KD-DA1x2 | KD-DA1x4
KD-DA1x8

4K/18G HDMI Distribution Amplifiers

Operating Instructions

KD-DA1x2

KD-DA1x4

KD-DA1x8

Key digital®

The Experts in Digital Video Technology and Solutions™

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Visit product pages for most recent version of the manual, quick setup guide, firmware, control drivers and all additional downloads.

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Always follow the instructions provided in this Operating Manual.

› **Note:** Please visit www.keydigital.com for the latest product documentation and software downloads. Product features and specifications are subject to change without notice.

Introduction

Key Digital® KD-DA1x2/1x4/1x8 HDMI Distribution Amps are designed and engineered to offer the best in quality, performance, and reliability, while providing a cost-effective, ultra-slim HDMI distribution solution. The KD-DA1x2/1x4/1x8 provide one input to multiple outputs HDMI distribution without signal degradation. KD-DA1x2/1x4/1x8 HDMI Distribution Amps support all SD, HD, VESA and Ultra HD/4K video standards, including 4K, 1080p/60, 1920x1200 and support of HDCP 2.2 and HDR10.

Key Features

- › **Digital Distribution:** 1 HDMI Sources to 2/4/8 HDMI Displays
- › **4K Resolution:** 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
- › **HDCP2.2 and HDMI Licensing:** Fully licensed and compatible with HDCP 2.2 and HDMI latest technologies
- › **Resolution Support:** SD, HD, and VESA up to UHD/4K
- › **Deep Color Support:** Up to UHD/4K 30Hz 4:4:4/12 bits or 60Hz 4:4:4/8 bit
- › **EDID Control:** Internal library with 15 EDID handshakes in addition to native EDID data of output/display 1
- › **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, DTS-HD Master Audio™and Dolby® Atmos
- › **I2C Communication:** EDID and HDCP buffering from Display to Source
- › **CEC Disconnect:** Prevents all device communication signals via CEC, ARC, and HDMI Ethernet channels

Accessories

- › KD-DA1x2 Power Supply: KDPS5V1ASC, 5V/1A, interchangeable head, screw-in connector
- › KD-DA1x4 Power Supply: KDPS5V2ASC, 5V/2A, interchangeable head, screw-in connector
- › KD-DA1x8 Power Supply: KDPS5V4ASC, 5V/4A, interchangeable head, screw-in connector
- › Mounting Brackets

Quick Setup Guide

Step 1: Find a safe and convenient location to mount or place KD-DA1x2/1x4/1x8 unit

Step 2: Begin with the KD-DA1x2/1x4/1x8 unit and all input/output devices turned off with power cables removed

Step 3: Connect your HDMI source to the input port of KD-DA1x2/1x4/1x8 unit

Step 4: Connect your HDMI displays to the output port of KD-DA1x2/1x4/1x8 unit

Step 5: BEFORE connecting power supply to power outlet, screw-in the power supply to the KD-DA1x2/1x4/1x8 unit

Step 6: AFTER all connections are made, plug-in power supply to power outlets

Step 7: Power on input/output devices

KD-DA1x8

Digital Signage

HDMI

HDMI Input — HDMI Outputs

Display 1

Display 2

KD-X222PO TX
KD-X222PO TX
KD-X222PO TX
KD-X222PO TX

Display 3

Display 4

Up to 150 ft
@ 4K

KD-X222PO RX
KD-X222PO RX
KD-X222PO RX
KD-X222PO RX

Display 5

Display 6

Display 7

Display 8
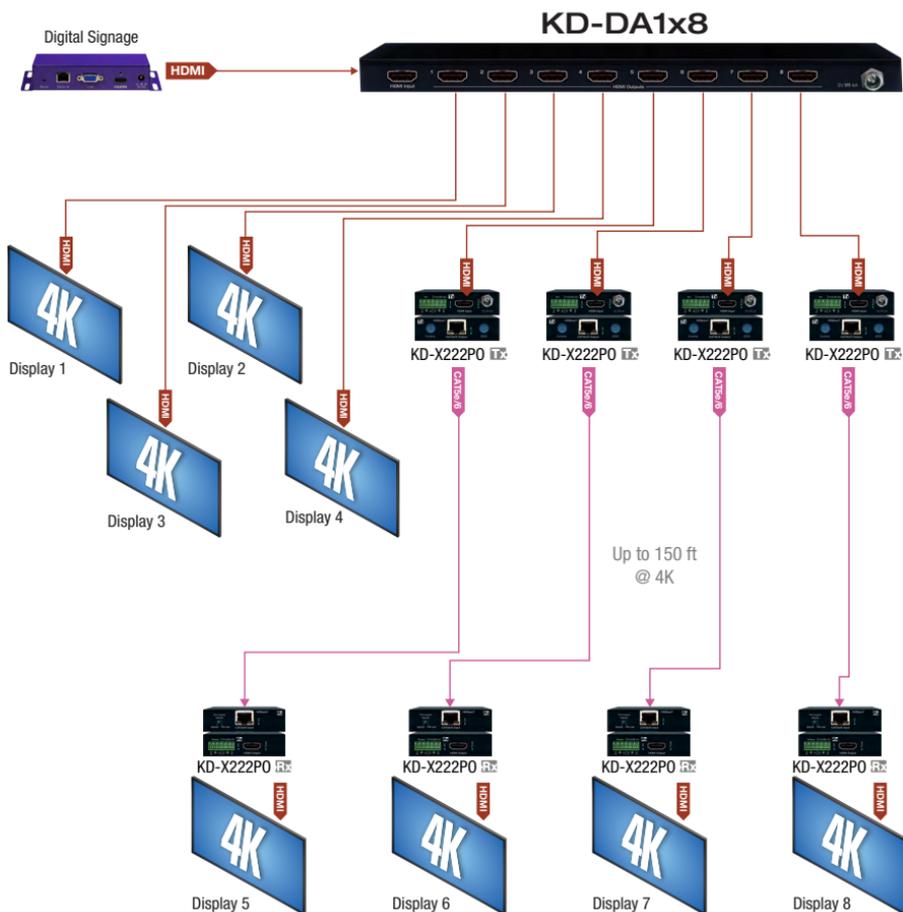
Installation and Operation

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.

Active Input / Output LED Indicators

The front LED indicators indicate that a valid HDMI connection is made between the KD-DA1x2/1x4/1x8 unit and each Input / Output.

Active Output
- » Color: Blue
- » Solid illumination during active HPD (voltage) link with connected HDMI output device

Input Active
- » Color: Blue
- » Solid illumination during active link (voltage + data) with connected HDMI source
- » Steady blink (once per second) if signal is not present

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.

Rotary EDID Control Switch

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 distribution amplifier, or from output/display 1 (default setting).

This handshake will always be the EDID information that the source device receives.

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
A	4Kx2K@60, 18G, HDR10, 2CH AUDIO
B	4Kx2K@60, 18G, HDR10, DOLBY/DTS 5.1
C	4Kx2K@60, 18G, HDR10, HD AUDIO
D	1280x720p@60 DVI
E	1920x1080p@60 DVI
F	4Kx2K@30, 10.2G, HDR, 2CH AUDIO

Hot Plug 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. If the Forced HPD switch is set to OFF, HPD signals to the input device will pass as normal. In cases of many layers of connectivity, HPD may be lost leading to no signal at the display. In those cases, fix the Forced HPD switch to the ON setting.

Specifications

Technical:

- » Input: HDMI Connector, Type A, 19 Pin Female
- » Output (Each): HDMI Connector, Type A, 19 Pin Female
- » Bandwidth: TMDS bandwidth 18 Gb/s
- » Deep Color Support: Digital video formats in Deep Color Mode up to 12 bits/color
- » DDC Communication: EDID and HDCP Bi-directional buffering from Display to Source
- » KD-DA1x2 Power Supply: KDPS5V1ASC, 5V/1A, interchangeable head, screw-in connector
- » KD-DA1x4 Power Supply: KDPS5V2ASC, 5V/2A, interchangeable head, screw-in connector
- » KD-DA1x8 Power Supply: KDPS5V4ASC, 5V/4A, interchangeable head, screw-in connector

General:

- » Regulation: CE, RoHS, WEEE
- » Enclosure: Black Metal
- » Product Dimensions: KD-DA1x2 - 4.9" x 2.5" x .55"
  KD-DA1x4 - 6.9" x 3.25" x .55"
  KD-DA1x8 - 10.75" x 4.01" x 0.67"
- » Packaging Dimensions: KD-DA1x2 - 8.1" x 4.7" x 3.5" (205x120x90 mm)
  KD-DA1x4 - 8.1" x 4.7" x 3.5" (205x120x90 mm)
  KD-DA1x8 - 12" x 5.1" x 2.95" (307x130x75 mm)
- » Product Weight: KD-DA1x2 - 0.5 lb
  KD-DA1x4 - 0.8 lb
  KD-DA1x8 - 1.5 lb
- » Shipping Weight: KD-DA1x2 – 1.1 lb
  KD-DA1x4 - 1.6 lb
  KD-DA1x8 – 3.1 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
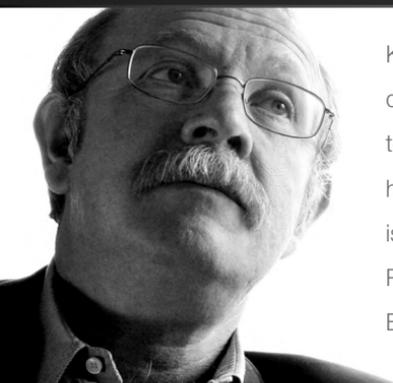
Key Digital®, led by digital video pioneer Mike Tsinberg, develops and manufactures high quality, cutting-edge technology solutions for virtually all applications where high-end video and control are important. Key Digital® is at the forefront of the video industry for Home Theater Retailers, Custom Installers, System Integrators, Broadcasters, Manufacturers, and Consumers.

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