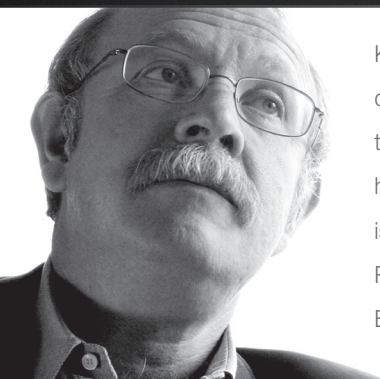


KD-S2x1 | KD-S4x1

4K/18G HDMI Switchers

Operating Instructions



Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high-end video and control are important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers.



KD-S2x1



KD-S4x1

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Introduction

Key Digital® KD-S2x1/KD-S4x1 HDMI switchers are designed and engineered to offer the best in quality, performance, and reliability, while providing a cost-effective HDMI switching solution. The KD-S2x1/KD-S4x1 HDMI switchers provide multiple input to one output switching and maintain crystal-clear, pristine picture and sound quality, without signal degradation. KD-S2x1/KD-S4x1 HDMI switchers support all SD, HD, VESA and Ultra HD/4K video standards, including UHD/4K, 1080p/60, 1920x1200. The switchers feature push button and optical IR switching, status-monitoring LEDs, and support of HDR10, HDCP 2.2 and 4K/18Gbps.

About the KD-S2x1/KD-S4x1

- › **Digital Switching:** 2/4 HDMI Sources to 1 HDMI Display
- › **4K Support:** 4096x2160 or 3840x2160 30Hz at 4:4:4 and 60Hz at 4:4:4
- › **Bandwidth:** TMDS 18Gbps
- › **HDR10 (High Dynamic Range):** More life-like images through a greater range of luminance levels
- › **HDCP 2.2 and HDMI Licensing:** Fully licensed and compatible with HDCP 2.2 and HDMI latest technologies
- › **EDID Control:** Internal library with 16 default EDID configurations for each input, including native EDID data of Output/Display
- › **Full Buffer™ System:** Manages TMDS re-clocking / signal re-generation, HDCP source & display authentication, Hot Plug Management and EDID Control handshake
- › **Lossless Compressed Digital Audio:** Dolby® TrueHD, Dolby® Digital Plus, Dolby® Atmos and DTS-HD Master Audio™
- › **Deep Color Support:** Up to 12 Bit at UHD/4K 24/25/30Hz 4:4:4
- › **Resolution Support:** SD, HD, and VESA up to UHD/4K
- › **I2C Communication:** EDID and HDCP buffering from Display to Source
- › **Control:** Front panel push buttons and LEDs, Optical IR
- › **CEC:** Full Support
- › **Control System Support:** Fully controllable by all IR supported control systems via open API: Compass Control®, AMX®, Crestron®, KNX®, RTI®, Savant, URC®, Leviton® etc.

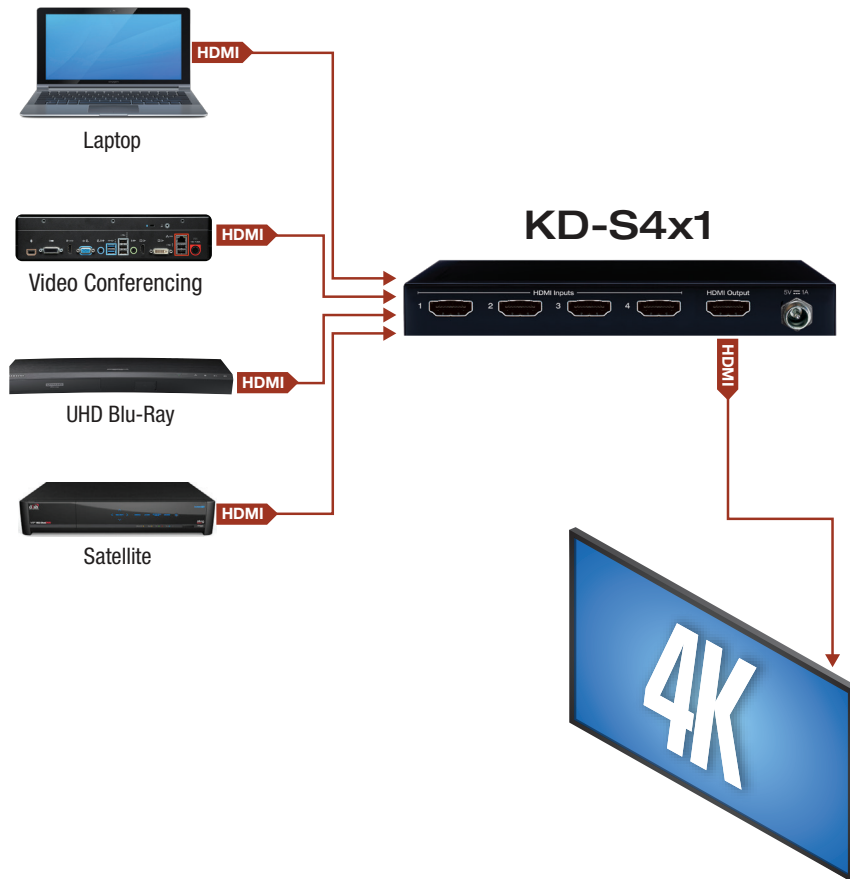
Accessories

- › Power Supply: KDPS5V1ASC, 5V/1A, Interchangeable head, screw-in connector
- › Mounting Brackets, IR Remote

**Always follow the instructions provided in this Operating Manual.
Please check the Key Digital Website for the most up-to-date Manual.**

Quick Setup Guide

- Step 1:** Find a safe and convenient location to mount or place KD-S2x1/KD-S4x1 unit
- Step 2:** Begin with the KD-S2x1/KD-S4x1 unit and all input/output devices turned off with power cables removed
- Step 3:** Connect your HDMI source to the input port of KD-S2x1/KD-S4x1 unit
- Step 4:** Connect your HDMI displays to the output port of KD-S2x1/KD-S4x1 unit
- Step 5:** **BEFORE** connecting power supply to power outlet, screw-in the power supply to the KD-S2x1/KD-S4x1 unit
- Step 6:** **AFTER** all connections are made, plug-in power supply to power outlets
- Step 7:** Power on input/output devices



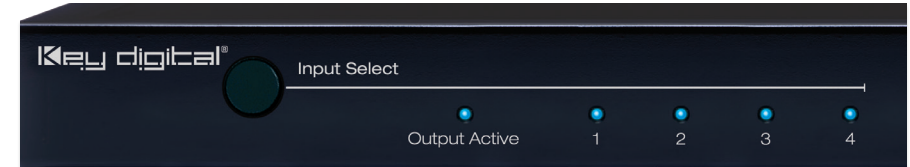
Note: 18Gbps signal extension requires all 18Gbps supported HDMI cables.

Installation and Operation

Before permanently securing the unit for final installation, test for proper operation of the unit and cables in your system. It is recommended that you leave enough ventilation space to provide sufficient airflow and cooling.

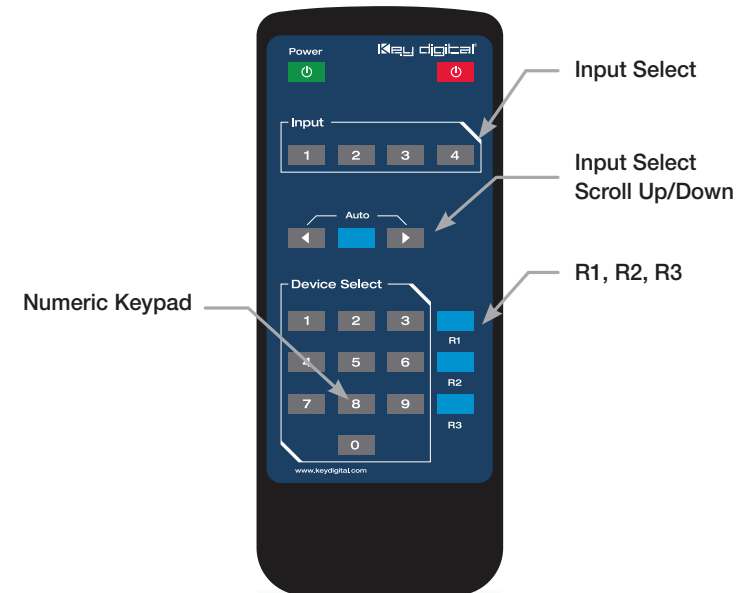
Pushbutton Control

The KD-S2x1/KD-S4x1 unit may be controlled via the push button on the front of the unit. Select the desired input by pressing the "Input Select" button. The front LED indicators (1, 2, 3, 4) correspond to the input that has been selected.



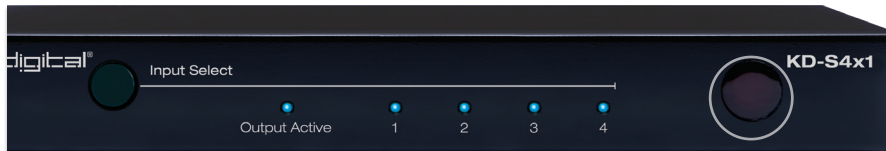
IR Remote Control

The KD-S2x1/KD-S4x1 may also be operated using the IR Remote provided with the unit (the remote is powered by a CR2025 Battery). The KD-S2x1/KD-S4x1 switcher features an IR sensor on the front of the unit for reception of signals. Please note that some remote buttons may have no functionality. For example, the unit does not power down, therefore the Power Button has no function.



IR Emitter Control

The IR Sensor on the front panel may also accept signals from a Compass Control® Master Controller or from a 3rd party control system. When using a Master Controller or 3rd party control system, the IR Emitter must be mounted over the IR Sensor on the front of the KD-S2x1/KD-S4x1 unit. The other end of the cable is connected to the Multi-function I/O port on the Master Controller or the IR Extender/IR Connecting Block of the 3rd party control system.



LED Indicators

The LED indicators on the face of the KD-S2x1/KD-S4x1 unit indicate the currently selected input and if a valid connection is made between the KD-S2x1/KD-S4x1 unit and the output device.

Input Active

- » Color: **Blue**
- » Solid illumination during active link (voltage + data) with connected HDMI source

Active Output

- » Color: **Blue**
- » Solid illumination during active HPD (voltage) link with connected HDMI output device
- » Steady blink (once per second) if signal is not present

Settings and Adjustments

The KD-S2x1/KD-S4x1 unit may be configured using the provided IR Remote. Such settings and adjustments include unit address, Hot Plug Detection, and EDID settings. Factory Reset may be completed by using the push button.

Addressing Mode

Units may be addressed when used in a multi-unit system. The Key Digital IR Remote is required to change the address of the KD-S2x1/KD-S4x1 unit. Please press the following sequence on the Key Digital IR Remote to change the address.

R3 » R1 » R2 » X » X

- » X = Numeric Keypad Button from the IR Remote (Device Select)
- » Default address is 00 – Single unit mode.
- » All addresses must be two digits long
- » All LED lights will blink once to confirm the address has been set.
- » Once a unit has been addressed, the two digit address must precede all IR command sequences

HPD Control

Hot Plug Detection (HPD) may be forced in order to provide the connected input/source with the necessary voltage to inform the device that an output/display is connected and active. In cases of many layers of connectivity, HPD may be lost leading to no signal at the display. In those cases, forcing the HPD mode on will keep an active signal on at all times. The Key Digital IR Remote is required to change the HPD mode of the KD-S2x1/KD-S4x1 unit.

- » To set pass-thru HPD Mode (default), please press the following sequence on the Key Digital IR Remote:
 - » R1 » R2 » R3 » 0 » 1
- » To set Forced HPD Mode, please press the following sequence on the Key Digital IR Remote:
 - » R1 » R2 » R3 » 0 » 0

Notes:

- » All LED lights will blink once to confirm the HPD mode has been set.

Resetting to Factory Default

To reset your unit to factory default, press and hold the **Input Select** button on the front panel for 10 seconds.

EDID Control

EDID (Extended Display Identification Data) is a data structure provided by a digital display to describe its capabilities to a video source. This data is also known as a “handshake” and typically includes manufacturer, serial number, product type, resolutions supported by the display, display size, pixel mapping data, etc.

Key Digital EDID Control allows the integrator to choose the handshake that will be provided to source devices of the system. The EDID handshake is relayed to the source from the switch, or from the first connected display (default setting). This handshake will always be the EDID information that the source device receives.

The Key Digital IR Remote is required to change the EDID of the KD-S2x1/KD-S4x1 unit. Please press the following sequence on the Key Digital IR Remote to change the EDID settings:

R2 » R1 » R3 » X » X

Notes:

- » X = Numeric Keypad Button from the IR Remote (Device Select)
- » All LED lights will blink once to confirm the EDID mode has been set.

The possible EDID settings can range from ‘0’ to ‘15’. (‘0’ is the default).

0	Copy EDID from HDMI Output 1
1	1080i, 2Ch Audio
2	1080i, Dolby/DTS 5.1 Audio
3	1080i, HD Audio
4	1080p, 2Ch Audio
5	1080p, Dolby/DTS 5.1 Audio
6	1080p, HD Audio
7	4Kx2K@60, 10.2G, HDR10, 2CH AUDIO
8	4Kx2K@60, 10.2G, HDR10, DOLBY/DTS 5.1
9	4Kx2K@60, 10.2G, HDR10, HD AUDIO
10	4Kx2K@60, 18G, HDR10, 2CH AUDIO
11	4Kx2K@60, 18G, HDR10, DOLBY/DTS 5.1
12	4Kx2K@60, 18G, HDR10, HD AUDIO
13	1280x720p@60 DVI
14	1920x1080p@60 DVI
15	4Kx2K@30, 10.2G, HDR, 2CH AUDIO

Specifications

Technical:

- » Input (Each): HDMI Connector, Type A, 19 Pin Female
- » Output: HDMI Connector, Type A, 19 Pin Female
- » Bandwidth: TMDS bandwidth 18 Gb/s
- » DDC Signal (Data): Input DDC Signal - 5 Volts p-p (TTL)
- » HDMI Video/Audio Signal: Input Video Signal - 1.2 Volts p-p
- » Power Supply: KDPS5V1ASC, 5V/1A, Interchangeable head, screw-in connector

General:

- » **Regulation:** CE, RoHS, WEEE
- » **Enclosure:** Black Metal
- » **Product Dimensions:** KD-S2x1 - 4.3” x 1.1” x 2.8”
KD-S4x1 - 6.25” x 1.1” x 3.1”
- » **Packaging Dimensions:** KD-S2x1 - 6.3” x 4.2” x 3.7”
KD-S4x1 - 9.8” x 4.5” x 3.35”
- » **Product Weight:** KD-S2x1 - 0.5 lb
KD-S4x1 - 0.9 lb
- » **Shipping Weight:** KD-S2x1 - 0.7 lb
KD-S4x1 - 1.5 lb



Important Product Warnings:

1. Connect all cables before providing power to the unit.
2. Test for proper operation before securing unit behind walls or in hard to access spaces.
3. If installing the unit into wall or mounting bracket into sheet-rock, provide proper screw support with bolts or sheet-rock anchors.



Safety Instructions:

Please be sure to follow these instructions for safe operation of your unit.

1. Read and follow all instructions.
2. Heed all warnings.
3. Do not use this device near water.
4. Clean only with dry cloth.
5. Install in accordance with the manufacturer's instructions.
6. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
7. Only use attachments/accessories specified by the manufacturer.
8. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way including:
 - » Damage to the power supply or power plug
 - » Exposure to rain or moisture



Power Supply Use:

You MUST use the Power Supply provided with your unit or you VOID the Key Digital® Warranty and risk damage to your unit and associated equipment.

How to Contact Key Digital®

System Design Group (SDG)

For system design questions please contact us at:

- › Phone: 914-667-9700
- › E-mail: sdg@keydigital.com

Customer Support

For customer support questions please contact us at:

- › Phone: 914-667-9700
- › E-mail: customersupport@keydigital.com

Technical Support

For technical questions about using Key Digital® products, please contact us at:

- › Phone: 914-667-9700
- › E-mail: tech@keydigital.com

Repairs and Warranty Service

Should your product require warranty service or repair, please obtain a Key Digital® Return Material Authorization (RMA) number by contacting us at:

- › Phone: 914-667-9700
- › E-mail: rma@keydigital.com

Feedback

Please email any comments/questions about the manual to:

- › E-mail: customersupport@keydigital.com

Warranty Information

All Key Digital® products are built to high manufacturing standards and should provide years of trouble-free operation. They are backed by a Key Digital Limited 3 Year Product Warranty Policy. <http://www.keydigital.com/warranty.htm>