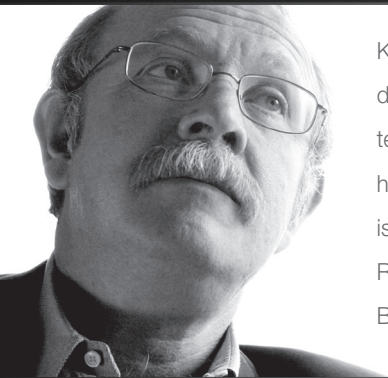


# KD-2x1CSK KD-4x1CSK

HDMI® Switchers,  
support Ultra HD/4K & HDCP 2.2

## 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-2x1CSK



KD-4x1CSK

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The Experts in Digital Video Technology and Solutions™

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

## Introduction

Key Digital® KD-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK HDMI switchers provide multiple input to one output switching and maintain crystal-clear, pristine picture and sound quality, without signal degradation. KD-2x1CSK/KD-4x1CSK HDMI switchers support all SD, HD, VESA and Ultra HD/4K video standards, including UHD/4K, 1080p/60, 1920x1200, and 3D. The switchers feature push button and optical IR switching, status-monitoring LEDs, and support of HDCP 2.2 and HDR.

### About the KD-2x1CSK/KD-4x1CSK

- › **Digital Switching:** 2/4 HDMI Sources to 1 HDMI Display
- › **Inputs/Outputs:** Compatible with HDMI with HDR
- › **Resolution Support:** SD, HD, and VESA up to UHD/4K
- › **Ultra HD/4K Resolution:** Support for 4096x2160 or 3840x2160 24/25/30Hz at 4:4:4/8/10/12 Bit or 60Hz at 4:4:4/8 Bit
- › **HDCP 2.2:** Compliancy up to HDCP 2.2 and backward compliant
- › **3D Ready:** Capability to pass 3D stereoscopic signal formats
- › **HDR:** Supports High Dynamic Range technology with EDID copy from HDR supporting display
- › **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 and DTS-HD Master Audio™ and Dolby Atmos
- › **Deep Color Support:** Up to 12 Bit at UHD/4K 24/25/30Hz 4:4:4
- › **HDMI and HDCP Licensing:** Fully licensed and compatible with HDCP 2.2 and HDMI
- › **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:** Compatible with Compass Control®, AMX®, Control4®, Crestron®, KNX®, RTI®, Savant, URC®, Leviton®, etc.

### Accessories

- › Power Supply: KD-PS5V1ASC, 5V/1A, 100-240VAC, 50-60Hz, Interchangeable head, screw-type connector
- › Mounting Brackets, IR Remote

## Quick Setup Guide

- Step 1:** Find a safe and convenient location to mount or place KD-2x1CSK/KD-4x1CSK unit
- Step 2:** Begin with the KD-2x1CSK/KD-4x1CSK unit and all input/output devices turned off with power cables removed
- Step 3:** Connect your HDMI source to the input port of KD-2x1CSK/KD-4x1CSK unit
- Step 4:** Connect your HDMI displays to the output port of KD-2x1CSK/KD-4x1CSK unit
- Step 5:** **BEFORE** connecting power supply to power outlet, screw-in the power supply to the KD-2x1CSK/KD-4x1CSK unit
- Step 6:** **AFTER** all connections are made, plug-in power supply to power outlets
- Step 7:** Power on input/output devices

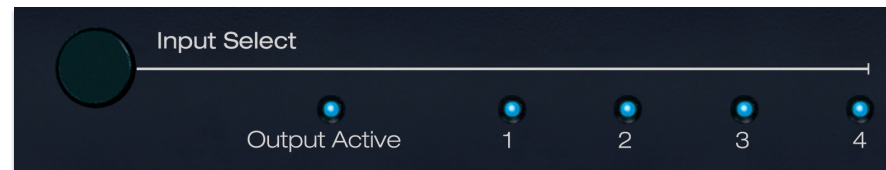


## Installation and Operation

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.

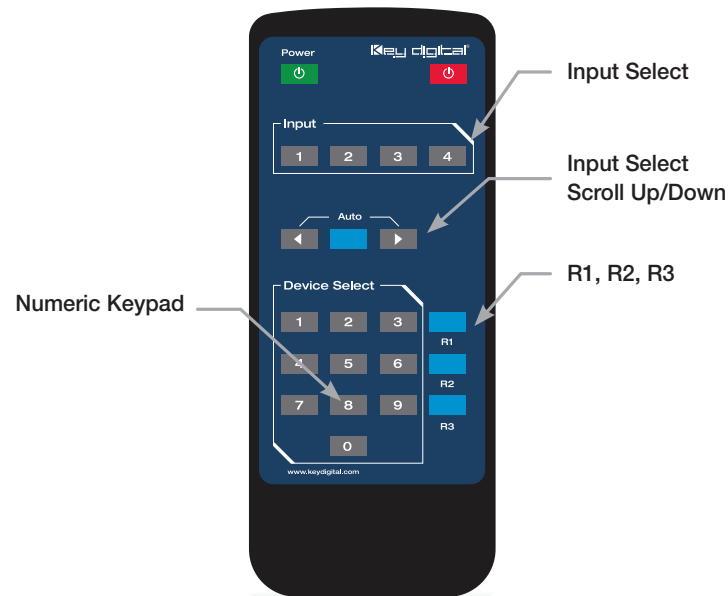
### Pushbutton Control

The KD-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK may also be operated using the IR Remote provided with the unit (the remote is powered by a CR2025 Battery). The KD-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK unit indicate the currently selected input and if a valid connection is made between the KD-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK 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-2x1CSK/KD-4x1CSK unit.

- » To set Normal 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 Champion Series 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-2x1CSK/KD-4x1CSK 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 ‘00’ to ‘15’. (‘00’ is the default).

00	Copy EDID from HDMI Output (Default)
01	1080i@60, 2Ch PCM Audio
02	1080i@60, Dolby/DTS 5.1 Audio
03	1080i@60, HD Audio
04	1080p@60, 2Ch Audio
05	1080p@60, Dolby/DTS 5.1 Audio
06	1080p@60, HD PCM Audio
07	4Kx2K@30, 2Ch Audio
08	4Kx2K@30, Dolby/DTS 5.1 Audio
09	4Kx2K@30, HD Audio
10	4Kx2K@60, 2Ch PCM Audio
11	4Kx2K@60, Dolby/DTS 5.1 Audio
12	4Kx2K@60, HD PCM Audio
13	1280x720p@60 DVI
14	1920x1080p@60 DVI
15	3840x2160p@60 DVI

## 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. All LED lights will blink once to confirm that the unit has been reset.

## 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: KD-PS5V1ASC, 5V/1A, 100-240VAC, 50-60Hz, Interchangeable head, screw-in connector

### General:

- » **Regulation:** CE, RoHS, WEEE
- » **Enclosure:** Black Metal
- » **Product Dimensions:** KD-2x1CSK - 4.3” x 1.1” x 2.8”  
KD-4x1CSK - 6.25” x 1.1” x 3.1”
- » **Packaging Dimensions:** KD-2x1CSK - 6.3” x 4.2” x 3.7”  
KD-4x1CSK - 9.8” x 4.5” x 3.35”
- » **Product Weight:** KD-2x1CSK - 0.5 lb  
KD-4x1CSK - 0.9 lb
- » **Shipping Weight:** KD-2x1CSK - 0.7 lb  
KD-4x1CSK - 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](mailto:sdg@keydigital.com)

### Customer Support

For customer support questions please contact us at:

- › Phone: 914-667-9700
- › E-mail: [customersupport@keydigital.com](mailto: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](mailto: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](mailto:rma@keydigital.com)

### Feedback

Please email any comments/questions about the manual to:

- › E-mail: [customersupport@keydigital.com](mailto:customersupport@keydigital.com)

LIMITED  
**10 YEAR**  
WARRANTY

## 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 10 Year Product Warranty Policy.

<http://www.keydigital.com/warranty.htm>