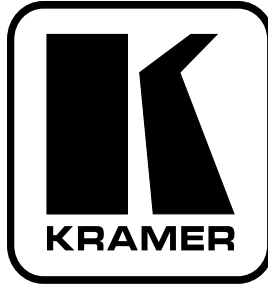


**Kramer Electronics, Ltd.**



# **RC Configuration and Installation Guide**

**Revision 5**

**Intended for Kramer Technical Personnel or external  
System Integrators. To check that you have the latest  
version, go to the DOWNLOADS section of our Web site  
at <http://www.kramerelectronics.com> .**

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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 11 groups<sup>1</sup> that are clearly defined by function.

Congratulations on purchasing your Kramer RC device, which is ideal for controlling A/V equipment and media room items.

The software package includes the following items:

- The program on a CD
- This RC Configuration and Installation Guide on CD<sup>2</sup>

## 2 Overview

The Kramer RC devices are a series of highly sophisticated machines, used for controlling A/V equipment and room items in media rooms. An RC system includes A/V equipment (for example, DVD players, audio amplifiers and switchers) and media room items, such as blinds, lights and so on. Before operating an RC system<sup>3</sup>, you have to:

- Carefully plan the installation layout
- Install the drivers of the peripheral devices
- Configure your RC device
- Assign the macros to the RC device
- Install the RC system

---

1 GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Matrix Switchers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Twisted-Pair Solutions; 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 Products

2 Download up-to-date Kramer user manuals from the Internet at this URL: <http://www.kramerelectronics.com>

3 An RC system includes the RC device and the peripheral devices it controls

## **2.1 System Requirements for the Kramer RC Configuration**

This section describes the system requirements for the Kramer RC Configuration software.

### **2.1.1 System Requirements**

The system requirements include:

- 400MHz processor
- 128 MB RAM
- At least 300MB free hard disk space
- Microsoft Internet Explorer 6.0
- Network connection for configuring devices

### **2.1.2 Operating Systems**

Microsoft® Windows XP® is the recommended operating system<sup>1</sup>

---

<sup>1</sup> Windows NT does not support .NET 2.0.

### 3 Initial Planning

Carefully plan your RC system layout to ensure a smooth and easy configuration, and installation.

To do this:

- Define your requirements
- List the peripheral devices and room items that will be included in the system
- Plan the location of each device
- Plan the function of each device

Make a detailed list of the functions and commands required of the system devices, as illustrated in the partial list in Figure 1

Media room components list		
Device	Functions	Commands Used
Blinds (relay)	Shut out External lighting	Open Close
Projector (RS-232)	Show presentation	Turn on Turn off Change inputs Focus
VCR (IR-1)	Play Video	Play Stop Pause Rewind

*Figure 1: Media Room Components List*

Once this list is finalized and approved, you can carry on with the configuration and installation process

Note that the RC configuration and installation processes are independent of each other. You do not have to connect the RC device before starting the configuration

## 4 The RC Configuration Software

The RC can be configured via the Kramer RC Configuration software, an easy-to-use software that lets you set a sequence of RC commands (the macro) and assign them to any of the buttons on the RC device.

The Kramer RC Configuration software lets you:

- Create your own device drivers manually or via the IR learner feature
- Modify or delete commands
- Change the order of commands within the macro
- Set delay times between commands in a macro
- Save multiple sets of RC device configurations
- Read macros from the RC device

The RC buttons can be configured prior to installation

The following sections describe how to:

- Install the software (see section 4.1)
- Download the device drivers (see section 4.2)
- Map the ports (see section 4.3)
- Use the Kramer RC Configuration main window (see section 4.4)
- Write a macro (see section 5)

### 4.1 Installing the Software

Prior to using the Kramer RC Configuration software, make sure that the “.NET Framework”, Revision 2.0 software is installed on your PC. If it is not, you need to install it:

- If you have a fast Internet connection, this software is automatically installed during the installation of the Kramer RC Configuration software
- If you do not have a fast Internet connection, insert the CD-ROM into the CD-ROM drive, double click the *dotnetfx.exe*<sup>1</sup> file and follow the on-screen instructions<sup>2</sup>

Before getting started with your Kramer RC Configuration, you must download the software and then install it.

---

<sup>1</sup> File names are liable to change

<sup>2</sup> Installation may take about 15 minutes



You can download the Configuration program<sup>1</sup> from the Internet. To do so:

1. Go to our Web site at <http://www.kramerelectronics.com> and download the file: “Kramer RC Config.zip” from the DOWNLOADS section.
2. Extract the file “Kramer RC Config.zip” package, which includes the Kramer RC configuration application setup and the Kramer device drivers<sup>2</sup>, to a folder (for example, C:\Program Files\Kramer RC Configuration).
3. Install the Kramer RC Configuration application.  
When running Setup, you are prompted to set the working directory (see Figure 2):

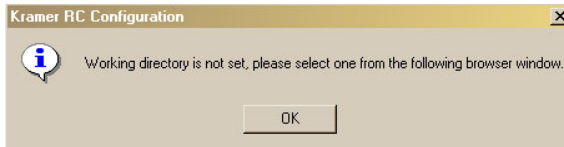


Figure 2: Set Working Directory Message

4. Click OK.  
The following window appears (see Figure 3):

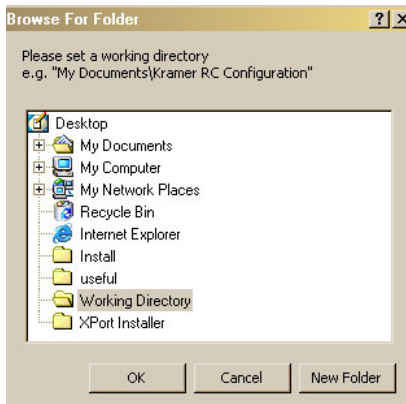


Figure 3: Setting a Working Directory

5. Select or create a new working directory<sup>3</sup>.
6. Continue to run the setup according to the installation instructions.

<sup>1</sup> File names are liable to change from time to time

<sup>2</sup> Mostly for matrix switchers and switchers

<sup>3</sup> The working directory will keep the information that is essential for operating the software. This information will remain unchanged while upgrading the software

## 4.2 Downloading and Installing the Drivers

The RC system peripheral devices have device drivers that let them communicate with computers. The device driver needs to be installed so that the computer can recognize it and control it. The Kramer RC Configuration software uses driver commands to control these peripheral devices.

### 4.2.1 Download the Drivers

Check, according to the peripheral devices list (see Figure 1), that you have all the required drivers:

- Kramer machines have drivers that are provided within the package
- Other peripheral device drivers are either provided within the package, provided by the manufacturer or can be downloaded from the Internet

Download the required drivers, according to the instructions provided for each driver, to a folder (for example, C:\Media-Room-1\Peripheral Device Drivers).

### 4.2.2 Install the Drivers

The peripheral device drivers are installed via the Manage Drivers window, defined in Figure 6 and Table 1:

To access the Manage Drivers window:

1. Open the Kramer RC Configuration program.
2. In the File menu, click Driver Manager<sup>1</sup>.  
The Driver Manager window appears (see Figure 6).

Once the Driver Manager window is open, you can:

- Import one or more drivers (Import Drivers..., see Figure 4), or export an existing driver (Export Driver..., see Figure 5)
- Add a new device driver
- Rename or delete devices, revisions and commands, as defined in Table 1
- Set the driver revision date

---

<sup>1</sup> If you are opening this program for the first time, the Manage Drivers window appears automatically

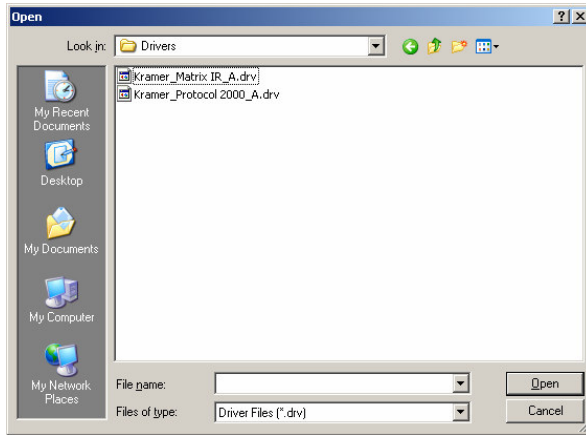


Figure 4: Importing a Kramer Driver File

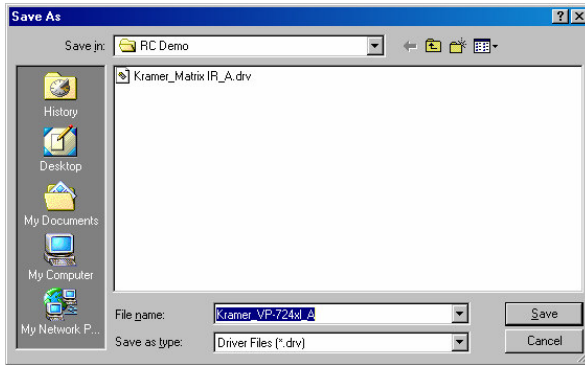


Figure 5: Exporting a Kramer Driver File

# The RC Configuration Software

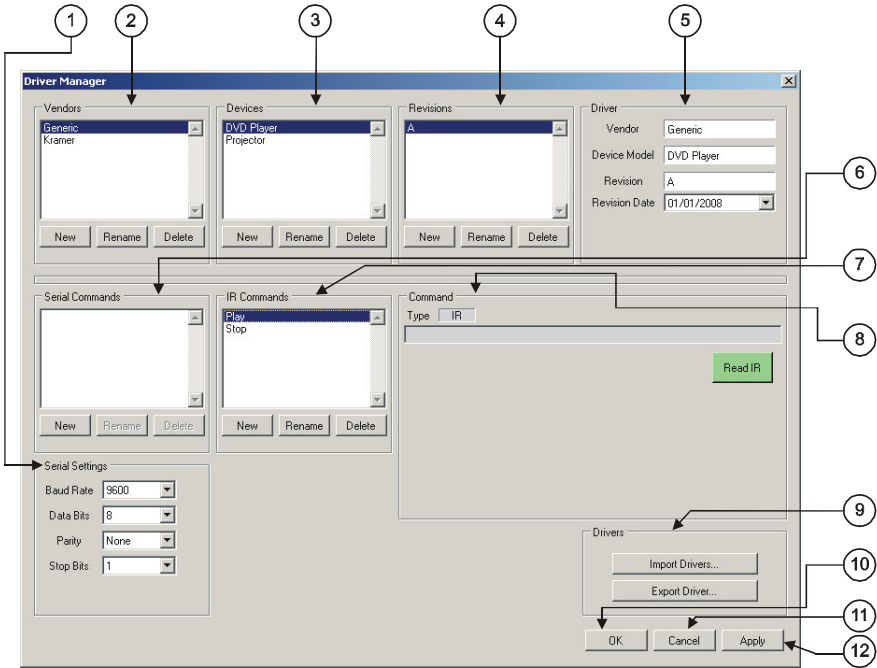


Figure 6: The Driver Manager Window

## The RC Configuration Software

*Table 1: Driver Manager Window Features*

#	Feature	Function
1	<i>Serial Settings Area</i>	Select the serial settings for the device: the <i>Baud Rate</i> , the <i>Data Bits</i> , the <i>Parity</i> and the <i>Stop Bits</i>
2	<i>Vendors Area</i>	Lists the downloaded vendors New: press to enter a new vendor name manually Rename: press to rename the vendor name Delete: erases the selected vendor
3	<i>Devices Area</i>	Lists the names of devices of a selected vendor (in the Vendors area) New: press to enter a new device name manually Rename: press to rename the Device name Delete: press to erase the selected device
4	<i>Revisions Area</i>	Lists the revision of a selected device New: press to enter a new revision manually Rename: press to rename the Revision number Delete: press to erase the selected revision
5	<i>Driver Area</i>	Displays the selected vendor, device model and revision. Lets you set the revision date
6	<i>Serial Commands Area</i>	Lists the serial command names for a specific device New: press to enter a new command name manually Rename: press to rename the Command editing tab Delete: press to erase the selected command
7	<i>IR Commands Area</i>	Lists the IR command names for a specific device New: press to enter a new command name manually Rename: press to rename the Command editing tab Delete: erases the selected command
8	<i>Command Area</i>	Displays the command type (see Figure 7 and Figure 8)
9	<i>Drivers Area</i>	Import Drivers...: press to import one or more driver files Export Driver...: press to export a driver file
10	<i>OK Button</i>	Apply changes and close window
11	<i>Cancel Button</i>	Close window without applying changes
12	<i>Apply Button</i>	Apply changes, but do not close window

### 4.2.3 Creating a Driver Command

To write the serial commands for the selected device, click the New button in the Serial Commands area to type the new command name. A Serial command type area appears, as illustrated in Figure 7.

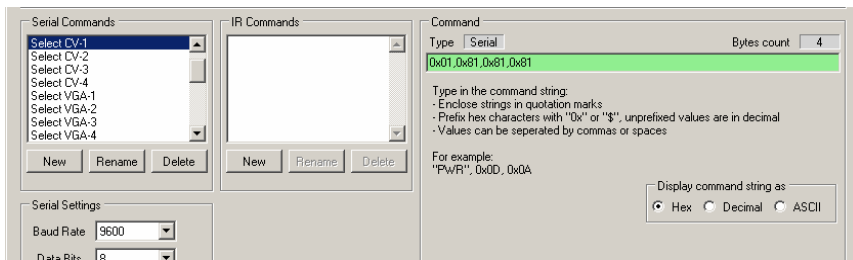


Figure 7: Writing the Serial Commands

To create IR commands for a selected device, click the New button in the IR commands area to type the new command name. An IR command type area appears, as illustrated in Figure 8.

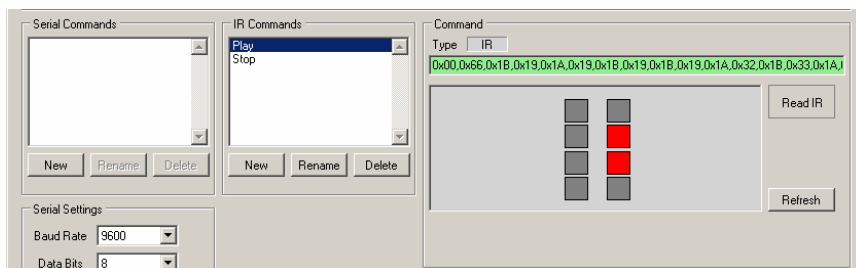


Figure 8: Creating the IR Commands

### 4.3 Port Mapping

Once the drivers are set, you can use the Port Manager window to define the ports on the RC unit and assign a default device driver for each port. The Port Manager window lets you define each port, set the baud rate, data bits, parity and stop bits for the RS-232 and RS-485 ports on the unit, and select the default driver for each port.

To open the Port Manager window, click the “Port Manager...” item in the Configuration menu (see section 6.3). Figure 9 shows the port manager window for an **RC-8IR** unit.

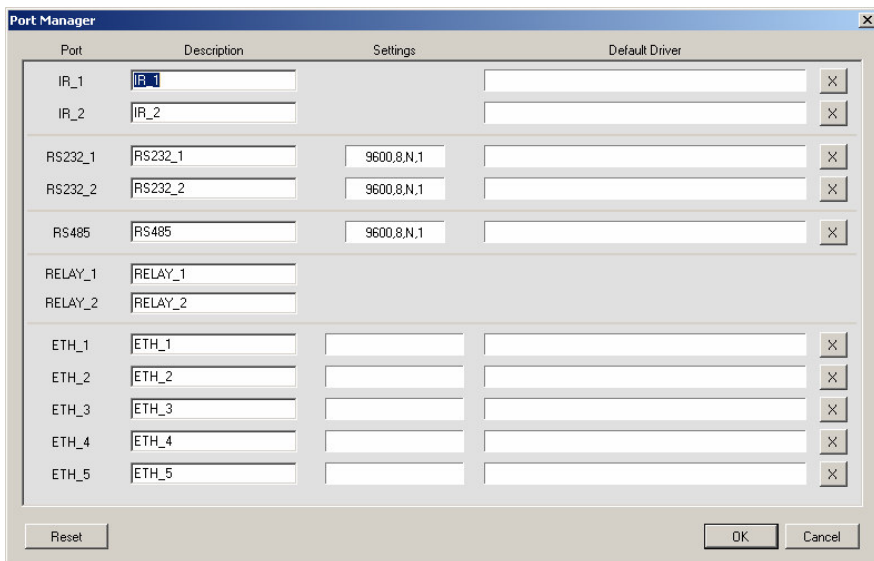


Figure 9: The Port Manager Window

Table 2: The Port Manager Window Features

The Item	Description
Port	Lists the number of ports available for the selected machine
Description	Type a description of the port
Settings	For serial ports, press the white area to open the serial Settings window and define the baud rate and parity For Ethernet ports, press the white area to open the Ethernet Settings window and define the IP address and TCP port
Default Driver	Press the white area to open the Drivers Tree window and select the default driver for this port
X	Press to clear the Default Driver data
Reset	Press to reset to default definitions

## 4.4 The Kramer RC Configuration Main Window

Once the drivers are imported and the ports are defined, use the Kramer RC Configuration main window to assign a sequence of commands (the macro) for each RC button. Figure 10 illustrates the Kramer RC Configuration main window, and Table 3 defines it:

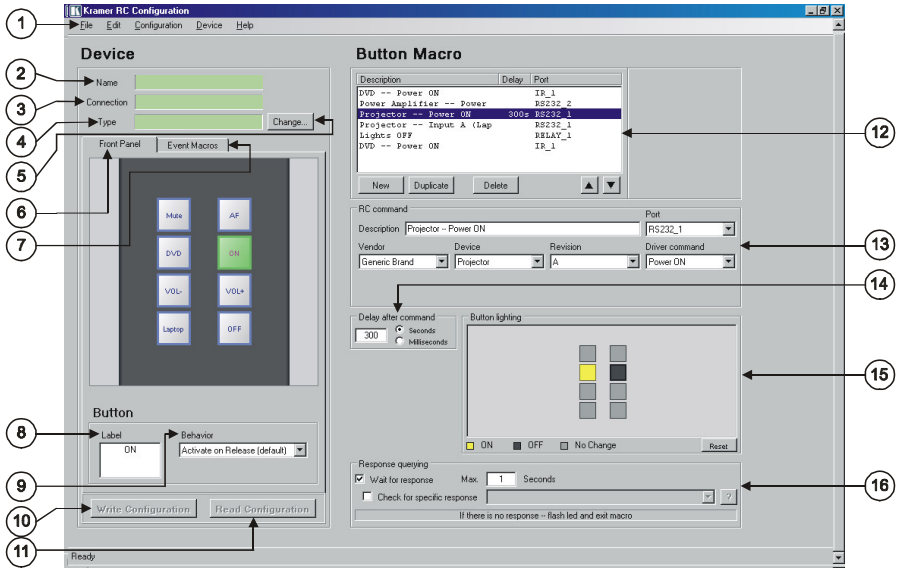


Figure 10: The Kramer RC Configuration Main Window

Table 3: Kramer RC Configuration Window Features



#	Feature	Function
1	Menu Bar	Menus are described in section 6
<b>Device Area</b>		
2	Name Box	Displays the name of the specific device <sup>1</sup>
3	Connection Box	Displays the connection properties with the device (IP address and port) <sup>1</sup>
4	Type Display Box	Select the device type <sup>2</sup> .
5	Change... Button	Press the Change... to change the device type (from a list)

<sup>1</sup> The name and IP number are initially set by the Device Selection dialog box (see section 6.4)

<sup>2</sup> The device type can be selected only if there is no device connected to the computer. If a device is connected, the device type is selected automatically



## The RC Configuration Software

#	Feature	Function	
6	<i>Front Panel</i> Tab	Shows the layout of the RC buttons according to the device type selected, with the labels on the button. Click to Select a button to configure, modify, read, or delete its macro. When the button is: <ul style="list-style-type: none"> <li>• Blue, it is assigned a macro</li> <li>• Green, it is selected</li> <li>• Gray, it is not assigned a macro</li> </ul>	
7	<i>Event Macros</i> Tab	By default, two event macros are assigned and can have commands added to them: Startup – a series of commands to be executed when the machine is turned on Inactivity timeout – a series of commands to be executed after a set amount of inactivity time (during which no button is pressed) has expired (see Figure 11)	
8	<i>Button Area</i> <sup>1</sup>	Select a button and type the required button label	
9	<i>Label</i> Text Box <i>Behavior</i> Drop Down Box	Assign the button response to press and release actions	
		Button Definition	Behavior
		Activate on Release (default)	The macro is executed upon releasing the button
		Activate while Pressed	The macro is activated and repeated for as long as the button is pressed
		Toggle 1-2-3-4	Cycling macro behavior: The button can be assigned with up to 4 different macros. Each time it is pressed, the next macro in the set will be activated in a cyclic fashion. <sup>2</sup>
		Toggle Press-Release	Dual macro behavior: One macro is activated when pressing the button and the other is activated when releasing the button
	Disabled	The button is disabled	
10	<i>Write Configuration</i> Button <sup>3</sup>	Press to write the configuration of all the buttons to the device	
11	<i>Read Configuration</i> Button <sup>3</sup>	Press to read the configuration of all the buttons from the device	
<b>Button Macro Area</b>			
12	Button Macro Display Box	Displays the macro RC commands' Description, Delay and Port in sequence. Select an RC command to duplicate, delete, or change its position in the sequence	
	<i>New Command</i> Button	Click to add a new command to the Button Macro display box <sup>4</sup> (see section 5)	
	<i>Duplicate</i> Command Button	Duplicate a command in the Button Macro display box	
	<i>Delete</i> Command Button	Delete a command from the Button Macro display box	
	 Button	Move up the selected command	
	 Button	Move down the selected command	

1 The Button area appears only after selecting a button in the Front Panel tab

2 The number of toggle states can be determined (from 1 to 4). The selected number of toggle states appears above the Button Macro area (see Figure 12)

3 This button is enabled only when a device is connected to the PC. Otherwise it is disabled

4 The button macro display box displays <No Description> under Description and None under Port

## The RC Configuration Software

#	Feature	Function
13	<i>RC command</i> Area	Includes the following features of the command selected in the Button Macro display box:
	Description Text Box	Optional descriptive text for the command
	<i>Port</i> Drop Down Box	Displays the port associated with the RC command: Select a port when modifying or writing a new RC command. When selecting an IR port, a serial port, or an Ethernet port, the Vendor, Device, Revision and Driver command drop down boxes appear. When selecting a relay port, the Relay command drop down box appears.
	<i>Vendor</i> Drop Down Box	Displays the current vendor. Select the vendor when writing a new RC command or modifying a selected command
	<i>Device</i> Drop Down Box	Displays the device driver name. Select the device driver when modifying or writing a new RC command
	<i>Revision</i> Drop Down Box	Displays the device driver revision. Select a revision when modifying or writing a new RC command
	<i>Driver command</i> Drop Down Box	Displays the current driver command. Select a driver command when writing a new command or modifying a selected command
	Relay command Drop Down Box	Select the Relay command: Open – N.C. and Common are connected (default) Close – N.O. and Common are connected
14	<i>Delay after command</i> Text Box <sup>1</sup>	Set a delay time following the command <sup>2</sup>
15	<i>Button lighting</i> Area <sup>1</sup>	Select the buttons that will illuminate, turn dark or remain the same following a command (the lighting configuration can be different for each command within the sequence). Toggle between ON (yellow), OFF (black) and No Change (gray). You can also click reset to reset the buttons to No Change (gray)
16	<i>Response querying</i> Area <sup>1</sup>	Enabled for RS-232, RS-485 and Ethernet communication <i>Wait for response</i> Check Box – check for the command to wait for a response before continuing with the macro <i>Max. ... Seconds</i> – type the response wait timeout in seconds (from 0 to 999 seconds) <i>Check for specific response</i> Check Box – specify an exact response to wait for (otherwise any response will do) If there is no response or the response doesn't match, the button will flash and the macro will be aborted

<sup>1</sup> Shows after checking this option in the configuration menu (see section 6.3)

<sup>2</sup> In seconds or milliseconds, via check box

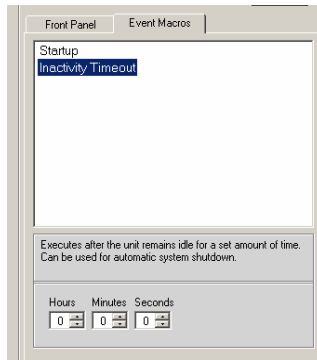


Figure 11: Event Macros Tab



Figure 12: Using the Toggle 1-2-3-4 Behavior

## 5 Creating the Macro

A macro includes a sequence of commands assigned to a selected button on the RC device. These commands can be derived from:

- Relay Open and Close commands
- The driver files of the peripheral devices that are to be controlled by the RC device
- IR remote control transmitters, via the IR Learner feature<sup>1</sup>

This section describes examples for writing:

- A relay command
- A driver command
- An IR learner command

---

<sup>1</sup> For RC devices that have the IR learner feature

## 5.1 A Relay Command – Turn Lights ON

To write a relay command on an RC button (for example, turn the lights on), do the following:

1. Open the Kramer RC Configuration main window.
2. Select a button from the RC buttons layout.  
The button turns green.
3. Click the New button (in the Button Macro area) to add a new command to the Button Macro.
4. In the RC command area, write the command description (for example, Lights ON).
5. Select the Port<sup>1</sup> you want to assign (for example, RELAY\_1)
6. Select the relay command (for example, Close).

Figure 13 illustrates the RC Command area as it appears after writing the command:

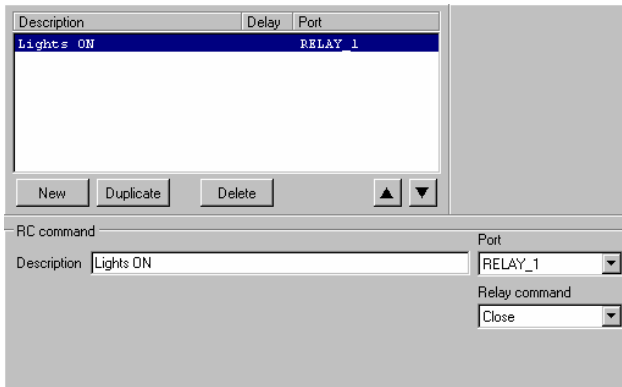


Figure 13: Lights ON RC Command

<sup>1</sup> When selecting a relay as a port, the Vendor, Device and Revision drop down boxes disappear and the Driver command drop down box is replaced with a Relay Command drop down box

## 5.2 A Driver Command – Switch Input to Output

To add a driver command to a button (for example, to switch the DVD player to the projector), do the following:

1. Open the Kramer RC Configuration main window.
2. Select a button from the RC buttons layout and label it “DVD”.
3. Click the New button (in the Button Macro area).
4. In the RC command area, write the command description (for example, Projector -- Input B (DVD)).
5. Open the Port drop down box and select the relevant port<sup>1</sup> from the list<sup>2</sup>. The default driver associated with this port appears.
6. Select the Driver command (for example, “Select Input B”) from the drop down box<sup>2</sup>.

Figure 14 illustrates the Button Macro display box and the RC Command area as it appears after writing the driver command:

---

<sup>1</sup> Once the port is selected, the default driver details appear

<sup>2</sup> If the required data does not exist, you can install it via the Manage Drivers window (see section 4.1)

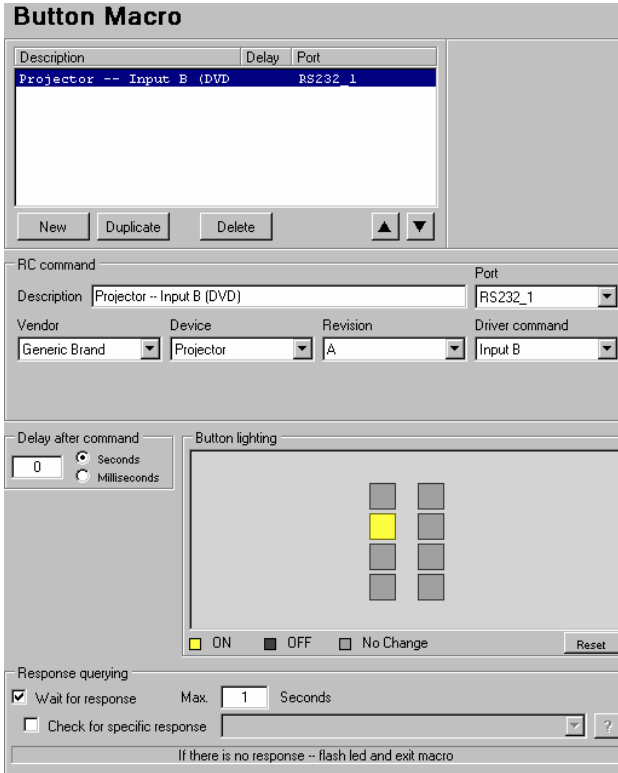


Figure 14: Switch IN6 to OUT2 Command

### 5.3 An IR Learner Command – “Play” DVD

To create a command via the IR learner feature<sup>1</sup>:

- Write the required IR command to the RC device via the IR Learner (see section 5.3.1)
- Connect the device to your PC via the Ethernet (see section 5.3.2)
- Read the IR Command via the Manage Drivers window (see section 5.3.3)
- Write the command to the macro (see section 5.3.4)

In the following example, we need to write a DVD’s “Play” command to button 6.

<sup>1</sup> Only for RC devices that have the IR learner feature

### 5.3.1 Writing the IR Command via the IR Learner

This procedure does not require that the RC device be connected to your PC, although it can be.

To write the IR command, do the following:

1. Connect the IR device to the power source.
2. Blot out or lower<sup>1</sup> the room lighting as much as you can.
3. Simultaneously press and hold the two buttons (illustrated in Figure 15) for 2 seconds.

The buttons (as illustrated in Figure 15) on the RC device blink sequentially.

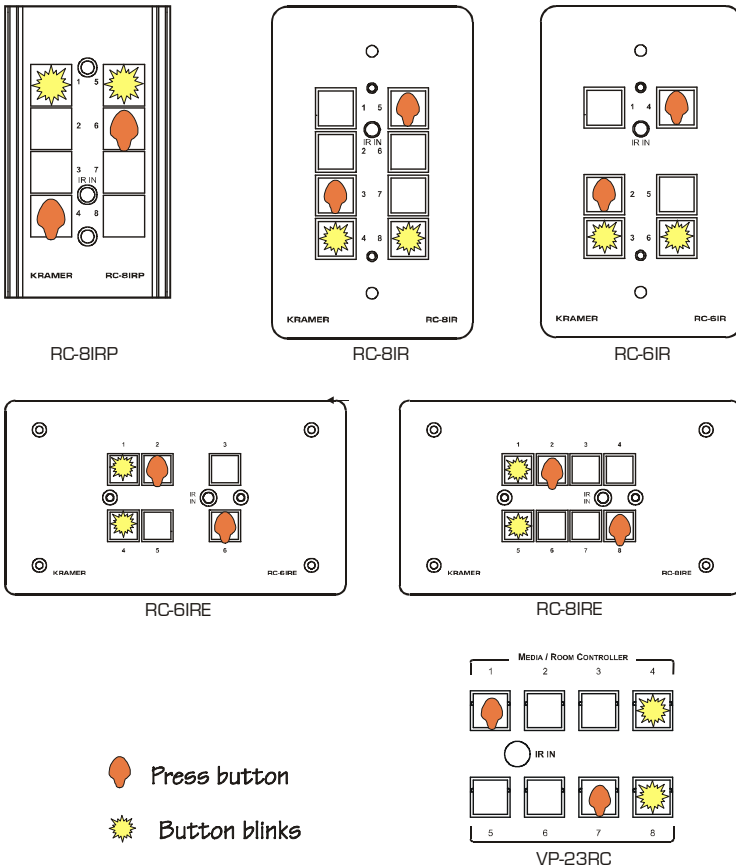


Figure 15: Initializing the IR Learner Procedure

<sup>1</sup> Bright lights (especially fluorescent lights) may interfere with the IR learning process

4. Push the button to which you want the IR commands to be read (for example, button 6).  
Button 6 is now ready to accept the command.
5. Point the DVD's remote control transmitter directly at the IR receiver on the RC device.
6. Press the desired command on the remote control (for example, Play).  
Button 6 on the RC device is now learning the IR command.  
If the learning process is successful, button 6 on the RC device blinks several times, pauses, and then all the buttons blink sequentially.  
If the button did not accept the IR command (after about 10 seconds) or if an incorrect command was read (for example, due to some kind of interference), the RC device buttons blink twice simultaneously and then the device exits the IR Learner mode. The last command will not be registered to the button.  
To restart the IR Learner mode, repeat this procedure from step 3 onwards.

**Note that:**

- The IR learning process overwrites any previous command or macro on the selected button
- Only one IR command can be written at a time, per button
- Learned IR commands can be immediately tested by pressing the buttons they were learned into; an act that will send the same IR command over port IR1 (see note 9 below).

7. You can continue the learning process for each button, until each button has an IR command, and you can also overwrite previously learned buttons.  
In this way, an IR command is transmitted to each button and then can be read in sequence to the driver.
8. To exit the IR learner state, wait several seconds without pressing any button, until the lights cease to blink.
9. If the peripheral device (the DVD player in this example) is connected to the RC device via the IR1 port, you can press the relevant button (button 3 in this example) to verify that the command signal has been transmitted correctly.

### **5.3.2 Connecting the RC Device to your PC**

After writing the IR command to button 6, connect the RC device to your PC to read the command data to the Kramer RC configuration program:

1. Connect the RC device to the Ethernet port, as described in section 5.3.5.
2. Click the appropriate shortcut in the Start menu's Programs folder.  
The Kramer RC Configuration main window opens.



3. Open the Device menu and click Discover<sup>1</sup>.  
The Device Selection window opens.
4. The Device Selection dialog box lists the devices found, and their IP number (see Figure 27). Select the device and then click OK.
5. To change the settings according to your network requirements, open the Device menu and click Set Device Details.  
The Set Device Details dialog box opens.  
Click the Set button to apply the settings (see Figure 17).

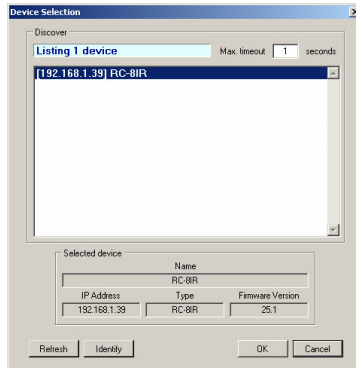


Figure 16: Kramer RC Configuration – Device Selection Dialog Box

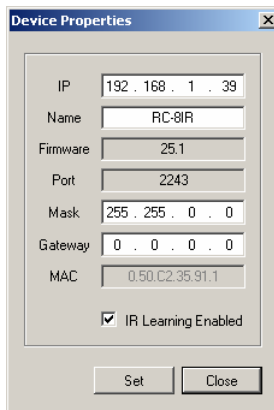


Figure 17: Kramer RC Configuration – Set Device Details Dialog Box

---

<sup>1</sup> To automatically search for devices

### 5.3.3 Reading the IR Command via the Manage Drivers Window

To read the IR command, do the following:

1. From the File menu, select Driver Manager.  
The Driver Manager window opens.
2. Set a new Vendor, Driver and/or Revision or select a Vendor, Driver or Revision to which to read the IR command<sup>1</sup>.
3. Click the New button under the IR command area.
4. Write the new IR command name (for example, Play) as shown in Figure 18.

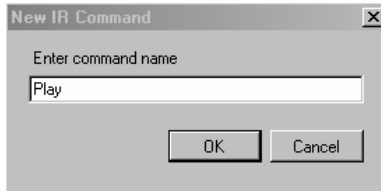


Figure 18: New IR Command Window

5. The button layout appears under the Command area. The button that includes the IR command appears red.
6. Click the Read IR button.  
After reading the command, an “IR data successfully read” window appears.  
The IR command is now included in the selected driver file.

Figure 19 shows the IR Command area after reading the IR command:

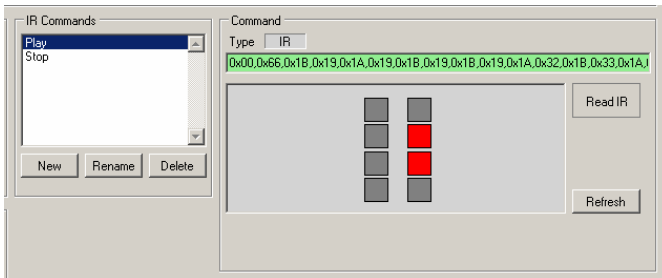


Figure 19: The IR Command Area

<sup>1</sup> You can either create a new Vendor, Driver or Revision to which to read the IR command, or just add the IR command to an existing driver

### 5.3.4 Writing the Command to the Macro

To write the IR command to the macro, do the following:

1. Open the Kramer RC Configuration window.
2. Select the RC button to which you want to add the command.
3. In the Description text box, type the new command's description (for example, DVD -- Play).
4. From the Port drop down box, select the desired IR port<sup>1</sup> (for example, IR\_1).
5. From the Command drop down box, select the relevant command (for example, Play).

Figure 20 shows the IR command setting:

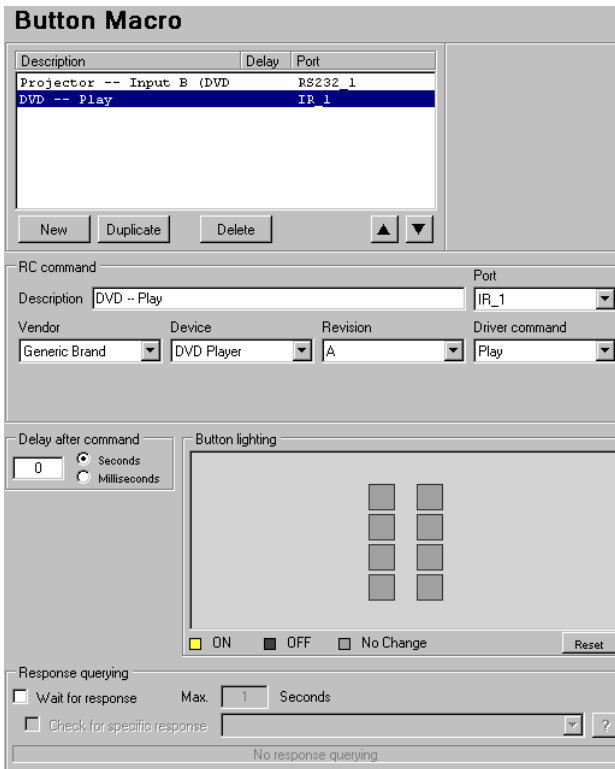


Figure 20: IR Command Setting

<sup>1</sup> Once the port is selected, the default driver details appear

### 5.3.5 Connecting via the ETHERNET

You can connect the RC device via the Ethernet, using a crossover cable (see section 5.3.5.1) for direct connection to the PC or a straight through cable (see section 5.3.6) for connection via a network hub or network router.

#### 5.3.5.1 Connecting the ETHERNET Port directly to a PC (Crossover Cable)

You can connect the Ethernet port of the RC device to the Ethernet port on your PC, via a crossover cable with RJ-45 connectors.

This type of connection is recommended for identification of the factory default IP Address of the RC device (192.168.1.39) during the initial configuration

After connecting the Ethernet port, configure your PC as follows:

1. Right-click the My Network Places icon on your desktop.
2. Select **Properties**.
3. Right-click Local Area Connection Properties.
4. Select **Properties**.  
The Local Area Connection Properties window appears.
5. Select the Internet Protocol (TCP/IP) and click the **Properties** Button (see Figure 21).

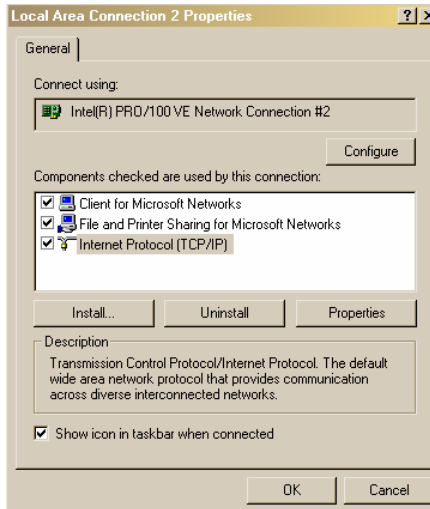


Figure 21: Local Area Connection Properties Window

6. Select Use the following IP Address, and fill in the details as shown in Figure 22.
7. Click OK.

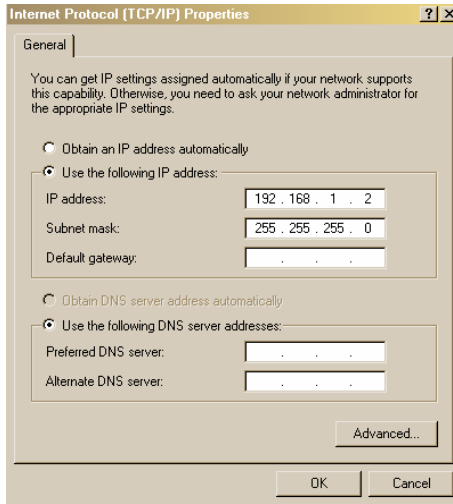


Figure 22: Internet Protocol (TCP/IP) Properties Window

### 5.3.6 Connecting the ETHERNET Port via a Network Hub (Straight-Through Cable)

You can connect the Ethernet port of the RC device to the Ethernet port on a network hub or network router, via a straight-through cable with RJ-45 connectors.

## 6 The Kramer RC Configuration Menus

This section describes the Kramer RC Configuration menus.

### 6.1 The File Menu

Figure 23 illustrates the File menu and Table 4 defines it:

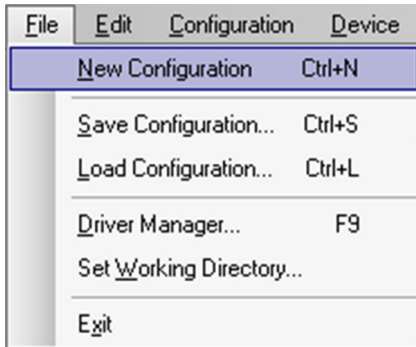


Figure 23: The File Menu

Table 4: File Menu Features

Menu Command	Function
New Configuration	Click to create a new device configuration <sup>1</sup>
Save Configuration...	Click to save the current configuration
Load Configuration...	Click to load a saved configuration
Manage Drivers...	Click to open the Manage Drivers window (see section 4.2.2)
Set Working Directory...	Click to set the new working directory <sup>2</sup>
Exit	Click to exit the program

### 6.2 The Edit Menu

Figure 24 illustrates the Edit menu and Table 5 defines it:

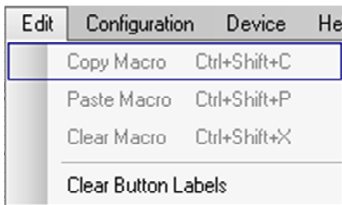


Figure 24: The Edit Menu

Table 5: Edit Menu Features

Menu Command	Function
Copy Macro	Click to copy a button macro command sequence
Paste Macro	Click to paste a button macro command sequence
Clear Macro	Click to clear the Macro-commands sequence box
Clear Button labels	Click to clear all the button labels

<sup>1</sup> This will discard the active configuration

<sup>2</sup> The working directory can be changed at any time

### 6.3 The Configuration Menu

Figure 25 illustrates the Configuration menu and Table 6 defines it:

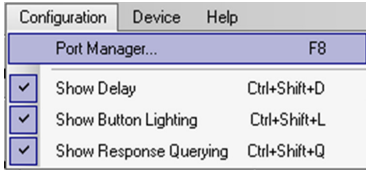


Figure 25: The Configuration Menu

Table 6: Configuration Menu Features

Menu Command	Function
Port Manager	Lists the ports names, description, settings and drivers (see section 4.3)
Show Delay	Check to show in RC main configuration window
Show Button Lighting	Check to show in RC main configuration window
Show Response Querying	Check to show in RC main configuration window

### 6.4 The Device Menu

Figure 26 illustrates the Device menu and Table 7 defines it:

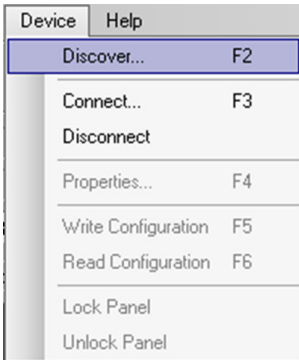


Figure 26: The Device Menu

Table 7: Device Menu Features

Menu Command	Function
Discover...	Click to open the Device Selection window and search for connected devices (see section 6.4.1)
Connect...	Click to connect via an IP number or serial port
Disconnect	Click to disconnect the device
Properties <sup>1</sup>	Click to show the device properties dialog
Write Configuration <sup>1</sup>	Writes the configuration to the device
Read Configuration <sup>1</sup>	Reads the configuration from the device
Lock Panel <sup>1</sup>	Click to lock the front panel buttons on the device
Unlock Panel <sup>1</sup>	Click to unlock the front panel buttons of the device

<sup>1</sup> Active only when a device is connected

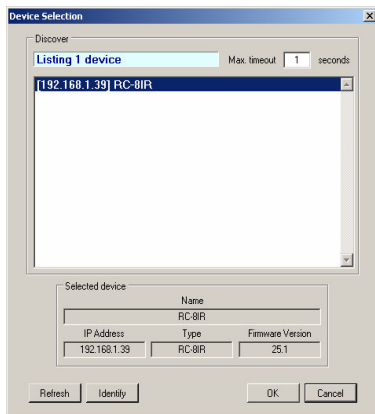
### 6.4.1 The Discover Command

The Device Selection dialog box detects RC devices via the Ethernet.

To discover any connected devices, do the following:

1. Open the Device menu and click Discover<sup>1</sup>.  
The Device Selection window opens (see Figure 27).
2. The Device Selection window lists the device found, and its IP number.  
Select the device and then click OK.

Table 8: Device Selection Dialog Box



Feature	Function
<i>MAX. timeout</i> Text Box	Set time out for searching devices <sup>2</sup>
<i>Selected Device Area</i>	Displays Name of the selected RC device, its IP Address, Type and firmware version
<i>Refresh Button</i>	Click to refresh Discover list
<i>Identify Button</i>	Click to identify the connected RC device <sup>3</sup>

Figure 27: Device Selection Dialog box

**If the Discover command failed to detect any connected devices, do the following:**

- Make sure that the subnet mask definition of the device is correct
- If a Firewall is installed, it is probably blocking the communication. To overcome this problem, in the Firewall definitions, open the 2243 and 2244 ports used for the UDP protocol
- It is recommended to seek assistance from the Network Administrator

<sup>1</sup> To automatically search for devices

<sup>2</sup> You can set the timeout according to your needs. For example, if the connected device cannot be discovered, you may increase the timeout value. If the device can still not be detected, it is probably due to a communication problem

<sup>3</sup> The buttons on the device that was detected flash twice



## 6.5 The Help Menu

Figure 28 illustrates the Help menu and Table 9 defines it:

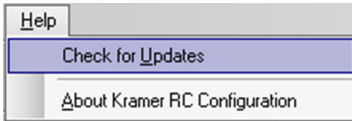


Figure 28: The Help Menu

Table 9: Help Menu Features

Menu Command	Function
Check for updates	Search the Kramer Electronics Web site for software updates
About Kramer RC Configuration	Shows the current software version

## 7 Assigning Macros to the RC Device

Once your configuration is ready, you can assign it to the RC device, via the “Write Configuration” button.

You can also read the configuration from the RC device, via the “Read Configuration” button.

### 7.1 Assigning a configuration from One Device to Another

To copy a Macro to a second RC device (for example, from an RC 1 device to an RC 2 device), do the following:

1. Connect the RC 1 device to the Ethernet and by the software.
2. Click the “Read Configuration” button to download the button macros of the RC 1 device.
3. Disconnect<sup>1</sup> the RC 1 and connect the RC 2 by the software.
4. Click the “Write Configuration” button.

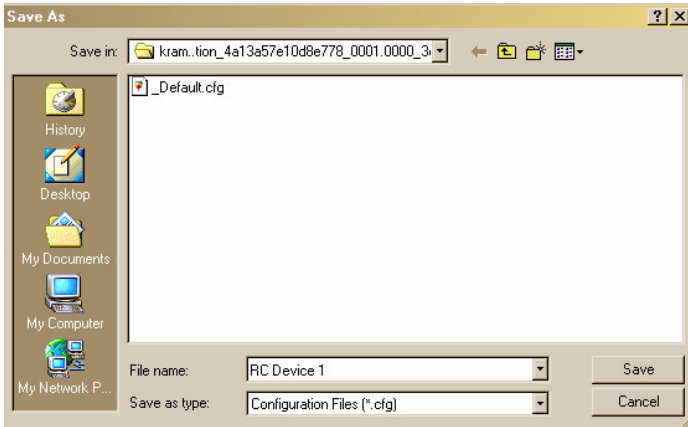
### 7.2 Assigning a configuration to a second RC device via a Saved Configuration

To copy a configuration to a second RC device (for example, from an RC 1 device to an RC 2 device), do the following:

1. Connect the RC 1 device to the Ethernet and by the software.
2. Click the “Read Configuration” button to download the configuration of the RC 1 device.
3. From the File menu, select Save Configuration...  
The Save As window opens (see Figure 29).
4. Save the configuration.

---

<sup>1</sup> After disconnecting the RC 1, its downloaded configuration remains available



*Figure 29: Saving a Configuration*

5. Connect the RC 2 device to the Ethernet by the software.
6. From the File menu, select Load Configuration....
7. Open the RC 1 device configuration file.
8. Click the "Write Configuration" button.  
The configuration is assigned to the RC 2 Device.

## 8 Installation of the RC System

After connecting the RC system components, connect a 12V DC power supply to the terminal block connector, taking care that **polarity is correct**.

To achieve the best performance:

- Connect only good quality connection cables, thus avoiding interference, deterioration in signal quality due to poor matching, and elevated noise- levels (often associated with low quality cables)
- Avoid interference from neighboring electrical appliances and position the RC system away from moisture, excessive sunlight and dust

### 8.1 Connecting the RS-232 Port

The RS-232 DB9 connector port is defined in Figure 30 and Table 10:

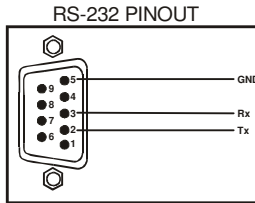


Figure 30: RS-232 PINOUT Connection

Table 10: RS-232 PINOUT Connection

Connect this PIN on the Terminal Block Connector:	To this PIN on the DB9 Connector
Tx	PIN 2
Rx	PIN 3
GND	PIN 5

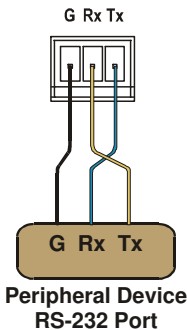


Figure 31: RS-232 Port Wiring

Figure 31 shows how to connect the RS-232 terminal block connector port for bidirectional communications.

## 8.2 Connecting the RS-485 Port

Figure 32 shows how to connect the RS-485 terminal block connector

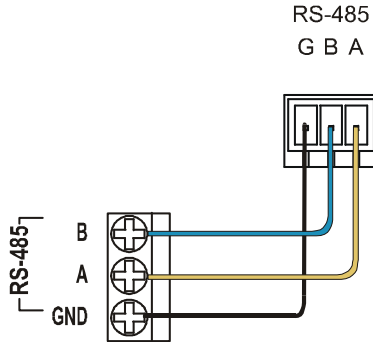


Figure 32: RS-485 Port Wiring

## 8.3 Connecting the Relays

Figure 33 shows how to connect the relays.

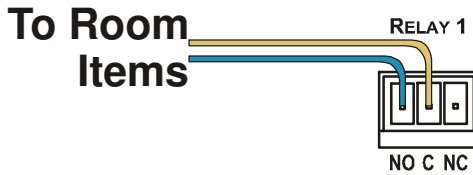


Figure 33: Relay Wiring

On each 3-pole terminal block connector, connect either: **C** to **NO**, or **C** to **NC**. Table 11 defines the Relay PINOUT:

Table 11: Relay PINOUT

RELAY PINOUT	
C	Common
NO	Normally Open (relay is open by default and closes for activation)
NC	Normally Closed (relay is closed by default and opens for activation)

## 8.4 Connecting the IR Emitter

Figure 34 shows how to connect the IR emitter<sup>1</sup>. The white striped side connects to IR OUT, the black side connects to the Ground, and the LED Emitter Shell is affixed to the IR sensor window with the adhesive layer.

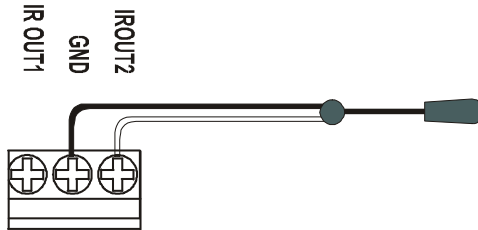


Figure 34: IR Emitter Wiring

**NOTE:** The dual IR emitter emits a weaker IR signal that may not be detected by some devices

## 8.5 Inserting the Button Labels

To insert a button label, do the following:

1. Unscrew the faceplate attachment screws, using a screwdriver.
2. Gently remove the transparent button cap with your fingers.
3. Insert the label under the button cap.
4. Replace the button cap with the label onto button base.

<sup>1</sup> The Kramer 3.5mm to IR Emitter Control Cable (C-A35/IRE-10)

## 9 Ethernet Flash Memory Upgrade

The RC device firmware is located in FLASH memory, which lets you upgrade to the latest Kramer firmware version in minutes!

The process involves:

- Downloading the upgrade package from the Internet
- Connecting the PC to the RS-232 port
- Upgrading the firmware

### 9.1 Downloading from the Internet

You can download the up-to-date file<sup>1</sup> from the Internet. To do so:

1. Go to our Web site at <http://www.Kramerelectronics.com> and download the file: “*SetKFRXXX-xx.zip*” from the technical support section.
2. Extract the file “*SetKFRXXX-xx.zip*” package, which includes the KFR-Programmer application setup and the *.s19* firmware file, to a folder (for example, C:\Program Files\KFR Upgrade).
3. Install the KFR-Programmer Application.

### 9.2 Connecting the PC to the RS-232 Port

Before installing the latest Kramer Ethernet firmware version on the **RC**, do the following:

1. Connect the RS-232 port (COM 1) on the RC device to a Null-modem adapter and connect the Null-modem adapter with a 9-wire flat cable to the RS-232 DB9 COM port on your PC.
2. Set the PROGRAM switch to ON.
3. Connect the power on your machine.

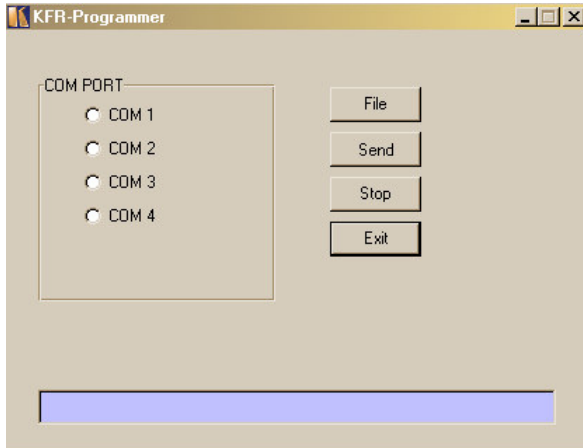
### 9.3 Upgrading Firmware

Follow these steps to upgrade the firmware:

1. Double-click the KFR-Programmer desktop icon.  
The KFR-Programmer window appears (see Figure 6).

---

<sup>1</sup> File names are liable to change from time to time



*Figure 35: The KFR-Programmer Window*

2. Select the required COM Port<sup>1</sup>.
3. Click the File button to select the `.s19` firmware file included in the package.
4. Click the Send button to download the file. The Send button lights red.
5. Wait until downloading is completed and the red Send button turns off.
6. Disconnect the power on the RC device.
7. Set the PROGRAM switch to OFF.
8. Connect the power on the RC device.

---

<sup>1</sup> To which the RC device is connected on your PC