KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VA-4H
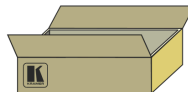4-Channel HDMI EDID
Controller

P/N: 2900-300043 Rev 2

VA-4H 4 Channel HDMI EDID Controller Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to http://www.kramerelectronics.com/support/product_downloads.asp to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

☑ **VA-4H** 4-Channel HDMI EDID Controller
☑ 1 Power supply (5V DC)
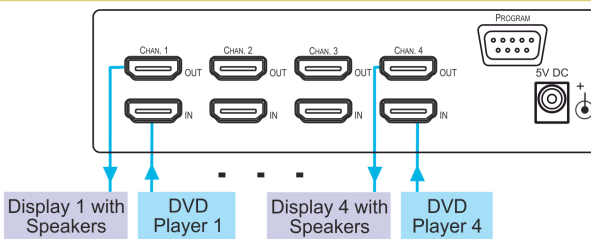☑ 1 Quick Start sheet
☑ 4 Rubber feet

Save the original box and packaging in case your VA-4H needs to be returned to the factory for service.

Step 2: Install the VA-4H

Mount the machine in a rack (using the optional RK-13 rack adapter) or attach the rubber feet and place on a table.

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your **VA-4H**.

CHAN. 1	CHAN. 2	CHAN. 3	CHAN. 4	PROGRAM
OUT	OUT	OUT	OUT	5V DC
IN	IN	IN	IN	

Display 1 with Speakers | DVD Player 1 | Display 4 with Speakers | DVD Player 4

Always use Kramer high-performance cables for connecting AV equipment to the **VA-4H.**
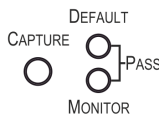
Step 4: Connect the power

Connect the 5V DC power adapter to the **VA-4H** and plug the adapter into the mains electricity.

Step 5: Operate the VA-4H

For each channel, press and hold the recessed Capture button to cycle through the settings:
MONITOR, DEFAULT, PASS THROUGH.
Release when the desired setting is reached.

CAPTURE DEFAULT PASS MONITOR

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1 Introduction

Welcome to Kramer Electronics! Since 1981, Kramer Electronics has been providing a world of unique, creative, and affordable solutions to the vast range of problems that confront the video, audio, presentation, and broadcasting professional on a daily basis. In recent years, we have redesigned and upgraded most of our line, making the best even better!

Our 1,000-plus different models now appear in 11 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters and GROUP 11: Sierra Products.

Congratulations on purchasing your Kramer **VA-4H** *4-Channel HDMI EDID Controller*, which is ideal for the following typical applications:

- Distributing presentation graphics

- Using a display at a distance from the computer

- Using in graphics production studios

2 Getting Started

We recommend that you:

- Unpack the equipment carefully and save the original box and packaging materials for possible future shipment

- Review the contents of this user manual

Go to http://www.kramerelectronics.com to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

2.1 Achieving the Best Performance

To achieve the best performance:

- Use only good quality connection cables (we recommend Kramer high-performance, high-resolution cables) to avoid interference, deterioration in signal quality due to poor matching, and elevated noise levels (often associated with low quality cables)

- Do not secure the cables in tight bundles or roll the slack into tight coils

- Avoid interference from neighboring electrical appliances that may adversely influence signal quality

- Position your Kramer **VA-4H** and away from moisture, excessive sunlight and dust

This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

2.2 Safety Instructions

Caution: There are no operator serviceable parts inside the unit

Warning: Use only the Kramer Electronics input power wall adapter that is provided with the unit

Warning: Disconnect the power and unplug the unit from the wall before installing

2.3   Recycling Kramer Products

The Waste Electrical and Electronic Equipment (WEEE) Directive 2002/96/EC aims to reduce the amount of WEEE sent for disposal to landfill or incineration by requiring it to be collected and recycled. To comply with the WEEE Directive, Kramer Electronics has made arrangements with the European Advanced Recycling Network (EARN) and will cover any costs of treatment, recycling and recovery of waste Kramer Electronics branded equipment on arrival at the EARN facility. For details of Kramer's recycling arrangements in your particular country go to our recycling pages at *http://www.kramerelectronics.com/support/recycling/*.

3   Overview

The **VA-4H** is an EDID controller for HDMI signals. The unit inputs up to four HDMI channels and lets you select an EDID for each channel from the display, an internal default EDID or to pass the signal through without change.

The **VA-4H** features:

- A maximum data rate of 2.25Gbps per channel for a total of 6.75Gbps

- A maximum input resolution of 1080p

- HDTV compatibility

- Compliance with standards: HDMI and HDCP 1.2

- Support of HDMI (V.1.4 with Deep Color, x.v.Color™, Lip Sync, HDMI Uncompressed Audio Channels, Dolby TrueHD, DTS-HD, CEC)

- Four input/output channels

- Four tamper-proof, recessed selector pushbuttons

- Non-volatile memory that saves final settings

- LED indicators for power and EDID source settings

- An RS-232 port for upgrading firmware

- A 5V DC power source

- A compact MultiTools enclosure that can be rack mounted with an optional RK-13 rack adapter

4 Defining the VA-4H 4-Channel HDMI EDID Controller
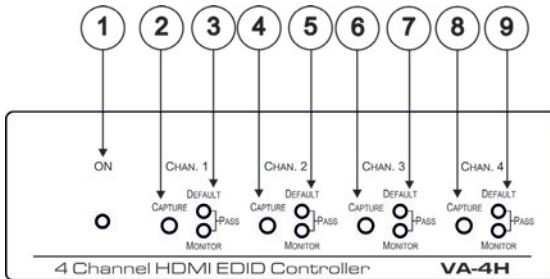
This section defines the **VA-4H**.

Figure 1: VA-4H 4-Channel HDMI EDID Controller Front Panel

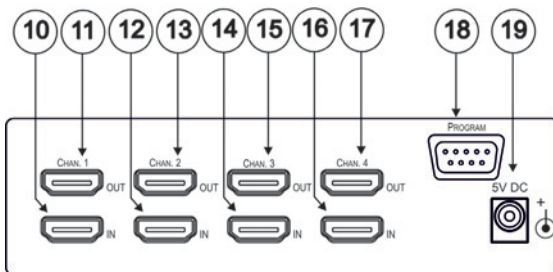| #	Feature		Function
1	*ON* LED		Illuminates green when 5V DC power is connected
2	CHAN. 1	*CAPTURE* Button	Press to choose the channel 1 EDID source
3		*DEFAULT PASS MONITOR* LEDS	Upper LED illuminates red when default EDID is chosen, both LEDS illuminate when pass-through is chosen, lower green LED illuminates when the monitor EDID is chosen
4	CHAN. 2	*CAPTURE* Button	Press to choose the channel 2 EDID source
5		*DEFAULT PASS MONITOR* LEDS	Upper LED illuminates red when default EDID is chosen, both LEDS illuminate when pass-through is chosen, lower green LED illuminates when the monitor EDID is chosen
6	CHAN. 3	*CAPTURE* Button	Press to choose the channel 3 EDID source
7		*DEFAULT PASS MONITOR* LEDS	Upper LED illuminates red when default EDID is chosen, both LEDS illuminate when pass-through is chosen, lower green LED illuminates when the monitor EDID is chosen
8	CHAN. 4	*CAPTURE* Button	Press to choose the channel 4 EDID source
9		*DEFAULT PASS MONITOR* LEDS	Upper LED illuminates red when default EDID is chosen, both LEDS illuminate when pass-through is chosen, lower green LED illuminates when the monitor EDID is chosen

Figure 2: VA-4H 4-Channel HDMI EDID Controller Rear Panel

#	Feature		Function
10	CHAN. 1	*IN* HDMI Connector	Connects to the channel 1 HDMI source
11		*OUT* HDMI Connector	Connects to the channel 1 HDMI acceptor
12	CHAN. 2	*IN* HDMI Connector	Connects to the channel 2 HDMI source
13		*OUT* HDMI Connector	Connects to the channel 2 HDMI acceptor
14	CHAN. 3	*IN* HDMI Connector	Connects to the channel 3 HDMI source
15		*OUT* HDMI Connector	Connects to the channel 3 HDMI acceptor
16	CHAN. 4	*IN* HDMI Connector	Connects to the channel 4 HDMI source
17		*OUT* HDMI Connector	Connects to the channel 4 HDMI acceptor
18	*PROGRAM* RS-232 Connector		Connects to a PC for upgrading the device firmware (see *Upgrading the VA-4H Firmware* document on the Kramer Web site)
19	*5V DC* Connector		Connects to the 5V DC power supply

5 Connecting the VA-4H

> Always switch off the power to each device before connecting it to your **VA-4H**. After connecting your **VA-4H**, connect its power and then switch on the power to each device.

To connect the **VA-4H** as illustrated in the example in Figure 3:

1. Connect up to four HDMI sources (as an example, DVD players) to the HDMI IN connectors.

2. Connect the HDMI OUT connectors to up to four HDMI acceptors (as an example, displays with speakers).
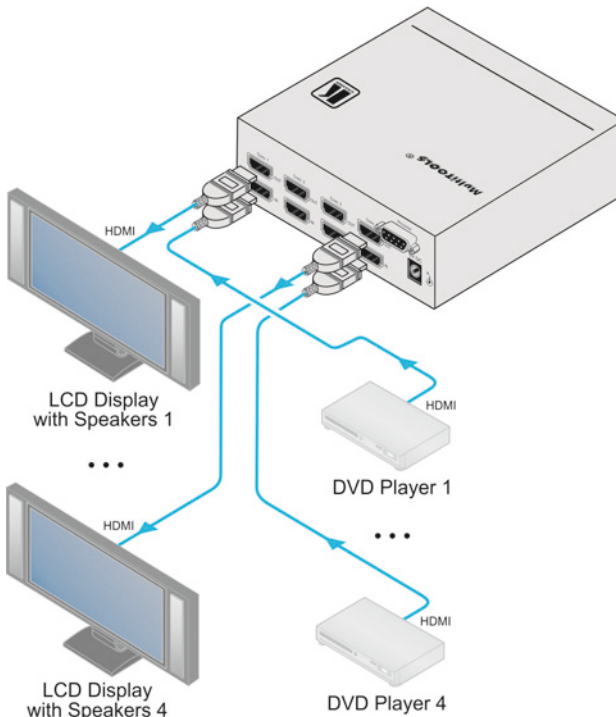

Figure 3: Connecting the VA-4H 4-Channel HDMI EDID Controller

6   Operating the VA-4H

To set the EDID source for each channel as illustrated in the example in :

1. Press and hold the CAPTURE pushbutton. The indicator LEDS illuminate in a cycle as follows:
   MONITOR, lower green LED
   DEFAULT, upper red LED
   PASS, both LEDS together.

2. Release the pushbutton at the desired setting.
   The setting is saved in non-volatile memory.

Notes:

- DEFAULT and MONITOR settings do not support HDCP key exchange. For the display to work properly with HDCP encryption, the **VA-4H** must be set to PASS

- If an EDID is captured the MONITOR LED flashes slowly

- If an EDID is not captured, the DEFAULT LED flashes quickly and the default EDID is loaded

- When exchanging a display, refresh the source by disconnecting and reconnecting the HDMI cable between the source and the device input

7   Technical Specifications

INPUTS:	4 HDMI connectors
OUTPUTS:	4 HDMI connectors
MAX. DATA RATE	2.25Gbps per data channel
COMPLIANCE WITH HDMI STANDARDS:	HDMI, HDCP 1.2
RESOLUTION:	1080p @60Hz
POWER SOURCE:	5V DC, 50mA
CONTROLS:	4 source selector pushbuttons, RS-232 port for firmware upgrade
INDICATORS:	Power and EDID source LEDs
OPERATING TEMPERATURE:	0° to +40°C (32° to 104°F)
STORAGE TEMPERATURE:	–40° to +70°C (–40° to 158°F)
HUMIDITY:	10% to 90%, RHL non-condensing
DIMENSIONS:	14.3cm x 12.2cm x 4.4cm (5.6" x 4.8" x 1.7")
WEIGHT:	0.42kg (0.92lb)
ACCESSORIES:	Power supply
OPTIONS:	RK-13 19" rack adapter
Specifications are subject to change without notice at http://www.kramerelectronics.com	

LIMITED WARRANTY

The warranty obligations of Kramer Electronics for this product are limited to the terms set forth below:

What is Covered

This limited warranty covers defects in materials and workmanship in this product.

What is Not Covered

This limited warranty does not cover any damage, deterioration or malfunction resulting from any alteration, modification, improper or unreasonable use or maintenance, misuse, abuse, accident, neglect, exposure to excess moisture, fire, improper packing and shipping (such claims must be presented to the carrier), lightning, power surges, or other acts of nature. This limited warranty does not cover any damage, deterioration or malfunction resulting from the installation or removal of this product from any installation, any unauthorized tampering with this product, any repairs attempted by anyone unauthorized by Kramer Electronics to make such repairs, or any other cause which does not relate directly to a defect in materials and/or workmanship of this product. This limited warranty does not cover cartons, equipment enclosures, cables or accessories used in conjunction with this product.

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How Long Does this Coverage Last

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Kramer Electronics will, at its sole option, provide one of the following three remedies to whatever extent it shall deem necessary to satisfy a proper claim under this limited warranty:

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2. Replace this product with a direct replacement or with a similar product deemed by Kramer Electronics to perform substantially the same function as the original product.

3. Issue a refund of the original purchase price less depreciation to be determined based on the age of the product at the time remedy is sought under this limited warranty.

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If this product is returned to Kramer Electronics or the authorized dealer from which it was purchased or any other party authorized to repair Kramer Electronics products, this product must be insured during shipment, with the insurance and shipping charges prepaid by you. If this product is returned uninsured, you assume all risks of loss or damage during shipment. Kramer Electronics will not be responsible for any costs related to the removal or re-installation of this product from or into any installation. Kramer Electronics will not be responsible for any costs related to any setting up this product, any adjustment of user controls or any programming required for a specific installation of this product.

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If it is decided that this product should be returned directly to Kramer Electronics, this product should be properly packed, preferably in the original carton, for shipping. Cartons not bearing a return authorization number will be refused.

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For the latest information on our products and a list of Kramer distributors, visit our Web site where updates to this user manual may be found.

We welcome your questions, comments, and feedback.
Web site: www.kramerelectronics.com
E-mail: info@kramerel.com

SAFETY WARNING
Disconnect the unit from the power supply before opening and servicing

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