2) USB 1.1 Type A for KVM Devices (2) USB 2.0 Type A Transparent
AUDIO	
Input	(4) Connector Stereo 3.5mm Female
Output	(1) Connector Stereo 3.5mm Female
POWER	
Power Requirements	12V DC, 3A power adapter with center-pin positive polarity
ENVIRONMENT	
Operating Temp	32° to 104° F (0° to 40° C)
Storage Temp	-4° to 140° F (-20° to 60° C)
Humidity	0-80% RH, non-condensing
CONTROL	
Front Panel	Push Buttons with LED indicators
RS-232	Via Serial @ 115200 bps
Hot Keys	Via Keyboard
CONTROL	
Emulation	Keyboard, Mouse and Video

## WHAT'S IN THE BOX?

SM-QKVM4K	4-Port HDMI, USB 2.0 KVM Switch with Multiview Preview Screen and Audio Support.
PS12VDC3A	12V DC, 3A (minimum) power adapter with center-pin positive polarity.
User Manual	

## QKVM4K REAR

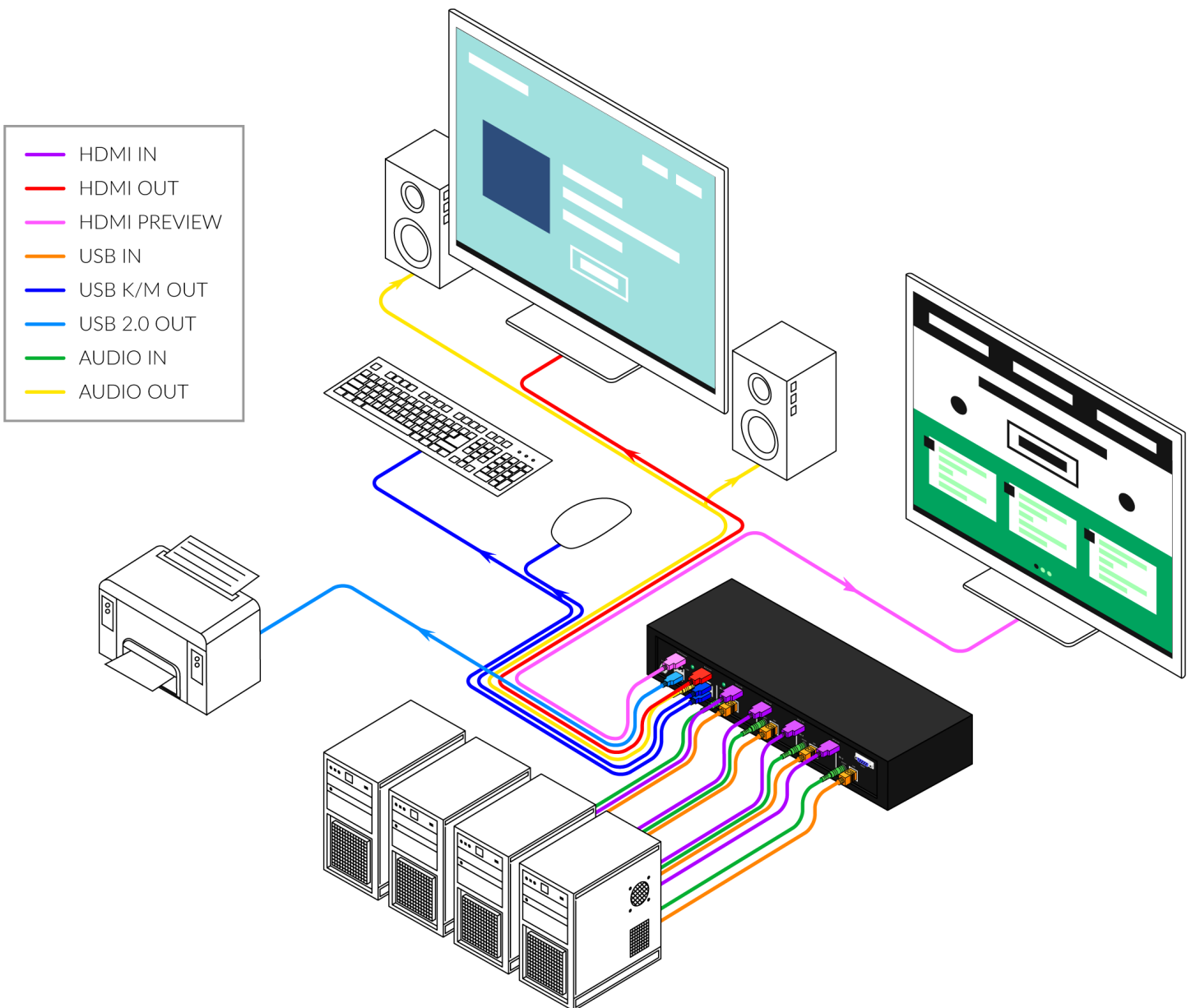


## QKVM4K FRONT



# INSTALLATION

1. Ensure that power is turned off or disconnected from the unit and the computers.
2. Use a **HDMI cable** to connect the HDMI output port from each computer to the corresponding HDMI IN ports of the unit.
3. Use a **USB cable (Type-A to Type-B)** to connect a USB port on each computer to the respective USB ports of the unit.
4. Optionally connect a **stereo audio cable** (3.5mm to 3.5mm) to connect the audio output of the computers to the AUDIO IN ports of the unit.
5. Connect a monitor to the HDMI OUT console port of the unit using a **HDMI cable**.
6. Connect a **USB keyboard and mouse** in the two USB console ports.
7. Optionally connect stereo speakers to the AUDIO OUT port of the unit.
8. Finally, power on the KVM by connecting a **12VDC power supply** to the power connector, and then turn on all the computers.

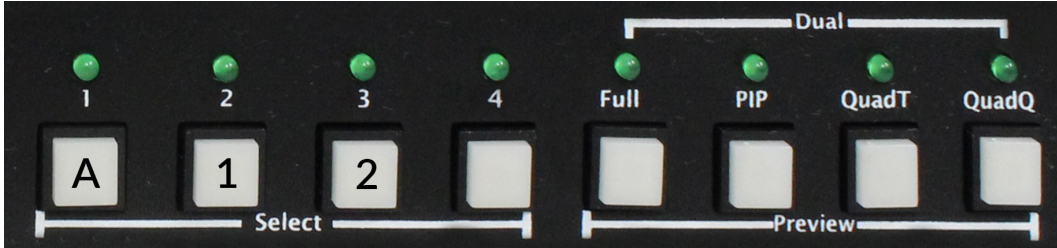


# INSTALLATION (CONTINUED)

## EDID Learn:

The QKVM4K has 2 preset EDIDs that can be triggered from the front panel. The EDIDs are labeled as follows:

- IPG - 1080p (EDID for 1080p)
- IPG - 4K (EDID for 3840 x 2160)



The EDIDs can be invoked using the following commands on the front panel:

- Pressing buttons **A** and then **1** for 2 seconds will invoke IPG—1080p
- Pressing buttons **A** and then **2** for 2 seconds will invoke IPG - 4K

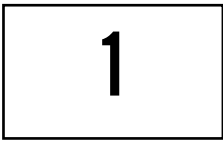
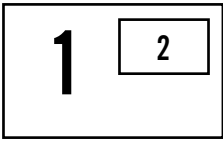
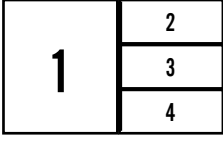
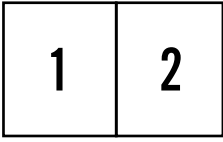
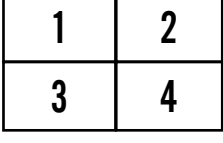
## SYSTEM OPERATION

There are four ways to control the QKVM4K: Keyboard Hotkeys, RS-232 Serial Commands, OSD Menu, and Front Panel Buttons. All modes of control will allow the user to set their desired configurations.

The QKVM4K may also be controlled via RS-232 commands. To use these commands, you must use HyperTerminal or an alternate terminal application. The settings for the connection are as follows: Baudrate 115200; Data Bits 8; Parity None; Stop Bits 1; Flow Control None. Once you have connected to the QKVM4K via Serial, you will see the QKVM4K information when the device starts up.

# FRONT PANEL CONTROL

The first four buttons on the front panel represent the four inputs for the KVM part of the device and are used to switch between inputs for the regular output display. Selecting a channel through the first four buttons will switch Keyboard, Mouse, and Video control to the desired input. The last four buttons of the front panel are to control the mode that is being viewed on the preview screen. The viewing modes are: Full Screen, PiP, TQuad, and Quad modes. Selecting each button will change the viewing mode on the preview screen. Pressing the same button multiple times will increment the main input for that viewing mode.

Preview Screen	Name	Description
	Full Screen Mode	In the Full Screen mode, one of the four computers is displayed in full screen size and maximum resolution
	PIP Mode	PIP mode is fixed in size and position; the full screen displays one of the four video sources, and a smaller image (thumbnail) containing another video source on the right-hand margin of the screen allows for simultaneous monitoring
	DualT-Mode	In the QuadT mode, the full screen display of one of the four video sources is accompanied by one or three small images (thumbnails) containing the other video sources on the righthand margin of the screen allowing simultaneous monitoring
	Dual-Mode	In Quad mode, the screen is split into four fields of equal size with the screen content of four video sources or computers being displayed in each of these fields
	QuadQ-Mode	Full Screen Mode

# HOTKEY AND RS232 SERIAL CONTROL

The following commands can be used for RS-232 with available keyboard hotkeys:

Command Description	HotKey	RS-232 Command
Switch all USB devices and Main video	[CTRL] [CTRL] <b>m</b> [port #] [ENTER]	// <b>m</b> [port #] [ENTER]
Switch Preview Screen to Full Screen Mode	[CTRL] [CTRL] <b>f</b> [port #] [ENTER]	// <b>f</b> [port #] [ENTER]
Switch Preview Screen to PiP	[CTRL] [CTRL] <b>p</b> [port #] [port #] [ENTER]	// <b>c</b> [port #] [port #] [ENTER]
Switch to T-Quad mode with argument being primary	[CTRL] [CTRL] <b>t</b> [port #] [ENTER]	// <b>t</b> [port #] [ENTER]
Switch to Quad Mode	[CTRL] [CTRL] <b>q</b> [ENTER]	// <b>q</b> [ENTER]
Switch to Dual Mode	[CTRL] [CTRL] <b>d</b> [port #] [port #] [ENTER]	// <b>d</b> [port #] [port #] [ENTER]
Switch Audio Only	[CTRL] [CTRL] <b>a</b> [port #] [ENTER]	// <b>a</b> [port #] [ENTER]
Switch KVM Only	[CTRL] [CTRL] <b>c</b> [port #] [ENTER]	// <b>c</b> [port #] [ENTER]
Switch USB Only	[CTRL] [CTRL] <b>u</b> [port #] [ENTER]	// <b>u</b> [port #] [ENTER]
Reset Software	[CTRL] [CTRL] <b>r</b>	// <b>r</b> [ENTER]
Status Query	N/A	// <b>??</b> [ENTER]



# OSD MENU

The OSD Menu is used to update the Preview Display. The OSD Menu overlaps the Preview screen and is controlled through any standard keyboard connected to one of the K/M slots on the device:

**Important Notice:** After entering the OSD Menu, all keyboard and mouse functionality will be blocked from the computer and only used for the OSD commands. After exiting the OSD menu using Ctrl + Ctrl + o Command, all keyboard and mouse functionality will be restored.

**NOTE:** When entering one of the Function commands, the Enter Key must be pressed for the function to take effect

Command Description	HotKey Commands
Enable/Disable OSD menu	[CTRL] [CTRL] o [ENTER]
Moves pointer UP on OSD Menu	▲ (UP arrow)
Moves pointer DOWN on OSD Menu	▼ (DOWN arrow)
Moves pointer LEFT on OSD Menu	◀ (LEFT arrow)
Moves pointer RIGHT on OSD Menu	▶ (RIGHT arrow)
Enter Selected Input	[ENTER]
ESC from Information and EDID sub menus	[ESC]
Full Screen mode	F2
Quad-T mode	F3
Quad-Q mode	F4
PiP mode/switch Sub-channels	F5
Location	F6
Size	F7
Name	F8
EDID	F9
Dual Mode/switch Sub-channels	F10
Connection/Resolution Information	F11

# TROUBLESHOOTING

## No Power

- Make sure that the power adapter is securely connected to the power connector of the unit.
- Check the output voltage of the power supply and make sure that the voltage value is around 12VDC.
- Replace the power supply.

## No Video

- Check if all the video cables are connected properly.
- Connect the computer directly to the monitor to verify that your monitor and computer are functioning properly.
- Restart the computers

## Keyboard is not working

- Check if the keyboard is properly connected to the unit.
- Check if the USB cables connecting the unit and the computers are properly connected.
- Try connecting the USB on the computer to a different port.
- Make sure that the keyboard works when directly connected to the computer.
- Replace the keyboard.

## Mouse is not working

- Check if the mouse is properly connected to the unit.
- Try connecting the USB on the computer to a different port.
- Make sure that the mouse works when directly connected to the computer.
- Replace the mouse.

## No Audio

- Check if all the audio cables are connected properly.
- Connect the speakers directly to the computer to verify that the speakers and the computer audio are functioning properly.
- Check the audio settings of the computer and verify that the audio output is through the speakers.

# TECHNICAL SUPPORT

For product inquiries, warranty questions, or technical questions, please contact [info@smartavi.com](mailto:info@smartavi.com).

# LIMITED WARRANTY STATEMENT

## A. Extent of limited warranty

SmartAVI, Inc. warrants to the end-user customers that the SmartAVI product specified above will be free from defects in materials and workmanship for the duration of 1 year, which duration begins on the date of purchase by the customer. Customer is responsible for maintaining proof of date of purchase.

SmartAVI limited warranty covers only those defects which arise as a result of normal use of the product, and do not apply to any:

- a. Improper or inadequate maintenance or modifications
- b. Operations outside product specifications
- c. Mechanical abuse and exposure to severe conditions

If SmartAVI receives, during applicable warranty period, a notice of defect, SmartAVI will at its discretion replace or repair defective product. If SmartAVI is unable to replace or repair defective product covered by the SmartAVI warranty within reasonable period of time, SmartAVI shall refund the cost of the product.

SmartAVI shall have no obligation to repair, replace or refund unit until customer returns defective product to SmartAVI.

Any replacement product could be new or like new, provided that it has functionality at least equal to that of the product being replaced.

SmartAVI limited warranty is valid in any country where the covered product is distributed by SmartAVI.

## B. Limitations of warranty

To the extent allowed by local law, neither SmartAVI nor its third party suppliers make any other warranty or condition of any kind whether expressed or implied with respect to the SmartAVI product, and specifically disclaim implied warranties or conditions of merchantability, satisfactory quality, and fitness for a particular purpose.

## C. Limitations of liability

To the extent allowed by local law the remedies provided in this warranty statement are the customers sole and exclusive remedies.

To the extent allowed by local law, except for the obligations specifically set forth in this warranty statement, in no event will SmartAVI or its third party suppliers be liable for direct, indirect, special, incidental, or consequential damages whether based on contract, tort or any other legal theory and whether advised of the possibility of such damages.

## D. Local law

To the extent that this warranty statement is inconsistent with local law, this warranty statement shall be considered modified to be consistent with such law.

# Smart-AVI

SMART AUDIO VIDEO INNOVATION

## NOTICE

The information contained in this document is subject to change without notice. SmartAVI makes no warranty of any kind with regard to this material, including but not limited to, implied warranties of merchantability and fitness for particular purpose. SmartAVI will not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material. No part of this document may be photocopied, reproduced, or translated into another language without prior written consent from SmartAVI, Inc.

20180109



**Designed and Manufactured in the USA**

Tel: (800) AVI-2131 • (702) 800-0005  
2455 W Cheyenne Ave, Suite 112  
North Las Vegas, NV 89032

[www.smartavi.com](http://www.smartavi.com)