



KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

VP-427A
HDBaseT to HDMI+Audio
Receiver/Scaler

P/N: 2900-300425 Rev 3



VP-427A Quick Start Guide

This guide helps you install and use your product for the first time. For more detailed information, go to <http://www.kramerav.com/manual/VP-427A> to download the latest manual or scan the QR code on the left.

Step 1: Check what's in the box

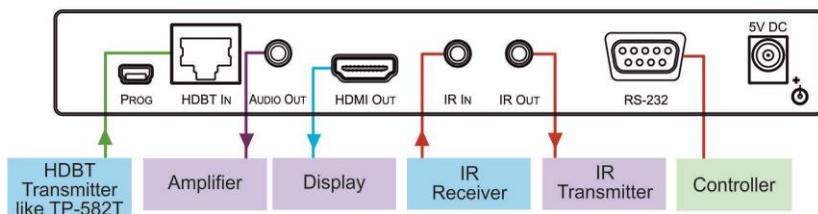
- ✓ **VP-427A** HDBaseT to HDMI+Audio Receiver/Scaler
- ✓ 1 Power supply (5V DC)
- ✓ 4 Rubber feet
- ✓ 1 Quick Start sheet

Step 2: Install the VP-427A

Attach the rubber feet and place on a table or mount the **VP-427A** in a rack (using an optional **RK-T2B** rack mount).

Step 3: Connect the inputs and outputs

Always switch off the power on each device before connecting it to your **VP-427A**.



Always use Kramer high-performance cables for connecting AV equipment to the **VP-427A**.

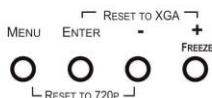
Step 4: Connect the power

Connect the 5V DC power adapter to the **VP-427A** and plug the adapter into the mains electricity.



Step 5: Operate the VP-427A

Set parameters using the front panel buttons or choose parameters from the OSD.



Reset the resolution
or freeze the frame.

PICTURE
ASPECT RATIO
OVER SCANNING
NOISE REDUCTION
OUTPUT
REFRESH RATE
HD OUTPUT COLOR
OSD SETTINGS
ADVANCED
FACTORY DEFAULT
INFO MENU
EXIT

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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 video, audio, presentation, and broadcasting professionals 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 14 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; GROUP 11: Sierra Video Products; GROUP 12: Digital Signage; GROUP 13: Audio; and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer **VP-427A HDBaseT to HDMI+Audio Receiver/Scaler**, which is ideal for the following typical applications:

- Home theater, presentation and multimedia applications
- Rental and staging

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 www.kramerav.com/downloads/VP-427A 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 **VP-427A** 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 www.kramerav.com/support/recycling.

3 Overview

The Kramer **VP-427A** is a receiver/scaler for HDBaseT twisted pair, HDMI, bidirectional RS-232 and IR signals. The unit receives an HDBaseT signal that it converts to HDMI, IR and passed RS-232 signals. It up- or down-scales the picture to match the resolution of the HDMI monitor.

The **VP-427A** also features:

- An HDBaseT input
- An HDMI output
- A bidirectional RS-232 port for embedding/de-embedding control commands in the HDBaseT data stream
- Infrared input and output ports for controlling devices over the HDBaseT data stream
- Embedded audio supporting LPCM 2CH
- Maintains constant sync on the output, even when the input video signal is lost or interrupted
- A simultaneous analog audio output of the embedded HDMI audio
- System range of up to 70m (230ft).
- A built-in ProcAmp for convenient signal adjustment
- An On-Screen Display (OSD) for easy setup and adjustment, accessible via the front-panel buttons
- A non-volatile memory that retains the last settings used
- A freeze button
- A USB connector for firmware upgrading

The machine is fed from an external 5V DC source, making it suitable for field operation.

3.1 Defining the VP-427A HDBaseT to HDMI+Audio Receiver/Scaler

This section defines the **VP-427A**.

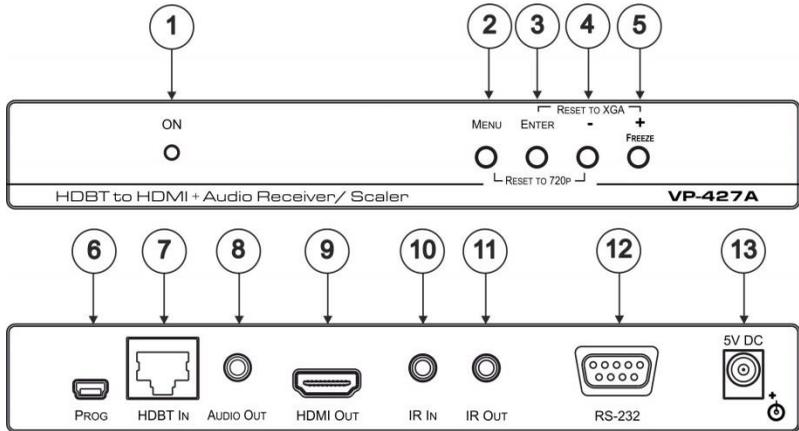


Figure 1: VP-427A HDBaseT to HDMI+Audio Receiver/Scaler

#	Feature	Function
1	ON LED	Lights green when the unit is powered on
2	MENU Button	Press to enter/escape the on-screen display (OSD) menu. Press together with the – button to reset to 720p
3	ENTER Button	In OSD, press to choose the highlighted menu item. Press together with the + button to reset to XGA
4	–	In OSD, press to move backward through the list or to decrement the parameter value
5	+ / FREEZE Button	In OSD, press to move forward through the list or to increment the parameter value. When not in OSD, press to freeze the display
6	PROG USB Connector	Connects to a PC for programming upgrade
7	HDBT IN RJ-45 Connector	Connects to an HDBaseT transmitter
8	AUDIO OUT 3.5mm Mini Jack	Connects to an unbalanced stereo acceptor
9	HDMI OUT Connector	Connects to an HDMI acceptor
10	IR IN 3.5mm Mini Jack	Connects to an IR receiver
11	IR OUT 3.5mm Mini Jack	Connects to an IR emitter
12	RS-232 9-pin D-sub Connector	Connects to a controller
13	5V DC	+5V DC connector for powering the unit

4 Connecting the VP-427A



Always switch off the power to each device before connecting it to your **VP-427A**. After connecting your **VP-427A**, connect its power and then switch on the power to each device.

To connect the **VP-427A** as illustrated in the example in [Figure 2](#):

1. Connect the output from an HDBaseT transmitter (for example, a **TP-582T**) to the HDBT IN RJ-45 connector.
2. Connect the AUDIO OUT 3.5mm mini jack connector to an unbalanced stereo audio acceptor (for example, an amplifier).
3. Connect the HDMI OUT connector to an HDMI acceptor (for example, a display).
4. Connect an IR receiver to the IR IN 3.5mm mini jack.
5. Connect the IR OUT 3.5mm mini jack to an IR emitter.
6. Connect the RS-232 9-pin D-sub connector to an RS-232 port (for example, a display).
7. Connect the 5V DC power adapter to the power socket and connect the adapter to the mains electricity (not shown in [Figure 2](#)).

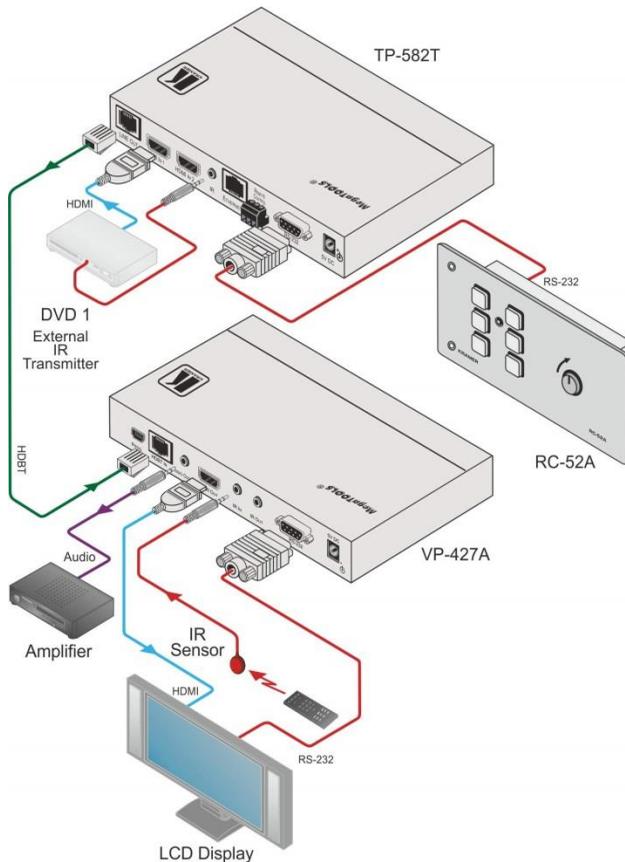


Figure 2: Connecting the VP-427A HDBaseT to HDMI+Audio Receiver/Scaler

4.1 RS-232 Control over HDBaseT

You can connect to the transmitter/receiver system via an RS-232 connection using, for example, a PC. Note that a null-modem adapter/connection is not required.

To connect a PC via RS-232, connect the RS-232 9-pin D-sub rear panel port on the transmitter/receiver system unit via a 9-wire straight cable (only pin 2 to pin 2, pin 3 to pin 3, and pin 5 to pin 5 need to be connected) to the RS-232 9-pin D-sub port on your PC.

[Figure 2](#) shows RS-232 bidirectional control of the DVD that is connected to a TP-582T.

4.2 IR Control Over HDBaseT

Since the IR signal on the **TP-582T** transmitter and **VP-427A** receiver is bidirectional, you can use a remote control transmitter (that is used for controlling a peripheral device, for example, a DVD player) to send commands (to the AV equipment) from either end of the transmitter /receiver system. To do so, you have to use the Kramer external IR sensor on one end (P/N: 95-0104050) and the Kramer IR emitter cable on the other end (P/N: C-A35/IRE-10)

Two IR Emitter Extension Cables are also available: a 15 meter cable and a 20 meter cable.

The example in [Figure 2](#) illustrates how to control the DVD player that is connected to **TP-582T** using a remote control, via the **VP-427A**. In this example, the External IR Sensor is connected to the IR connector of the **VP-427A** and an IR Emitter is connected between the **TP-582T** and the DVD player. The DVD remote control sends a command while pointing towards the External IR Sensor. The IR signal passes through the TP cable and the IR Emitter to the DVD player, which responds to the command sent.

5 Operating the VP-427A

The **VP-427A** is operated directly using the front panel buttons and the OSD menu (see [Section 5.2](#)).

5.1 Operating the VP-427A from the Front Panel Buttons

During normal operation (without the OSD), the front panel buttons perform the following functions:

- Pressing MENU opens the on-screen display (OSD) main menu (see [Section 5.2](#)), the next press closes the OSD
- Pressing +/FREEZE freezes the display, the next press unfreezes the display
- Pressing MENU and –/AUTO ADJUST together resets the display to 720p
- Pressing ENTER and +/FREEZE together resets the display to XGA

5.2 Using the OSD

You can use the OSD to set a wide variety of parameters. When the MENU button is pressed, the main menu opens (see [Section 5.2.2](#)) allowing access to all the device settings.

5.2.1 Operating the OSD from the Front Panel Buttons

While the OSD is open, the front panel buttons perform the following functions:

- Pressing - and + move forward and backward through the menu items and decrement or increment the parameter values
- Pressing ENTER selects and activates a menu item or accepts the parameter value set
- Pressing MENU closes the OSD menu

The menu times out by default after 10 seconds. To change the OSD display time, adjust the OSD/TIMER parameter.

As an example of setting parameters, to increase the contrast on the display:

1. From normal operation, press MENU.
The OSD main menu appears on the screen.
2. Press the + or – button to highlight CONTRAST.
CONTRAST changes to green when highlighted.
3. Press ENTER.
The contrast value parameter changes to red.
4. Press the + button to increase the value (increase the contrast) or the – button to decrease the value (decrease the contrast).
The value ranges from 0 to 100.
5. Press ENTER to set the value.
The contrast value parameter changes back to white.
6. To return to normal operation, highlight EXIT and press ENTER, press MENU, or wait until the menu times out.

5.2.2 The OSD Menu Structure

Main Menu	Submenu	Values	Notes
Picture	Contrast	0-100	Adjusts the contrast
	Brightness	0-50	Adjusts the brightness level
	Saturation	0-100	Adjusts the color saturation level
	Hue	0-100	Adjusts the color hue setting
	Sharpness	0-100	Adjusts the sharpness (edge contrast)
	Picture Reset		Resets picture settings to their default values
	Exit		Select to exit to the Main Menu
Aspect Ratio		Best Fit	Shows the largest sized picture without distorting the aspect ratio
		Full	The output picture fills the screen
		16:9	Forces a 16:9 aspect ratio
		4:3	Forces a 4:3 aspect ratio
Over Scanning		5% 10% 15% 20% OFF	Allows enabling and sizing selection of overscanned output
Noise Reduction		Off Min Typ Max	Enable video noise reduction, and selection of strength of noise filter

Main Menu	Submenu	Values	Notes
Output		Native 480p 570p 720p 1080i 1080p 640x480 800x600 1024x768 1280x800 1280x1084 1360x768 1400x1050 1440x900 1600x1200 1680x1050 1920x1200	Select the desired resolution (Native is recommended)
Refresh Rate		60Hz 50Hz Follow	Select that the output refresh rate follows the input refresh rate (recommended), or force it to 50Hz or 60Hz
HD Output Color		RGB YPbPr	Select the output colorspace
OSD Settings	H-Position	0-100	Adjusts the horizontal position of the OSD on the screen
	V-Position	0-100	Adjusts the vertical position of the OSD on the screen
	Transparency	0-100	Adjusts the transparency of the OSD background from black to totally transparent
	Menu Timeout	5-100	Adjusts the length of time in seconds the OSD appears on the screen before timing out
	Info Timeout		
	Info Display		
	Exit		Select to exit to the Main Menu
Advanced	Auto Sync Off	Slow Fast Disable	Turns of the output after a period of not detecting a valid video signal on the input(s) until a valid input is again detected or any keypad is pressed. Set to: Slow – to disable outputs after 2 minutes Fast – to disable outputs after 10 seconds Disable – to leave outputs active at all times
	HDCP on Input	On Off	Selects the HDCP option for the HDMI input: either ON (the default) or OFF. Setting HDCP support on the HDMI input to disable (OFF) allows the source to transmit a non-HDCP signal if required (for example, when working with a Mac computer)

Main Menu	Submenu	Values	Notes
	HDCP ON OUTPUT	Follow Input Follow Output	Select FOLLOW INPUT, to change its HDCP output setting according to the HDCP of the input. This option is recommended when the HDMI/HDCP output is connected to a splitter/switcher Select FOLLOW OUTPUT for the scaler to match its HDCP output to the HDCP setting of the HDMI/HDCP acceptor to which it is connected
	Freeze	Freeze+Mute Mute Only Freeze Only Exit	Select to freeze/mute the display
Factory Default		No Yes	Reset the unit to its Factory Default settings
Info Menu	Source Info		Displays the source, input and output resolutions and the software version (read only)
	Sync Info		
	Firmware Version		
Exit			Select to exit OSD

6 Technical Specifications

INPUTS:	1 HDBaseT twisted pair on an RJ-45 connector, 1 IR on a 3.5mm mini jack
OUTPUTS:	1 HDMI connector, 1 IR on a 3.5mm mini jack, 1 unbalanced stereo audio on a 3.5mm mini jack
PORTS:	1 bidirectional RS-232 port on a 9-pin D-sub connector
OUTPUT RESOLUTIONS:	Native 480p 570p 720p 1080i 1080p 640x480 800x600 1024x768 1280x800 1280x1084 1360x768 1400x1050 1440x900 1600x1200 1680x1050 1920x1200
OUTPUT REFRESH RATE:	60Hz for computer graphics resolutions, 50/60Hz for HDTV resolutions
LATENCY:	30ms (approx.)
VIDEO COLOR DEPTH:	Input: 8/10/12-bit, output: 8-bit
EMBEDDED AUDIO:	Supports LPCM 2CH
RS-232 BAUDRATE:	115200bps max.
CONTROLS:	Front panel buttons, 1 USB for programming
INDICATORS:	ON LED
POWER CONSUMPTION:	5V DC, 1.5A
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:	18.8cm x 11.4cm x 2.5cm (7.4" x 4.5" x 1.0") W, D, H
WEIGHT:	0.45kg (1.0lb)
INCLUDED ACCESSORIES:	Power supply
OPTIONS:	RK-T2B 19" rack adapter
Specifications are subject to change without notice at www.kramerav.com	

6.1 Input Resolutions Support

Resolution/Refresh Rate	Resolution/Refresh Rate
480I/576I(NTSC/PAL)	SXGA @ (60)
480P/576P	UXGA @ 60
720P @ (60/50)	WXGA @ 60(1280x800)
1080I @ (60/50)	WXGA @ 60(1366x768)
1080P @ (60/50)	WSXGA @ 60(1680x1050)
1080P @ (24/25/30)	WUXGA @ 60(1920x1200 RB)
VGA @ (60/72/75)	WXGA+ @ 60(1440x900)
SVGA @ (56/60/72/75)	SXGA+ @ 60(1400x1050)
XGA @ (60/70/75)	

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 products are covered by a standard three (3) year warranty for VIA hardware and a standard one (1) year warranty for firmware and software updates. (An extended software warranty plan for an additional 2 years can be purchased separately).
2. All Kramer fiber optic cables and adapters, active cables, 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 Minicomp digital signage products, all HighSeoLabs 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

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IF ANY PRODUCT TO WHICH THIS LIMITED WARRANTY APPLIES IS A "CONSUMER PRODUCT" UNDER THE MAGNUSON-MOSS WARRANTY ACT (15 U.S.C. §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



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.KramerAV.com

E-mail: info@KramerAV.com

CE



SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing



P/N: 2900-300425



Rev: 3