KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

RC-63DLN
Room Controller

RC-63DLN 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

- ☑ **RC-63DLN** Room controller
- ☑ Label Sheets
- ☑ 2 Gang mud ring (for US installation)
- ☑ 1 Quick start guide
- ☑ 1 12V DC power supply

Save the original box and packaging materials in case you need to return your product for service.

Step 2: Install the RC-63DLN

1. Connect the inputs and outputs to their appropriate devices (see the example on the right) using terminal block connectors:
   I/O ports: 1 RS-232, 2 K-NET
   Outputs: 1 infrared, 2 relays
   Connect 12V DC power to the unit if power is not available over the K-NET.

2. Mount the unit in the wall.

Always switch OFF the power on each device before connecting it to the room controller.

USB

To PC
(during the initial programming stage)

VOLUME

KRAMER

RC-63DLN

Relay

Screen

K-NET

To SL-12

K-NET

Video Signal

IR

RS-232

To RC-74DL

DVD

Projector

Step 3: Configure and customize the RC-63DLN

1. Configure the unit using Kramer **K-Config** configuration software.
   Download the software from the Kramer Web site:
   http://www.kramerelectronics.com/support/product_downloads.asp

2. Customize the buttons by inserting the appropriate labels under the button caps.

Step 4: Operate the RC-63DLN

Operate the unit via the front panel buttons or remotely by AUX. keypad over K-NET.

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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 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 Video Products.

Congratulations on purchasing your Kramer **RC-63DLN** Room Controller which is designed to let you remotely control an A/V system with ease, in a multimedia classroom or conference room.

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/support/product_downloads.asp 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 **RC-63DLN** 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/*.

K-NET™ is a proprietary Kramer protocol for interconnecting Kramer units.

3   Overview

The Kramer **RC-63DLN** is available as a 2 Gang wall plate for the USA or a 2 Gang wall plate for Europe. It features 6 front panel buttons designed in two groups; one group of 2 buttons, and another group of 4 buttons. Each group can be programmed according to the user's requirements. The **RC-63DLN** has two LCD labels, letting you program the required group label, as well as rolling text on the display.
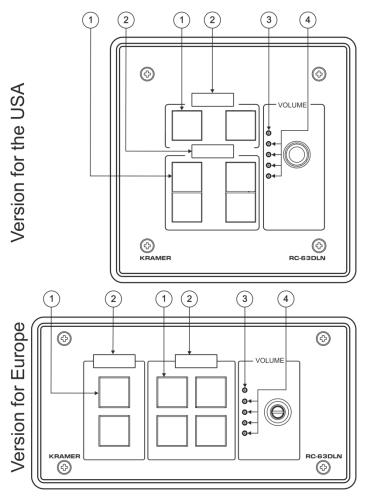
The **RC-63DLN** also includes:

- A configurable digital volume control adjustment knob with five LEDs

- Two relays for the simplified and centralized control of room functions (such as lighting, closing blinds, screen settings, and so on)

- An IR output, a bidirectional RS-232 port, and two K-NET ports

- An IR-learner for the customized control of external sources, memorizing the IR commands from different remote transmitters

A USB port is included for programming the **RC-63DLN** via a computer.

3.1 The RC-63DLN Room Controller Front Panel

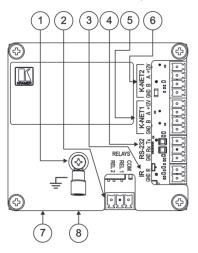This section defines the front panel of the **RC-63DLN**.

Figure 1: RC-63DLN Front Panel

#	Feature	Function
1	6 Configurable Buttons	A 2-button group and a 4-button group. Function is programmed by the K-Config Configuration software
2	2 LCD Labels	LCD on a blue background, displays up to 8 characters at once (programmed via the USB port). Set by the K-Config configuration software
3	VOLUME LED	Lights red, indicating maximum volume
4	VOLUME LEDs	Light green, indicating volume level

3.2   The RC-63DLN Room Controller Rear Panel

This section defines the rear panel of the **RC-63DLN**.

3.2.1   The RC-63DLN Rear Panel Version for the USA

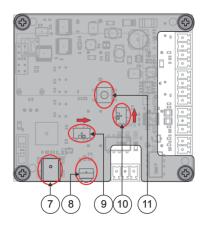This section shows the rear panel of the **RC-63DLN** USA version.

Figure 2: RC-63DLN Rear Panel for the USA

#	Feature	Function
1	Grounding Screw	Connect to grounding wire (optional), see Section 4.3
2	RELAY Ports	2 relay connections (REL 1 and REL 2). Connect to room items (such as lighting, screen settings, and so on)
3	IR Port	Control a machine via an IR Emitter
4	RS-232 Port (GND, Rx, Tx)	Connect to the RS-232 connector on the A/V equipment or a PC or other serial controller
5	*K-NET1* Connector	Connect the GND pin to the Ground connection; pin B (-) and pin A (+) are for RS-485, and the +12V pin is for powering the unit The ground connection is sometimes connected to the shield of the RS-485 cable
6	*K-NET2* Connector	Connect the GND pin to the Ground connection; pin B (-) and pin A (+) are for RS-485, and the +12V pin is for powering the unit The ground connection is sometimes connected to the shield of the RS-485 cable
7	*PROGRAM (USB)* Connector	Connect to a computer for firmware upgrade or setting the K-NET ID number The USB port is accessible from the side
8	*IR IN* built-in IR Receiver	Use to learn the IR commands from a machine's remote control transmitter The IR receiver is accessible from the side
9	PROG Switch	For technical support use only (should be set to the right in the direction of the arrow for normal operation)

#	Feature	Function
10	K-NET TERM Switch	Slide upwards (in the direction of the arrow) for K-NET termination, slide downwards to leave bus unterminated. The last physical device on a K-NET bus must be terminated
		You can reach the KNET termination switch by inserting a small screwdriver into the gap between the rear panel PCB and the metal rear panel cover.
11	RESET TO DEFAULT Button	Disconnect the power and then connect it while pressing the RESET TO DEFAULT button (using a small screwdriver). The unit will power up and load its memory with the factory default KNET ID auxiliary setting (ID=2).
		This operation should be carried out by authorized Kramer technical personnel or by a qualified system integrator. You can access the button by inserting a small screwdriver into the gap between the PCB and the metal rear panel cover

3.2.2 The RC-63DLN Rear Panel Version for Europe

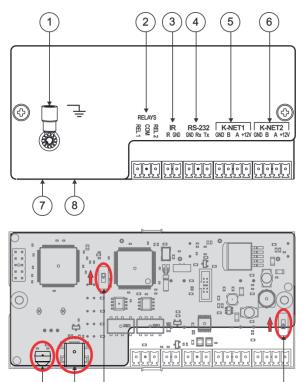This section shows the rear panel of the **RC-63DLN** European version. defines the Reset to Default button.

Figure 3: RC-63DLN Rear Panel for Europe

Figure 4 shows the location of the Reset to Default button:

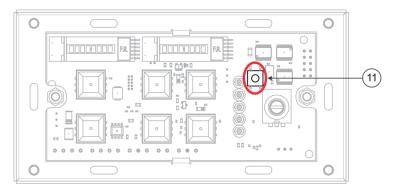Figure 4: RC-63DLN European Version, Reset to Default Button

#	Feature	Function
1	Grounding Screw	Connect to grounding wire (optional), see Section 4.3
2	RELAY Ports	2 relay connections (REL 1 and REL 2). Connect to room items (such as lighting, screen settings, and so on)
3	IR Port	Control a machine via an IR Emitter
4	RS-232 Port (GND, Rx, Tx)	Connect to the RS-232 connector on the A/V equipment or a PC or other serial controller
5	*K-NET1* Connector	Connect the GND pin to the Ground connection; pin B (-) and pin A (+) are for RS-485, and the +12V pin is for powering the unit The ground connection is sometimes connected to the shield of the RS-485 cable
6	*K-NET2* Connector	Connect the GND pin to the Ground connection; pin B (-) and pin A (+) are for RS-485, and the +12V pin is for powering the unit The ground connection is sometimes connected to the shield of the RS-485 cable
7	*IR IN* built-in IR Receiver	Use to learn the IR commands from a machine's remote control transmitter The IR receiver is accessible from the side
8	*PROGRAM (USB)* Connector	Connect to a computer for firmware upgrade or setting the K-NET ID number The USB port is accessible from the side
9	PROG Switch	For technical support use only (should be set upwards in the direction of the arrow for normal operation)
10	K-NET TERM Switch	Slide upwards (in the direction of the arrow) for K-NET termination, slide downwards to leave bus unterminated. The last physical device on a K-NET bus must be terminated You can reach the KNET termination switch by inserting a small screwdriver into the gap between the rear panel PCB and the metal rear panel cover.
11	RESET TO DEFAULT Button	Disconnect the power and then connect it while pressing the RESET TO DEFAULT button (using a small screwdriver). The unit will power up and load its memory with the factory default KNET ID auxiliary setting (ID=2). This operation should be carried out by authorized Kramer technical personnel or by a qualified system integrator. You can access the button by removing the faceplate (see Section 3.2.3)

3.2.3   Accessing the RC-63DLN Reset to Default Button

To reset to the factory default settings, disconnect the power and then connect it while pressing the RESET TO DEFAULT button (using a small screwdriver). The unit will power up and load its memory with the factory default KNET ID auxiliary setting (ID=2).

This operation should be carried out by authorized Kramer technical personnel or by a qualified system integrator.

You can access the button by removing the volume control knob, unscrewing the 4 screws on the front panel and removing it.

4 Connecting the RC-63DLN Room Controller

Always switch off the power to each device before connecting it to your **RC-63DLN**. After connecting your **RC-63DLN**, connect its power and then switch on the power to each device.

To connect the **RC-63DLN**, as shown in the example in Figure 5, do the following:

1. Connect the RELAY terminal block connectors as follows:

   ▪ Connect REL 1 and COM to the screen

   ▪ Connect REL 2 (for example, to a lighting system, not shown in Figure 5)

2. Connect the IR port (IR and GND terminal blocks) to an IR emitter and attach the emitter to an auxiliary device (for example, a DVD player).

3. Connect the RS-232 port (GND, Tx and Rx) to the projector (see Section 4.1).

4. Connect the K-NET ports to any **RC** devices with K-NET (for example, the Kramer **RC-74DL** and **SL-12**), see Section 4.2.
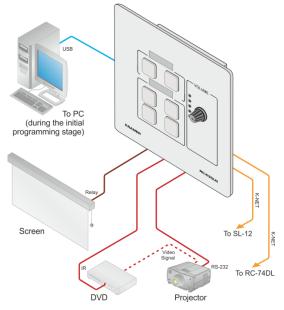   Note that the **RC-63DLN** receives power over the K-NET port via the connected master room controller.

Figure 5: Connecting the RC-63DLN

4.1 Connecting RS-232 Devices

You can control an AV device such as a projector by connecting them to the
RC-63DLN via their RS-232 connection.

To connect a device to the **RC-63DLN** via RS-232:

- Using a straight cable, connect pin 2 to **TX**, pin 3 to **RX** and pin 5 to **GND** on
  the RS-232 terminal block connector of the **RC-63DLN**

4.2 Connecting the K-NET Port
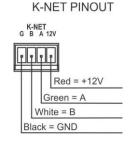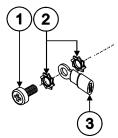
The K-NET port is wired as shown in
Figure 6.

Figure 6: K-NET PINOUT Connection

If your device is the first or last device on the line, slide the K-Net termination switch
up otherwise make sure it is set to down (see Section 3.2).

4.3 Grounding the RC-63DLN

The grounding screw is used to earth the chassis of the unit to the building ground
preventing static electricity from impacting the performance of the unit.

Figure 7 defines the grounding screw components.

#	Component Description
1	M3X6 screw
2	1/8" Toothed Lock Washer
3	M3 Ring Tongue Terminal

Figure 7: Grounding Connection Components

To ground the RC-63DLN:

1. Connect the Ring Tongue terminal to the building grounding point wire (it is recommended to use a green-yellow AWG#18 (0.82mm^2) wire, crimped with a proper hand-tool).

2. Insert the M3x6 screw through the toothed lock washers and the tongue terminal in the order shown above.

3. Insert the M3x6 screw (with the two toothed lock washers and ring tongue terminal) into the grounding screw hole and tighten the screw.

5 Operating the RC-63DLN

You can operate your **RC-63DLN** via the front panel buttons or remotely by AUX. keypad over K-NET.

The front panel buttons are configured using the **K-Config** software. For instructions on using the software, see the K-Config *Software Guide* available from our Web site www.kramerelectronics.com.

Note that by default the **RC-63DLN** is set up as an auxiliary device.

5.1 Reset to Default Settings

To reset to the default settings for the European version:

1. Remove the faceplate:
   - Remove the volume control knob
   - Remove the four mounting screws

2. Reset to default settings:

To reset to the default settings for the US version, insert a small screwdriver into the gap between the PCB and the metal rear panel cover.

6   Front Panel Button Caps and Labels

The **RC-63DLN** is supplied with a button label sheet and 16 clear, button caps to house the labels. Figure 8 illustrates a sample button label sheet.

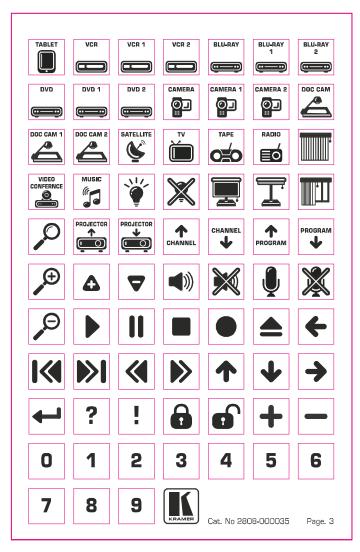|						
DISPLAY ON	DISPLAY OFF	CYCLE SOURCES	OPEN	CLOSE	VOLUME UP	VOLUME DOWN
MUTE	MENU	SUB MENU	TITLE	SUB TITLE	ENTER	OK
EXIT	LANGUAGE	LOCK	UNLOCK	FUNC 1	FUNC 2	FUNC 3
FUNC 4	ACCEPT	ASPECT RATIO	AUTO	AUTO IMAGE	AV	BLANK
CONTINUE	FREE-VIEW	FREEZE	GUIDE	INDEX	INFO	INPUT
INPUT SELECT	LIST	MODE	OSD	PIP	RESET	SCAN
SHUFFLE	SYNC	TAKE	RED	GREEN	BLUE	YELLOW
CALL	HANG UP	SYSTEM	CONTROL	ALL ON	ALL OFF	MUSIC PLAYER
DISPLAY	DISPLAY 1	DISPLAY 2	DISPLAY 3	DISPLAY 4	PROJECTOR	PC
PC 1	PC 2	PC 3	PC 4	LAPTOP	LAPTOP 1	LAPTOP 2
LAPTOP 3	LAPTOP 4	MOBILE				

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Figure 8: Sample Button Label Sheet

6.1　Installing the Front Panel Button Caps and Labels

To install the button caps and labels:

1. Remove the required labels from the supplied button label sheet.

2. Hold the button cap so that it is oriented as shown in Figure 9 with the "wings" on the left and right sides for the USA version.
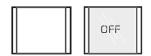

Figure 9: Button Cap Orientation without/with Label for USA version

 Note that the button caps for the European version on the front panel should be oriented with the "wings" at the top and lower sides as shown below (without / with label):

3. Insert the label inside the cap horizontally for the USA version and vertically for the European version, as illustrated in Figure 10.

4. Retaining the orientation, place the button cap over the buttons of the **RC-63DLN**.
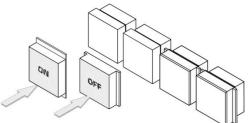

Figure 10: Placing the Button Cap (Left – EU version, Right – US version)

5. Repeat for all caps ("OFF" horizontally oriented for USA, "ON" vertically oriented for Europe).

6. Remove the protective foils from both sides of the Perspex (acrylic glass) windows.

7. Place the faceplate on the **RC-63DLN** so that the four screw mounting holes are aligned.

8. Insert the four mounting screws and tighten with a screwdriver.

9. Install the volume control knob.

RC-63DLN - Front Panel Button Caps and Labels

7 Technical Specifications

PORTS:	1 RS-232 on terminal block connectors 2 K-NET on terminal block connectors 1 USB port
OUTPUTS:	2 relays on terminal block connectors (36V AC or DC, 2A, 60VAC maximum on non-inductive load) 1 IR emitter on terminal block connectors
POWER SOURCE:	US version: 12V DC, 210mA European version: 12V DC, 385mA
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:	USA version: 11.4cm x 2.6cm x 11.4cm (4.49" x 1.02" x 4.49", W, D, H) European version (86cm): 15.2cm x 1.9cm x 8.6cm (5.98" x 0.75" x 3.39", W, D, H) European version (80cm): 15.2cm x 1.9cm x 8cm (5.98" x 0.75" x 3.39", W, D, H)
WEIGHT:	0.14kg. (0.31lbs.) approx.
ACCESSORIES:	Power supply
Specifications are subject to change without notice Go to our Web site at http://www.kramerelectronics.com to access the list of resolutions	

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.

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 Does this Coverage Last

Seven years as of this printing; please check our Web site for the most current and accurate warranty information.

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, please visit our web site at www.kramerelectronics.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. 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 on 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.

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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.A. §2301, ET SEQ.) OR OTHER APPICABLE 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, please visit our Web site at www.kramerelectronics.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.kramerelectronics.com
E-mail: info@kramerel.com

CE

ISO 9001:2008

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