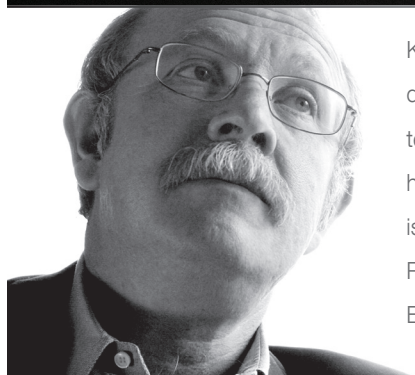


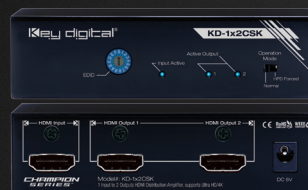


Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high quality video imaging is important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers,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

Champion Series™

HDMI® Distribution Amplifiers,
support Ultra HD/4K

Operating Instructions



KD-1x2CSK



KD-1x4CSK

Key digital®

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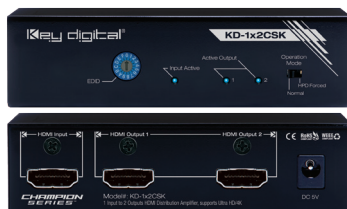
The Experts in Digital Video Technology and Solutions™

HDMI®
HIGH-DEFINITION MULTIMEDIA INTERFACE

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KD-1x2CSK



KD-1x4CSK



Always follow the instructions provided in this Operating Manual.

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Introduction

Key Digital® Champion Series™ KD-1x2CSK/KD-1x4CSK HDMI Distribution Amplifiers are designed and engineered to offer the best in quality, performance, and reliability while providing a cost effective HDMI distribution solution. Champion Series™ Distribution Amplifiers are a transparent solution for all digital video/audio distribution applications and support all HD and SD video standards, including 1080p/60 and Ultra HD/4K. KD-1x2CSK/KD-1x4CSK Distribution Amplifiers feature status-monitoring LEDs and support for advanced HDMI features (3D & Ultra HD/4K).

About the KD-1x2CSK/KD-1x4CSK

- **Digital Distribution:** 1 HDMI Source to 2/4 HDMI Displays
- **Resolution Support:** Supports all SD, HD, and VESA (VGA, SVGA, XGA, WXGA, SXGA, UXGA) resolutions up to UHD/4K (4Kx2K/60[4:2:0], 4Kx2K/30/25/24[4:4:4])
 - » VESA: From 640x480p up to 1920x1200p
- **Ultra HD/4K:** 4K/2K video resolution support for 4K-capable televisions and commercial applications such as Digital Movie Theaters, CAD, Post Production
- **3D Ready:** Capability to pass 3D stereoscopic signal formats
- **EDID Control™:** Internal library with 16 default EDID configurations for each input, or auto EDID selection of display
- **Hot Plug Control:** Allows modifying HPD (Hot Plug Detection) protocol between source and display.
- **Lossless Compressed Digital Audio:** Dolby® TrueHD, Dolby® Digital Plus and DTS-HD Master Audio™
- **Deep Color Support:** Up to 12 bits/color
- **I2C Communication:** EDID and HDCP transparency from Display to Source
- **Licensing:** Fully licensed and compatible with all HDMI and HDCP technologies

Accessories

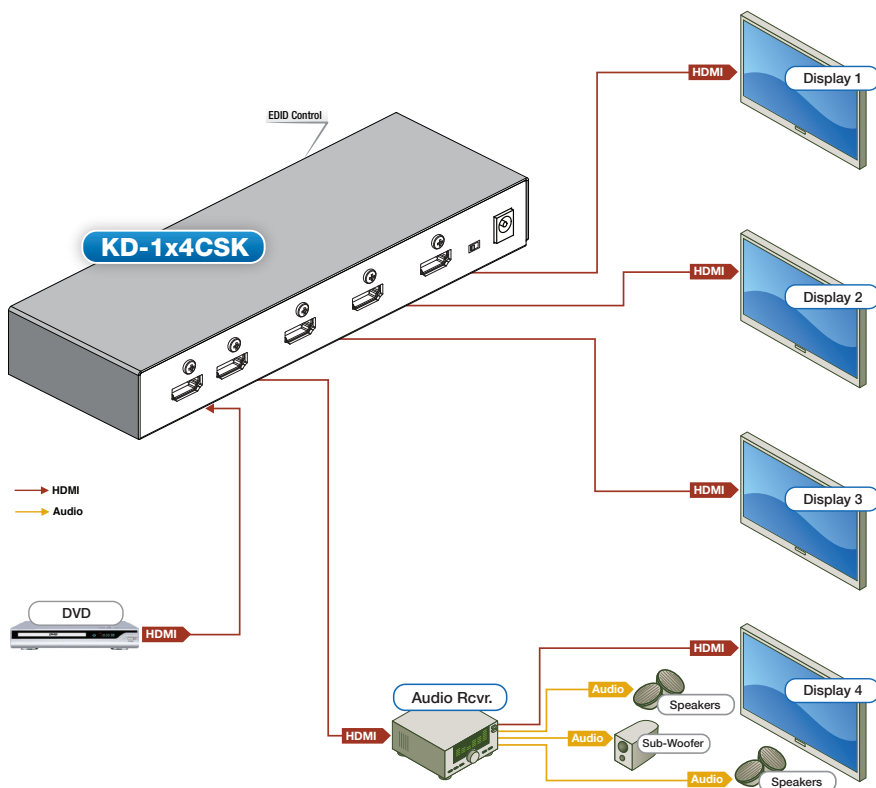
- External power supply: 5V 1A (KD-1x2CSK); 5V 2A (KD-1x4CSK)
- HDMI Lacing Clips
- Operating Instructions
- Warranty Card

3D Ultra HD/4K



Quick Setup Guide

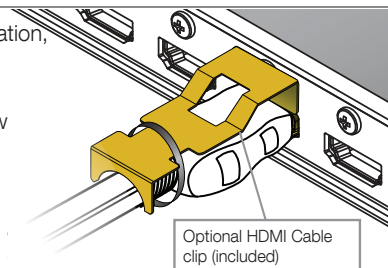
- **Step 1:** Find a safe and convenient location to mount or place your KD-1x2CSK/KD-1x4CSK unit
- **Step 2:** Begin with the KD-1x2CSK/KD-1x4CSK unit and all input/output devices turned off with power cables removed
- **Step 3:** Connect your HDMI source to the input port of your KD-1x2CSK/KD-1x4CSK unit
- **Step 4:** Connect your HDMI displays to the output port of your KD-1x2CSK/KD-1x4CSK unit
- **Step 6:** Connect power to the KD-1x2CSK/KD-1x4CSK unit
- **Step 7:** Power on input/output devices



Installation and Operation

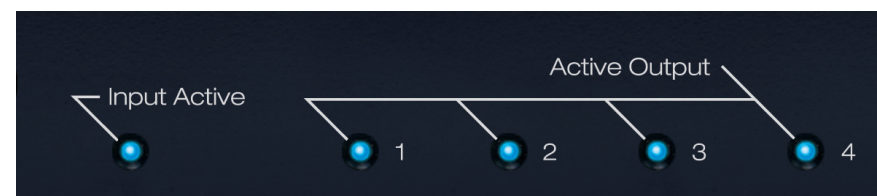
Before permanently securing the unit for final installation, test for proper operation of the unit and cables in your system. It is recommended that you leave enough ventilation space to provide sufficient airflow and cooling.

An optional HDMI cable clip (included) allows for a secure connection of HDMI cables to KD-1x2CSK/KD-1x4CSK units and helps prevent intermittent or complete signal loss due to poor connectivity.



Active Input / Output LED Indicators

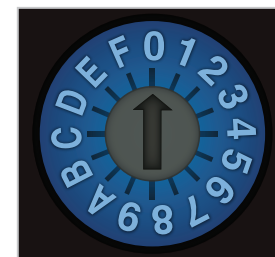
- The front LED indicators indicate that a valid HDMI connection is made between the KD-1x2CSK/KD-1x4CSK unit and each Input / Output.



EDID Control Settings

At times, your HDMI sources and display may not synchronize properly. This is when EDID* control should be utilized. KD-1x2CSK/KD-1x4CSK Distribution Amps feature an internal library of default settings that ensure that your HDMI source's output is compatible with the display devices.

Please reset the unit by either unplugging and plugging the HDMI connections, or via a power cycle for the new settings to take effect.



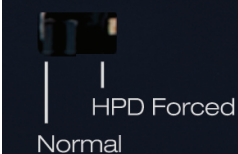
Rotary EDID Control Switch

EDID Settings

» The default EDID is '00'--Copy EDID from output 1.

0	Copy EDID from HDMI Output1	A	4Kx2K@60, 2CH AUDIO
1	1080i, 2CH AUDIO	B	4Kx2K@60, DOLBY/DTS 5.1
2	1080i, DOLBY/DTS 5.1	C	4Kx2K@60, HD AUDIO
3	1080i, HD AUDIO	D	1280x720p@60 DVI
4	1080p, 2CH AUDIO	E	1920x1080p@60 DVI
5	1080p, DOLBY/DTS 5.1	F	3840x2160p@30 DVI
6	1080p, HD AUDIO	*EDID (Extended display identification data) is a data structure provided by a display to describe its capabilities to a source device	
7	4Kx2K@30, 2CH AUDIO		
8	4Kx2K@30, DOLBY/DTS 5.1		
9	4Kx2K@30, HD AUDIO		

Operation Mode



Hot Plug Control

The KD-1x2CSK/KD-1x4CSK allows modifying HPD (Hot Plug Detection) protocol between source and display. Modifying HPD protocol will allow overcoming HPD handshake incompatibility between source and display. Modifying HPD protocol may also help fix other problems related to HDMI connectivity. Forcing HPD will also allow a source to output a signal even if no display is connected/detected.

Specifications

Technical:

- » **Input:** HDMI Connector, Type A, 19 Pin Female
- » **Output (Each):** HDMI Connector, Type A, 19 Pin Female
- » **Bandwidth:** TMDS bandwidth 10.2 Gb/s
- » **Deep Color Support:** Digital video formats in Deep Color Mode up to 12 bits/color
- » **Compliance with HDMI Standards:** Supports all versions of HDMI and HDCP
- » **Lossless Compressed Digital Audio:** Supports Dolby® TrueHD, Dolby® Digital Plus and DTS-HD Master Audio™
- » **DDC Communication:** EDID and HDCP Bi-directional Transparency from Display to Source
- » **Power (KD-1x4CSK):** 5 Volt DC @ 2 Amp, 100-240 VAC, 50-60 Hz
- » **Power (KD-1x2CSK):** 5 Volt DC @ 1 Amp, 100-240 VAC, 50-60 Hz

General:

- » **Regulation:** CE, RoHS, WEEE
- » **Enclosure:** Black Metal
- » **Product Dimensions:** KD-1x2CSK - 4.2" x 1.1" x 2.4"
KD-1x4CSK - 7.95" x 1.1" x 3.2"
- » **Shipping Dimensions:** KD-1x2CSK - 6.3" x 4.2" x 3.35"
KD-1x4CSK - 9.8" x 4.5" x 3.35"
- » **Product Weight:** KD-1x2CSK - 0.5 lb
KD-1x4CSK - 0.9 lb
- » **Shipping Weight:** KD-1x2CSK - 0.7 lb
KD-1x4CSK - 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 Lifetime Product Warranty Policy.

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

