KRAMER

USER MANUAL
MODEL:

KDS-8
SDVoE Streaming Transceiver

Contents

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!

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 www.kramerav.com/downloads/KDS-8 to check for up-to-date user manuals, application programs, and to check if firmware upgrades are available (where appropriate).

Achieving 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 **KDS-8** 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.

Safety Instructions

⚠ **Caution:**
- This equipment is to be used only inside a building. It may only be connected to other equipment that is installed inside a building.

- For products with relay terminals and GPI\O ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.

- There are no operator serviceable parts inside the unit.

⚠ **Warning:**
- Use only the power cord that is supplied with the unit.

- To ensure continuous risk protection, replace fuses only according to the rating specified on the product label which located on the bottom of the unit.

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 www.kramerav.com/support/recycling.

Overview

Congratulations on purchasing your Kramer **KDS-8 SDVoE Streaming Transceiver**. **KDS-8** is a high-performance, zero latency, 4K@60Hz (4:4:4) video transceiver for streaming via Ethernet over copper cable. **KDS-8** can be set as either an encoder or decoder. As an encoder, it encodes and streams the HDMI™ input along with IR, RS-232, and analog audio, over an IP network. As a decoder, it receives the encoded signal and decodes it for output.

Benefits and Features

- High-Performance Video Streaming Transceiver – Streams up to 4K@60Hz (4:4:4) resolution signals over a 10G network interface, providing lossless compression.

- Maximum Compatibility – Fully standard and compliant SDVoE™ codec, enables compatibility with other software and hardware streaming platforms.

- HDCP 2.2 Compliant, HDR Support, Genlock and FastSwitch Support

- High-Speed 10G Network Switch – Managed switch provides: multicast, jumbo frames, IGMP snooping and fast-leave.

- Analog Audio Embedding – Provides an unbalanced analog audio port for embedding audio into the streaming signal.

- Bi-directional IR and RS-232 over IP – Control an IR or serial device located on the decoder side from the encoder and vice versa.

- Video Wall Support.

- Multiview Support.

- Easy, Cost-Effective Maintenance – LED indicators for main power, Tx/Rx mode setting, HDMI video source detection, and Tx/Rx transmission enable easy local maintenance and troubleshooting.

- Simple System Management – Remote system management support to enable quick and efficient remote system and device life-cycle management.

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

Typical Applications

KDS-8 is ideal for the following typical applications:

- Medical facilities and hospitals

- Government facilities

- Live entertainment

- Control centers

- Large scale matrixes

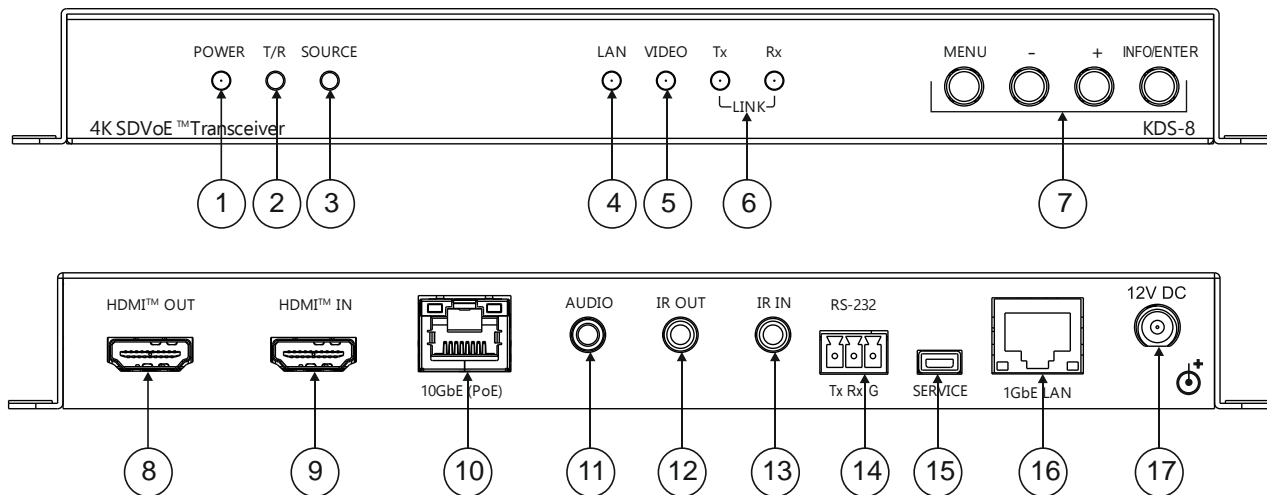# Defining KDS-8 SDVoE Streaming Transceiver

This section defines **KDS-8**.

Figure 1: **KDS-8** SDVoE Streaming Transceiver

#	Feature		Function	
1	POWER LED		Lights when the device is powered ON.	
2	T/R LED		Encoder mode: Lights green. Decoder mode: Lights amber.	
3	SOURCE LED		Decoder mode: Lights when the HDMI input is live and selected.	
4	LAN LED		Lights when the 1GbE LAN connection is active.	
5	VIDEO LED		Encoder mode: Lights when HDMI input signal is detected. Decoder mode: • Genlock mode – Lights when streaming video is detected. • FastSwitch mode – Lights constantly.	
6	LINK Tx and Rx LEDs		Lights to indicate data transmission and reception activity over the 10GbE streaming connection.	
7	OSD Navigation Buttons	MENU	Press to enter the configuration OSD menu, or to exit menu items.	
		+	When in OSD: Press to move up or adjust selections.	When not in OSD: • Press and hold both buttons simultaneously for 10 seconds to change the mode from encoder to decoder or decoder to encoder. • Decoder mode: Press one of the buttons to toggle the video source between 10GbE (PoE) and HDMI™ IN.
		-	When in OSD: Press to move down or adjust selections.	
		INFO/ENTER	When in OSD: Press to confirm a selection or to go deeper into a menu item. Not in a menu: Press to activate the information OSD.	
8	HDMI OUT Connector		Encoder mode: Connect to a video acceptor for local viewing of the video source connected to HDMI IN. Decoder mode: Connect to a video acceptor for viewing the video streamed from the encoder.	

#	Feature	Function
9	HDMI IN Connector	Encoder mode: Connect to a video source for streaming.
		Decoder mode: Connect to a video source for a local video input.
10	10GbE (PoE) RJ-45 Connector	Connect to another SDVoE™ unit or to another device for streaming video.
11	AUDIO 3.5mm Jack	Encoder mode: Connect to an unbalanced analog audio source for embedding audio in the streaming signal.
		Decoder mode: Connect to an unbalanced analog audio acceptor for de-embedding audio from the streaming signal.
12	IR OUT 3.5mm Jack	Connect to a 38kHz IR transmitter for transmitting the IR signal that was extended via the streaming line. For example, connect to an IR transmitter to control a display.
13	IR IN 3.5mm Jack	Connect to a 38kHz IR sensor for extending the IR signal via the streaming line.
14	RS-232 3-Pin Terminal Block	Connect to a serial controller or controlled device for extending the serial control signal via the streaming line to an external device.
15	SERVICE Mini USB Connector	For internal use.
16	1GbE LAN RJ-45 Connector	Connect to a 1G device.
17	12V DC Connector	Connect to the power adapter.

Mounting KDS-8

This section provides instructions for mounting **KDS-8**. Before installing, verify that the environment is within the recommended range:

- Operation 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.

- **KDS-8** must be placed upright in the correct horizontal position.

Caution:
- Mount **KDS-8** before connecting any cables or power.

Warning:
- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
- Reliable earthing of rack-mounted equipment should be maintained.

You can install KDS-8 using one of the following methods:

- Mount to a flat surface using the attached mounting brackets.
- Place on a flat surface.

Connecting KDS-8

(i) Always switch off the power to each device before connecting it to your **KDS-8**. After connecting your **KDS-8**, connect its power and then switch on the power of the device.
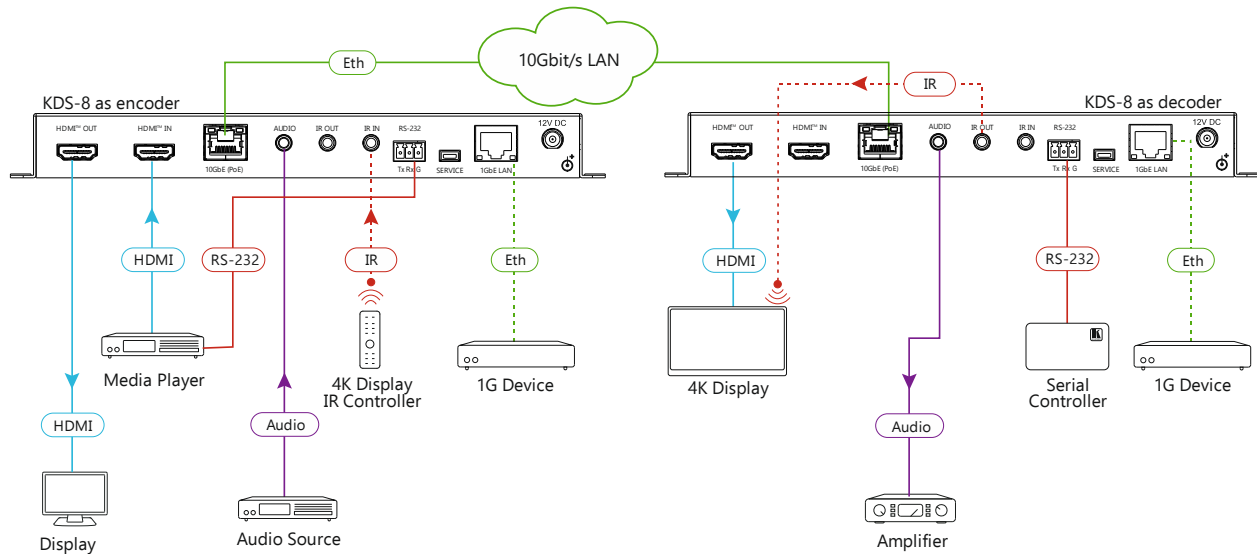

Figure 2: Connecting a **KDS-8** in Encoder Mode to Another **KDS-8** in Decoder Mode

(i) To change the encoder/decoder mode of a unit see Changing Encoder/Decoder Mode – Front Panel on page 9.

To connect KDS-8 as illustrated in Figure 2:

1. Connect the 10GbE (PoE) RJ-45 Connector ⑩ on each unit to the LAN.

2. Connect the **KDS-8** configured as an encoder:

    a. Connect an HDMI video source (for example, media player) to:

    · HDMI IN Connector ⑨.

    · RS-232 3-Pin Terminal Block ⑭ for controlling the video source via a serial controller on the decoder side.

    b. Connect the AUDIO 3.5mm Jack ⑪ to an unbalanced analog audio source.

    c. Connect the 1GbE LAN RJ-45 Connector ⑯ to a 1G device.

    d. Connect the HDMI OUT Connector ⑧ to a display.

3. Connect the **KDS-8** configured as an decoder:

    a. Connect the HDMI OUT Connector ⑧ to a video acceptor (for example, 4K display).

    b. Connect the AUDIO 3.5mm Jack ⑪ to an audio amplifier.

    c. Connect the RS-232 3-Pin Terminal Block ⑭ to a serial controller to control a serial device on the encoder side.

    d. Connect the 1GbE LAN RJ-45 Connector ⑯ to a 1G device.

4. If PoE is not available, connect a 12V power supply (not included) to the DC 12V Connector ④ on each unit.

Operating KDS-8

Configure and control your **KDS-8** using any of the following methods:

- Kramer Network Enterprise Management Platform (version 2.2 or higher – go to www.kramerav.com/product/KDS-8 for more information).

- Via the front panel buttons (see Changing Encoder/Decoder Mode – Front Panel on page 9).

- Via the configuration OSD (see Configuring Settings – OSD on page 10).

Changing Encoder/Decoder Mode – Front Panel

By default, **KDS-8** is defined to operate in encoder mode. You can easily change the encoder/decoder mode using the front panel buttons.

To change the encoder/decoder mode from the configuration OSD, see Changing Encoder/Decoder Mode – OSD on page 13.

To change the mode from encoder to decoder or vice versa:

- Press and hold the + (plus) and – (minus) buttons ⑦ simultaneously for about 10 seconds.
The device reboots and the encoder / decoder mode changes.

Press the INFO/ENTER button ⑦ to display the encoder/decoder mode status (TX = encoder, RX = decoder) on the display connected to the HDMI OUT Connector ⑧.

Configuring Settings – OSD

The configuration OSD enables you to configure **KDS-8**. When using the menu, it appears as an overlay on top of any image that appears on the display. The menu is operated using the front panel buttons.

KDS-8 configuration OSD enables performing the following:

Navigating Configuration OSD

Navigate the configuration OSD using the four OSD Navigation Buttons ⑦ on the front panel, as follows:

- MENU button – Open the configuration OSD on your screen or exit a menu option.

ⓘ When **KDS-8** is in encoder mode the OSD appears on the bottom left of the screen and when it is in decoder mode it appears on the bottom right of the screen.

- \+ or – buttons – Move up or down in the menu / sub-menu or scroll through parameter options.

- INFO/ENTER button – Open a menu / sub-menu item, activate a menu / sub-menu item to edit it or select the required value.

ⓘ When a menu item is selected, it turns green.

When a menu / sub-menu item is activated and editable, the item turns red.

For example, to change the local priority setting:

1. Press the Menu button.

The MAIN MENU appears with OSD selected.

```
RX         MAIN MENU
 OSD
 EDID
 HDCP
 DEVICE SETTING
 INFORMATION
 FACTORY SETTING
```

Figure 3: MAIN MENU with OSD selected

2. Press the – button three times.
   DEVICE SETTING is selected.

```
RX         MAIN MENU
 OSD
 EDID
 HDCP
 DEVICE SETTING
 INFORMATION
 FACTORY SETTING
```

Figure 4: MAIN MENU with DEVICE SETTING selected

3. Press the INFO/ENTER button.
   The DEVICE SETTING menu appears.

```
RX         DEVICE SETTING
 STATUS        :  RECEIVER
 FAN MODE      :  FOLLOW TEMP
 INPUT         :  INPUT 2
 LOCAL PRIORITY:  OFF
```

Figure 5: DEVICE SETTING Menu

4. Press the + button once.
   LOCAL PRIORITY is selected.

```
RX         DEVICE SETTING
 STATUS        :  RECEIVER
 FAN MODE      :  FOLLOW TEMP
 INPUT         :  INPUT 2
 LOCAL PRIORITY:  OFF
```

Figure 6: DEVICE SETTING Menu with LOCAL PRIORITY Selected

5. Press the INFO/ENTER button.

   LOCAL PRIORITY is activated and editable.

```
RX          DEVICE SETTING

 STATUS         :  RECEIVER
 FAN MODE       :  FOLLOW TEMP
 INPUT          :  INPUT 2
 LOCAL PRIORITY:  OFF
```

Figure 7: DEVICE SETTING Menu with Editable LOCAL PRIORITY

6. Use the + or – button to toggle ON or OFF.

7. Press the INFO/ENTER button.
   The selected value (ON or OFF) is set.

Configuring Information OSD

When you press the INFO/ENTER button, the following information appears on the connected display:

- Output resolution

- Encoder/decoder mode status

- Device IP address

This information OSD, if enabled, also appears automatically when you connect the HDMI cable from the device to the display.

Enabling/Disabling Automatic Information Display

To enable/disable the automatic information display upon connection:

1. In the OSD, go to OSD > DISPLAY INFORMATION.

2. Select ON or OFF.

   The automatic information display is enabled.

Defining Information Display Duration

To define the amount of time the Information display remains on the screen:

1. In the OSD, go to OSD > INFORMATION TIMEOUT.

2. Set the timeout value in seconds.

   The information display duration is defined.

Defining Configuration OSD Duration

When you press the MENU button, the configuration OSD appears on the screen. If no other buttons are pressed, it remains on the screen for a user-defined amount of time.

To define the amount of time the configuration OSD remains on the screen:

1. In the OSD, go to OSD > MENU TIMEOUT.

2. Set the timeout value in seconds.

   The configuration OSD duration is defined.

Defining EDID

KDS-8 enables you to manually define the EDID source.

To define the EDID:

1. In the OSD, go to EDID > EDID SELECT.

2. Select the EDID from the following:

   ▪ Internal 1 – Internal 6

   ▪ External A

   ▪ User 1, User 2

   The EDID source is defined.

Defining HDCP

KDS-8 enables you to define the HDCP status of the device.

To define the HDCP status of the device:

1. In the OSD, go to HDCP > HDMI HDCP.

2. Select one of the following options:

   ▪ Follow In – HDCP follows the input source device.

   ▪ Follow Out – HDCP follows the output acceptor display.

   ▪ Disable – HDCP is disabled.

   HDCP status of the device is defined.

Changing Encoder/Decoder Mode – OSD

By default, **KDS-8** is defined to operate in encoder mode. You can easily change the encoder/decoder mode using the configuration OSD.

(i) To change the encoder/decoder mode using front panel buttons, see Changing Encoder/Decoder Mode – Front Panel on page 9.

To change the mode from encoder to decoder or vice versa:

1. In the OSD, go to DEVICE SETTINGS > STATUS.

2. Select TRANSMITTER (encoder) or RECEIVER (decoder).
   The device reboots and the encoder/decoder mode changes.

(i) Press the INFO/ENTER button (7) to display the encoder/decoder mode status (TX = encoder, RX = decoder) on the display connected to the HDMI OUT Connector (8).

Defining Cooling Fan Operation

KDS-8 enables you to define when the cooling fan operates. You can set it to operate only when it reaches a certain temperature or you can set it to operate continuously, to ensure proper cooling at all times.

To define when the cooling fan operates:

1. In the OSD, go to DEVICE SETTINGS > FAN MODE.

2. Select one of the following:

   - FOLLOW TEMP – Fan operates when the device reaches the maximum operating temperature

   - ALWAYS ON – Fan operates continuously

   Cooling fan operation is defined.

Selecting Active Input

(i) This section is only relevant for a device in decoder mode.

When the device is in decoder (receiver) mode, you can select the input to route to the HDMI output.

To select the active input:

1. In the OSD, go to DEVICE SETTINGS > INPUT.

2. Select one of the following:

   - INPUT 1 – 10G Ethernet

   - INPUT 2 – HDMI input

   The active input is selected.

Setting Overlay Priority

(i) This section is only relevant for a device in decoder mode.

To set on-screen display overlay priority:

1. In the OSD, go to DEVICE SETTINGS > LOCAL PRIORITY.

2. Select ON or OFF.

   Overlay display priority is set.

Resetting Unit

Resetting the device to factory default settings can be accomplished by using:

- Kramer Network Enterprise Management Platform (version 2.2 or higher – go to www.kramerav.com/product/KDS-8 for more information).

- OSD

To reset a unit using the OSD:

1. Go to FACTORY SETTING.
   A confirmation message appears.

Figure 8: Factory Reset Confirmation Message

2. Select YES.
   The device reboots and resets to the factory default settings.

Verifying Device Information

KDS-8 enables you to display and verify the following information:

- Output resolution.

- Whether the device is defined as an encoder or decoder.

- FW Version.

- IP Address.

- MAC address.

- Serial Number.

- Fan Operation Status.

To verify information about KDS-8:

- In the OSD, go to INFORMATION.
  Device information is displayed.

Technical Specifications

Inputs	1 HDMI	On a female HDMI connector
	1 IR	On a 3.5mm mini jack
Outputs	1 HDMI	On a female HDMI connector
	1 IR	On a 3.5mm mini jack
Ports	1 10GbE Ethernet	On an RJ-45 connector
	1 Unbalanced Stereo Audio	On a 3.5mm mini jack
	1 1GbE Ethernet	On an RJ-45 connector
	1 RS-232	On a 3-pin terminal block connector
Video	Standards Compliance	10/12-bit HDR (Point-to-Point and Genlock mode only), HDCP 2.2 &1.4, DVI 1.0,
Extension Line	Signal Compression	Ultra-light compression, lossless for most content
	Range	Up to 100m in point-to-point mode
Audio	Standards Compliance	Supports pass-through of audio formats including LPCM 2.0/5.1/7.1, Bitstream and HD Bitstream from HDMI sources
Power	Source	12V DC
	Consumption	3A
Environmental Conditions	Operating Temperature	0 to + 45°C (32 to + 113 °F), 10% to 90%, non-condensing
	Storage Temperature	-20 to +70°C (-4 to + 158 °F), 10% to 90%, non-condensing
	Humidity	10% to 90%, non-condensing
Physical	Product Dimension	23.10cm x 11.60cm x 2.50cm (9.09" x 4.57" x 0.98") W, D, H
	Product Weight	0.5kg (1.1lbs) approx.
	Shipping Dimension	35.10cm x 21.20cm x 7.20cm (13.82" x 8.35" x 2.83") W, D, H
	Shipping Weight	1.2kg (2.6lbs) approx.

The warranty obligations of Kramer Electronics Inc. ("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.

Without limiting any other exclusion herein, Kramer Electronics does not warrant that the product covered hereby, including, without limitation, the technology and/or integrated circuit(s) included in the product, will not become obsolete or that such items are or will remain compatible with any other product or technology with which the product may be used.

How Long this Coverage Lasts

The standard limited warranty for Kramer products is seven (7) years from the date of original purchase, with the following exceptions:

1. All Kramer VIA hardware products are covered by a standard three (3) year warranty for the VIA hardware and a standard three (3) year warranty for firmware and software updates; all Kramer VIA accessories, adapters, tags, and dongles are covered by a standard one (1) year warranty.
2. All Kramer fiber optic cables, adapter-size fiber optic extenders, pluggable optical modules, active cables, cable retractors, all ring mounted adapters, all Kramer speakers and Kramer touch panels are covered by a standard one (1) year warranty.
3. All Kramer Cobra products, all Kramer Calibre products, all Kramer Minicom digital signage products, all HighSecLabs products, all streaming, and all wireless products are covered by a standard three (3) year warranty.
4. All Sierra Video MultiViewers are covered by a standard five (5) year warranty.
5. Sierra switchers & control panels are covered by a standard seven (7) year warranty (excluding power supplies and fans that are covered for three (3) years).
6. K-Touch software is covered by a standard one (1) year warranty for software updates.
7. All Kramer passive cables are covered by a ten (10) year warranty.

Who is Covered

Only the original purchaser of this product is covered under this limited warranty. This limited warranty is not transferable to subsequent purchasers or owners of this product.

What Kramer Electronics Will Do

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:

1. Elect to repair or facilitate the repair of any defective parts within a reasonable period of time, free of any charge for the necessary parts and labor to complete the repair and restore this product to its proper operating condition. Kramer Electronics will also pay the shipping costs necessary to return this product once the repair is complete.
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.

What Kramer Electronics Will Not Do Under This Limited Warranty

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.

How to Obtain a Remedy Under This Limited Warranty

To obtain a remedy under this limited warranty, you must contact either the authorized Kramer Electronics reseller from whom you purchased this product or the Kramer Electronics office nearest you. For a list of authorized Kramer Electronics resellers and/or Kramer Electronics authorized service providers, visit our web site at www.kramerav.com or contact the Kramer Electronics office nearest you.

In order to pursue any remedy under this limited warranty, you must possess an original, dated receipt as proof of purchase from an authorized Kramer Electronics reseller. If this product is returned under this limited warranty, a return authorization number, obtained from Kramer Electronics, will be required (RMA number). You may also be directed to an authorized reseller or a person authorized by Kramer Electronics to repair the product.

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.

Limitation of Liability

THE MAXIMUM LIABILITY OF KRAMER ELECTRONICS UNDER THIS LIMITED WARRANTY SHALL NOT EXCEED THE ACTUAL PURCHASE PRICE PAID FOR THE PRODUCT. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY. Some countries, districts or states do not allow the exclusion or limitation of relief, special, incidental, consequential or indirect damages, or the limitation of liability to specified amounts, so the above limitations or exclusions may not apply to you.

Exclusive Remedy

TO THE MAXIMUM EXTENT PERMITTED BY LAW, THIS LIMITED WARRANTY AND THE REMEDIES SET FORTH ABOVE ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL OR WRITTEN, EXPRESS OR IMPLIED. TO THE MAXIMUM EXTENT PERMITTED BY LAW, KRAMER ELECTRONICS SPECIFICALLY DISCLAIMS ANY AND ALL IMPLIED WARRANTIES, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IF KRAMER ELECTRONICS CANNOT LAWFULLY DISCLAIM OR EXCLUDE IMPLIED WARRANTIES UNDER APPLICABLE LAW, THEN ALL IMPLIED WARRANTIES COVERING THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY TO THIS PRODUCT AS PROVIDED UNDER APPLICABLE LAW.

IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C.A. §2301, ET SEQ.) OR OTHER APPLICABLE LAW, THE FOREGOING DISCLAIMER OF IMPLIED WARRANTIES SHALL NOT APPLY TO YOU, AND ALL IMPLIED WARRANTIES ON THIS PRODUCT, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR THE PARTICULAR PURPOSE, SHALL APPLY AS PROVIDED UNDER APPLICABLE LAW.

Other Conditions

This limited warranty gives you specific legal rights, and you may have other rights which vary from country to country or state to state.

This limited warranty is void if (i) the label bearing the serial number of this product has been removed or defaced, (ii) the product is not distributed by Kramer Electronics or (iii) this product is not purchased from an authorized Kramer Electronics reseller. If you are unsure whether a reseller is an authorized Kramer Electronics reseller, visit our web site at www.kramerav.com or contact a Kramer Electronics office from the list at the end of this document.

Your rights under this limited warranty are not diminished if you do not complete and return the product registration form or complete and submit the online product registration form. Kramer Electronics thanks you for purchasing a Kramer Electronics product. We hope it will give you years of satisfaction.

KRAMER

CE ♻ 22 PAP

P/N: 2900-301167   Rev: 1

⚠ SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing

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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.

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