



KRAMER ELECTRONICS LTD.

USER MANUAL

MODEL:

RC-53DLC
K-NET™ Auxiliary Control Panel

P/N: 2900-000752 Rev 4



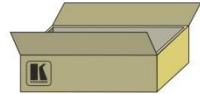
RC-53DLC Quick Start Guide

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-53DLC
- Screwdriver

- 1 Quick start guide



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

Step 2: Connect the RC-53DLC

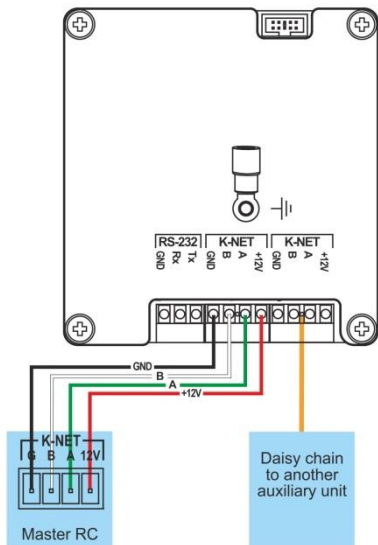
Always switch off the power on each device before connecting it to your RC-53DLC.

Connect a master room controller to one of the K-NET terminal block connectors.

Optionally connect another auxiliary device to the other K-NET terminal block connector.

Note that the RS-232 port is for factory use only.

Always use Kramer high-performance cables for connecting the RC-53DLC.



Step 3: Configure the system

Set up the labels on the buttons and configure the system via the K-Config software, using the Master room controller.

Step 4: Install the RC-53DLC

Mount the RC-53DLC in a suitable wall box

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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 Products.

Congratulations on purchasing your Kramer **RC-53DLC**, which is available in European (80mm and 86mm height versions) and American versions, and can be used as a system controller when connected via K-NET™ to a Master room controller (for example, the **SV-552 SummitView™ Processor / Switcher** or one of the Kramer SL series controllers).

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-53DLC** 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 **RC-53DLC** is an auxiliary remote control panel for Master Room Controllers (such as the Kramer **SummitView System** or the **SL-1 Master Room Controller**) for controlling AV equipment in a room.

The **RC-53DLC** features:

- Six front panel, backlit buttons designed in two groups; one group of two buttons, and another group of four buttons
256 colors are available for backlit buttons (to be configured by the system integrator). The colors of each button can be programmed with flexible RGB values.
- A digital volume control adjustment knob
- A 2 gang wall plate for the USA and for Europe
- K-NET operation - does not require a separate power supply
- An RS-232 serial port
- Two K-NET ports and a USB port for firmware upgrade
- Two programmable LCD displays, one for each button group

3.1 Defining the RC-53DLC K-NET™ Auxiliary Control Panel

This section defines the **RC-53DLC** US (see [Section 3.1.1](#)) and European (see [Section 3.1.2](#)) versions.

3.1.1 RC-53DLC for the US

Figure 1 defines the RC-53DLC US front panel.

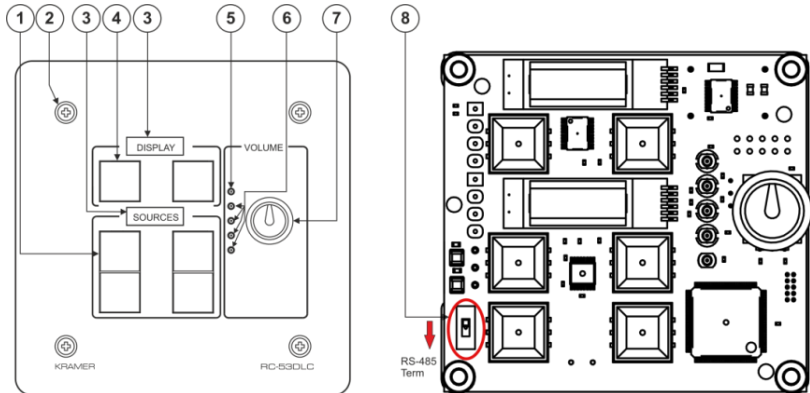


Figure 1: RC-53DLC US Version – Front Panel

#	Feature	Function
1	<i>SOURCE</i> Buttons	Group of four programmable (by the system integrator only), backlit buttons
2	Faceplate Screws	Four screws connecting the faceplate to the Rear Box
3	<i>"DISPLAY"</i> and <i>"SOURCE"</i> Labels	Programmable, 8 character, LCD displays on a blue background Remove the protective transparent film from both LCD displays before mounting the faceplate
4	<i>DISPLAY</i> Buttons	Group of two programmable, backlit buttons
5	Maximum <i>VOLUME LED</i>	Lights red, indicating maximum volume
6	<i>VOLUME</i> LEDs	Light green, indicating volume level
7	<i>VOLUME</i> Knob	Rotate clockwise to increase volume level
8	K-NET TERM Switch	Slide downwards (in the direction of the arrow) for K-NET termination, slide upwards to leave bus un-terminated. The last physical device on a K-NET bus must be terminated You can access the switch by removing the volume control knob, and unscrewing the 4 screws on the front panel

Figure 2 defines the RC-53DLC US rear panel.

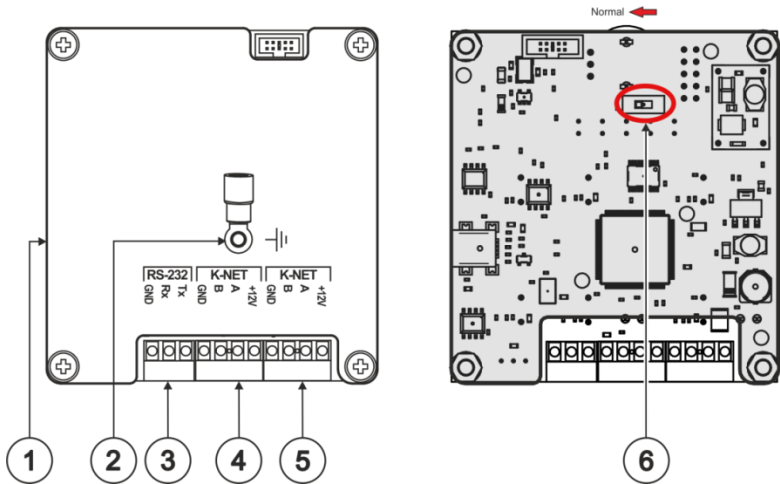


Figure 2: RC-53DLC US Version – Rear Panel

#	Feature	Function
1	Program USB Connector	Connect to a computer for firmware upgrade When the unit is connected via K-NET to a Master Room Controller, you can upgrade the firmware via the USB or ETH ports of the Master Room Controller
2	Grounding Screw	Connect to grounding wire (see Section 3.2)
3	RS-232 Terminal Block	For factory use only
4	K-NET Terminal Block	Connect the GND to the ground connection, connect B (-) and A (+) to RS-485, and connect +12V to +12V on the companion unit The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)
5	K-NET Terminal Block	
6	PROG Switch	For technical support use only (should be set to the left in the direction of the arrow for normal operation)

3.1.2 RC-53DLC for Europe

[Figure 3](#) defines the **RC-53DLC** front panel for the European version.

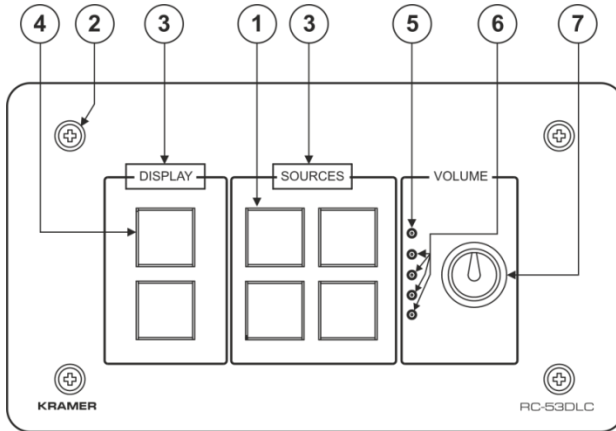


Figure 3: RC-53DLC European Version – Front Panel

#	Feature	Function
1	<i>SOURCE</i> Buttons	Group of four programmable, backlit buttons (by the system integrator only)
2	Faceplate Screws	Four screws connecting the faceplate to the Rear Box
3	" <i>DISPLAY</i> " and " <i>SOURCE</i> " Labels	Programmable, 8 character, LCD displays on a blue background Remove the protective transparent film from both LCD displays before mounting the faceplate
4	<i>DISPLAY</i> Buttons	Group of two programmable, backlit buttons
5	Maximum <i>VOLUME LED</i>	Lights red, indicating maximum volume
6	<i>VOLUME</i> LEDs	Light green, indicating volume level
7	<i>VOLUME</i> Knob	Rotate clockwise to increase volume level

Figure 4 defines the RC-53DLC rear panel for the European version.

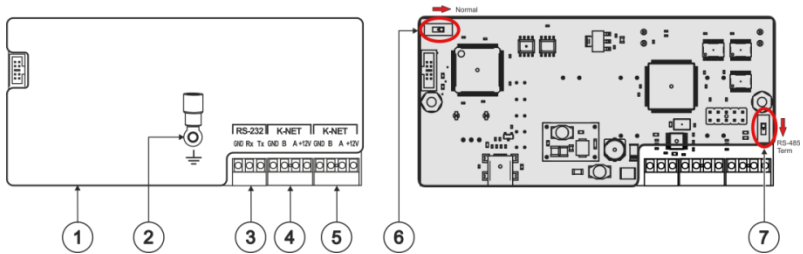


Figure 4: RC-53DLC European Version– Rear Panel

#	Feature	Function
1	Program USB Connector	Connect to a computer for firmware upgrade When the unit is connected via K-NET to a Master Room Controller, you can upgrade the firmware via the USB or ETH ports of the Master Room Controller
2	Grounding Screw	Connect to grounding wire (see Section 3.2)
3	RS-232 Terminal Block	For factory use only
4	K-NET Terminal Block	Connect the GND to the Ground connection, connect B (-) and A (+) to RS-485, and connect +12V to +12V on the companion unit The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)
5	K-NET Terminal Block	
6	PROG Switch	For technical support use only (should be set to the right in the direction of the arrow for normal operation)
7	K-NET TERM Switch	Slide downwards (in the direction of the arrow) for K-NET termination, slide upwards 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.

3.2 Grounding the RC-53DLC

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 5](#) defines the grounding screw components.

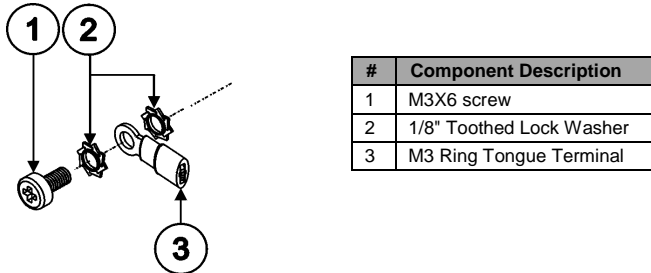


Figure 5: Grounding Connection Components

To ground the **RC-53DLC**:

1. Connect the ring tongue terminal to the building grounding point wire (it is recommended to use a green-yellow AWG#18 (0.82mm²) 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.

4 Using the RC-53DLC



Always switch off the power to each device before connecting it to your **RC-53DLC**. After connecting your **RC-53DLC**, connect its power and then switch on the power to each device.

The installation process is not detailed in this user manual. This user manual is applicable once the unit is installed and configured (by authorized Kramer technical personnel or by an external system integrator), and includes:

- Setting up the labels on the buttons, according to your specific requirements
- Configuration of the master room controller via the **K-Config Windows**[®]-based configuration software

Since the auxiliary panel is used as a remote controller for Master Room Controllers via the proprietary communication channel K-NET (as illustrated in [Figure 6](#)):

- It requires only a K-NET connection to the master room controller
- A power supply unit is **not** required
If needed, power supplies are sold separately. Consult your Kramer dealer for details.
- The auxiliary panel can be programmed only via the Master Room controller (for example, the Kramer **SV-551 SummitView**[™] Processor/Switcher)

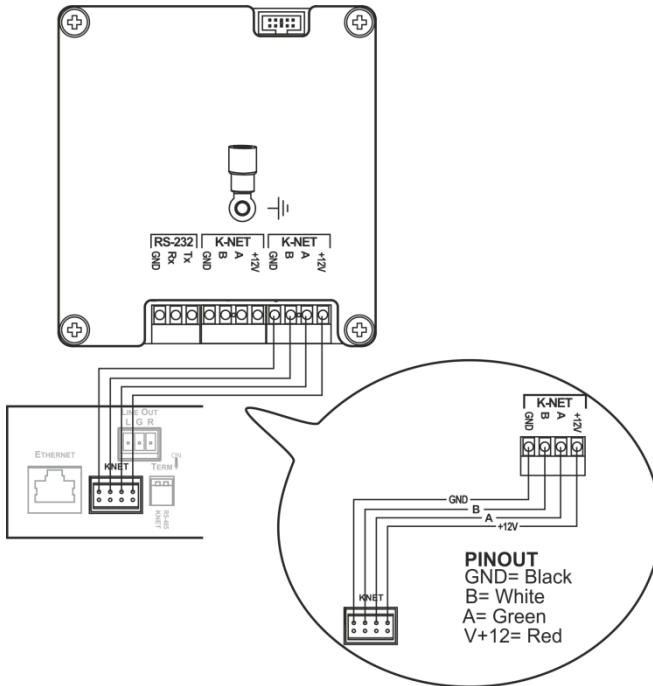


Figure 6: RC-53DLC Connected to the SV-551 SummitView™ Processor/Switcher

5 Installing the RC-53DLC Faceplate, Button Caps and Labels

This section describes how to install the faceplate, button caps and labels.

[Figure 7](#) illustrates a sample button label sheet.

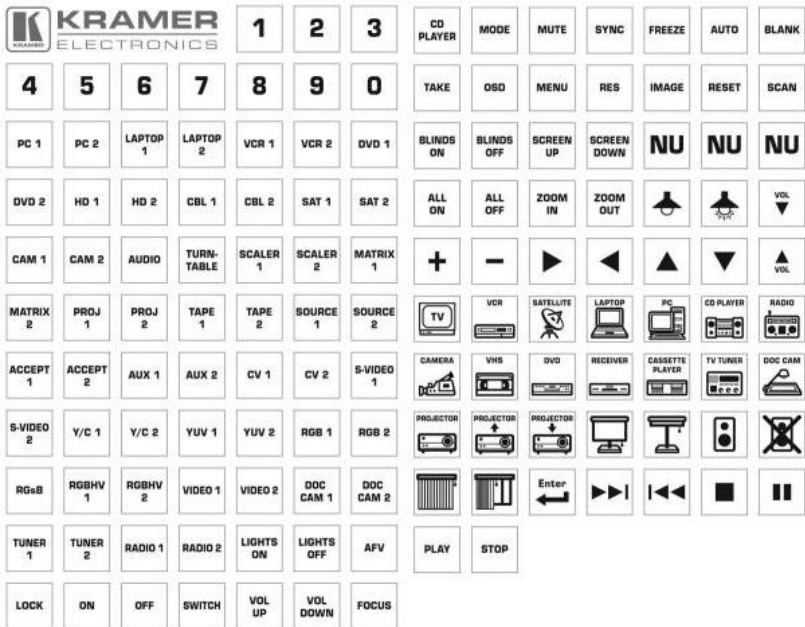


Figure 7: Sample Button Label Sheet

To install the faceplate, 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 8](#) with the “wings” on the left and right sides.



Figure 8: Button Cap Orientation

3. Insert the label inside the cap



Figure 9: Inserting the Label

4. Repeat for all six caps.
5. Retaining the orientation, place the six button caps on the buttons of the **RC-53DLC**.

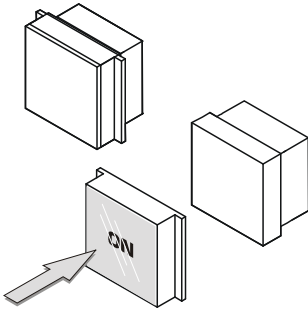


Figure 10: Placing the Button Cap

6. Remove the protective foils from both sides of the Perspex (acrylic glass) windows.
7. Remove the protective foils from both displays.
8. Place the faceplate on the **RC-53DLC** so that the four screw mounting holes are aligned.
9. Insert the four mounting screws and tighten with a screwdriver.
10. Install the volume control knob.

6 Operating the RC-53DLC

In the following example (illustrated in [Figure 11](#)), the auxiliary control panel is labeled with specific functions and each button is programmed by the technical installer to perform several tasks (a macro sequence, including several commands per button, carried out one after the other) as defined in the table below.

This is only one example among numerous possibilities, each button can be programmed as required. In this example, two buttons are not assigned.

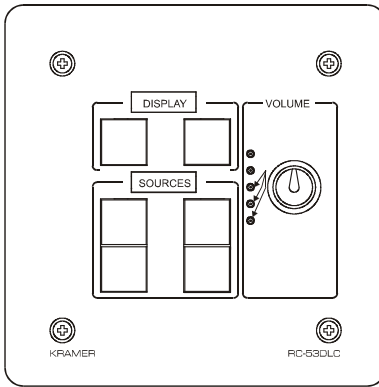


Figure 11: RC-53DLC Label Setup

Label	Macro Sequence
ON	<ul style="list-style-type: none"> Power up the projector Power up the DVD player The DVD button turns blue Roll down the projector screen 1 minute delay (for the projector to heat up) The projector selects the DVD input
OFF	<ul style="list-style-type: none"> Power down the projector Stop the DVD player The DVD button turns red Power down the DVD player Stop the VCR The VCR button turns red Power down the VCR Roll up the projector screen
DVD	<ul style="list-style-type: none"> Stop the video player The VCR button turns red The projector selects the DVD input The DVD button color turns orange Play the DVD 5 second delay The DVD button color turns green
VCR	<ul style="list-style-type: none"> Stop the DVD The DVD button turns red The projector selects the VCR input The VCR button color turns orange Play the VCR 5 second delay The VCR button color turns green
VOLUME	<ul style="list-style-type: none"> Use the VOLUME knob to adjust the audio level

7 Technical Specifications

PORTS:	2 K-NET on terminal block connectors; 1USB connector, 1 RS-232 on terminal block connector (factory use only)
FUSE:	500mA, FSMD 1812
POWER CONSUMPTION:	12V DC, 140mA over K-NET
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:	For the USA: 11.4cm x 2.6cm x 11.4cm (4.49" x 1.02" x 4.49", W, D, H) For Europe: 15.2cm x 1.9cm x 8.6cm (5.98" x 0.75" x 3.39", W, D, H) or 15.2cm x 1.9cm x 8cm (5.98" x 0.75" x 3.15", W, D, H)
WEIGHT:	0.14kg (0.31lbs.) approx.
INCLUDED ACCESSORIES:	Screwdriver
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.

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.

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, 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



SAFETY WARNING

Disconnect the unit from the power supply before opening and servicing



P/N: 2900-000752



Rev: 4