

# 2x1 Dual-Monitor DP 2.0&1.4a KVM Switcher

8KSW21DP-DM



## User Manual



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# Introduction

## Overview

8KSW21DP-DM is a 2x1 DP 2.0&1.4a KVM Switcher with dual-channel switching and hotkey switching. It supports latest DP 2.0/1.4a and HDCP 2.2 compatibility, and supports resolutions up to 8K@60Hz and can also transmit USB 3.0 signal up to 5Gbps for KVM function. It can share two monitors and USB devices between two PCs.

The switcher features virtual interaction function, and automatically wake-up the connected PC in standby mode, which can reduce the switching time. It also supports direct switching through buttons on front panel, IR remote and hotkey through keyboard connected to the special USB 1.1 port. It provides a wide compatibility choice for different operating systems, such as Windows, Mac OS and Linux, no driver required and simple plug and play.

## Features

- 2 in 1 dual-channel KVM switcher:
  - Each input group support two independent DP input channels, which can be connected to two DP output ports of the PC and extended to two external monitors.
  - Each monitor has independent channel, which can support different resolution.
- Supports 8K resolution and high refresh rate - supports the standards of DP 2.0 UHBR 13.5/10 and DP 1.4a HBR3, and supports the following resolutions:
  - 8K@60Hz/30Hz
  - 4K@165Hz/144Hz/120Hz/60Hz
  - 3440x1440@165Hz/144Hz/120Hz/60Hz (UWQHD)
  - 2560x1440@165Hz/144Hz/120Hz/60Hz
  - 1080P@240Hz/165Hz/144Hz/120Hz/60Hz
- Supports 1.5m input cable and 3m output cable.  
Note: please use the cables certified by DP 2.0 and DP1.4a.
- Supports multiple DP features:
  - MST - Supports DP MST, each DP port can be connected with multiple DP monitors.

- HDR - Supports all HDR formats.
- VRR - Supports VRR variable refresh rate.
- Multiple Peripherals interfaces:
  - Three super high-speed USB 3.0 ports.
  - One USB 2.0 port and one USB 1.1 port for keypad.
  - Provides independent mic input and audio output (3.5mm earphone) ports.
- Supports USB 3.0 data transmission with the speed up to 5Gbps.
- Supports new generation PC automatic wake-up function – automatically wake up the PC in standby mode when switching.
- Fast switching time of 2-3s, based on the virtual interaction function.
- New compatibility Hotkey design – fully pass-through mode and newly upgraded hotkey algorithm:
  - All key values are passed-through and compatible with various types of keyboards on the market.
  - Specially optimized hotkey algorithm for complex gaming keyboards and macro defined keyboards.
- Supports multiple control options, including IR, front panel button and hotkey switch.
- Provides four high grade DP 1.4a cables, which can support transmitting 8K signals, and provides two USB 3.0 cables, which can support transmitting 5Gbps signals.

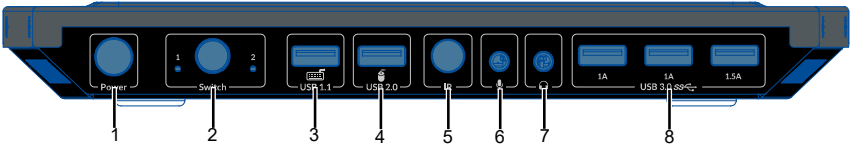
## Package Contents

Before you start the installation of the product, please check the package contents:

- Switcher x 1
- Power Adapter (DC 12V 2A) x 1
- IR Remote x 1
- USB 3.0 Type-A to Type-B Cable x 2
- DP 1.4a Cable x 4
- User Manual x 1

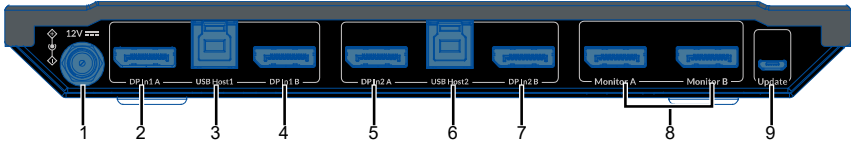
# Panel

## Front Panel



No.	Name	Description
1	Power Button	Press to power on/off the device. When the device is powered on, the backlight of the button will light blue.
2	Switch Button and LED 1&2	Press to select input group between DP In 1A/1B and DP In 2A/2B. LED 1&2: <b>On:</b> Select DP In 1A and 1B or DP In 2A and 2B as input sources. <b>Off:</b> The corresponding DP Inputs are not selected.
3	USB 1.1	USB 1.1 type-A port, can be used to connect to a USB keyboard for hotkey function. (Detail information, please refer to “Hotkey Function” section) <b>Note:</b> It is specialized for connecting keyboard and not recommended to connect to other USB slave devices.
4	USB 2.0	USB 2.0 type-A port. Connect to a USB device such as a mouse.
5	IR	IR receiving window. Receive IR signals.
6	MIC In	Connect to a Microphone. The Microphone follows the USB Host port selected.
7	Line Out	Connect to an earphone. The earphone follows the USB Host port selected.
8	USB 3.0	USB 3.0 type-A ports, can be used to connect to USB 3.0 high-speed device for KVM function. <b>Note:</b> With one high power port of 5V 1.5A supported, it can be used for connecting USB devices with high power, such as connecting a USB Camera.

## Rear Panel



No.	Name	Description
1	DC 12V	Connect to the power adapter provided.
2&4	DP In 1A & 1B	Connect to two DP output ports of PC respectively. DP In 1A and DP In 1B can be seen as a group, hereinafter referred to as group 1 in this manual.
3	USB Host 1	Connect to a host device. USB Host 1 is bound with group 1. When select group 1 as sources to input, the USB devices can be connected to the host PC connected to USB Host 1 port.
5&7	DP In 2A & 2B	Connect to two DP output ports of PC respectively. DP In 2A and DP In 2B can be seen as a group, hereinafter referred to as group 2 in this manual.
6	USB Host 2	Connect to a host device. USB Host 2 is bound with group 2. When select group 2 as sources to input, the USB devices can be connected to the host PC connected to the USB Host 2 port.
8	Monitor A & B	Connect to DP displays.
9	Update	Micro USB, for firmware upgrade.

## Application

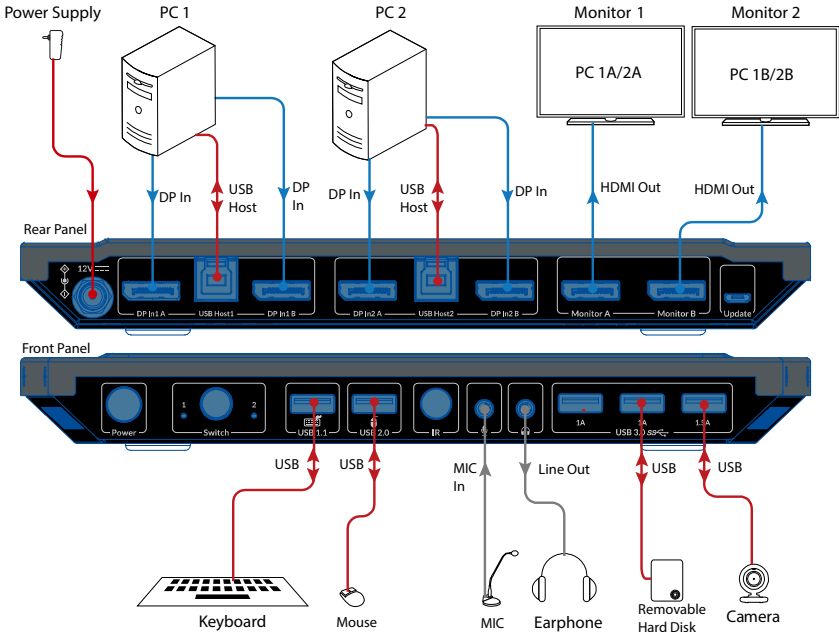
### Warnings:

- Before wiring, disconnect the power from all devices.
- During wiring, connect and disconnect the cables gently.

When switch input source to group 1 or group 2:

- The connected USB devices, microphone and earphone can be connected to Host PC 1 or 2.
- When switch to group 1, the display connected to Monitor A and Monitor B will output video from DP In 1A and DP In 1B respectively.

When switch to group 2, the display connected to Monitor A and Monitor B will output video from DP In 2A and DP In 2B respectively.



## Control of the Switcher

You can choose to switch input sources at your convenience through front panel button, IR remote or Hotkey function.

### Front Panel Control

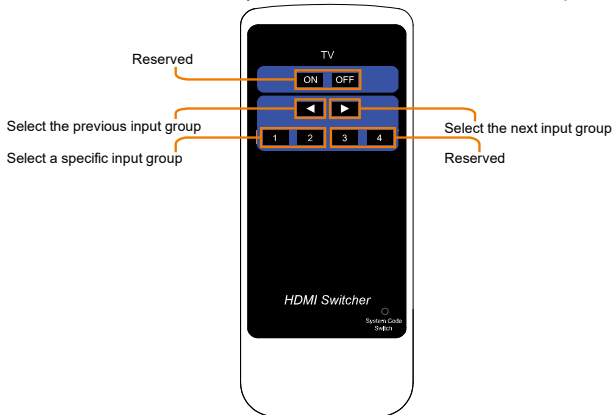
Users can choose to use front panel button to do basic switching operations. Connect the switcher as required and power on all the attached devices.



## IR Remote Control

The included remote handset can be used to turn on and off CEC-enabled display device and to switch two input groups to one display device.

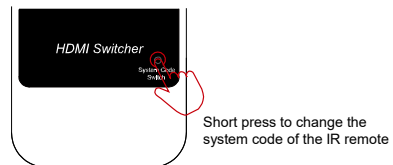
Point the remote handset directly at the IR windows on front panel.



Button	IR Codes	Description
ON	0x1D	Reserved.
OFF	0x1F	Reserved.
◀	0x1B	Switch to the previous input group (Cycle 2->1).
▶	0x11	Switch to the next input group (Cycle 1->2).
1	0x17	Switch to input group 1.
2	0x12	Switch to input group 2.
3	0x59	Reserved.
4	0x08	Reserved.

### System Code Switch

The IR Remote provided with the switcher is shipped in "00" IR system code. In the event that Remote's IR signal interferes with IR devices, e.g., TV, DVD player, the Remote can be switched to "4E" code by short pressing the System Code Switch on the Remote panel.





## Hotkey Function

One USB 1.1 port on rear panel of the switcher supports keyboard Hotkey function.

Supported Hotkey: Tab (default), Left Ctrl, Right Ctrl and Caps Lock

Key Operation	Function
Press the "Hotkey" twice quickly	Switch to this hotkey.
Press "Hotkey" + "1"	Switch to input group 1.
Press "Hotkey" + "2"	Switch to input group 2.
Press "Hotkey" + "Left"	Switch to previous input group (Cycle group 2->1).
Press "Hotkey" + "Right"	Switch to next input group (Cycle group 1->2).

For example:

If you want to use the "Left Ctrl" as a hotkey, press the "Left Ctrl" key twice quickly to switch the hotkey to it, and other hotkeys are invalid. If you need to use other hotkeys, please repeat the above steps.

## Specifications

Technical	
Video Signal	DP in/out supports DP 2.0/1.4a standard, up to 8K@60Hz
USB Data	USB 3.0, up to 5Gbps data transfer rate. With one high - power of 5V/1.5A port included.
Input/Output Resolution Supported	<b>VESA:</b> 800 x 600 <sup>6</sup> , 1024 x 768 <sup>6</sup> , 1280 x 768 <sup>6</sup> , 1280 x 800 <sup>6</sup> , 1280 x 960 <sup>6</sup> , 1280 x 1024 <sup>6</sup> , 1360 x 768 <sup>6</sup> , 1366 x 768 <sup>6</sup> , 1440 x 900 <sup>6</sup> , 1600 x 900 <sup>6</sup> , 1600 x 1200 <sup>6</sup> , 1680 x 1050 <sup>6</sup> , 1920 x 1200 <sup>6</sup> , 2048 x 1152 <sup>6</sup> , 2560 x 1440 <sup>6,7,8,9,10</sup> , 3440 x 1440 <sup>6,7,8,9,10</sup> <b>CTA:</b> 1280x720P <sup>5,6</sup> , 1920x1080P <sup>1,2,3,4,5,6,7,8,9,10,11</sup> , 3840x2160P <sup>1,2,3,4,5,6,7,8</sup> , 4096x2160P <sup>1,2,3,4,5,6,7,8</sup> , 5120x2880 <sup>1,2,3,5,6,8</sup> , 7680x4320 <sup>1,2,3,5,6,7,8</sup> 1 = at 24 (23.98) Hz, 2 = at 25 Hz, 3 = at 30 (29.97) Hz, 4 = at 48 Hz, 5 = at 50 Hz, 6 = 60 (59.94) Hz, 7 = at 100Hz, 8 = at 120Hz, 9 = 144Hz, 10 = 165Hz, 11 = 240Hz

Technical	
	<b>Note:</b> Resolutions beyond 8K@60Hz require both the source and display device to support DSC 1.2 compression.
HDR Format Supported	All HDR formats, including HDR 10, HLG, HDR 10+ and Dolby Vision
Audio Format Supported	<b>DP:</b> Fully supports audio formats in DP 1.4a specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X <b>MIC IN:</b> Stereo <b>LINE OUT:</b> Stereo
Max Data Rate	13.5Gbps per channel

General	
Operating Temperature	0°C to + 45°C (32 to + 113 °F)
Storage Temperature	-20 to +70°C (-4 to + 158 °F)
Humidity	20% to 90%, non-condensing
Power Consumption	4.62W (Max)
Device Dimensions (W x H x D)	230mm x 28.2mm x 142.6mm/ 9.06" x 1.11" x 5.61"
Product Weight	0.83kg/1.83lbs

# Warranty

Products are backed by a limited 1-year parts and labor warranty. For the following cases AV Access Technology Limited shall charge for the service(s) claimed for the product if the product is still remediable and the warranty card becomes unenforceable or inapplicable.

1. The original serial number (specified by AV Access Technology Limited) labeled on the product has been removed, erased, replaced, defaced or is illegible.
2. The warranty has expired.
3. The defects are caused by the fact that the product is repaired, dismantled or altered by anyone that is not from an AV Access Technology Limited authorized service partner. The defects are caused by the fact that the product is used or handled improperly, roughly or not as instructed in the applicable User Guide.
4. The defects are caused by any force majeure including but not limited to accidents, fire, earthquake, lightning, tsunami and war.
5. The service, configuration and gifts promised by salesman only but not covered by normal contract.
6. AV Access Technology Limited preserves the right for interpretation of these cases above and to make changes to them at any time without notice.

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