

**Kramer Electronics, Ltd.**



# **USER MANUAL**

**Model:**

**SL-1**

*Master Room Controller*

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## 1 Introduction

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

Our 1,000-plus different models now appear in 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.

Thank you for purchasing the Kramer TOOLS **SL-1 Master Room Controller**, which is ideal for:

- Controlling multimedia rooms, such as classrooms, auditoriums, conference rooms, and so on, and is Site-CTRL compatible enabling remote control and management of the AV equipment
- Production studios, rental, and staging

Each package includes the following items:

- The **SL-1 Master Room Controller**
- Kramer **K-Config** Configuration software
- Power supply and this user manual<sup>1</sup>

## 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
- Use Kramer high-performance high-resolution cables

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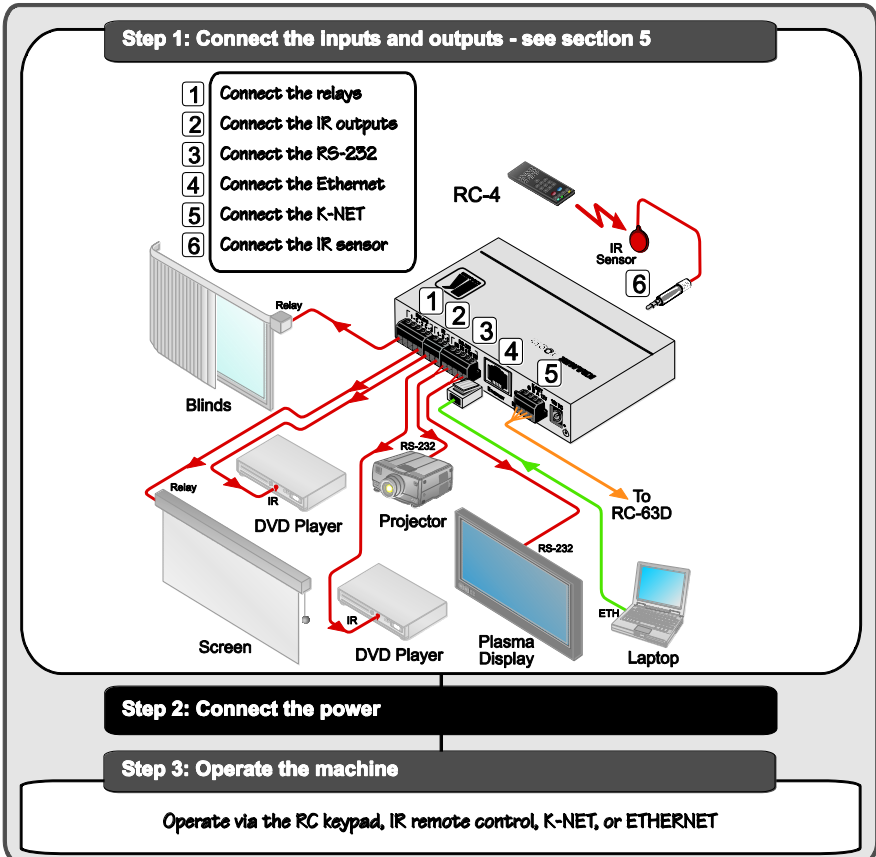
<sup>1</sup> Download up-to-date Kramer user manuals from our Web site at [www.kramerav.com](http://www.kramerav.com)



- Caution:** No operator serviceable parts inside unit
- Warning:** Use only the Kramer Electronics input power wall adapter that is provided with the unit
- Warning:** Disconnect power and unplug unit from wall before installing or removing the device or servicing unit

## 2.1 Quick Start

This quick start chart summarizes the basic setup and operation steps.



### 3 Overview

The **SL-1** is a highly versatile controller that acts as an all-in-one extended remote control panel for control of A/V equipment—especially projectors and associated equipment—in any room (such as classrooms, boardrooms, or auditoriums). It streamlines operations and simplifies control by integrating audio, video, and computer-video sources into a centralized system.

The **SL-1 Master Room Controller** features:

- 2 bidirectional RS-232 ports to control AV equipment such as projectors, LCD and PDP displays, power amplifiers, switchers and scalers
- 3 relay contact closure ports to control other room items related to the AV system such as raising and lowering drapes, the screen or the projector
- IR control - 1 input (3.5mm) and 2 outputs (terminals blocks)
- IR Learning that learns commands from any IR remote
- Compatibility with Kramer **Site-CTRL™** software for network remote control and management over the Ethernet port
- A K-NET™ control channel for connecting compatible user interfaces and supplying power and control data over a single cable
- A USB port for loading device firmware
- Flexible control using Ethernet, K-NET™, IR sensors and external IR commands

To achieve the best performance:

- Use only good quality connection cables<sup>1</sup>
- Position your Kramer **SL-1** away from moisture, excessive sunlight and dust

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<sup>1</sup> Available from Kramer Electronics on our Web site at [www.kramerav.com](http://www.kramerav.com)

## 4 Your SL-1 Master Room Controller

[Figure 1](#) and [Table 1](#) define the unit.

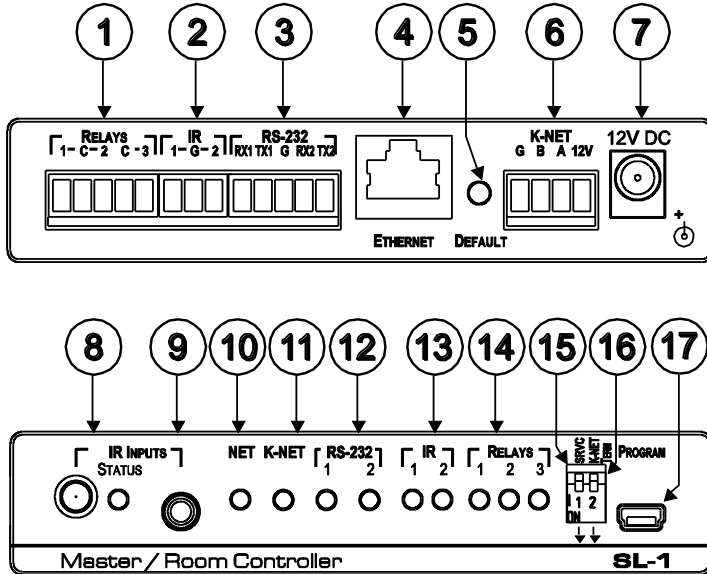


Figure 1: SL-1 Master Room Controller

Table 1: SL-1 Master Room Controller Functions

#	Feature	Function
1	RELAYS Terminal Blocks	Connect to low-voltage relay-driven devices (from 1 to 3)
2	IR Output Terminal Blocks	Connect to IR emitter cables (from 1 to 2)
3	RS-232 Terminal Blocks	Connect to the RS-232 devices (from 1 to 2)
4	ETHERNET RJ-45 Connector	Connects to the PC or other serial controller through computer networking LAN
5	DEFAULT Pushbutton	Press to reset to factory default definitions <sup>1</sup> : IP number – 192.168.1.39, mask – 255.255.0.0, gateway – 0.0.0.0
6	K-NET <sup>2</sup> Terminal Block	PIN GND is for the ground connection <sup>3</sup> ; PIN B (-) and PIN A (+) are for RS-485, and PIN +12V is for powering the unit
7	12V DC Connector	For supplying power to the unit
8	IR IN Sensor and LED	Accepts IR remote commands
9	IR INPUT 3.5mm Mini Jack	Connects to a remote infrared sensor
10	NET LED	Illuminates while transmitting over Ethernet

1 First disconnect the power cord and then connect it again while pressing the ETH Factory Reset button. The unit powers up and loads its memory with the factory default definitions and erases all stored presets

2 K-Net is a proprietary Kramer protocol for interconnecting Kramer units

3 The ground connection is sometimes connected to the shield of the RS-485 cable (in most applications, it is not connected)

## Connecting the SL-1 Master Room Controller

#	Feature	Function
11	<i>K-NET</i> LED	Illuminates when the K-NET is active (red – transmit, green – receive, during normal activity flashes red)
12	<i>RS-232 Tx/Rx</i> LEDs	Illuminates while transmitting/receiving on an RS-232 port (1 to 2)
13	<i>IR</i> LEDs	Illuminates when an IR port is active
14	<i>RELAYS</i> LEDs	Illuminates when an relay is active (1 to 3)
15	<i>SRVC</i> DIP-Switch	Slides down for service use only, slides up for normal operation
16	<i>K-NET TERM</i> DIP-Switch	Slides down for K-NET termination, slides up for not terminated
17	<i>PROGRAM</i> USB Connector	Connect to a computer for unit configuration and firmware upgrading

### 4.1 Using the RC-4 IR transmitter

You can use the optional **RC-4** IR transmitter to control the machine via the built-in IR receiver on the front panel or, instead, via an optional external IR receiver<sup>1</sup>. The external IR receiver can be located 15 meters away from the machine. This distance can be extended to up to 60 meters when used with three extension cables<sup>2</sup>.

## 5 Connecting the SL-1 Master Room Controller

To connect the **SL-1**, as the example in [Figure 2](#) illustrates, do the following<sup>3</sup>:

1. Connect the RELAY terminal block connectors as follows:
  - Connect RELAY 1 and 2 to the blinds
  - Connect RELAY 3 to the screen
2. Connect the IR outputs as follows:
  - Connect IR OUTPUT 1 to the DVD player 1
  - Connect IR OUTPUT 2 to the DVD player 2
3. Connect the RS-232 ports as follows:
  - Connect RS-232 port 1 to the projector
  - Connect RS-232 port 2 to the plasma display
4. Connect the IR sensor as follows:
  - Connect IR INPUT to an IR sensor
5. Connect the Ethernet port to a network.
6. Connect the K-NET port to any **RC** device with K-NET.

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1 Model: C-A35M/IRR-50

2 Model: C-A35M/A35F-50

3 Switch OFF the power on each device before connecting it to your SL-1. After connecting your SL-1, switch on its power and then switch on the power on each device

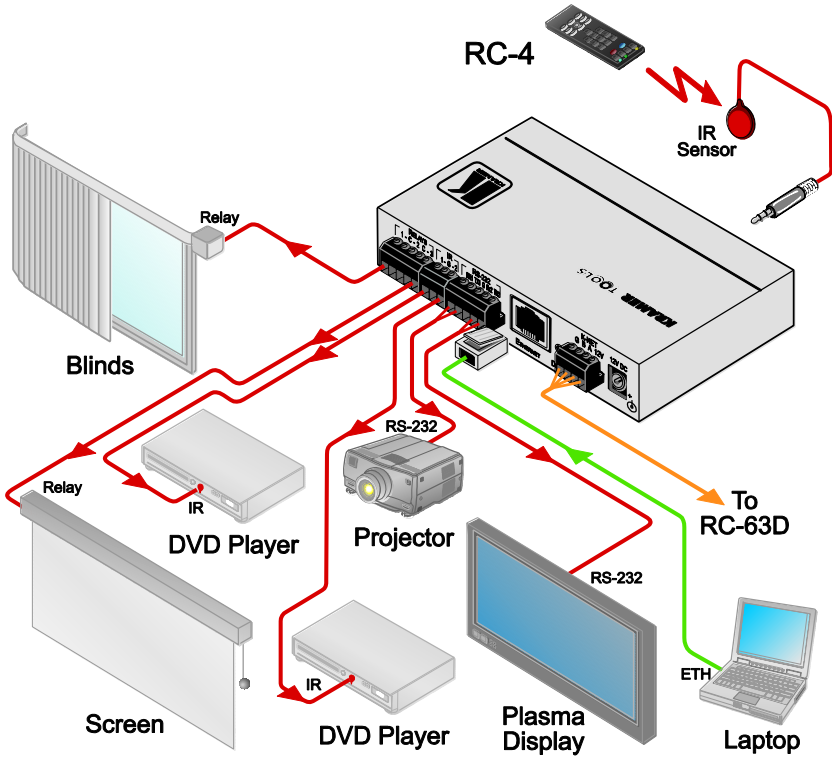


Figure 2: Connecting the SL-1 Master Room Controller

### 5.1 Connecting the RS-232 Interface

To connect an AV device to the SL-1, connect the RS-232 9-pin D-sub port on your device to the RS-232 terminal block on the rear panel of the SL-1 controller as shown in [Figure 3](#):

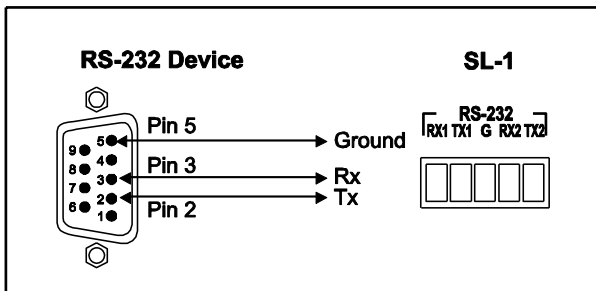


Figure 3: RS-232 Connection



## 5.2 Connecting the Ethernet Port

The Ethernet connection of the **SL-1** allows you to perform all control functions of the **SL-1** over the Internet using a PC running the Kramer **Site-CTRL** control program.

To connect the **SL-1** to a network:

1. Connect the Ethernet port of the **SL-1** to the Ethernet port on a network hub or network router, via a straight cable with RJ-45 connectors.
2. At the other end, connect the Internet to a PC running **Site-CTRL**.

After connecting the Ethernet port, you have to install and configure it. For detailed instructions on how to install and configure your Ethernet port, see the **K-Config** Configuration Guide<sup>1</sup>.

## 5.3 Connecting the K-NET Port

The K-NET port is wired as shown in [Figure 4](#).

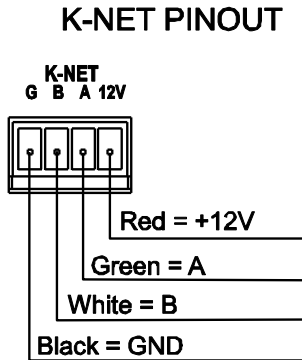


Figure 4: K-NET Pinout Connection

<sup>1</sup> Available for download at the Kramer Web site: [www.kramerav.com](http://www.kramerav.com)

## 6 Operating the SL-1 Master Room Controller

You can operate your **SL-1** using:

- A K-Net compatible remote controller or auxiliary control panel:  
To operate your device using an external K-Net device, see the **K-Config Configuration Guide**<sup>1</sup>
- The optional **RC-4** Infrared remote control transmitter:  
To operate your device using the infrared remote controller, see the User Manual packed with the remote controller
- A PC running **Site-CTRL** control software:  
To operate your device using **Site-CTRL**, see the **Site-CTRL and Web Access Online User Guide**<sup>1</sup>

## 7 Technical Specifications

The **SL-1** technical specifications are shown in [Table 2](#):

*Table 2: SL-1 Master Room Controller Technical Specifications<sup>2</sup>*

INPUTS:	2 RS-232 and K-NET on terminal block connectors; Ethernet on an RJ-45 connector; 1 infrared sensor, 1 infrared on a 3.5mm mini jack connector; 1 USB for programming
OUTPUTS:	2 infrared and 3 relays (36V AC or DC, 2A, 60VAC maximum on non-inductive load) on terminal block connectors
DEFAULT IP SETTINGS:	IP number: 192.168.1.39; Mask: 255.255.0.0; Gateway: 0.0.0.0
INDICATORS:	LED indicator for each function
POWER SOURCE:	12V DC, 2A (from power supply) or 12V DC over K-NET connection
DIMENSIONS	12cm x 7.2cm x 2.4cm (4.7" x 2.8" x 1.0") W, D, H
WEIGHT:	0.3kg (0.7lbs)
ACCESSORIES:	Power supply
OPTIONS:	RK-3T 19" rack mount, RC-4 remote controller, external IR receiver <sup>3</sup> and IR receiver extension cables <sup>4</sup>

1 Available for download at the Kramer Web site: [www.kramerav.com](http://www.kramerav.com)

2 Specifications are subject to change without notice

3 Model: C-A35M/IRR-50

4 Model: C-A35M/A35F-50

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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, 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](http://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.

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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](http://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.



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**For the latest information on our products and a list of Kramer distributors, visit our Web site: [www.kramerav.com](http://www.kramerav.com) where updates to this user manual may be found. We welcome your questions, comments and feedback.**



**Caution**

**Safety Warning:**

Disconnect the unit from the power supply before opening/servicing.



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**Kramer Electronics, Ltd.**

Web site: [www.kramerelectronics.com](http://www.kramerelectronics.com)

E-mail: [info@kramerel.com](mailto:info@kramerel.com)

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