TESmart

User Manual

4x1 HDMI 2.1 KVM Switch

HDMI 2.1 8K SS

HKS401 Master 23

To Enjoy Smart

HKS401 Master 23

English

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English

Preface

It's our great honor that you have chosen the KVM Switch produced by our company, Tesla Elec Technology Co.,Ltd. In this user manual, you will learn how to operate and use this product. Please read this user manual comprehensively before use. If you have any questions, comments or suggestions, please contact us via the following email:
support@tesmart.com.

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Product Information

For more information about TESmart products and how they can help you to enjoy your job, please visit the following TESmart website or contact an TESmart Authorized Reseller.

www.tesmart.com

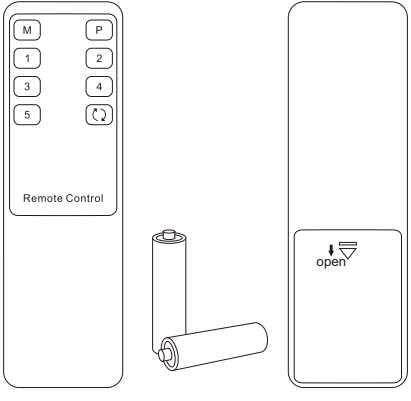
Contents

1. Safety Tips and Warnings

Tips: Please read the safety tips and warnings for HDMI KVM Switch comprehensively before use. Use this produce in accordance with its instructions, safety tips and warnings to prevent unnecessary damage to the product and potential dangers to users.

- Keep the product away from water.
- Clean the product with dry cloth.
- Use the product in accordance with its instructions and do not block its vents.
- Keep the product away from ignition sources, such as heat sinks, heat accumulators, stovepipes and other heat production settings (including audio amplifiers).
- Do not touch the product and the power cord with wet hands so as to lower the risk of electric shock and damage to the product. Do not let the product get wet or become damp.
- Unplug the power supply of this product in thunderstorm days or when it has been not used for a long time.
- Do not expose this product and its battery to open fire or overheating environment. Dispose the waste battery in accordance with instructions.
- Users shall not remove and repair the product without authorization.

2. Battery Description



Tips: By default, the remote control is not equipped with batteries, due to the safety requirements of some express companies. Install AAA dry cells before use.

Caution: Improper disposal of the lithium battery may cause an explosion. Do not throw the battery into fire. Keep the battery away from children. Dispose the waste battery in accordance with local regulations.

3. Warranty Information

We warrant this product as free of defects in material and workmanship for a period of one (1) year from the date of shipment. If during the period of warranty this product proves defective under normal use, we will repair or replace this product, provided that this product has not been subjected to mechanical, electrical, or other abuse or modifications. If it fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for six (6) months from the day of reshipment to the buyer.

4. Preface

Dear Users,

The HDMI 2.1 KVM Switch can easily integrate cross-platform computer devices, greatly simplifying the device management. Using only 1 monitor, 1 set of keyboard and mouse can control 4 PCs.

This Switch supports USB 3.2 Gen 1 with superspeed data transfer rate. Support using the control software of your own KM to program the macros or edit function keys. It also supports several other switching modes. You can switch input ports with the front panel button, IR signals, mouse wheel and keyboard hot keys. At the same time, with EDID emulators in each input port, it can keep PCs always having correct display information.

In addition, this KVM switch is also compliant with HDMI 2.1 standard and supports resolution up to 8K@30Hz (7680x4320@30Hz), and also supports 4K@144Hz (3840x2160@144Hz), offering you the most superior video quality and vivid visuals.

Tips: If you need to control more computers or conduct more complex and professional switching, you can also choose other products of our company. For more details, please visit our official website: www.tesmart.com.

5. Features

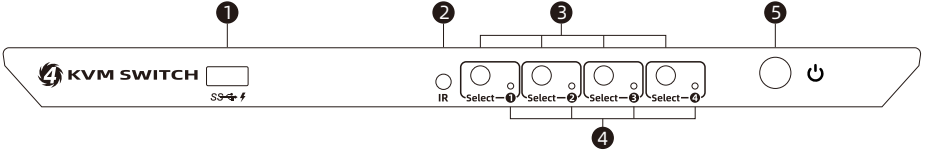
- Using only 1 set of keyboard, mouse and 1 monitor to control 4 PCs
- HDMI 2.1 compliant, has 48Gbps ultra-high speed bandwidth support resolution up to 8K(4320p)@60Hz and is backward compatible with 4K(2160p)@60Hz/120Hz/144Hz
- HDCP 2.3 compliant
- Support HDR 10 and Dolby Vision
- Support Unix/Windows/Debian/Ubuntu/Fedora/Mac OS X/Raspbian/Ubuntu for Raspberry Pi and other Linux based systems
- Support auto detect and auto scan
- Integrated microphone and L/R audio output port
- With EDID emulators in each input port, the accuracy of the display information of PCs will be maintained
- Support USB 3.2 Gen 1 with superspeed data transfer rate
- The KM, USB peripheral, and L/R audio focus are available to use without any delay after switching
- Support IR signals, front panel button, mouse wheel and keyboard hot keys to control the KVM to switch input ports
- Each port supports hot-pluging
- Support keyboard and mouse Pass Through mode and Legacy Emulation mode to improve KM compatibility

6. Packing List

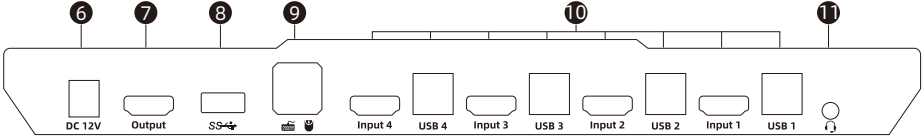
- 1 * 4x1 HDMI 2.1 KVM Switch
- 4 * KVM Cables
- 1 * IR Remote Control
- 1 * DC 12V Power Adapter
- 1 * User Manual

Tips: After receipt of the product, please check the packing list carefully to make sure that no components have been lost and no damage to the product has been caused during transportation. If you have any problem, please contact us at any time.

7. Panel Description



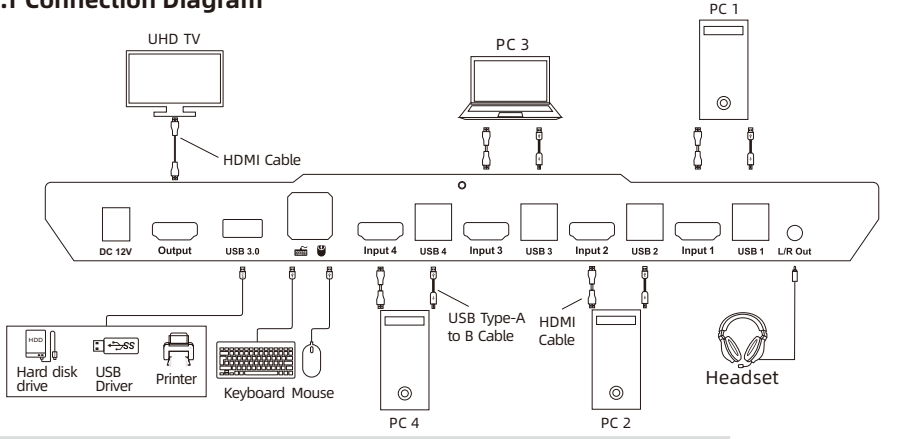
ID	Name	Function	ID	Name	Function
1	Data transfer and charging port	Can be used to transfer data and charge your mobile devices.	2	IR receiver	Receive IR remote signal.
3	Input selection button	Select input sources separately.	4	Input selection status indicators	The corresponding LEDs will be lit (blue) to indicate the current selected computer on each display.
5	Power switch	Turn on or turn off power supply.			



ID	Name	Function
6	DC 12V	12V DC power supply.
7	HDMI output	Connect to HDMI display for video output.
8	USB 3.0 port	Connect to USB 3.0 device.
9	Keyboard and mouse input	For USB keyboard and mouse input.
10	KVM input ports group	4 PCs can be connected to the KVM at the same time. Each group contains an HDMI port and a USB port. Connect the ports to corresponding input devices for signal input.
11	Audio integration port	Integrated microphone and L/R audio output.

8. Connection Description

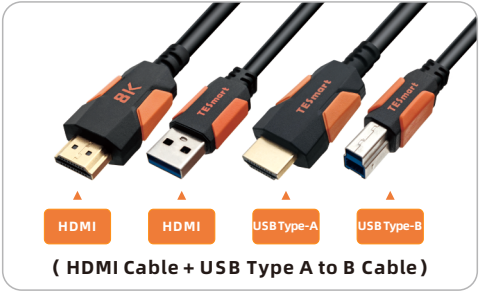
8.1 Connection Diagram



Tips: For your better experience, please use an HDMI 2.1 cable to connect to the display.

8.2 Connection Preparation

- Take into consideration all devices required to be connected and prepare a workbench large enough before the connection.
- Lay out the cables properly to facilitate the layout of power supply as a lot of power sockets and plug boards will be adopted in connection.
- Prepare different sticker labels to mark cables as a lot of cables will be adopted in connection.



(HDMI Cable + USB Type A to B Cable)

8.3 Connection Steps

1. Connect PC 1 with 1 HDMI cable and 1 USB 3.0 cable. Use HDMI cable to connect PC1 to the HDMI port on the KVM, use USB Type-A end to connect PC1 and Type-B end to connect the KVM.

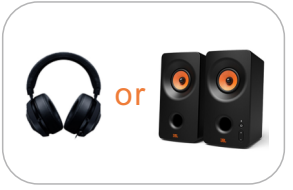
2. Connect PC 2~4 with the same method.

3. Connect external mouse and keyboard to KVM's keyboard and mouse input port.

4. Connect USB device to KVM's USB 3.0 port.

5. Connect KVM's HDMI output port to 1 HDMI display with 1 HDMI cable.

6. Connect external audio device to KVM's L/R out port.



7. Connect the power cable to KVM's DC 12V port and plug it into a power socket.

8. By now, the connection has been completed. Turn on the power supply and the KVM Switch will begin to work.

8.4 KVM Workbench

A workbench with 4x1 HDMI 2.1 KVM Switch successfully connected is shown as below:

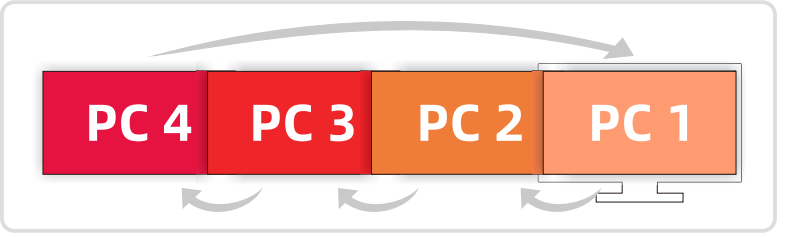
9. Function Description

9.1 Built-in Charging Module

The 4x1 HDMI 2.1 KVM Switch has built-in charging module which can charge your phone, tablet and other devices. Use the USB-A port on the front panel of the KVM can support data transmission while charging.

9.2 Auto Scan Mode Description

Auto Scan can automatically switch the display at regular intervals between the input devices that are powered on and connected to the KVM. As a result, any input devices connected to each port can be monitored without user intervention. Auto scan mode is off by default.



Tips: Please refer to Chapter 10 for detailed information about how to set the auto scan mode.

9.3 Auto Detect Mode

The auto detect mode means the KVM will automatically select the input source when:

1. Attach a new active input device to the KVM, and the KVM will automatically switch to this newly plugged-in source.
2. Removing the currently displayed input source, the KVM will switch to the next active input source automatically.

Turn on/off auto detection mode

Auto detection mode is on by default. Press button **[M]** on the IR remote control can turn on or turn off the auto detection mode.

9.4 Mouse Wheel Switching

Mouse wheel switching method can quickly switch input sources by mouse operation, double-click the mouse wheel to switch to the next input port. Mouse wheel switching mode is off by default. You can use keyboard hotkey command to turn on mouse wheel switching mode.

9.5 Keyboard and Mouse Emulation Mode

We provide two keyboard and mouse modes: Pass Through Mode and Legacy Emulation Mode. Pass Through mode supports most keyboard and mouse drivers and multifunction keyboards and mice. Legacy Emulation Mode ensures the normal functioning of the keyboard, mouse, and hotkey features.

- Typically, we recommend using Passthrough Mode for an optimal user experience, allowing you to:

If you encounter issues with the keyboard and mouse in Passthrough Mode, we recommend switching to Legacy Emulation Mode.

Tips: 1. To toggle between two modes, please refer to Page 22. After toggled, please restart the KVM.
2. In Legacy Emulation Mode, the keyboard and mouse control software will no longer be available.

10. Operation Method

10.1 Front Panel Button Switching Method

The 4x1 HDMI 2.1 KVM Switch can switch to any input devices at any time with front panel keypad, IR remote control, keyboard hot keys and mouse wheel switch mode. You can choose your favorite switching method according to your personal needs and habits.

→ Switch the input devices by pressing those **[Select]** buttons on the front panel of the KVM Switch. Press the button **[Select]** corresponding to the identification of each PC to switch to the desired PC. The indicators will be lit to indicate which PC is currently displayed.

10.2 Keyboard Hot Keys

→ Use external keyboard hot keys to switch the input source and set up some other functions.

Tips: The keyboard hot keys can only work with external keyboard correctly connected to the keyboard and mouse input port of the KVM. The default hotkey trigger key is **[Right-Ctrl]**

After press **[Right-Ctrl]** key twice within 2 seconds and you will hear the buzzer beep once, please enter the commands within 3 seconds and the KVM will execute the corresponding commands.

Select previous input port:
[Right-Ctrl]→[Right-Ctrl]→[PgUp]

Select next input port:
[Right-Ctrl]→[Right-Ctrl]→[PgDn]

Select port by port number:
[Right-Ctrl]→[Right-Ctrl]→[1]~[4]

Toggle keyboard and mouse emulation mode:
[Right-Ctrl] →[Right-Ctrl] →[F2]

Tips: The default keyboard and mouse mode is Pass Through mode. When switching to Legacy Emulation Mode, the buzzer will beep twice; when switching to Pass Through Mode, the buzzer will beep once.

Turn on/off mouse wheel switching mode:
[Right-Ctrl] →[Right-Ctrl] →[F6]

Tips: The default setting of mouse wheel switching mode is off. Turning on the mouse wheel switching mode will trigger the buzzer to beep twice and turning it off will trigger the buzzer to beep once.

Disable or enable buzzer sound:
[Right-Ctrl] →[Right-Ctrl] →[F11]

Tips: The default setting of buzzer sound is enabled. Disable buzzer sound will trigger the buzzer to beep once and enable it will trigger the buzzer to beep twice.

Turn on auto scan mode:
[Right-Ctrl] →[Right-Ctrl] →[Space]

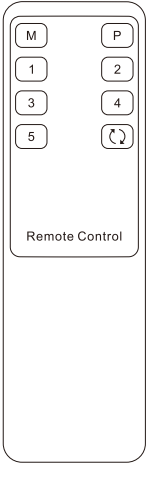
Tips: The default auto scan time interval is 5 seconds. You can change the time interval by the following the step presented below.

Increase or decrease auto scan time interval:
[Right-Ctrl] →[Right-Ctrl] →[+]/[-]

Tips: This hot key command can only work while the auto scan mode is activated. Press [Right-Ctrl] twice and keep pressing [+]/[-] key to adjust the time interval continuously. Increase or decrease 1 second at one time.

Press **[Esc]** to exit auto scan mode.

10.3 IR Remote Control



M — Turn on/off auto detect mode

1 — Switch to input 1

2 — Switch to input 2

3 — Switch to input 3

4 — Switch to input 4

Tips: Unspecified buttons at above are non-functional.

11. Change Hot Key Combinations

For your convenience, we have built-in a custom hotkey function. By setting, you can use any key on the keyboard connected to the KVM as the trigger key for the hot key command. The default hotkey trigger key is the **[Right-CTRL]**. The custom hotkey function can be set in the following ways:

Method 1:

→ After powering on the KVM, press and keep holding the **[Select ❹]** button on the front panel for 10 seconds until you hear the buzzer is long beeping. When starting to set the trigger key, the buzzer will have a 5 seconds tone. Please press the key you want to use as the hot key trigger key on the keyboard within 5 seconds. After pressing the button, the prompt tone ends and the setting is complete.

Method 2:

→ Press [Right-Ctrl]→[Right-Ctrl]→[F1], then the buzzer will have a 5 seconds tone. Please press the key you want to use as the hot key trigger key on the keyboard within 5 seconds. After pressing the button, the prompt tone ends and the setting is complete.

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