



USER MANUAL

MODEL:



P/N: 2900-300572 Rev 4

www.kramerAV.com

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1 Introduction

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	3
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	7
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	<u>11</u>
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

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

Our 1,000-plus different models now appear in 14 groups that are clearly defined by function: GROUP 1: Distribution Amplifiers; GROUP 2: Switchers and Routers; GROUP 3: Control Systems; GROUP 4: Format/Standards Converters; GROUP 5: Range Extenders and Repeaters; GROUP 6: Specialty AV Products; GROUP 7: Scan Converters and Scalers; GROUP 8: Cables and Connectors; GROUP 9: Room Connectivity; GROUP 10: Accessories and Rack Adapters; GROUP 11: Sierra Video Products; GROUP 12: Digital Signage; GROUP 13: Audio; and GROUP 14: Collaboration.

Congratulations on purchasing your Kramer Room Controller device, which is ideal for controlling A/V equipment and media room items. The configuration software is part of the package and includes the Kramer **K-CONFIG** Guide. The Kramer **K-CONFIG** software lets you set a sequence of actions in a trigger (a macro) and assign them to any of the configurable buttons on any of the relevant RC devices, a schedule or an event.



Note that the RC buttons can be configured prior to installation.

This online guide accompanies the **K-CONFIG** application software for Kramer room controllers and is compatible with previous versions. Download up-to-date Kramer user manuals and guides from the Internet at this URL: http://www.kramerav.com/manual/K-Config 3.

1.1 Overview

K-CONFIG is an intuitive configuration application that easily maintains control driver libraries, creates room control macros and protocols, and automatically generates HTML files where applicable. **K-CONFIG** supports a revised GUI, adds a host of advanced and easy to use features and uses a revamped driver database. The easy workflow shared between all Kramer control products enables a "Learn once – use forever" approach.

The K-CONFIG:

- Is a simple to use Graphical User Interface design, and no programming knowledge is required.
- Is powerful and updateable by the user driver database.
- Features a flexible querying system for projectors lamp hours, fans status and similar information.
- Includes an easy-to-use messaging system all the way to the Site-CTRL AV site monitoring application.
- Is compatible with current Windows versions: Windows 7 and Windows 8.

1.2 System requirements:

This section defines the minimum requirements for the Kramer K-CONFIG and describes how to install your system.

1.2.1 System Requirements for the Kramer K-CONFIG

The system minimum requirements include:

- 1GHz or faster processor
- 1GB or more RAM
- At least 1GB free hard disk space
- Network connection for configuring devices or USB.
- Microsoft.NET® Framework 3.5, automatically installed (see Section 2.1).

1.2.2 Operating Systems

Microsoft Windows 7 (32 or 64 bit) or Microsoft Windows 8 (32 or 64 bit) are the recommended operating systems (Windows NT does not support .NET 2.0 and cannot be used). Other Windows versions are not supported.

2 Planning the Controlled Room

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

Carefully plan your room controller system layout to ensure smooth configuration and installation of the system. The following table summarizes the basic configuration and installation steps:

Stage	K-Config Tool	Description
Plan		List room devices, location, connectivity and main commands
Install HW system		Connect room AV, Lighting, Automation and Control system
Set SW drivers	Driver Manager	Get device drivers and set proper device commands and responses
Set control SW system	Project Navigator and Port Manager	Set controllers, keypads and gateways Assign control ports connectivity to controlled devices
Configure control SW program	Triggers and Action Editor	Assign commands & actions to UI and triggering events
Activate control system	Connect	Sync control SW program to HW system Validate proper control system operation

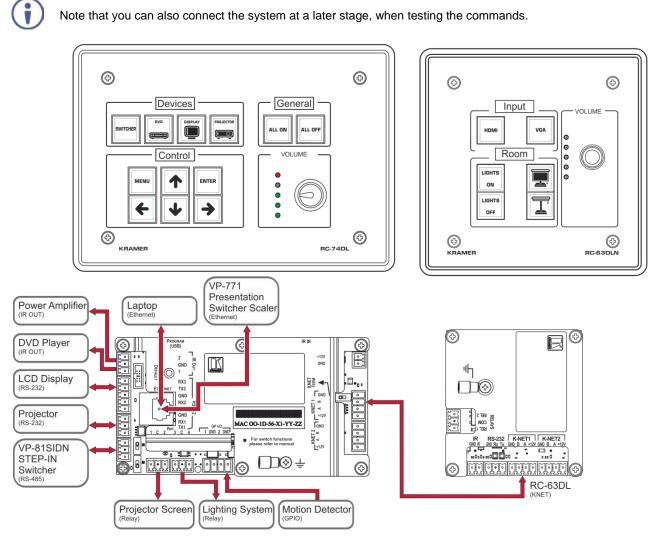
The following are the steps that will get you going:

A: Define the room requirements; list the items required, plan the location and function of the devices; prepare a detailed list of the functions and commands required of the system devices:

Device	Function	Connected to	Sample Commands
Projector	Main room display	RS-232	On/off, input selecting, blank, freeze, menu, and so on
LCD Display	Local Monitor	RS-232	On/off, input selecting, volume, aspect ratio, Freeze, Menu, and so on
Laptop	Input the lecturer's laptop	Ethernet	Use the RC's Web page, perform "Test command" when installing the RCs in the room.
VP-81SIDN	Inputs of different user	RS-485	Select input, mute, volume, and so on
VP-771	Select a source	Ethernet	Input selecting, PIP, Blank, mute and so on
DVD Player	Input the DVD Player	IR	On/off, play/stop and so on
Power Amplifier	Amplify the volume	IR	On/Off, volume, select input, mute on/off, and so on
Projector Screen	Roll down and roll up	Relay	Up, down
Lighting System	Set the lights	Relay	On, off, dim
Motion detector	Burglar detection	GPI/O	

Other functions you would like to have in the room include general command sequences such as weekend shutdown, room startup and so on.

B: Set up the system in the room.



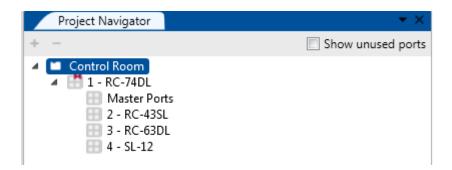
C: Check, according to the list, that all the device drivers appear in the K-CONFIG Driver Tree (see <u>Section 5</u>). For example, if you are using a Hitachi Projector, check that its driver is part of the drivers list. If it is not, and you do not have the driver to a device (for example, a projector), you can either request it from Kramer's tech support or download the manufacturer's protocol from the Web, and create it yourself via K-CONFIG.

Drivers Tree	×
Select by: Vendor Device	Sort by Vendor
+, −, ∅, №,	
 Drivers 2Wire 3M 3M Filterete 3M/Radio Thermostat A.C.Ryan AB-COM ACcell Access HD Accurian Acoustic Solutions ACTi ADA ADB Adcom AEG Arlink Airink Airink Aira 	
±Akira	-
Import Drivers	
Show Latest Revisions Only	Edit Close

D: Set the serial replies, the queries and the tables via the Driver Manager:

Driver Manager		
Drivers Tree		🔗 🔁 🗊
Driver Details		✓ <u>Serial</u> ✓ <u>Power</u>
Vendor	JVC	PWR_ON PWR OFF
Device Model	DLA-RS1-2	PWR_STDBY OnplyfromOn
Revision	A	On Reply from Off
Device Type	Audio Amplifier	On_reply_from_On OnReply_from_Off
Device Type		On reply from On
Revision Date	9/ 6/2015 💌	PAUSE
Driver Settings		Input Volume Vol_Up
Serial Settings		Vol_Down Vol_Mute_On
Baud Bate	19200	Vol_Mote_Off
Daug Nale	19200	Setup
Data Bits	8	<u>Device-Specific</u> ▷ IR
Parity	None	Serial Replies
Stop Bits	1	 <u>Tables</u> Shared
		Volume
Ethernet Settings		Input_Volume Output_Volume
IP Address	0.0.0.0	Device-Specific
Port		Queries Shared
	0 ÷	 <u>Shared</u> Device-Specific
Protocol		

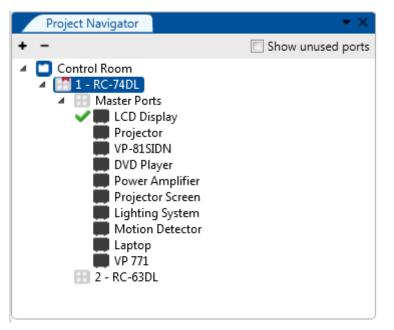
E: Add the Master and auxiliary devices to the Project Navigator:



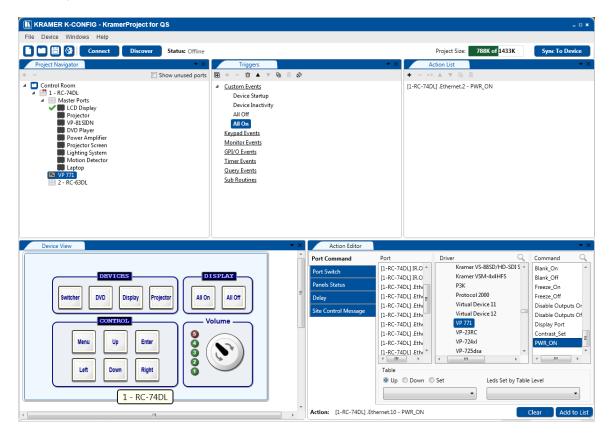
F: Set the ports via the port manager (assign the controlled items and devices to the Master and auxiliary devices):

		RC-74DL (ID 1)				
Name	Description	Driver	Properties			
[1-RC-74DL] RS-232.Terminal_Block_1	LCD Display	TH-L32XV6M	<u>9600,8,N,1</u>	Clear	Main Display	
[1-RC-74DL] RS-232.Terminal_Block_2		Select driver	<u>9600,8,N,1</u>	Clear	Main Display	
[1-RC-74DL] RS-232.Terminal_Block_3	Projector	<u>CP-S370W-2</u>	<u>19200,8,N,1</u>	Clear	Main Display	
[1-RC-74DL] RS-485.1	VP-81SIDN	<u>CP-S420-2</u>	<u>19200,8,N,1</u>	Clear	Main Display	
[1-RC-74DL] IR.Out_1	DVD Player	TLP651U-21		Clear	Main Display	
[1-RC-74DL] IR.Out_2	Power Amplifier	<u>VP11S1-2</u>		Clear	Main Display	
[1-RC-74DL] Relay.1	Projector Screen			Clear		
[1-RC-74DL] Relay.2	Lighting System			Clear		
[1-RC-74DL] Relay.3				Clear		
[1-RC-74DL] Relay.4				Clear		
[1-RC-74DL] GPI/0.1		Digital Input 🔹	Pullup	Clear	Threshold	
[1-RC-74DL] GPI/O.2	Motion Detector	Digital Input 🔹	Pullup	Clear	Threshold	
[1-RC-74DL] .Ethernet.1	Laptop	Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.2	VP 771	VP 771	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.3		Select driver	UDP,0.0.0.0,0	Clear	Main Display	
[1-RC-74DL1 Ethernet 4		Select driver		Clear	Main Display	

The port description now appears in the control room:



G: Configure the commands:



H: Connect, write the configuration to the device ("Sync to device") and test the system.

Note that at any time you can add commands or devices in the same way.

2.1 Glossary

The glossary in the table below defines common terms used throughout this manual:

Glossary	
Action	A command that performs an action (for example, Mute the sound on the power amplifier). Actions are grouped into Action Types based on their function (for example, Button Light)
Action List	A list of actions which are performed one after another in the order they were added to the action list. An action list is performed as a result of a Trigger.
Auxiliary Device	A secondary room control device (K-NET ID number=2 and on) such as a room controller, control keypad, keypad or virtual keypad device.
Control Gateway (aka I/O proxy device	Control gateway devices (such as the Kramer FC-28 gateway) which are connected to a master room controller via an Ethernet port. Used to expand the number of I/O ports available for connecting controlled devices.
Control Keypad Device	Integrated room controller and keypad device (such as the Kramer RC-74DL), typically having direct I/O ports, serving as either master or auxiliary room controller.
Controlled Device (aka Peripheral device)	Peripheral devices (such as TV displays, projectors, DVD players, switchers, scalers, sensors, door locks, light switches and dimmers, shades, blinds, drapes and so on) that are controlled by a room controller device via I/O interface connections.
Driver	A communication protocol used for controlling a controlled device by a Kramer controller, as specified by the controlled device vendor.
GPI/O	General Purpose Input / Output port, with multiple operation modes as configured by K-CONFIG. It is typically used to interact with common room sensors (such as an occupancy sensor, temperature sensor and so on).
I/O interface (aka I/O port)	Any Ethernet, Serial, IR, GPI/O, or Relay control interface, connecting between the room controller and the controlled devices, either directly or via a control gateway.
Keypad Device	Keypad-only UI device (such as the Kramer RC-54DL keypad) without an integrated room controller, with hard buttons, knobs, LCD displays and similar UI control keys.
Master Room Controller	The main controller device (by default, K-NET ID number=1) in a room control system to which auxiliary controller devices, controlled devices, UI devices and control gateways are connected.
Room Controller Device	A room controller device running a control program, as configured via K-CONFIG, that controls room controlled devices (connected via I/O interfaces) according to UI-generated user commands. It serves as either master or auxiliary room controller.
	A room controller can be a HW-based controller unit (such as the Kramer SL-1N controller or the RC-74DL control keypad) or a Server SW-based virtual controller device (such as the KRAMER NETWORK controller).

Glossary	
Touch Panel Device	Touch UI panel (such as the Kramer KT-10 touch panel) with SW-based buttons, knobs, LCD displays and similar UI control keys.
Trigger	An event that starts the execution of an Action List, such as a button press, knob rotation, scheduled event, monitored event and so on
UI Device	User-interface device, with physical (such as a keypad) or SW-based (such as touch panel) buttons and knobs, configured for user room control operation.
Virtual Keypad Device (aka Virtual Device)	A SW-based keypad UI virtual device accessed via Web-browser for user room control operation through its multiple GUI panels, as configured in K-CONFIG. When connected to a Master room controller via Ethernet port, it can serve as an auxiliary UI device.
Virtual Panel	A GUI panel with multiple SW-based GUI elements, configured in a virtual keypad device for user room control operation.
Virtual Room Controller Device (aka Virtual Master)	A SW-based master room controller in KRAMER NETWORK control systems, as created in K-CONFIG and managed in KRAMER NETWORK server.

3 Kramer K-CONFIG Software Installation

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
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Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
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Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	<u>11</u>
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

To install the K-CONFIG software:

- Check that ".NET Framework" Revision 4.0 software is installed or install it if it is missing (see Section 3.1).
- Install the USB driver (see <u>Section 3.2</u>).
- Install the Kramer K-CONFIG software (see Section 3.3).

3.1 Installing the ".NET Framework" Revision 4.0 (or higher) Software

Prior to using the Kramer **K-CONFIG** software, make sure that the ".NET Framework" Revision 4.0 (or higher) 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 **K-CONFIG** software.

3.2 Installing the USB Driver

If you wish to configure the RC device by connecting it via a USB cable, you need to download and install the USB driver. Download the Kramer USB driver from the installation disc or from our Web site at http://www.kramerav.com/manual/K-Config 3, save it on your PC and extract the zip file to a directory where you can find it later.

Connect the mini USB cable from your PC to the device and wait until Windows 7 completes the connection and will report in a bubble that "Device driver software was not successfully installed" (If the device driver is installed successfully, skip the rest of section).





Figure 1: USB Driver Installation –USB Installation Attempt

To install the USB driver:

- 1. Open Control Panel -> Device Manager ...
- 2. Right click the Kramer USB -COM DEVICE driver:

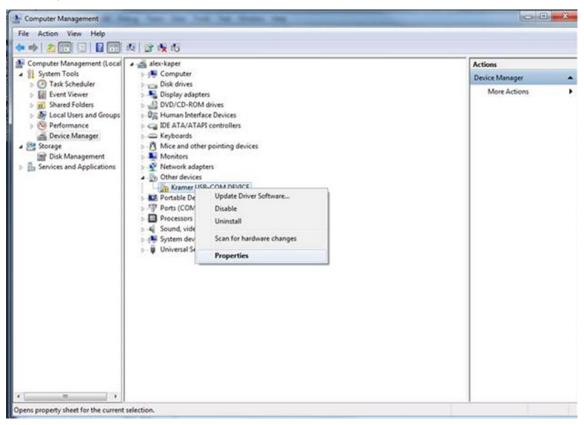


Figure 2: USB Driver Installation - Select USB Driver Properties

3. Select Properties.

The Properties window appears:

ĸ	ramer USE	3-COM DEVICE Pr	operties	×	
	General	Driver Details			
	1	Kramer USB-COM	DEVICE		
		Device type:	Other devices		
		Manufacturer:	Unknown		
		Location:	Port_#0002.Hub_#0007		
	Device status The drivers for this device are not installed. (Code 28) There is no driver selected for the device information set or				
	element. To find a driver for this device, click Update Driver.				
	Update Driver				
			OK Ca	ncel	

Figure 3: USB Driver Installation – USB Driver Properties Window

4. Click the **Update Driver...** window. The following window appears:

0	Update Driver Software - Kramer USB-COM DEVICE	x
Но	ow do you want to search for driver software?	
	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
	Browse my computer for driver software Locate and install driver software manually.	
		Cancel

Figure 4: USB Driver Installation - USB Driver Update

5. Select **Browse my computer for driver software** and then set the location of the driver on your PC:

	×
G Update Driver Software - Kramer USB-COM DEVICE	
Browse for driver software on your computer	
Search for driver software in this location:	
C:\Users\USERNAME\Downloads\kramerusbdriver11-2009	
 Include subfolders Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device. 	
Next	Cancel

Figure 5: USB Driver Installation – USB Driver Location

6. Click the Next button. The Windows Security window appears:

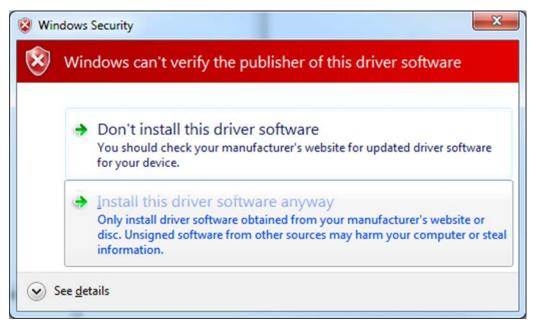


Figure 6: USB Driver Installation - Windows Security

- 7. Select Install this driver software anyway.
- 8. When the installation is completed, the following window appears:

		×
\bigcirc	Update Driver Software - Kramer Electronics Ltd. USB-COM Device (COM5)	
	Windows has successfully updated your driver software	
	Windows has finished installing the driver software for this device:	
16	Kramer Electronics Ltd. USB-COM Device	
		Close

Figure 7: USB Driver Installation - USB Driver Updated

The PC recognizes the USB port to which the device is connected.

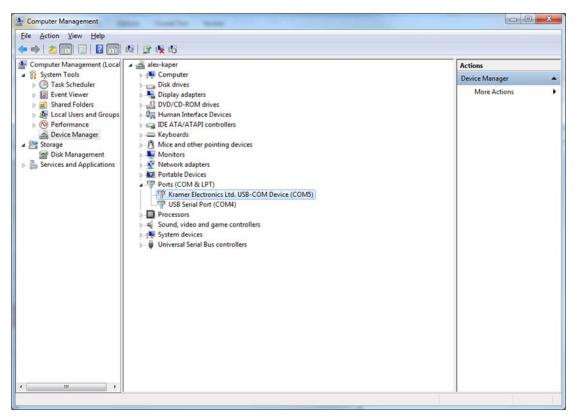


Figure 8: USB Driver Installation - USB Recognized on PC

3.3 Installing Kramer K-CONFIG Software

To download Kramer K-CONFIG from the Internet (note that file names are liable to change from time to time):

- 1. Go to the Kramer **K-CONFIG** Web page and download the file: "*Kramer K-Config.zip*" from the DOWNLOADS section.
- Extract the file "Kramer K-Config.zip" package, which includes the Kramer K-CONFIG application setup and the Kramer device drivers, to a folder (for example, C:\Program Files\Kramer K-Config).
- 3. Install the Kramer K-CONFIG application (follow the instructions on screen).

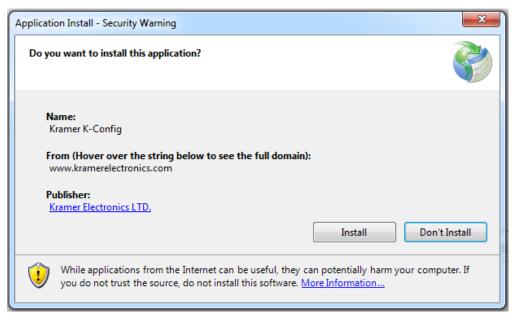


Figure 9: Application Installation

4. Click Install.

The following window appears.

(53%) Installing Kramer K-Config	
Installing Kramer K-Config This may take several minutes. You can use your computer to do other ta during the installation.	asks
Name: Kramer K-Config	
From: www.kramerelectronics.com	
Downloading: 40.7 MB of 75.4 MB	
	Cancel

Figure 10: Installing Kramer K-CONFIG

- 5. Wait for completion of the installation
- 6. The following window appears (see Figure 11):

0	×
Kramer Electronics Ltd.	
END USER LICENSE AGREEMENT	
This software end user license agreement (this "EULA") is an agreement between you (the "Licensee") Kramer Electronics Ltd. ("Kramer") which sets forth the terms of the license granted by Kramer to Licensee as to the Software (as defined below). This EULA provides a license to use the Software contains warranty information and liability disclaimers. Read this EULA carefully before using the Software By clicking "I agree", you are confirming your acceptance of this license to use the Software and agreeing become bound by the terms of this EULA. If you do not agree to the terms of this EULA, do not use Software.	the and are. g to
The Software is owned and remains the property of Kramer or its third party licensors, is protected copyright laws and international copyright treaties, as well as other intellectual property laws and treat The Software is licensed, not sold, solely to the Licensee, for the Permitted Use (as defined below) and o on the terms and conditions set forth below.	ies.
◎ I Do Not Agree	

Figure 11: End User License Agreement

 Check I Agree and click the Next button. The Registration window appears:

🚺 Registra	ition		×
First Name*:		Last Name*:	
Company*:		Country*:	•
E-mail*:		Phone:	
Remark:			
			OK
🔣 Registra	ation		×
First Name*:	Charles	Last Name*:	Dickens
Company*:	Copperfield	Country*:	United Kingdom 🔹
E-mail*:	dphilosoph@kramerel.com	Phone:	
Remark:			
			ОК

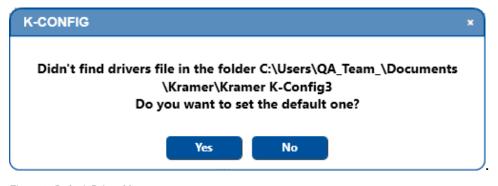
Figure 12: Registration Window

- 8. Fill in the details (note that this information is for internal use only) and click OK.
- 9. Upon completion, the K-CONFIG opens and then the K-CONFIG message appears:



Figure 13: KRAMER K-CONFIG Software

10. When installing for the first time, the following message appears:



11. If you want to set the default click Yes (and continue to step 4) and if not, click No. The following window appears:

Working Directory		×
Working directory doesn't exist	U	
The folder where the application stores all its files.		
C:\Users\username\Documents\Kramer\Kramer K-Config3		
Set to default location		
Browse for folder	0	K Cancel

Figure 14: Setting a Working Directory

- Select or create a new working directory (see <u>Figure 15</u>). The working directory will keep the information that is essential for operating the software. This information will remain unchanged while upgrading the software
- 13. If you need to change the working directory, click the **Browse for folder** button, select the working directory and click OK.

If you do not need to change the working directory, go to the next step.

1	Browse For Folder	
	Please select a working directory	
	Desktop	
	▷ 🛜 Libraries 🗧	
ł	D 📢 Homegroup	
	👂 🥦 kramer	
1	🖌 🌉 Computer	
	🛛 🚢 Local Disk (C:)	
	🖻 😨 DVD RW Drive (D:) Rubble	
	🖉 🧰 New Volume (E:)	
	▷ 퉲 64BIT	
	Favorites	
	A My Documents	
	Make New Folder OK Cancel	4

Figure 15: Change the Working Directory Window

14. Once the working directory is selected, click the **Set to Default Location** button.

Kramer K-Config	×
Existing driver database loaded	
	ок

Figure 16: Drive Database Loaded

15. Click OK.

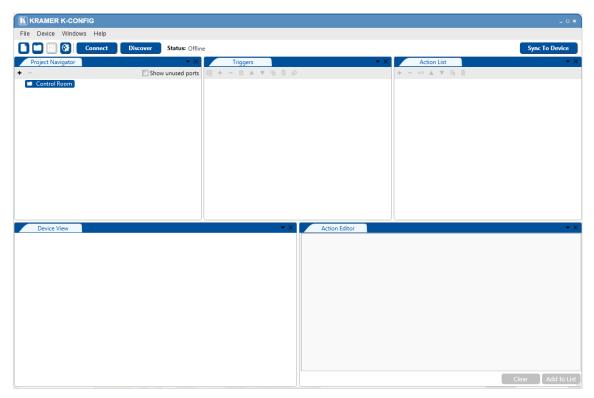


Figure 17: Installation Complete. The main window opens

4 Getting to Know K-CONFIG

You are here:

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Following the installation, you can click the K-CONFIG icon to open the software:



Figure 18: Opening K-CONFIG

If the selected folder does not contain any drivers, the following message appears.

K-CONFIG	×
Dideb find driven file in the folder Children hair 1000 Decomposite	
Didn't find drivers file in the folder C:\Users\win1064\Documents	
\Kramer\Kramer K-Config3	
Do you want to set the default one?	
Yes No	

Figure 19: Opening K-CONFIG

The Kramer list of Master/auxiliary devices is automatically installed.

If you need to install drivers to an existing data base:

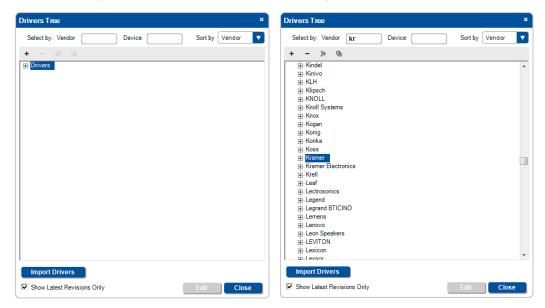
 Click the **Import Drivers** button to import drivers. The following window appears:

🕽 🔵 🗢 📙 « Krame	er 🕨 Krar	mer K-Config 🕨 drivers 👻 🖣	' †	Search drivers	
Organize 👻 New f	older) = •	
🖳 Recent Places	* Na	ime		Date modified	Туре
	4	Hitachi_HOME-1_A.drv.drv		18/04/2013 13:23	Device dr
🕞 Libraries	- 3	Kramer_Matrix IR_B.drv.drv		18/04/2013 13:23	Device dr
Documents	0	Kramer_Protocol 2000_B.drv.drv		18/04/2013 13:23	Device dr
J Music	0	Kramer_VP-4X4K_A.drv		25/08/2011 09:21	Device dr
Pictures	3	Kramer_VP-8X8_A.drv		25/08/2011 09:21	Device dr
🧮 Videos	=	Kramer_VP-8X8A_A.drv		25/08/2011 09:21	Device dr
9	0	Kramer_VP-23RC_A.drv.drv		18/04/2013 13:23	Device dr
🔣 Homegroup	9	Kramer_VP-411DS_A.drv		25/08/2011 14:44	Device dr
	4	Kramer_VP-436_A.drv		01/08/2011 13:42	Device dr
Computer	4	Kramer_VP-437_A.drv		01/08/2011 13:42	Device dr
Local Disk (C:)	4	Kramer_VP-437XL_A.drv		01/08/2011 13:42	Device dr
DVD RW Drive (D	4	Kramer_VP-719XL_A.drv		25/08/2011 09:21	Device dr
New Volume (E:)	4	Kramer_VP-724XL_A.drv		25/08/2011 09:21	Device dr
CD Drive (F:) MY	- AD	Kramer VP-724vLa dry dry		18/04/2013 13:23	Device dr
FreeAgent Drive			_		
Fil	e <u>n</u> ame:	Faroudja_ILA 1080MF1_A.DRV	•	Driver Files (*.drv)	-
				<u>O</u> pen	Cancel

Figure 20: Import Drivers Window

2. Select the files to import and click OK.

The imported drivers are arranged in the expanded **Drivers Tree** as follows (note that you can sort the drivers according to the vendor, the device type or by typing a keyword):



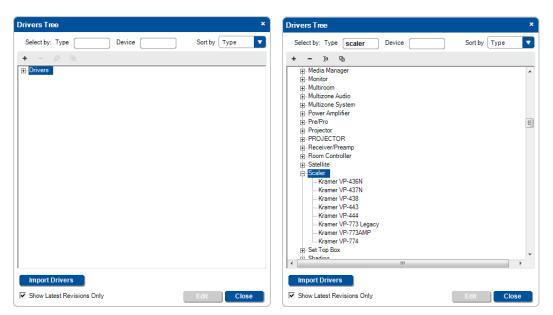


Figure 21: Drivers Tree - with Imported Drivers, Sorted by Vendor, Device Type or by keyword

4.1 The Main Window

The **K-CONFIG** main window is modular and can be altered according to your needs. You can change the size and location of each window in the layout separately, replace it, delete it or add other windows. The **K-CONFIG** main window default layout includes the five most frequently used windows:

- Project Navigator shows the room controllers and the controlled devices.
- Triggers shows the list of available triggers, arranged in Event categories.
- Action list shows the list of actions in a selected trigger.
- Device View the front panel view of the selected device.
- Action Editor lets you create an action to add to the action list.

The remaining optional windows which are not accessed as often appear in the Windows menu and include the:

- Port Manager lets you assign drivers and other characteristics to the ports.
- Device Settings general, security, Ethernet and date and time settings.
- Web Settings logo and Web page settings.

Figure 22 shows the main screen default layout appears:

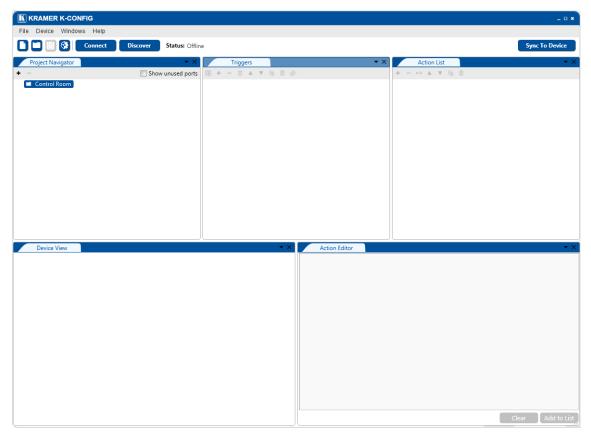


Figure 22: Opening K-CONFIG Default Layout for the First Time

Each user can tailor the main screen appearance according to his/her work flow and needs. To facilitate this, the windows in the main screen can be dragged and positioned to a different location via the drag and drop tool (illustrated Figure 23). For example, to move the Triggers window in the main screen, drag the Triggers window away from its current location (see Figure 24).

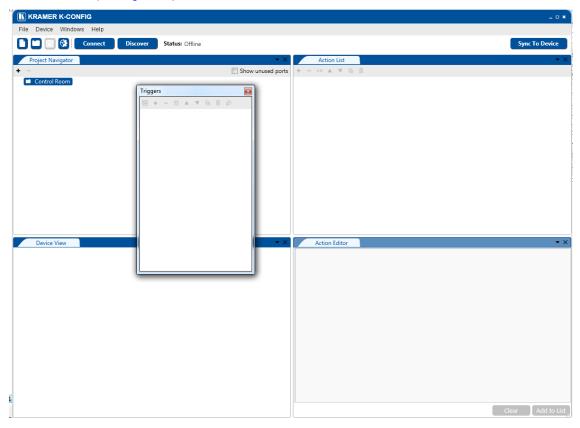


Figure 23: Dragging the Triggers Window K-CONFIG – Getting to Know K-CONFIG

Select the new location by moving the Triggers window towards one of the drag and drop tools circled in Figure 24:

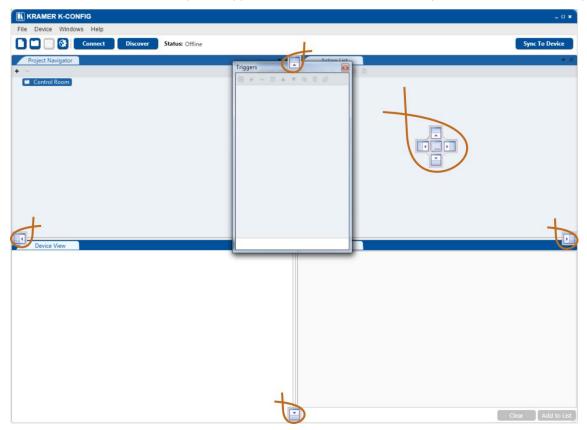


Figure 24: Drag and Drop Tool

For example, to place the **Triggers** window at the left, drag the **Triggers** window to the left drag and drop tool. The **Triggers** window appears at the left:

KRAMER K-CONFIG				_ 0 ×
File Device Windows Help				
Connect Dis	cover Status: Offline			Sync To Device
Triggers • ×	Project Navigator	• ×	Action List	• ×
🕀 + - 🗉 🔺 🔻 🖻 🖄	+ -	Show unused ports	+ - ×2 🔺 🛡 🕤	۵
	Centrel Room			
		▼ ×		
	Device View	• X	Action Editor	• ×
				Clear Add to List

Figure 25: Triggers Window Repositioned

In the same way you can move the selected window to be in a separate first/last row, between other windows in the row or the first/last column. The main screen can have an appearance that is different than the default layout and is suited for your use, as shown in the example in Figure 26:

KRAMER K-CONFIG				_ o ×
File Device Windows Help				
Connect Discover	Status: Offline			Sync To Device
Project Navigator		▼ X	Device View	▼ ×
• -		Show unused ports		
Control Room				
	tion Editor		Action List	→ ×
		+ - *	a 🔺 🔻 🔂 🗊	
		Clear Add to List		

Figure 26: Customized window setup

In the same way you can also add additional windows, for example, the **Port Manager** window, as illustrated in the example in Figure 27. Select **Port Manager** from the **Windows** menu and click the drag and drop tool:

Project Navigator	Status: Offline		* ×	Device View		c To Dev
Control Room			Show unused ports	1	SOURCES	4
Port Manager						
		RC-74DL (ID 1)				
Name	Description	Driver	Properties			
[1-RC-74DL] RS-232.Terminal_Block_1		Select driver	9600,8,N,1	Clear	Main Display	-
[1-RC-74DL] RS-232.Terminal_Block_2		Select driver	9600,8,N,1	Clear	Main Display	
[1-RC-74DL] RS-232.Terminal_Block_3		Select driver	9600,8,N,1	Clear	Main Display	
[1-RC-74DL] RS-485.1		Select driver	9600,8,N,1	Clear	Main Display	
[1-RC-74DL] IR.Out_1		Select driver		Clear	Main Display	
[1-RC-74DL] IR.Out_2		Select driver		Clear	Main Display	
[1-RC-74DL] Relay.1				Clear		
[1-RC-74DL] Relay.2				Clear		
[1-RC-74DL] Relay.3				Clear		
[1-RC-74DL] Relay.4				Clear		
[1-RC-74DL] GPI/O.1		Digital Input	Pullup	Clear	Threshold	
		Digital Input	Pullup	Clear	Threshold	

Figure 27: Adding the Port Manager Window to the K-CONFIG Layout

The Port Manager window is added to the main window:

File Device Windows Help	Discover Status: Of	8:			Sync To Devie
	Discover Status: Of	fline			
Port Manager	RC	-74DL (ID 1)		• ×	Device View
Name	Description	Driver	Properties		SOURCES
1-RC-74DL] RS-232.Terminal_Block_:		Select driver	9600,8,N,1	*	
1-RC-74DL] RS-232.Terminal_Block_2		Select driver	<u>9600,8,N,1</u>		1 2 3 4
1-RC-74DL] RS-232.Terminal_Block_		Select driver	9600,8,N,1		ROOMS
	111			•	7 8 9
Project Navigator				▼ ×	
-			📃 Show u	nused ports	
4 1 - RC-74DL					10 11 12
Control Room I - RC-74DL Master Ports					
🔺 📑 1 - RC-74DL					
🔺 📑 1 - RC-74DL]					10 11 12 1 - RC-74DL
Master Ports					<u>1 - RC-74DL</u>
Triggers	Action Editor		• X	Action	1 - RC-74DL
	Action Editor		• X		1 - RC-74DL
I • RC-74DL Master Ports Triggers ✓ × ✓ - 0 ▲ ♥ ● 0 0 € Custom Events Keypad Events Keypad Events	Action Editor		* ×		1 - RC-74DL
Master Ports Master Ports Triggers Value Custom Events Keypad Events Monitor Monitor Ev	Action Editor		• x		1 - RC-74DL
Triggers Master Ports	Action Editor		• x		1 - RC-74DL
A Triggers Master Ports Master Ports Triggers ✓ ✓ Custom Events Keypad Events Monitor Events SPL/O Events Timer Events	Action Editor		- ×		1 - RC-74DL
A ■ 1 - RC-74DL Master Ports Master Ports Triggers × × - □ ▲ ▼ ○ □ ◇ Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Jimer Events	Action Editor		• ×		1 - RC-74DL
A ■ 1 - RC-74DL Master Ports Master Ports Triggers × × - □ ▲ ▼ ○ □ ◇ Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Jimer Events	Action Editor		• ×		1 - RC-74DL
I = RC-74DL Master Ports Master Ports Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Query Events	Action Editor		• x		1 - RC-74DL
I = RC-74DL Master Ports Master Ports Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Query Events	Action Editor		• x		1 - RC-74DL
I = RC-74DL Master Ports Master Ports Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Query Events	Action Editor		- ×		1 - RC-74DL
I = RC-74DL Master Ports Master Ports Custom Events Monitor Events Monitor Events Monitor Events Jimer Events Jimer Events Query Events	Action Editor		• ×		1 - RC-74DL
Inggers Triggers Triggers Custom Events Keypad Events Monitor Events	Action Editor		• ×		1 - RC-74DL
Triggers	Action Editor		• x		1 - RC-74DL

Figure 28: The Port Manager Window Added to the K-CONFIG Layout

The same setup will reappear the next time you launch **K-CONFIG**. At any time you can reset to the factory default view by clicking **Default Layout** in the **Windows** menu.

4.2 The K-CONFIG Menus

This section describes the K-CONFIG menus.

4.2.1 The File Menu

This section defines the File Menu for creating and updating project files which are downloaded to the room controllers for controlling the room controlled devices. Note that the same project file can be reused in multiple controllers for controlling multiple rooms.

			Menu Command	Function
File	Upload Project Export Configuration Set Working Directory Driver Manager Import Device Export Device		New Project	Select to create a new project, see <u>Section 4.2.1.1</u>
				drivers for the controlled devices.
			New K-Network Project	Select to create a new Kramer Network Project
	Ile Device Windows Help New Project New Project A project drivers for New K-Network Project Open Project Open an Save Project As Auto Save Project Open Project Auto Save Project Configuration Set Working Directory You can were see Section Driver Manager Value You can were see Section Import Device Export Configuration For using Wree see Section Set Working Directory Set Working Directory You can were see Section Exit Set Working Directory For using Wree see Section Figure 29: The File Menu Set Working Directory Click to see Section Driver Manager Click to configuration Section of directory Import Device Import Device Set Working Directory Click to configuration The folder wir Section of directory Section of directory Driver Manager Click to configuration Section of directory Driver Manager Click to configuration Section of directory Driver Manager Click to configuration Section of directory More can were configuration Section of dir	Open an existing project, see Section 4.2.1.1		
	Save ProjectAs		Save Project	Select to save the current project, see Section 4.2.1.2
	Auto Save Project	•	Save Project As	Save the project under a different name, see Section 4.2.1.2
		۲	Auto Save Project	You can choose to save the project automatically (yes) or not (no). When selecting yes, the configuration is saved periodically, every 30 seconds, if the project was changed/edited
	New Project New K-Network Project Open Project Save Project Save ProjectAs Auto Save Project Upload Project Export Configuration Set Working Directory Driver Manager Import Device Export Device Recent Projects Exit		Upload Project	You can choose to upload the project file (kpr) to the device or not, see <u>Section 10.7.1</u>
	Driver Manager	Indows Help Ink Project Select to create a new project, see Section 4.2.1.1 A project includes the control program configuration as well as the drivers for the controlled devices. New K-Network Project Select to create a new Kramer Network Project Open Project Open an existing project, see Section 4.2.1.1 Save Project Select to save the current project, see Section 4.2.1.2 Save Project As Save the project under a different name, see Section 4.2.1.2 Auto Save Project X You can choose to save the project automatically (yes) or not (no). When selecting yes, the configuration is saved periodically, every 30 seconds, if the project was changed/edited Upload Project You can choose to upload the project file (kpr) to the device or not, see Section 10.7.1 Export Configuration For using the batch configuration upload feature with Site-CTRL When exporting a configuration, the file name automatically includes the master room controller name and the date it was saved. For example, SL-10-Configuration-Sep10.kpt Set Working Directory Click to set the working directory. You can change the working directory any time Working Directory Set to default focation Set to default focation W chang directory setup The folder where the application stores all its files. File Menu Driver Manager Driver Manager		
				example,
			Set Working Directory	
	Recent Projects	•		Working Directory ×
	Exit			Working directory setup
_				The folder where the application stores all its files.
Fig	ure 29: The File Menu			C:\Users\kramer\Documents\Kramer\Kramer K-Config3
		Verice Windows Help ww Project A project includes the control program configuration as well as the drivers for the controlled devices. ww K-Network Project New K-Network Select to create a new Kramer Network Project we Project as the project includes the control program configuration as well as the drivers for the controlled devices. New K-Network Project we Project is ave Project includes the control program configuration as well as the drivers for the controlled devices. New K-Network Project Open Project is ave Project is ave the current project, see Section 4.2.1.2 Save Project As Save Project on a existing project automatically (yes) or not (no). When selecting yes, the configuration is saved periodically, every 30 seconds, if the project was changed/edited Upload Project is port Configuration is saved periodically (yes) or not (no). When septoring a configuration upload feature with Site-CTRL Working Directory You can choose to upload the project file (kpr) to the device or not, see Section 10.7.1 Export Configuration is saved periodically. Export Configuration For using the batch configuration upload feature with Site-CTRL When exporting a configuration. Net was aved. For example, starting the master room controller name and the date it was saved. For example, starting the master room controller name and the date it was saved. For example, starting the same date offiguration stares atore for theaster the applicator stares atore for the same date iff		
		Help New Project Select to create a new project, see Section 4.2.1.1 A project includes the control program configuration as well as the drivers for the control edvices. New K-Network Project Select to create a new Kramer Network Project Open Project Open an existing project, see Section 4.2.1.2 Save Project As Save the project under a different name, see Section 4.2.1.2 Save Project As Save the project under a different name, see Section 4.2.1.2 Auto Save Project You can choose to save the project automatically (yes) or not (no). When selecting yes, the configuration is saved periodically, every 30 seconds, if the project was changed/edited Upload Project You can choose to upload the project file (kpr) to the device or not, see Section 10.7.1 Export Configuration For using the batch configuration upload feature with Site-CTRL When exporting a configuration, the file name automatically includes the master room controller name and the date it was saved. For example, SL-10-Configuration-Sep10.kpt Set Working Directory Click to set the working directory. You can change the working directory any time Working Directory Click to open the Driver Manager window Import Device Click to open the Driver Manager window Import Device Click to import a new or existing Kramer controller devices' XML, see Section 4.2.1.3 You can import one or several new and/or revised device layouts to K-CONFIG and virtual device layouts to other K-CONFIG		
			Driver Manager	Click to open the Driver Manager window
		New Project Select to create a new project, see Section 4.2.1.1 A project includes the control program configuration as well as the drivers for the controlled devices. As New K-Network Project Select to create a new Kramer Network Project As Save Project Open an existing project, see Section 4.2.1.1 Save Project Select to save the current project, see Section 4.2.1.2 Save Project As Save the project under a different name, see Section 4.2.1.2 Save Project As Save the project under a different name, see Section 4.2.1.2 Auto Save Project As Save the project was changed/edited Upload Project You can choose to upload the project file (kpr) to the device or not, see Section 10.7.1 Export Configuration For using the batch configuration upload feature with Site-CTRL When exporting a configuration, the file name automatically includes the master room controller name and the date it was saved. For example, SL-10-Configuration-Sep10.kpt Set Working Directory Click to set the working directory. You can change the working directory setup The folder where the application stores all its files. Set of oddatt. Set Working Directory Click to open the Driver Manager window The folder where the application stores all its files. Set of oddatt. Set of oddatt. Vou can import one or several new and/or revised device layouts to K-CONFI		
				K-CONFIG and virtual device layouts created in other K-CONFIG
			Export Device	
			Recent Projects	Lists the recent projects worked on
			Exit	Click to exit the program

4.2.1.1 Starting a New Project

To start a new project, select New Project in the file menu (or click the New Project icon ()). To start a new project for Kramer Network, select New K-Network Project (see Section 1212.1) If you have an open project in **K-CONFIG** and had made changes to it (this is indicated by the Asterisk next to the project name (KRAMER K-CONFIG - KramerProject1-RC-74DL*), the following window appears:

K-CONFIG	×
This will discard the active configuration. Are you sure?	
Yes No	

Figure 30: New Project Warning

If you want to save the changes click No and save the project before opening a new one. If you do not need to save the changes, click Yes and a new project will open.

To open an existing project, select the project via "Open Project" (

4.2.1.2 Saving a Project

To save the project, click Save or Save Project As in the File menu. The following window appears:

Save Project				×
🚱 🗢 📲 🕨 Dorit Philosoph 🕨 My Documents 🕨 Kramer 🕨 K-Config	3	✓ Search	K-Config 3	٩
Organize 🔻 New folder				2
★ Favorites Name	Date modified	Туре	Size	
Desktop Downloads Recent Places	6/1/2015 9:16 AM	KConfig Project	17 KB	
 ☐ Libraries ☐ Documents J Music ☐ Pictures ☐ Videos 				
I Computer				
File <u>n</u> ame: KramerProject2.kpr				-
Save as type: Kramer K-Config Project Files (*.kpr)				•
) Hide Folders		Sav	/e Canc	el

Figure 31: Saving a Project

When saving, writing or opening a new project, follow these important rules:

- In the File menu, you can set Auto Save Project to yes so that the project is automatically saved. If it is not
 automatically saved you will see an Asterisk next to the project's name and you will be asked if you want to
 discard the latest changes.
- If you want to keep previous project configurations, be sure to rename the project before writing it to the controller.
- Always change a project name via **Save Project As** in the **K-CONFIG** software. If the project name is changed outside the

K-CONFIG software (for example, via the Rename function in a Windows folder view), it will not open correctly in **K-CONFIG**.

4.2.1.3 Import/Export Controller Devices

K-CONFIG lets you import or export device XML templates via the Import/Export Device feature in the File menu.

This feature lets you import a newly released control device to the Control Room list (Master/Auxiliary) without having to upgrade the **K-CONFIG**. You can also share virtual device layouts that were created in **K-CONFIG** by exporting and importing them to other project files to be used in different room installations.

To Import a device:

1. Select **Import Devices** in the **File** menu, and select the device (or devices) you want to import (only Kramer xml files will appear on the list).

The following window appears:

Organize 🔻 🛛 New folde	r			= - 1	(
☆ Favorites	Name	Date modified	Туре	Size	
Contraction Desktop	RC-76M.xml	6/1/2015 7:30 AM	XML Document	2 K	В
🐌 Downloads	RC-712M.xml	6/1/2015 7:30 AM	XML Document	2 K	В
🕮 Recent Places	SL-1N.xml	6/1/2015 7:30 AM	XML Document	4 k	в
E	RC-63DLNE.xml	1/26/2014 11:41 AM	XML Document	4 k	в
🥽 Libraries	RC-52A.xml	12/30/2013 6:43 PM	XML Document	2 K	в
Documents	RC-63DLN.xml	12/5/2013 5:36 PM	XML Document	4 K	в
🎝 Music	RC-63DX.xml	10/7/2013 4:10 PM	XML Document	3 K	в
E Pictures	RC-62EX.xml	10/7/2013 4:09 PM	XML Document	2 K	в
🚼 Videos	RC-62X.xml	10/7/2013 4:09 PM	XML Document	2 K	в
	RC-63AX.xml	10/7/2013 4:09 PM	XML Document	2 K	В
💻 Computer	RC-63EAX.xml	10/7/2013 4:09 PM	XML Document	2 K	В
🏜 Local Disk (C:)	RC-63EDX.xml	10/7/2013 4:09 PM	XML Document	3 K	В
🖵 manuals (\\kfs) (RC-2.xml	10/7/2013 3:48 PM	XML Document	1 K	В
🖵 production (\\kfs	RC-5B2.xml	10/7/2013 3:48 PM	XML Document	1 K	в
🚽 marketing (\\kdc 👻	RC-5B4.xml	10/7/2013 3:48 PM	XML Document	1 K	В
File na	me: RC-76M.xml		 Kramer Devi 	ce Xml Files (*.xr	

Figure 32: Import Devices

2. Click Open.

If the device already exists on your list, you will get the following message:

K-CONFIG			×
The file RC-76M.xml you su	-	ists in your nt to replac	are
	Yes	No	

Figure 33: Import Devices - Message

Otherwise, the device will be added to the list.

To export a device (virtual device only):

1. Select **Export Device** in the **File** menu, and select the device you want to export. The following window appears:

SELECT VIRTUAL DE	VICE TO : ×
Virtual-Device	
ок	Cancel

Figure 34: Select Virtual Device to Save K-CONFIG – Getting to Know K-CONFIG

2. Click OK.

The following window appears:

V V VIVI Docur	ments Kramer K-Config 3 Devices	•	Search Device	5	
Organize 🔻 New folde	r				2
🔆 Favorites	Name	Date modified	Туре	Size	
🧮 Desktop	RC-76M.xml	6/1/2015 7:30 AM	XML Document	2 KB	
🗼 Downloads	RC-712M.xml	6/1/2015 7:30 AM	XML Document	2 KB	
🗐 Recent Places 🗏	SL-1N.xml	6/1/2015 7:30 AM	XML Document	4 KB	
	RC-63DLNE.xml	1/26/2014 11:41 AM	XML Document	4 KB	
🥽 Libraries	RC-52A.xml	12/30/2013 6:43 PM	XML Document	2 KB	
Documents	RC-63DLN.xml	12/5/2013 5:36 PM	XML Document	4 KB	
🌙 Music	RC-63DX.xml	10/7/2013 4:10 PM	XML Document	3 KB	
Pictures	RC-62EX.xml	10/7/2013 4:09 PM	XML Document	2 KB	
yideos	RC-62X.xml	10/7/2013 4:09 PM	XML Document	2 KB	
	RC-63AX.xml	10/7/2013 4:09 PM	XML Document	2 KB	
🖳 Computer	RC-63EAX.xml	10/7/2013 4:09 PM	XML Document	2 KB	
🏭 Local Disk (C:)	RC-63EDX.xml	10/7/2013 4:09 PM	XML Document	3 KB	
🖵 manuals (\\kfs) (👻	RC-2.xml	10/7/2013 3:48 PM	XML Document	1 KB	
File <u>n</u> ame: Virtua	I-Device.xml				
Save as type: Krame	r Device Xml Files (*.xml)				
Save as type: Kiame	echeciant nes (inni)				-

Figure 35: Export Device xml File

You can also export a virtual device by right clicking it and selecting Export Device XML:

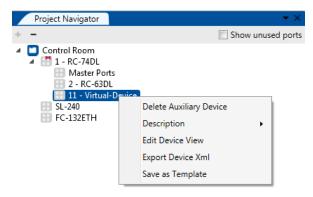


Figure 36: Export Device xml

4.2.2 The Device Menu

This section defines the **Device** menu.

Device Windows Help	
Connect	
Discover	
Firmware Upgrade	
Sync Configuration To D	evice
Read Configuration From	m Device
Clear Configuration Fro	m Device
Figure 37: The Device Me	nu

Menu Command Function Click to connect to a device via an IP address, a Connect/ Disconnect USB connector or a serial port (see Figure 38) or disconnect a connected device Discover devices in the local IP network Discover Firmware Upgrade Load the firmware upgrade file to the device for upgrading the device (see Section 10.3). Sync Configuration to Writes the project configuration file to the device Device (active only when the device is connected), see Section 10.7 **Read Configuration** Reads the project configuration file (*.kpr) from the device (active only when the device is connected from Device via Ethernet), see Section 10.7.1 **Clear Configuration** Removes the project configuration file from the from Device device, see Section 10.9

Connection Method ×		
O UDP	IP:	192 . 168 . 001 . 039
О ТСР	Port:	50000
		Default
C Serial	Port:	COM1 💌
O USB		NO USB DEVICES
		Refresh Ports
	_	
	0	Connect Cancel

Feature	Function		
Connection Method	Check to select connection to the device via the Ethernet, USB or Serial port		
Ethernet Area	TCP/UDP:	Check either the TCP or the UDP protocol	
	IP:	Type the IP address of the device to which you want to connect	
	Port:	Type the port number	
	Default:	Click to reset the IP address to its default value	
Serial	Port:	Select the laptop serial communication port	
USB Area	USB Device Drop box:	Select the laptop USB communication USB port	
	Refresh Ports:	Click to view the ports that are currently ready to connect on the Kramer device	

Figure 38: The Connection Method Window

To connect to a Master device, select the master device (Figure 39), click the Connect button, select the connection method and fill in the relevant details (Figure 40):

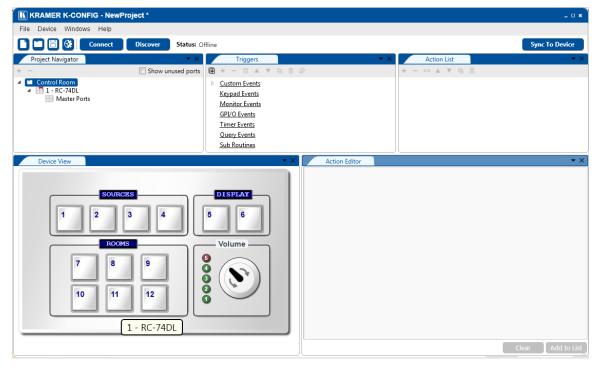


Figure 39: Connecting to a Master Device - Selecting the Device

Connection N	lethod	×
UDP	IP:	192 . 168 . 056 . 074
О тср	Port:	50000
		Default
O Serial	Port:	COM1 💌
C USB		NO USB DEVICES
		Refresh Ports
		Connect Cancel

Figure 40: Connecting to a Master Device – Selecting the Connection Method

When connected, the Status displays the connection details:

KRAMER K-CONFIG - NewPr	KRAMER K-CONFIG - NewProject _ u ×		
File Device Windows Help			
Disconnect	Discover Status: Online via UDP on 192.168.56.74:50000	Project Size: 661K of 1433K Sync To Device	
Project Navigator	▼ × Triggers	▼ × Action List ▼ ×	
+ -	🔲 Show unused ports 🕢 🕂 🔲 🔺 🐨 🕤 🕼	+ - ×a 🛦 🔻 🕼 🗎	
Control Room	 Custom Events Keypad Events Monitor Events GPI/O Events Timer Events Query Events Sub Routines 		

Figure 41: Connecting to a Master Device - the Connection Details

Once connected, you can read the configuration from the device:

Disconnect Discover Project Size: 661K of 1433K Discover Firmware Upgrade Image: Status: Online via UDP on 192.168.56.74:50000 Project Size: 661K of 1433K Sync Configuration To Device Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Sync Configuration To Device Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Sync Configuration To Device Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Image: Status: Online via UDP on 192.168.56.74:50000 Clear Configuration From Device Image: Status: Online Via UDP on 192.168.56.74:50000 Image: Status: Online Via UDP on 192.168.56.74:50000 Image: Status: Online Via UDP on 192.168.56.74:50000 Clear Configuration From Device Image: Status: Splive Events Image: Status: Splive Events Image: Status: Splive Events	Sync To Device
P Firmware Upgrade Triggers X Action List Sync Configuration To Device B + - B A Y B B - B A Y B B - B A Y B B Read Configuration From Device Clear Configuration From Device B + - B A Y B B - B A Y B B Clear Configuration From Device GPI/O Events GPI/O Events - B A Y B	-
Read Configuration From Device Keypad Events Clear Configuration From Device GPI/O Events	
Clear Configuration From Device Monitor Events	
Clear Configuration From Device GPI/O Events	
Timer Events	
Query Events	
Sub Routines	

Figure 42: Connecting to a Master Device - reading the Configuration

4.2.3 The Windows Menu

The **Windows** menu lists layout operations and all the available windows. Some of the windows (checked in the Windows menu) appear in the default layout. At any time you can add or delete a window from the main window layout and by clicking Default Layout you can return to the default layout.

K-CONFIG - KramerProject1			Menu Command		Function
			Save Layout		Saves the current windows layout
Wind	dows Help	_	Load Layout		Load a saved layout
	Save Layout		Default Layout		Set to the default layout
	Load Layout		Save Layout on Exit		Set to On to save
	Default Layout		Default	Project Navigator	Set the controlled room devices
	-		layout windows	Triggers	Arrange the triggers
	Save Layout On Exit			Action List	Lists the actions added to the trigger
		-		Action Editor	Select the actions to add to the trigger
✓	Project Navigator			Device View	Displays the selected device front panel
\checkmark	Triggers		Port Manager		Click to open the Port Manager window
	Action List		Device Settings		Click to open the Device Settings window see Section 10.4)
H	Action Editor		Web Settings		Click to open the Web Settings window (see Section 4.2.3.1)
\checkmark	Action Editor				·
\checkmark	Device View				
	Port Manager				

Figure 43: The Window Menu

Device Settings Web Settings

4.2.3.1 Web Settings

Web settings are used to set the Web page logo, room name and other details for Master room controllers that have an ETH port for remote access from a browser (and by that are also **Site-CTRL** compatible). Figure 44 shows the **Web Settings** window:

Web Settings	
Logo File:	C:\User\KramerLogo.png 🐹 Browse
Logo URL	http://www.kramerelectroi
Room Name	Room 1
First day of week	Monday -
	Upload Web Access Pages to Device
L	

Figure 44: Window Menu – Web Settings Window

The logo file type can be either jpg, jpeg or png, up to 500 Kbytes in size.

For best image quality, when viewed on the device's Web pages, we recommend that you use images of H 200px and W 790px pixels.



Kramer **Site-CTRL** is a powerful A/V assets management tool. It offers real-time monitoring and control of Kramer Master controllers installed in an A/V site and the A/V equipment connected to them. The Kramer **Site-CTRL** downloadable version can monitor and control up to 100 Kramer Master controllers.

Kramer Site-CTRL:

- Generates a single page summary of the entire installed A/V site.
- Reports the communication status for each room.
- Reports the status of the local controlled display devices.
- Reports the remaining lamp life for the controlled projectors.
- Supports easy access to the built-in Web pages of Master controllers via Web Access.
- Raises alerts and sends e-mails when prompted by a user-defined special triggering event.

4.2.4 The Help Menu

Help	
	Check for updates
	About
	User Manual F1

Figure 45: Help Menu

Select Check for updates to check for new updates. If a new update is found, the following message appears:

Update Avai	ilable
A new	on update v version of Kramer K-Config is available. Do you want to load it now?
	Kramer K-Config k.kramerav.com
	<u>O</u> K <u>S</u> kip

Figure 46: Help Menu – Check for Updates

Select About to display the basic software and company details:

ABOUT KRAMER K-CONFIG		
KRAMER	VERSION 3.5.1.0* KRAMER ELECTRONICS, LTD. 3 Am VeOlamo St. Jerusalem, Israel, 9546303 546303 Tel: + 972 73 2650200 Fax: + 972 2 653 5369 E-mail: info@kramerel.com Web: www.kramerelectronics.com	
(iii) Analytics		
© 2016 Kramer Electronics, Ltd., all rights reserved OK		

Figure 47: The Help Menu – About K-CONFIG

Click the Analytics icon to enable/disable the collection of data:

ABOUT KRAMER K-CONFIG		
KRAMER	VERSION 3.5.1.0* KRAMER ELECTRONICS, LTD. 3 Am VeOlamo St. Jerusalem, Israel, 9546303 9546303 Tel: + 972 73 2650200 Fax: + 972 2 653 5369 E-mail: info@kramerel.com Web: www.kramerelectronics.com	
(iii) Analytics		
Enabled		
© 2016 Kramer Electronics, Ltd., all rights reserved OK		

Figure 48: The Help Menu – Enable Analytics

Select User Manual or press the F1 button on your keyboard to open the latest version of the user guide.

4.3 Quick Access Icons

The K-CONFIG main window includes a quick access and status toolbar, located just below the menus:

KRAMER K-CONFIG - KramerProject proxy example		_ = ×
File Device Windows Help		
Connect Discover Status: Offline	Project Size: 670K c f 1433K	Sync To Device

Figure 49: The Quick Access Toolbar

Quick Access Items	Function
0	Click to open a new project
	Click to open an existing project
8	Click to save the current project
⊗	Click to open the Driver Manager
Connect	Click the button to connect to a selected room controller device
Discover	Click to discover room controller devices on the network
Status: Offline	Shows the room controller device connection status
Project Size: 670K c <mark>f 1433K</mark>	Shows the size of the project. If the project exceeds the permissible size, a message will appear stating how to reduce its size (by not uploading the KPR file). In any case you will still be able to save the project (see <u>Section 10.7.1</u>)
Sync To Device	Click the button to sync the current configuration to the room controller device (after connecting it to the PC)

5 The Driver Manager – Getting Started

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	<u>11</u>
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

5.1 Getting to Know the Driver Manager

Controlled AV devices (such as projectors, DVD players, switchers, scalers and so on) are controlled by sending out an appropriate command from the room controller to the controlled device, over serial, ETH or IR interfaces. A Driver is a collection of these commands which includes all the relevant commands for the specific device.

When selecting "Driver Manager" from the file menu or the icon, the Drivers Tree window appears and you need to select a specific controlled device driver or to import a new driver. Once selected, the Driver Manager window appears.

The Driver Manager has standard command names for different controlled devices by means of a shared-commandname structure which can be used to build a standard command list. Each command type has a shared name that is common to controlled devices in the controlled room.

A shared command can be either empty (only the name is on the list but it has no device command content), or full (the command has content); when the command is full, the command name on the list appears bold.

The driver manager presents a list of standard shared command names. You can add a command name to the shared list. When adding a new command name to the shared sections of a driver – this command name will appear in every driver you will open in the future as an empty command name. This makes it easy to use the same command names in all your drivers.

For example, if you have two types of projectors (made by different manufacturers) in the controlled room and each of them has its own specific communication protocol, they will most likely have different command names specified in their user manual for the same exact functional action. For example, the command name for powering up the projector can be named "PWR: ON" for the first projector and "Power: on" for the other one. The driver manager defines a common (or shared) name for both, "PWR_ON", for the same type of command, while the content of the command (syntax) remains specific for each projector.

 (\mathbf{i})

Note that a command name cannot include spaces. Some command names, in former versions had spaces. For your convenience these command names will still appear with spaces. If you want to change these names via the Common Commands Tree Editor, you will not be able to rewrite them back to their original names (with spaces).

The Driver Manager window is actually a generic framework for managing the controlled room; it includes sets of standard command names (Shared) within the following categories:

- Serial commands
- IR Commands
- Serial replies
- Tables (Serial range commands)
- Queries

Each of the above categories contains sub-groups (depending on the device type) with command names that are "empty" for a new driver (a command name without any content):

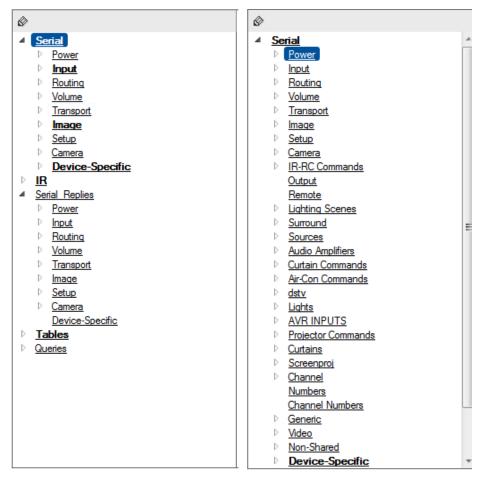


Figure 50: The Commands List in the Driver Manager

A "Full" command name which includes syntax will appear **Bold**. An empty command name will appear as normal font. When selecting any of these "empty" command names you can see that the Command Syntax line is empty.

For example, when selecting PWR_ON:

Serial <u>Power</u>	Command Name PWR_ON	
		Display Command as C Hex C Decimal C ASCII

Figure 51: An Empty Command Line

Note that when adding a command name to one of the shared sub categories (via the Common Commands Tree Editor, <u>Section 5.3</u>), this command name will be added to the Serial, IR and Serial Replies list and will appear as empty in all the drivers you will open for editing or as new from now on (you can delete this command also via the Common Commands Tree Editor).

Each of the above categories also includes a Device-Specific sub-group. The Device-Specific sub-group is used for device specific command actions which are not used for other devices. Command names added to this section will not appear as empty command names in other drivers you will later open, since they are specific for this driver.

When importing or opening an existing driver, the command names included in this driver are compared to the shared command names. Whenever a match between command names is found, the syntax associated with this command name will appear under the relevant shared command name. If a command name is not found in the Shared sections, it will appear in the Device-Specific section of this driver.

For your convenience you can move the standard device specific commands (on, off, and so on) to the shared section of the driver.

For example, in a certain driver the Power On function was previously tagged with the command name "POWER_ON". In the Driver Manager this command will be listed in the Device-Specific category as a non-shared command. Select this command for editing, and change the command name to "PWR_ON". The command name changes and will move to the Shared section of this driver.

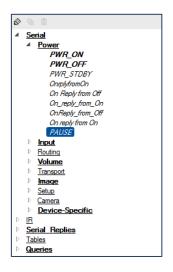
This framework was structured to let you standardize the command names so that all the same command types will share the same command name although the specific command content is unique for each specific device.

5.1.1 Updating Command Names to the current version of K-CONFIG



It is important that you carefully change the command names in this manner. If these commands are already used in an existing project that you may want to upload in the future to room control devices, you will need to update the command names in the project itself where they are used.

If you want to add or delete command groups for the different controlled device types you can click the **Edit Common Command Group** icon () and use the **Common Commands Tree Editor** to add or delete command groups for each controlled device type or create a custom made controlled device type (see <u>Section 5.3</u>).



Furthermore, the Driver Manager lets you select the controlled device type (for example, a projector, DVD Player, audio amplifier and so on) so that the shared commands list displayed best fits the type of controlled device you are using. For example, it makes little sense to display Transport related commands for a Projector. It's important to understand that the controlled device type selected only affects the displayed command sub groups, it has no "real" influence on the command tree – all shared commands still exist even if they are not displayed. You can also select a generic type so that all the possible commands are available (see item 2 in Figure 55).

5.2 Selecting the Driver Manager

To open the Driver Manager:

1. In the File menu select Driver Manager.

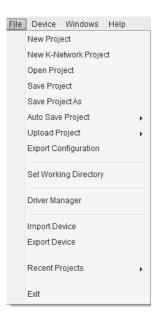


Figure 52: Selecting the Driver Manager in the File Menu

The Drivers Tree window appears:

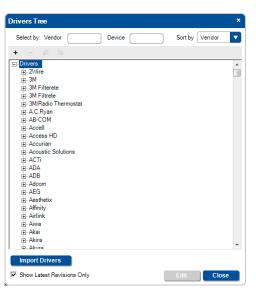


Figure 53: The Drivers Tree

2. Select the driver you want to edit (a Sony Driver in this example):

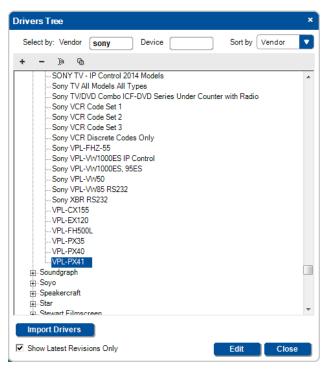


Figure 54: Selecting a Sony Driver

3. Click Edit.

The Driver Manager window appears.

			(7) (8)			
	-		ΥΫ́			
	Driver Manager					×
(1)-	Drivers Tree		*			
2)-	Driver Details		Serial Power			
\mathbf{U}	Vendor	Sony	D Input			
	Device Model	VPL-PX41	Routing			
	Revision	A	Image			
	Device Type	Projector	D Setup D Camera			
	Revision Date	6/ 3/2008 💌	Output Remote			
			P Sources			
~	Driver Settings		D Lights			
(3)-	Serial Settings		Curtains Screenproj			
	Baud Rate	38400	<u>Video</u> Device-Specific			
	Data Bits	8	 IR Serial Replies 			
	Parity	Even 🔽	<u>Tables</u> <u>Queries</u>			
	Stop Bits	1				
4—	➡Ethernet Settings					
	IP Address	0.0.0.0				
	Port	0 🔅				
	Protocol	UDP				
(5)	Create PDF Sum	mary Export Driver			ок	Cancel Apply
\sim		1		 		1
(6)-						\perp
					(9)	(10) (11)

Figure 55: The Driver Manager Window

#	Feature	Function
1	Drivers Tree Button	Click to access the Drivers Tree window and select a different driver
2	Driver Details	The Driver Details area displays the vendor, controlled device model and driver revision and date. Device Type – lets you select the typical controlled device type from a drop down list. Each device type relates to a set of command groups that are typical for that device type. For example, Selecting DVD Player as the controlled device type will include the Power, Transport, Image and Setup group commands
3	Driver Settings: Serial Settings	For serial connections, set the baud rate, data bits, parity and stop bits
4	Driver Settings: Ethernet Settings	For Ethernet connections, set the IP address, port and protocol
5	Create PDF Summary Button	Click to create the driver summary see Figure 56
6	Export Driver Button	Export the driver setup
7	Common Commands Tree Editor Button	Set the common commands layout (see <u>Section 5.3</u>)
8	Command Names List	Includes all the command types (Default / Non Default Shared and Device- Specific)
9	OK button	Click to approve changes
10	Cancel Button	Click to cancel changes
11	Apply Button	Click to apply changes

Figure 56 shows an example of a PDF driver details summary document (for the Kramer VP-437xI):

KRAMER K-CONFIG - Driver Details
Driver Details
Vendor: Kramer Device Model: VP-437XL Revision: A Device Type: Scaler
Serial Driver Settings
Baud Rate: 9600 Data Bits: 8 Parity: N Stop Bits: 1
Ethernet Settings
IP Address: 0.0.0.0 Port: 0 Protocol: 0
Defined Commands
Serial
Power
PWR_OFF "Y 6 0 0".0x0D
<u>Serial Replies</u>
Power
PWR_ON 0x00
Tables
Shared
Output_Volume 101 total values, 101 in use Queries
Shared
Power Question syntax: "Y 7 0",0x0D Reply syntax: Results:

Figure 56: Driver Details Summary PDF File

5.3 The Common Commands Tree Editor

Click the edit icon in the Command Names list to open the **Common Commands Tree Editor**. The **Common Commands Tree Editor** gives an overall view of the **Device Types**, **Command Groups** and **Commands** with regard to default/non-default shared driver commands, Tables and Queries and lets you make specific adjustments.

0	
 ▶ Senal ▶ IR ▶ Senal Replies 	
V III N Costel Bankar	
D Senal Heplies	
Queries	

Figure 57: Open the Common Commands Tree Editor

5.3.1 IR, Serial and Replies

Select **IR**, **Serial and Replies** to display the **Device Types** list, the **Command Groups** list and the **Commands** in each group. <u>Figure 58</u> shows the IR, Serial and Replies Commands Editor.

Common Commands T	ree Editor			×
	Device Types	Command Groups	Commands	
IR, Serial and Replies Tables Queries	+ - O A T Projector Display D/D Player Svitcher Scaler Matrix Media Player BD Player BD Player DOC Camera Audio Amplifier AV Receiver Generic	+ - ⊗ ▲ ✓ Power ✓ Input Routing ✓ Volume Transport ✓ Image ✓ Setup Camera	+ -	
	Ev	ery change affects all the drivers!	OK Cancel	

Figure 58: The Common Commands Tree Editor Window - IR, Serial and Replies

# Feature	Function
Device Types	 The list includes commonly used controlled devices to choose from. Each controlled device type determines command groups that are available for the selected controlled device type (for example, Projector includes Power, Input, Volume, Image and Setup command groups while Audio Amplifier includes Power, Input, Volume and Setup command groups. You can rearrange the order of the controlled device type list using the up/down arrows, add a new Device Type, rename it or delete it.
Command Groups	Once you select the controlled device type, the relevant Command Groups are automatically checked. You can check a command group to add it to the controlled device type or uncheck it. You can add a new Command Group, delete it or rename it. You can also check or uncheck the entire command groups list.
Commands	Lists the standard commands included in command group. You can add a new Command Group (non-default shared), delete it or rename it.



Note that **K-CONFIG** is supplied with a number of popular command groups and command names. These cannot be changed or deleted by the user.

5.3.2 Tables

Tables shows the list of default shared tables (see <u>Section 5.5.4</u> for a more detailed explanation). You can add a new non-default shared table name, delete it or rename it:

Common Commands Tree Editor		×
	Table Names	
IR, Serial and Replies Tables Queries	Volume Input_Volume Output_Volume	
	Every change affects all the drivers! OK Cancel	

Figure 59: The Common Commands Tree Editor Window - Tables

5.3.3 Queries

Queries shows the list of queries (see <u>Section 5.5.5</u> for a more detailed explanation). You can add a new Query Name (non-default shared, for example, test1 on the list), delete it or rename it:

Common Commands Tree Editor		×
	Query Names + &	
	Comm_Status Input test1	
	Every change affects all the drivers! OK Cancel	

Figure 60: The Common Commands Tree Editor Window – Queries

5.3.4 Adding Non-default Shared Commands

Non-default shared commands can only be added via the Common Commands Tree Editor window. In the following example, a DVI command needs to be added to the Projector Input command group.

To add this non-default shared command:

1. Click the edit icon and select the **Input** command group:

Common Commands T	ree Editor		:	×
Common Commands T IR, Serial and Replies Tables Queries	Device Types	Command Groups	Commands + - O A + HDMI_2 HDMI_2 HDMI_3 HDMI_4 VGA_1 VGA_2 VGA_3 VGA_4 YPbPr_1 YPbPr_2 s-Video_1	×
	Generic	ery change affects all the drivers!	S-Video_2 CV_1 CV_2 Display Port 1 OK Cancel	

Figure 61: The Commands Tree Editor Window - Adding a Non-default Shared Command

2. In the **Commands** list click the + icon. The following window appears:

Add Command Name	;	×
)
	ОК	Cancel

Figure 62: The Commands Tree Editor Window – Add Command Window

3. Type the new command name and click OK:

Add Command Name	e	×
DVI		
	ОК	Cancel

Figure 63: The Commands Tree Editor Window – Adding the Command Name

The new command was added to the Input Commands group and the DVI input device-specific command can be moved to the Input Commands list:

river Manager			
Drivers Tree		Ø @ 1	Command Name
Driver Details		✓ <u>Serial</u> ▷ <u>Power</u>	DVI
Vendor	Sony	▲ Input HDMI_1	Command Syntax Display Command as C Hex C Decimal ASCII
Device Model	VPL-PX41	HDMI_2 HDMI_3	Set Clear
Revision	A	HDMI_4	
Device Type	Projector	VGA_1 VGA_2	
Revision Date	6/ 3/2008 -	VGA_3 VGA_4	
Driver Settings		YPbPr_1 YPbPr_2 s-Video 1	
Serial Settings		s-Video_2 CV_1	
Baud Rate	38400	CV_2 Display_Port_1	
Data Bits	8	Display_Port_2	
Parity	Even	AV_1 AV_2	
Stop Bits	1	DVI Volume	
thernet Settings		 Image Setup 	
IP Address	0.0.0.0	Device-Specific IR	
Port	0 -	 Serial Replies Tables 	
Protocol		Queries	
Create PDF Sum			OK Cancel App

Figure 64: The Driver Manager Window - Non-Default Shared Command Added to the Input List



Note that the non-default shared commands that were added will be part of the shared list for all the drivers.

Repeat this procedure for **Tables** and **Queries** in the same way. Once you have completed this, you can configure the controlled room.

5.4 Setting the Shared Commands

The following section applies to Serial, IR, serial replies, tables and queries in the driver Manager window and describes how to move the content of a Device-Specific command to the shared commands list.

To move the content of a Device-Specific command to the shared commands list:

1.	Select the Device Type (see <u>Section 5.3.1</u>).
	In this example a projector device type was detected

Driver Manager			
Drivers Tree		Ø	
Driver Details		✓ <u>Serial</u> Power	
Vendor	Sanyo	▷ Input ▷ Volume	
Device Model	PLC-XU105	▷ Image ▷ Setup	
Revision	A	Device-Specific	
Device Type	Projector	 ▶ IR ▶ Serial Replies 	
Revision Date	11/ 4/2008 💌	 <u>Tables</u> <u>Queries</u> 	
Driver Settings			
Serial Settings			
Baud Rate	19200		
Data Bits	8		
Parity	None		
Stop Bits	1		
Ethernet Settings			
IP Address	0.0.0.0		
Port	0.0.0		
Protocol			
Create PDF Sum			OK Cancel Ap
Create PDF Sull	Export Driver		

Figure 65: The Driver Manager – Selecting the Device Type

The Device Type narrows down the displayed list of serial command groups and includes only the ones that are relevant to a projector.

The shared commands list default/non-default command names that are currently "empty" (see Section 5.3.1).

- 2. Select the Device-Specific command in the **Power** Command Group.
- 3. Click and drag the "Power: Off" command to the shared PWR_OFF command.

Drivers Tree		+ - x2 A ¥ @ 0	Command Name		
river Details		Serial Power	Power: Off		
Vendor	Sanyo	PWR_ON PWR/06EDIT	Command Syntax	Display Command as C H	ex C Decimal @ ASCII
Device Model	PLC XU105	PWR_STIBBY On reply from On	"C01".0x0D		Set Clear
Revision	(A :	On Reply from Off	Cor parts		
Device Type	Projector	 Input Volume 			
Revision Date	11/ 4/2008 💌	Vol_Up Vol_Down			
ver Settings		Vol_Mute_On Vol_Mute_Off	1		
erial Settings		 Image Setup Device-Specific 			
Baud Rate	19200	Power : Off			
Data Bits	8	Input Source : Computer-1 Input Source : Computer-2			
Parity	None	Input Source : S-Video-1 Input Source : Composite-1			
Stop Bits	1	Input Source : Component-1 Input Source : SCART	Test Command Connected To: None		Test Command
ernet Settings		Mute: On Mute: Off	Selected Port: None		Select Port
		Volume : Increment Volume : Decrement	Request Construction		
IP Address	0.0.0.0	Volume : Decrement Freeze : On	Display Response as C Hex C Decimal @ ASCII		Response Length: 0
Port	0 🗄	Freeze : Off			rresponse Length: 0
Protocol	UDP	Magnify : Increment Magnify : Decrement	Response		

Figure 66: The Driver Manager - Dragging the PWR_OFF to the Power Command Group

The following message appears:

Action Copy		×
Do you want to copy Power : Off Con	mand to PWR	_OFF?
	ОК	Cancel

Figure 67: The Driver Manager - Action Copy Message

4. Click OK.

In the Power commands group, PWR_OFF appears bold (it's not "empty").

Driver Manager						×
Drivers Tree		+ - xa ▲ ▼ @ 🗐 4 Serial		Command Name		
Driver Details		A Power	Ē.	Power: Off		
Vendor	Sanyo	PWR_ON PWR_OFF		Command Syntax	Display Command as	◯ Hex ◯ Decimal ⓒ ASCII
Device Model	PLC-XU105	PWR_STDBY On reply from On		"C01",0x0D		Set Clear
Revision	A	On Reply from Off Input		C01,000		
Device Type	Projector 🔹	Volume				
Revision Date	11/ 4/2008 💌	 Image Setup 				
Driver Settings		Device-Specific Power : Off Input Source : Computer-1	=			
Serial Settings		Input Source : Computer-2 Input Source : S-Video-1				
Baud Rate	19200	Input Source : Composite-1 Input Source : Component-1				
Data Bits	8	Input Source : SCART Mute : On				
Parity	None	Mute : Off				
Stop Bits	1	Volume : Increment Volume : Decrement		Test Command Connected To: None		Test Command
Ethernet Settings		Freeze : On Freeze : Off		Selected Port: None		Select Port
IP Address	0.0.0.0	Magnify : Increment Magnify : Decrement		Request "C01",0x0D		
Port	0 ÷	Keystone : Increment Keystone : Decrement		Display Response as ○ Hex ○ Decimal ④ ASCII		Response Length: 0
Protocol		Brightness : Increment Brightness : Decrement	-	Response		
Create PDF Sum	mary Export Driver					OK Cancel Apply

Figure 68: The Driver Manager -PWR_OFF added to the Power Command Group

- 5. In the same way you can move the content of other Device-Specific commands and fit them into the relevant command groups:
 - Select the Device-Specific command name.
 - Click and hold that command.
 - Drag the command to the desired command in the shared list.
 - Click the Action Copy message OK.

Upon completion of this procedure, the "live (with command content)" command groups and commands appear **bold** in the list. Commands that are unique to the controlled device remain in the Device-Specific command list, see <u>Figure</u> 69.

Driver Manager						×
Drivers Tree		+ - ×≥ ▲ ▼ @		Command Name		
Driver Details		4 Power		Power : Off		
Vendor	Sanvo	PWR_ON				
		PWR_OFF PWR STDBY		Command Syntax	Display Command as	Hex C Decimal ASCII
Device Model	PLC-XU105	On reply from On		"C01",0x0D		Set Clear
Revision		On Reply from Off				
		Input				
Device Type	Projector 🔽	Volume Image				
Revision Date	11/ 4/2008 💌	 Setup 				
		A Device-Specific				
Driver Settings		Power : Off	=			
		Input Source : Computer-1 Input Source : Computer-2				
Serial Settings		Input Source : S-Video-1				
Baud Rate	19200	Input Source : Composite-1				
		Input Source : Component-1 Input Source : SCART				
Data Bits	8	Mute : On				
Parity	None	Mute : Off				
		Volume : Increment		Test Command Connected To: None		Test Command
Stop Bits	1	Volume : Decrement Freeze : On				
Ethernet Settings		Freeze : Off		Selected Port: None		Select Port
Lanomotocounigo		Magnify : Increment		Request C01",0x0D		
IP Address	0.0.0.0	Magnify : Decrement				
Port	0 +	Keystone : Increment Keystone : Decrement		Display Response as 🖰 Hex 🔿 Decimal 💿 ASCII		Response Length: 0
		Brightness : Increment		Response		
Protocol		Brightness : Decrement	-			
Create PDF Sun	mary Export Driver					OK Cancel Apply

Figure 69: The Driver Manager - Standard Commands Added

5.5 Serial Commands

Select a serial command (Shared or Device-Specific). The following window appears:

Driver Manager						· *
Drivers Tree		+ - ×≥ ▲ ▼ ⓐ ⓐ PWK UFF		Command Name		
Driver Details		PWR_STDBY	^	Magnify : Increment		
Vendor	Sanyo	On reply from On				
	Sanyo	On Reply from Off Input		Command Syntax	Display Command as O Hex (Decimal ⓒ ASCII
Device Model	PLC-XU105	Volume		"C30".0x0D		Set Clear
Revision	A	▷ Image ▷ Setup		0.00		
Denies Trees	Projector	Device-Specific				
Device Type		Power : Off				
Revision Date	11/ 4/2008 💌	Input Source : Computer-1 Input Source : Computer-2				
		Input Source : S-Video-1				
Driver Settings		Input Source : Composite-1				
Serial Settings		Input Source : Component-1 Input Source : SCART	Ξ			
-		Mute: On				
Baud Rate	19200	Mute: Off Volume : Increment				
Data Bits	8	Volume : Increment				
Parity	None	Freeze : On				
		Freeze : Off Magnify : Increment		Test Command Connected To: None		Test Command
Stop Bits	1	Magnify : Decrement		Selected Port: None		Select Port
Ethernet Settings		Keystone : Increment		Selected Fort. None		Select Port
		Keystone : Decrement Brightness : Increment		Request "C30",0x0D		
IP Address	0.0.0.0	Brightness : Decrement				
Port	0 ÷	Aspect Ratio : 4:3 Aspect Ratio : 16:9		Display Response as O Hex O Decimal @ ASCII		Response Length: 0
Protocol		Blank : On	-	Response		
		DI I Off				
Create PDF Sum	mary Export Driver				ОК	Cancel Apply

Figure 70: Serial Commands

The area on the right shows the command name and command syntax. You can display the syntax as Hex, Decimal or ASCII. To move a Device-Specific command to the Shared list, see <u>Section 5.4</u>.

Once the controlled device is connected you can test the command, as described in Section 5.5.1.

5.5.1 Creating a Serial Device-Specific Command

To add a serial device-specific command:

1. In the Serial list, select Device-Specific and click the + icon

The following window appears:

Add Command		×
[]
-	ОК	Cancel

Figure 71: Serial Commands - Add New Command Name

2. Type the new command name (for example, DVI_IN) and click OK:

Add Command		×
DVI_IN		
	ОК	Cancel

Figure 72: Serial Commands - the New Command Name

3. In the **Driver Manager** window select the new command (DVI_IN):

	Command Name DVI_IN				
 <u>Volume</u> Image 	Command Syntax	Display Command as	C Hex (🗅 Decimal 💿	ASCII
Betup Setup Device-Specific Power : Off Input Source : Computer-1 Input Source : Computer-2 Input Source : S-Video-1 Input Source : Composite-1 Input Source : SCART Mute : On Mute : Off Volume : Increment Volume : Decrement Freeze : Off Magnify : Increment Magnify : Increment Magnify : Increment Keystone : Increment Keystone : Increment Brightness : Increment Brightness : Increment Aspect Ratio : 4:3 Aspect Ratio : 16:9 Blank : Off DVLN				Set	Clear
			ОК	Cancel	Apply

Figure 73: Serial Commands -Selecting the New Command Name

4. Type the command and click the **Set** button:

+ - x≥ ▲ ▼ @ :	Command Name	
▷ Input ▷ Volume	DVI_IN	
Image Setup	Command Syntax Display Command as Heteropolicy Command as Heteropolicy Command as Heteropolicy Command as	x C Decimal C ASCII
Device-Specific	0x43,0x34,0x34,0x0D	Set Clear
Power : Off Input Source : Computer-1	<u></u>	
Input Source : Computer-1		
Input Source : S-Video-1		
Input Source : Composite-1		
Input Source : Component-1		
Input Source : SCART		
Mute : On		
Mute:Off Volume:Increment		
Volume : Increment		
Freeze : On		
Freeze : Off		
Magnify : Increment		
Magnify : Decrement		
Keystone : Increment Keystone : Decrement	Test Command Connected To: None	Test Command
Brightness : Increment Brightness : Decrement	Selected Port: None	Select Port
Aspect Ratio : 4:3 Aspect Ratio : 16:9	Request C44",0x0D	
Blank : On Blank : Off	Display Response as C Hex C Decimal ⓒ ASCII	Response Length: 0
DVI_IN ▶ IR	Response	
	OK	

Figure 74: Serial Commands - New Command Added

The DVI_IN command was added to the commands device-specific list and appears **bold**.

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Note that when writing a serial command:

- if you enter ASCII commands, enclose the strings in quotation marks (for example, "MUTE OFF").
- Prefix the hex characters with 0x or "\$" (for example, 0x0D), non-prefixed values are in decimal (for example, 13).
- String and byte values should be separated by commas or spaces (for example, "BRIGHT DEC",0x0D).
- If a protocol command states Carriage Return (<CR>) and/or Line Feed (<LF>) following the command line, add 0x0D or 0x0A, respectively, outside the command quotation marks, separated by a comma.
 For example, "PWR" <CR> <LF> should appear as "PWR",0x0D,0x0A.

If required, you can test the command

- 1. If the room control device is not physically connected, connect it now and connect the controlled device (for example, a DVD or projector).
- In the Driver Manager window select the command to be tested.
 The command syntax appears in the text box on the top right area (under Command Name).

- 3. Click the Test Command button:
 - If the connection type between the room controller device and the PC was not yet established, the connection window will appear and you should select the connection method (in this specific example, the **RC-74DL** is connected to the PC via the Ethernet) and click Connect (see Figure 75) after that the Device Ports window appears (see Figure 76).

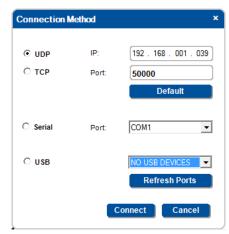


Figure 75: Testing Serial Commands –Connecting the PC to the Room Controller

 If the room controller device is connected, the Device Ports window appears and you will need to select the port to which the controlled device is connected (see <u>Figure 76</u>).

Device Ports ×
Select a Port:
RS-232 Terminal_Block_1 (1)
RS-232 Terminal_Block_2 (2)
RS-232 Terminal_Block_3 (3)
RS-232 Terminal_Block_4 (4)
RS-485 (5)
Ethernet (1)
OK Cancel

Figure 76: Testing Serial Commands -Selecting a Device Port

4. Select the port to which the controlled device is connected to the room controller (for example, the projector is connected via RS-232 Terminal Block 1 to the **RC-74DL** room controller) and click OK.

Note that if the controlled device is connected to the Ethernet, the following window appears. Verify the details and then click OK.

Protocol	UDP	•	
IP A	ddress	Port	
192 . 168	. 55 . 41	50000 🚖	

Figure 77: Testing Serial Commands -Ethernet Settings for Controlled Device

The command tested is sent to the controlled device. The **Request** text box shows the sent command and the **Response** text box shows the response:

rivers Tree		🖉 Pa 🖄		Command Name		
iver Details		4 Serial	*			
Vendor	Kramer	▷ <u>Power</u> ▷ Input	=	In2_Out2		
		▲ Routing		Command Syntax	Display Command as	Hex C Decimal 🖲 ASCII
Device Model	VS-88HDxI	In 1_Out 1				
Revision		In1_Out2		"#VID 2>2",0x0D		Set Clea
	A	In1_Out3 In1_Out4				
Device Type	Generic 🔽	In 1_Out4 In2 Out1				
evision Date	07.4 44	In2_Out2				
evision Date	07-Aug-11 💌	In2 Out3				
		In2_Out4				
		In3_Out 1				
ver Settings		In3_Out2				
erial Settings		In3_Out3				
-		In3_Out4 In4_Out1				
Baud Rate	9600	In4_Out7 In4_Out2				
0.1.0		In4 Out3				
Data Bits	8 🔽	In4 Out4				
Parity	None	In1_Out5				
		In 1_Out6		Test Command Connected To: None		Test Command
Stop Bits	1	In1_Out7				
		In 1_Out8		Selected Port: None		Select Port
rnet Settings		In2_Out5 In2_Out6				
ID Address		In2_Out6		Request ["#VID 2>2",0x0D		
IP Address	192 . 168 . 78 . 101	In2 Out8				
Port	50000 ÷	In3_Out5		Display Response as 🗅 Hex 🔿 Decimal 👁 ASC	CII	Response Length: 1
		In3 Out6		Response		
Protocol	UDP 🔽	In3_Out7	-	1 topponoo		

Figure 78: Testing Serial Commands - Setting the Command

rivers Tree		& @ 0	Command Name		
river Details		Serial Power	-		
Vendor	Rrainer	b Input	in2_Out4		C Hex C Decimal @ ASCII
levice Model	¥5-88HDXI	A Routing In 1_Out 1	 Command Syntax 	Display Command as	C Hex C Decimal @ ASCI
Revision		In1_Out2 In1_Out3	"#VID 2>4",0x0D		Set Clear
Device Type	Generic	In1_044 In2_041			
evision Date	07-Aug-11 •	In2_0ut2 In2_0ut3			
		In2 Out4 In3_Out1			
er Settings rial Settings		In3_0u12 In3_0u13			
		In3_Out4 In4_Out1			
Baud Rate	9600	In4_Out2			
Data Bits	8	In4_Out3 In4_Out4			
Parity	None	h1_045 h1 046			C Testing
Stop Bits	1	ht_Out7	Contraction of the second s	onnected To: UDP on 192 168.72.74:50000	~
net Settings		h1_0d8 h2_0d5	Selected Port: Ethernet	: (1)	Disconnect Select Port
IP Address		h2_0.t6 h2_0.t7	Request TWVID 2>4	7,0x00	
	192 . 168 . 78 . 106	h2_Out	Display Response as	Hex C Decimal @ ASCII	Response Length: 1
Port	50000 🛨	h3_0d5 h3_0d6			and particular and the set
Protocol	UDP	h3_0u7	Response) 2>4 OK",0x0D,0x0A	

Click the Test Command and wait for the response.

Figure 79: Testing Serial Commands – Request and Response

If the controlled device fails to respond, an ERROR or TIMEOUT message appears.

If the reply has not yet been written to Serial Replies syntax (see Figure 81) or if it does not match the current reply defined in Serial Reply, the following message appears:

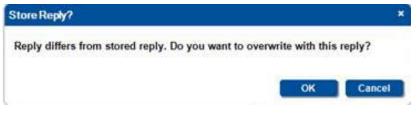


Figure 80: Testing Serial Commands - Storing the Reply

Click OK to store the reply.

Driver Manager			×
Drivers Tree		a b i	Reply Name
Driver Details		▲ <u>Serial Replies</u>	
Vendor	Kramer	▷ Power ▷ Input	In2_Out4
		A Routing	Reply Syntax Display Command as C Hex C Decimal @ ASCII
Device Model	VS-88HDxI	In 1_Out 1	
Revision	A	In1_Out2 In1_Out3	"~01@VID 2>4 OK",0x0D,0x0A
Device Type	Generic	In1_Out4	
Device Type		In2_Out1	
Revision Date	07-Aug-11 💌	In2_Out2 In2_Out3	
		In2_Out4	
Deines Cattions		In3_Out1	
Driver Settings		In3_Out2 In3_Out3	
Serial Settings		In3_Out4	
Baud Rate	9600	In4_Out1	
		In4_Out2 In4_Out3	
Data Bits	8	In4_Out4	
Parity	None	In1_Out5	
Stop Bits	1	In1_Out6 In1_Out7	Test Command Connected To: UDP on 192.168.72.74:50000 Test Command
Stop Bits		In1_Out8	Selected Port: Ethernet (1) Disconnect Select Port
Ethernet Settings		In2_Out5	
IP Address		In2_Out6 In2_Out7	Request "#VID 2>4",0x0D
IP Address	192 . 168 . 78 . 106	In2_Out8	Display Response as C Hex C Decimal C ASCII Response Length: 16
Port	50000 🕂	In3_Out5	
Protocol	UDP	In3_Out6 In3_Out7	Response
Create PDF Sum	mary Export Driver		OK Cancel Apply

Figure 81: Testing Serial Commands – Serial Reply Stored

If the response matches the current Serial Reply, you will get the Reply Stored Message. Click OK.

Drivers Tree		& @ B	Command Name
Driver Details Vendor	Kramer	Serial Power Input	in 2, Chuid
Device Model	V5-88HDxi	A Routing	Command Syntax Display Command as C Hex C Decimal @ ASCII
Revision		In1_Out2 In1_Out3	"#VID 2>4",0x00 Set Clear
Device Type	Generic	In1_Out4 In2_Out1	
Revision Date	07-Aug-11 💌	In2_Out2 In2_Out3	Reply Stored ×
iver Settings		in2 0x44 in3_0x11 in3_0x12	Matches stored reply
Serial Settings		In3_Out3 In3_Out4	
Baud Rate	9600	In4_Out1 In4_Out2	ОК
Data Bits	8	In4_Out3 In4_Out4	
Parity	None	ht_Outs ht_Outs	Test Command Connected To: UDP on 192 168 72 74 50000
Stop Bits	1	h1_0.e7 h1_0.e8	
ernet Settings		h2_Qut5	
IP Address	192 168 78 106	In2_Out6 In2_Out7	Request 7#VID 2>4",0x00
Port	50000 🛨	h2_0u8 h3_0u5	Display Response as "Hex C Decimal @ ASCII Response Length: 16
Protocol		h3_0u6 h3_0u7	Response -01(d)VID 2>4 OK",0x0D,0x0A

Figure 82: Testing Serial Commands – Serial Reply Matches Stored Reply

5.5.2 Creating an IR Command

Open the IR command list and select a command. You can add an IR command by:

- Typing in the command syntax (see <u>Section 5.5.1</u>).
- Adding a controlled device's pronto IR code and converting it to the regular syntax.
- Reading the IR command via IR Learning as described in this section.

Converting the Pronto IR Codes

Controlled devices which do not have Pronto IR codes require that you convert them before they can be used in **K-CONFIG**.

In the following example, to convert the PWR_ON IR code of a Sony Projector:

1. Select the required command (PWR_ON), click the **Convert from Pronto** button. The CONVERT PRONTO COMMAND window appears. 2. Copy the IR Pronto code for the specific machine command (without the quotation marks) and paste it into the CONVERT PRONTO COMMAND window:

CONVERT PRONTO COMMAND	×
0000 0068 0000 0010 0060 0018 0030 0018 0018 0018 0030 0018 0018	
OK Cancel Clear	

Figure 83: IR Commands - Convert Pronto Command Window

3. Click OK.

The command has been converted:

ø		Command Name
4	<u>oond</u>	
	Power	PWR_ON
	▷ Input	Command Syntax Display Command as O Hex O Decimal @ ASCII
	Routing	Command Syntax Display Command as O Hex O Decimal @ ASCII
	Volume	
	 Transport Image 	0xF1," <x<<<x<<<x<<<x<<<x<<<x<<<x<<<x<<< th="" x<<="" x<<<=""></x<<<x<<<x<<<x<<<x<<<x<<<x<<<x<<<>
	Setup	
	Camera	
	Device-Specific	
	<u>IR</u>	Read IR Command Connected To: None Convert Pronto Read Command
	Power	Connect
	PWR_ON	
	PWR_OFF	
	PWR_STDBY	Display Response as O Hex O Decimal I ASCII Response Length: 0
	On reply from On	Response
	On Reply from Off	
	De la companya de la comp	
	 Routing Volume 	
	 Volume Transport 	
	> Setup	
	Camera	
	Device-Specific	
₽		
₽	Tables	
Þ	Queries	

Figure 84: IR Commands – Pronto Command Converted

Reading the IR Command via IR Learning

To create IR commands for a selected device, connect the room controller device (with IR learning capability) directly, whether it is defined as an auxiliary device or a Master device, to your PC and use the remote control transmitter to learn its IR commands.

Use the remote control transmitter of the machine from which you want to learn the IR commands. For example, use the DVD remote control transmitter to write the DVD commands to the driver manager.

To create an IR command:

- 1. Connect the room controller device directly to your PC.
- 2. Select an IR command (HDMI_1 in this example)

If you are creating a controlled device specific command, select **IR>Device-Specific** and click + to add a command. The following window appears:

Add Command		×
	ОК	Cancel

Type the new command's name and click **OK**. The new command is added to the Device-Specific list.

Click the Read Command or the Connect button. The Connection Method window appears. If you choose to click the connect button, once connected you will have to click the Read Command button.

Connection Method ×				
ODP	IP:	192 . 168 . 001 . 039		
	Port:	50000		
		Default		
🔘 Serial	Port:	COM1 -		
O USB		NO USB DEVICES -		
		Refresh Ports		
		Connect Cancel		

Figure 85: IR Commands - Connect to the Room Controller Device

- 4. Click Connect.
- 5. Click the Read Command button. The following window appears.



6. Click OK.

After clicking this button, you have a 1 minute period to point the remote control to the IR learner sensor to let it capture the command.

 Image: Image: Im	Command Name
▲ IR ▷ Power ▲ Input HDMI_1 HDMI_2 HDMI_3 HDMI_4	HDMI_1 Command Syntax Display Command as O Hex O Decimal O ASCII 239,60,60,60,119,60,119,60,60,60,60,60,60,60,60,60,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,119,60,60,60,60,119,60,60,60,60,60,60,60,60,60,60,60,60,60,
V3A_1 V3A_2 V3A_2 V3A_3 V3A_4 YPbP_1 YPbP_2	Read IR Command Connected To: UDP on 192.168.56.74:50000 Convert Pronto Read Command Disconnect O Reading IR Command Reading IR Command Reading IR Command
s Video_1 s Video_2 CV_1 CV_2 Display_Port_1 Display_Port_2 AV_1	Display Response as C Hex C Decimal C ASCII Response Length: 0 Response
AV_2 CV_3 sVideo_3 s-Video_4 CV_4 YPbPr_3 sVideo_1	
s-Video_1 s-Video_2 s-Video_3 DVI 1	v

Figure 86: IR Commands - The device is Connected



We recommend that you perform IR learning with minimum lights on and within proximity of 3 to 5cm from the sensor. Any other light source may distort the IR command obtained (as in the example in Figure 87).

7. Click the IR remote towards the IR sensor until the command string is obtained:

⊘ ⊛ ≣ I Serial	Command Name
A IB Power	PEDRO_1
A INDIA	Command Syntax Display Command as @ Hex C Decimal C ASCII
HDML2 HDML3 HDML4	E 0xFF,0x02,0x79,0x1E,0xEF,0xFF,0x01,0xC4,0x3C,0x3A,0x35,0x3D,0x34,0x38,0x3A,0x Set Clear
162.1 1634.2 1634.3 1634.4 1784.4	Read IR Command Connected To: UDP or 192.168.56.74.50000 Convert Pronto Read Command Disconnect IR Command has been stored overriding the current one
YPbA_2 sVideo_1 sVideo_2 CV_1 CV_2 Display_Port_1	Display Response as C Hex C Decimal @ ASCII Response Length: 0 Response
Display_Port_2 AV_1 AV_2 CV_3 #Video_3	Test Command Connected To: None Test Command Selected Port: None Select Port
e-Video_4 CV_4 YP6A-3 e-Video_1 e-Video_2 e-Video_2 DV1_1	Request

Figure 87: IR Commands - The IR command String Obtained

8. Click Set to save the command.

9. Select the IR port to which the command will be assigned:

Device Ports	×
Select a Port:	
IR Out_1 (1)	
IR Out_2 (2)	
OK Canc	el

Figure 88: IR Commands - Selecting a Room Controller Device IR Port

You can test the IR command by connecting the room controller device IR terminal block connectors to the controlled device via the IR emitter port, and then clicking the **Test Command** button.



Note that if the room controller device is connected via USB or a serial port and the length of the command is longer than 47 bytes, you will not be able to test it (this does not mean that the command itself will not function directly from the room controller device).

Figure 89 shows how to connect the IR emitter port cable (using the Kramer 3.5mm to IR Emitter Control Cable (C-A35/IRE-10)). 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.

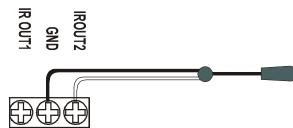


Figure 89: IR Emitter Wiring



We recommend that you do not use the dual IR emitter since it emits a weaker IR signal that may not be detected by some controlled devices.

5.5.3 Creating a Serial Reply

When sending a serial command to a device, that device will usually send a reply. This reply can be used to create monitor events. Serial replies can be typed manually or by sending a serial command to the device and obtaining its reply.

To add a serial reply:

- 1. Select a command for which there is a command string in the serial command, for example PWR_OFF.
- 2. In Serial Reply, select PWR_OFF from the shared list:

Driver Manager				×
Drivers Tree			Reply Name	
Driver Details		Serial Power	PWR_OFF	
Vendor	Sanyo	PWR_ON		Hex O Decimal O ASCII
Device Model	PLC-XU105	PWR_OFF PWR_STDBY On realy from On	Display Command as	Set Clear
Revision	A	On Reply from Off		
Device Type	Projector 🗸	Volume		
Revision Date	11/ 4/2008	Image Setup Device-Specific		
Driver Settings		▲ IR ▷ Power		
Serial Settings		▷ Input ▷ Volume		
Baud Rate	19200	 Image Setup 		
Data Bits	8	Device-Specific Serial Replies		
Parity	None	Power		
Stop Bits	1	PWR_ON PWR_OFF	Test Command Connected To: None	Test Command
51 10 11		PWR_STDBY On reply from On	Selected Port: None	Select Port
Ethernet Settings		On Reply from Off	Request "C01",0x0D	
IP Address	0.0.0.0	 Input Volume 		
Port	0 .	D Image	Display Response as O Hex O Decimal @ ASCII	Response Length: 0
Protocol		Device-Specific *	Response	
Create PDF Sum	mary Export Driver			OK Cancel Apply

Figure 90: Serial Reply Commands - Selecting a Serial Reply Command

- 3. Connect the room controller device to your PC.
- Click the test command button.
 The Connection Method window opens.
- 5. Click Connect.
- 6. Click the **Select Port** button, select the relevant serial port and click the **Select Port** button.
- 7. Click Test Command

The reply appears in the command syntax area:

Driver Manager			×
Drivers Tree		⊘ ि ≜	Reply Name
Driver Details		4 Power	PWR_OFF
Vendor	[Sanyo]	PWR_ON PWR_OFF	Reply Syntax Display Command as C Hex C Decimal @ ASCII
Device Model	PLC-XU105	PWR_STDBY	
Revision		On reply from On On Reply from Off	"~01@Y 0,23,0 OK",0x0D,0x0A
Device Type	Projector	▷ Input ▷ Volume	
		Image	
Revision Date	11/ 4/2008	Setup Device-Specific	
Driver Settings		▲ IR ▷ Power	
Serial Settings		▷ Input ▷ Volume	
Baud Rate	19200	 Image Setup 	
Data Bits	8	Device-Specific ZZZ	
Parity	None	Serial Replies Power	
Stop Bits	1	PWR_ON	Test Command Connected To: None Test Command
Ethernet Settings		PWR_OFF PWR_STDBY	Selected Port: None Select Port
-		On reply from On	Request "C01",0x0D
IP Address	0.0.0.0	On Reply from Off	Display Response as C Hex C Decimal @ ASCII Response Length: 0
Port	0 ÷	▷ <u>Volume</u> ▷ Image	
Protocol	UDP	▷ <u>Setup</u> ▼	Response
Create PDF Sum	mary Export Driver		OK Cancel Apply

Figure 91: Serial Reply Commands - Reading the Serial Reply Command

8. Click Set.

The Serial Reply was added to the shared Serial Reply>Power list.



Note that a serial reply can be created by testing a serial command and storing the response (see <u>Section 5.5.1</u>).

5.5.4 Creating a Table List

It is useful to write multiple serial commands to a table if they include an adjustment range (for example, the volume level data ranges from 0 to 64). The Table Commands table includes a list of indexed serial commands in sequence (the line number) that the controller should send out once reaching this line.

In the action lists, the program configurator will be able to jump to a certain line (useful on device startup to specify the line to use as the startup state), move up one line and move down on line. These options make it very easy to control range based AV settings (volume, brightness and so on).

The three actions associated with the Table structure can be part of any action list - turn of a volume knob on a room controller device or any button on a room controller device or even a timer trigger. The Table also lets you link the volume LEDs to the range level.

For example, driver commands that define the volume level (from 0 to 64) can be inserted in the Table area in the Driver Manager window. The table is then included in a trigger that lets you change the volume level to a set value with each press of a button or turn of the knob (for digital audio).

Tables can be default/non-default shared or device-specific. Non-default shared tables are added via the Commands Hierarchy table. Device-specific commands are added via the Driver Manager window.

To setup a Table:

1. In the **Driver Manager** window, select a Tables command (for example, Volume):

onver manager			
Drivers Tree			Table Volume Details
Driver Details		▷ <u>Serial</u> ▷ <u>IR</u>	Select Number of Rows 0 🔄 Display Command as C Hex C Decimal C ASCII
Vendor	Kramer	Serial Replies <u>Tables</u>	Linear C Logarithmic Min Index Max Index Select every
Device Model	VP-437XL	Shared Volume	Keep current selection 0 + 300 + 1 + Set
Revision	A	Input_Volume Output_Volume	-, Q , A , V ,
Device Type	Scaler	Device-Specific	✓ Index Command Data Level
Revision Date	7/ 5/2011 💌	* <u>900100</u>	
Driver Settings			
- Serial Settings			
Baud Rate	9600		
Data Bits	8		Clear Apply Table Changes
	None		
Parity			
Stop Bits	1		
Ethernet Settings			
IP Address	0.0.0.0		
Port	0 ÷		
Protocol	UDP		
Create PDF Sum	mary Export Driver		OK Cancel Apply

Figure 92: The Driver Manager Window – New Table

The Driver Table window lets you:

- Select the number of commands (rows) in the table (up to 300)
- Write and display the command string in Hex, Decimal or ASCII formats
- Auto Select the relevant rows
- Set the LED Level

2. Select the number of rows you need (for the volume adjustment example, 14 rows are recommended):

Serial <u>Serial</u> <u>PWR_ON</u> PWR_ON	Table Output_Volume Details Select Number of Rows 14 ① Display Command as ① Linear ① Linear Select Fuery	ecimal 💿 ASCII
PWR_OFF PWR_STDBY On reply from On	Keep current selection 0 0 1 1 1	Set
On Reply from Off Input Volume Setup Device-Specific Setial Replies Setial Replies Shared Volume Nput_Volume Oddput_Volume Device-Specific Queries		Level

Figure 93: The Driver Manager Window - Select Number of Rows

You can set the Min and Max Index (up to 13 in this example) which will slice out a section of the commands that will be used.

 (\mathbf{i})

i

Note that if you find that you have not selected the exact number of rows, you can add or delete a row at any time.

3. Enter the command data according to the protocol:

For example, a certain LCD Display command format is: [Command1][Command2][][Set ID][][Data][CR] Data ranges from 0 to 64. The specific command for the Volume Control (for a Data value of 35) is: [k][f][][Set ID][][Data][Cr]: "kf 1 ",0x35,0x0D.

4. Click the **Command Data** area and type the command into the driver table:

Serial Power Input	Table Volume Details Select Number of Rows 14 Table Volume Details Display Command as C Decimal ASCII
 <u>Routing</u> <u>Volume</u> <u>Image</u> <u>Setup</u> 	C Linear C Logarithmic Min Index Max Index Select Every Keep current selection 0 1 1 1 Set
Device-Specific Derial Replies <u>Tables Shared Volume Nout_Volume Output_Volume Output_Volume Output_Volume Output_Volume </u>	Index Command Data Level ▲ ✓ 0 "kf1",0x00,0x0D 0 ■ ✓ 1 0 ■ ■ ✓ 2 0 0 ■ ✓ 3 0 0 ■ ✓ 4 0 0 ■
<u>Device-Specific</u> ▷ <u>Queries</u>	6 0 Clear Apply Table Changes

Figure 94: The Driver Manager Window - Typing Commands

5. Add the following commands (you can use the copy and paste function between the rows and just change the specific, relevant byte):

-	à İ	Table Volume Details	
4	Serial Power Input	Select Number of Rows 14 🔹 Display Command as	C Hex C Decimal © ASCII
	Routing > Volume > Image	© Linear C Logarithmic Min Index Max Index S □ Keep current selection □	ielect Every
⊿	Setup Device-Specific R	 → ⓐ ▲ ▼ ✓ Index Command Data 	Level
-	Power PWR_ON PWR_OFF PWR_STDBY	✓ 0 "kf1",0x00,0x0D ✓ 1 "kf1",0x05,0x0D ✓ 2 "kf1",0x10,0x0D ✓ 3 "kf1",0x15,0x0D	2 2 2 2 2
	On reply from On On Reply from Off Input Routing	✓ 4 "kf1",0x20,0x0D ✓ 5 "kf1",0x25,0x0D ✓ 6 "kf1",0x30,0x0D ✓ III III	2 2 2 *
	Volume Image Setup Device-Specific	CI	ear Apply Table Changes
4]	Serial Replies	Test Command Connected To: None	Test Command
1	Volume	Selected Port: None	Select Port
Þ	Dutput_Volume <u>Device-Specific</u> Queries	Request "kf1",0x00,0x0D Display Response as O Hex. O Decimal @ ASCII	Response Length: 0
		Response	

Figure 95: The Driver Manager Window - Writing the Commands

Upon creation, by default, all the rows are checked – meaning that when you move UP/DOWN the list, all the rows will be used. If you prefer to use less rows in your configuration (for example, you may not need to use all the volume levels to create a clean volume UP/DN effect) you can now enable or disable specific row commands manually or through the "Select Every" box, as needed (for example, to set the rate of increase or decrease of the volume) by selecting which commands should be used when traveling UP/DN in the table with the relevant **K-CONFIG** Action commands:

6. For example, select every 3 rows and click Set:

	Table Volume Details Select Number of Rows 14 ÷ O Linear Logarithmic Min Index Max Index Select Ev Keep current selection 0 ÷ 13 ÷ 3	
Device-Specific IR Power PWR_ON PWR_OFF PWR_STDBY On reply from On On Reply from Off Input Routing Volume Image Setup	✓ Index Command Data ✓ 0 "kf1",0x00,0x0D 1 "kf1",0x05,0x0D 2 "kf1",0x10,0x0D ✓ 3 "kf1",0x20,0x0D ✓ 4 "kf1",0x20,0x0D 5 "kf1",0x20,0x0D 6 "kf1",0x20,0x0D ✓ III	Level
Device-Specific Device-Specific Serial Replies Isolates Shared Noture Input Volume Output Volume Device-Specific Queries	Test Command Connected To: None Selected Port: None Request "kf1",0x00,0x0D Display Response as O Hex O Decimal © ASCII Response	Test Command Select Port Response Length: 0

Figure 96: The Driver Manager Window - Selecting every 3 Rows

7. Check the Keep current selection box if required.

You can also do this logarithmically, for example, to increase the volume at a fast rate in the lower range and slower in the higher range:

- Check Logarithmic.
- Select the approximate number of steps you need (the table calculates the optimal number).
- Click the Set button.

Image: Second	C Linear C Logarithmic Min Index Max Index	as O Hex O Decimal O ASCII
	Keep current selection 0 13 13 ■ <th>6 ∴ Set</th>	6 ∴ Set
 Bouting Houting Yolume Image Setup Device-Specific Serial Replies Tables Shared Volume Input_Volume Output_Volume Device-Specific Queries 	12 "kf1".0x60.0x0D III III Test Command Connected To: None Selected Port: None Request "kf1".0x00.0x0D Display Response as C Hex C Decimal C ASCII Response	Clear Apply Table Changes Test Command Select Port Response Length: 0

Figure 97: The Driver Manager Window - Logarithmic Row Selection

8. Set the LED Level:

Serial Power Power Pout Routing Volume Image Setup	Table Volume Details Select Number of Rows 14 Iteration Display Command as Iteration Max Index Keep current selection 1 Iteration 1	
Device-Specific IR Power PWR_ON PWR_OFF PWR_STDBY On reply from On On Reply from Off Input Routing Volume Image Setup	Index Command Data ✓ 0 "kf1",0x00,0x0D ✓ 1 "kf1",0x05,0x0D ✓ 2 "kf1",0x10,0x0D ✓ 3 "kf1",0x20,0x0D ✓ 4 "kf1",0x20,0x0D ✓ 4 "kf1",0x20,0x0D ✓ 5 "kf1",0x20,0x0D ✓ 6 "kf1",0x30,0x0D ✓ 111 Clear	Level 0 1 2 3 3 4 4 + Wy Table Changes
Device-Specific Serial Replies Iables Shared Volume Input_Volume Output_Volume Device-Specific Queries	Test Command Connected To: None Selected Port: None Request "kf1%",0x0D Display Response as O Hex C Decimal @ ASCII Response F	Test Command Select Port

Figure 98: The Driver Manager Window - Setting the LED Levels

The Levels indicate the number of digital knob LEDs that light for each data command on relevant room controller devices (for example, the **RC-63DL** or **RC-54DL**). You can set the LEDs to light only in sequence. For example, one LED will light for data commands up to 30. Two LEDs will light up to data command 50, and so on.

Note that when selecting a command, the test command area appears, letting you test each command in the table.

9. When the table is complete, click **the Apply Table Changes** button and then click **OK**. The Volume Table name appears **bold** now.



You can create several sets of tables for different commands.

Once the table is ready, you can use the commands table to set the volume to an exact value in a trigger (see <u>Section 9.2.1</u>).

5.5.5 Creating a Query

A query is a question sent from **K-CONFIG** configured program to a controlled device followed by an expected reply from that device. The reply is analyzed by the controller program according to a set of definitions that was configured by the user or by receiving the first reply within a predefined time period. The reply can then be used to trigger a list of actions.

You can build the query into a shared Query name (Power, LampHour, Fan, Comm_Status and Input), or create Device-Specific queries.

Queries are sent to the Kramer Site-CTL software which can monitor and control multiple room controllers via the **Site Control Message** command (see <u>Section 9.11</u>).

Driver Manager				×
Drivers Tree			Query Power Details	
Driver Details		✓ <u>Serial</u> Power	Command Syntax	Display Command as C Hex C Decimal @ ASCII
Vendor	Sony	Input Routing	Parse if message from device contains:	O Parse if message arrives in Time:
Device Model	VPL-PX41-2	 Volume Transport 		500 ÷ ms
Revision	A	 Image Setup 	Parse Reply Begin in Byte 1	End Parsing by End of Reply Stop Value 0x00
Device Type	Generic	Device-Specific	Answer Format Text	Response Units Hours/None
Revision Date	6/ 3/2008 💌	▶ <u>IR</u>		Command Data
Driver Settings		Serial Replies Tables Queries	Result Name Operator	Command Data
Serial Settings		A Shared Power		
Baud Rate	38400	LampHour Fan	•	
Data Bits	8	Comm_Status Input		Clear Apply Query Changes
Parity	Even	Device-Specific		
Stop Bits	1			
Ethernet Settings				
IP Address	0.0.0.0			
Port	0 📫			
Protocol	UDP			
Create PDF Sum	mary Export Driver			OK Cancel Apply

Figure 99: The Driver Manager Window – The Query

To define a shared query, for example, a projector's lamp hours:

 Under Queries, select Shared and then LampHour. The Query area appears:

🔗 🖻 📋	Query LampHour Details	
▷ <u>Serial</u> ▷ <u>IR</u>	Command Syntax	Display Command as C Hex C Decimal © ASCII
Serial Replies Tables Queries	Parse if message from device contains:	C Parse if message arrives in Time: 500 ms
A <u>Shared</u> Power LampHour Fan	Parse Reply Begin in Byte	End Parsing by End of Reply Stop Value Response Units Hours/None
Comm_Status Input	-, @, ≜, ▼,	
<u>Device-Specific</u>	Result Name Operator	Command Data
	•	
	Max Lamp Hour 1	Clear Apply Query Changes

Figure 100: The Driver Manager Window – The Shared Query

Fill in the Query LampHour Details:

Feetune			
Feature	Function		
Command Syntax	Type in the query in HEX/Decimal/ASCII format according to the protocol of the specific projector		
Select response	Parse if message from device contains a certain syntax or Parse if the message arrives within a certain time period		
	serial replies from the reply. For example, the lamp Parse if message arr	or device contains: to ensure that the system will parse only the relevant controlled device, type in the syntax that will always be included in the o hour response should always include: #LMP_HR" rives in time: the system will accept the first message received within the d. This can be used when the response cannot be defined by content	
Parse Reply	Check Parse Reply if from the complete ser	you want the system extract relevant information (text, number and so on) ial reply	
	Begin in Byte:	Set the byte from which the relevant information starts: to start with the first byte, select, to start from the second byte, select 2, and so on. The number selected can be considered as the number (characters that should be ignored: 1) from the beginning of the response.	
	End Parsing by:	End of Reply: the information ends with the final character in the packet. Specific Char: a certain character will define the end of the information bits (for example, "A"). Counting Bytes: the response will always have a set number of characters.	
	Stop Value:	Type in the characters that define the end of the response.	
Answer Format	nat Select the answer format according to the device protocol format: Text (the answer appears as text) Number as Text ["4567"] Hex number as Text ["11D7"] Number – Bytes value (Highest value in first byte – 0x11,0xD7) Number – Bytes value (Highest value in last byte – 0xD7,0x11)		
Response Units	The response units for all answer formats except Text: Hours/None Minutes [will be divided by 60 to get Hours] Seconds [will be divided by 36000 to get Hours]		
Response definition	This table defines the	response ranges and their names.	
table	Result Name	The result name will appear when the command data in the query reply complies to the condition stated.	
	Operator	The operator is the condition and is set according to the answer format. For example, if the answer format is text, the Operator will be "= Equal To". Other answer formats have the following operators: Not Equal To, > greater than, < Less Than, >= Greater Than or Equal To, <= Less Than or Equal To, >< Between.	
	Command Data	The Command Data is the part of the data that represents the condition.	
Max Lamp Hour	Set the maximum lam	p hours (according to the projector manufacturer's data sheet.	
Clear	Clear the table.		
Apply Query Changes			

	Function					
the	Driver Manager					
nd						
land		+ - ++ + ▼ @ @ I Serial	Query Details Query Name WhatinOut_2 Command Syntax Display Command as C Hex C Decimal @ A			
	Driver Details Vendor		"#v? 2",0x00			
	Device Model	Serial Replies	Parse if message from device contains: Parse if message arrives in			
	Revision	A Queries Shared	500 - ms			
		Device-Specific What inOut 2	Parsa Reply Begin in Byte 10 📩 End Parsing by Counting Bytes 💌 Stop Value (0x0			
	Device Type Generic Revision Date 07-Aug-11	Composit_1	Answer Format Number as Text ("4567") Response Units Hours/None			
	Revision Date 107-00-11		- 💊 🔺 🔹 Result Name Operator Command Data			
	Driver Settings		Lower than 6 <less 5<="" td="" than=""></less>			
	Serial Settings		5 or more >= Greater Than or Equal To 5			
	Baud Rate 9600					
	Data Bits 8					
			Clear Apply Query Chan			
	Parity None		Test Command Connected To: UDP on 192.168.72.74.50000 Test Comm			
	Stop Bits 1	•	Selected Port: Ethernet (1) Disconnect Select			
	Ethernet Settings		Request Surgion with			
	IP Address 192 . 168 . 78 . 101	1				
	Port 50000 🚞	3	Display Response as "Hex. " Decimal @ ASCII Parse by Query Rules Response Length Response Data to each display a part of a control of the con			
	Protocol UDP	2	Hesponse [0x0A*-010/VD 0>2*0x0D.0x0A			
	Create PDF Summary Export Driver	3	OK Cancel			
y Query	appears automatical response complies v	Ily in the Request line with the answer formation				
y Query	appears automatical response complies v	Ily in the Request line with the answer formation	e. Click the Test Command button and check that that at.			
y Query	appears automatical response complies v After receiving the c	Ily in the Request line with the answer formation	e. Click the Test Command button and check that th at. e "Parse by Query Rules" button appears:			
y Query	appears automatical response complies v After receiving the c	Ily in the Request line with the answer formation	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears:			
y Query	Appears automatical response complies v After receiving the of Oriver Massoger Others Tree	Ily in the Request line with the answer forma device's response, the	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears:			
y Query	Appears automatical response complies of After receiving the of Driver Manager Driver Manager Driver Manager	Illy in the Request line with the answer forma device's response, the Second Resters Second Resters	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears: General Syste: Daplay Command as C Hes. C December (* A (* Parse Insessge ton device contains: C Parse Insessge anviews in			
y Query	Appears automatical response complies v After receiving the of Driver Manager Oriver Train Driver Data	Illy in the Request line with the answer forma device's response, the Seid Seid Gartie Gartie	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears:			
y Query	After receiving the of Driver Massoger Driver Massoger Driver Databa Vendor Device Model Revision	Illy in the Request line with the answer forma device's response, the Seid Seid Balan Device Seid Balan Device Seid Balan Device Seid Balan Device Seid Balan	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears: Guery Data Guery			
y Query	Appears automatical response complies v After receiving the of Driver Manager Driver Data Vindor Device Model Periode Model Periode Model Periode Type Generic T	Illy in the Request line with the answer forma device's response, the series formation being f	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears: Command System Geory Name WhatkOut_2 Command System Command System Parse I message from device contains Parse I			
y Query	After receiving the of Driver Massoger Driver Massoger Driver Databa Vendor Device Model Revision	Illy in the Request line with the answer forma device's response, the series formation being f	e. Click the Test Command button and check that that. e "Parse by Query Rules" button appears: Guery Data Guery			
y Query	Appears automatical response complies v After receiving the of Driver Manager Driver Data Vindor Device Model Periode Model Periode Model Periode Type Generic T	Illy in the Request line with the answer forma device's response, the series formation being f	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears:			
y Query	Appears automatical response complies of After receiving the of Driver Manager Driver Data Vender Device Model Revision Device Type Revision Date Driver Satinge	Illy in the Request line with the answer forma device's response, the Seid Seid Bates Bates Company	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Systex Co			
y Query	After receiving the of Driver Massger Driver Neals Vedor Device Model Revision Device Type Revision Date Driver Settings	Illy in the Request line with the answer format device's response, the series Series Company of the series Company of the series	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Systex Com			
y Query	Appears automatical response complies v After receiving the of Driver Matager Univer Table Vendor Device Model Revision Device Type Revision Date Driver Stating Serial Settings Beud Rate 1000 1	Illy in the Request line with the answer forma device's response, the set forma between the set of	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears:			
y Query	Appears automatical response complies v After receiving the of Driver Manager Univer Data Device Model Period	Illy in the Request line with the answer forma device's response, the Seried Reales Bates	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: e "Parse formad Syntax Deplay Command as Check Command Syntax Deplay Command as Check Command Syntax Command Syntax Deplay Command as Check Che			
y Query	Appears automatical response complies v After receiving the of Driver Manager Univer Tree Device Tree Device Tree Device Type Revision Date Device Type Revision Date Revision Date Revision Type Revision Date Revision Type Revision Date Revision Type Revision Type Revision Date Revision Type Revision Type Revisi	Illy in the Request line with the answer forma device's response, the set set set before Secure Oxford 1,1 Yalua Tour Rule match	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears:			
y Query	Appears automatical response complies v After receiving the of Driver Manager Univer Manager Univer Tree Device Tree Device Tree Device Type Revision Date Baud Rate Baud Rate Baud Rate Baud Rate Baue Bits Baue Bits Cose Bits Cose Bits Cose Bits	Illy in the Request line with the answer forma device's response, the set set set before Secure Oxford 1,1 Yalua Tour Rule match	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears:			
y Query	After receiving the of After receiving the of Driver Manager Driver Deals Vender Device Nodel Revision Device Nodel Revision Device Setings Serial Setings Baud Rale Data Bits Baud Rale Data Bits Baud Rale Data Bits Baud Rale Baud Rale Data Bits Baud Rale Baud Rale	Illy in the Request line with the answer forma device's response, the set set set before Secure Oxford 1,1 Yalua Tour Rule match	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Syst			
y Query	Appears automatical response complies v After receiving the of Driver Manager Univer Manager Univer Tree Device Tree Device Tree Device Type Revision Date Baud Rate Baud Rate Baud Rate Baud Rate Baue Bits Baue Bits Cose Bits Cose Bits Cose Bits	Illy in the Request line with the answer forma device's response, the Second Reales Device Second Reales Value four Rule match	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Systex Commad Systex Commad Systex Commad Systex Parse freese free of the Command on the Parse freese free of the Command on the Command Systex Parse freese free of the Command on the Command Systex Command Systex Comm			
y Query	After receiving the of Priver Massage Driver String Bed Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Driver String Band Rale Data Bits Driver String Band Rale Data Bits Driver String Band Rale Data Bits Driver String Driver Stri	Illy in the Request line with the answer format device's response, the series Series Compating Value four Rule mate	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Syst			
y Query	After receiving the of After receiving the of Driver Manager Driver Data Driver Data Device Model Revision Device Model Revision Device Table Oriver Stating Beud Rate Data Bits Baud Rate Baud Rat	Illy in the Request line with the answer format device's response, the series Series Compating Value four Rule mate	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Systex Commad Systex Commad Systex Commad Systex Parse freese free of the Command on the Parse freese free of the Command on the Command Systex Parse freese free of the Command on the Command Systex Command Systex Comm			
y Query	After receiving the of Priver Massage Driver String Bed Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Band Rale Data Bits Driver String Band Rale Data Bits Driver String Band Rale Data Bits Driver String Band Rale Data Bits Driver String Driver Stri	Illy in the Request line with the answer format device's response, the seid feelies like Compating Value four Rule match	e. Click the Test Command button and check that the at. e "Parse by Query Rules" button appears: Commad Systex Commad Syst			

Figure 101 shows the Query LampHour Details:

🔗 🗟 🗓	Query LampHour Details	
▷ <u>Serial</u>	Command Syntax	Display Command as C Hex C Decimal C ASCII
▷ IR ▷ Serial Replies	0x01	Serial Serial
<u>Jenar Nepries</u> <u>Tables</u> <u>Queries</u>	Parse if message from device contains: DxA1	C Parse if message arrives in Time: 500 ↔ ms
<u>Shared</u> Power	Parse Reply Begin in Byte 1	End Parsing by End of Reply Stop Value 0x00
LampHour Fan	Answer Format Number as Text ("4567")	Response Units Hours/None
Comm_Status Input	- G A V	Fan
Device-Specific	Result Name Operator	Command Data
	1 < Less Than 6 = Equal To 12 > Greater Than	0 2012 See 17 18
	•	
	Max Lamp Hour 12 💼	Clear Apply Query Changes
	Test Command Connected To: None	Test Command
	Selected Port: None	Select Port
	Request 0x01	
	Display Response as 🖯 Hex 🔿 Decimal 💿 ASC	CII Response Length: 0
	Response	

Figure 101: The LampHour Query Details

The query can then be used to create query events (see <u>Section 8.6</u>). K-CONFIG – The Driver Manager – Getting Started

6 Defining the Control Room via the Project Navigator

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	
Installation	Install the Software	
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device Describes how to connect to a device, upgrade the firmware, read/write to the device and so on		<u>10</u>
Using the Web pages Describes how to control the device via the Ethernet and perform minor configuration operations		11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

Once you have arranged and defined the driver commands of the controlled devices, you can set the control room via the project navigator.

The project navigator lets you set the controlled room.

Depending on the Master room controller, up to four Aux K-NET devices and two Virtual Devices as well as up to 15 control gateways can be used in the same control system setup. At any point you can-right click a room controller device to perform further functions.

You can check the Show unused ports box to show the ports that are unused for each device.



We recommend that you open a new project before defining the control room. At any point, you can save (or save as) the project, see <u>Section 4.2.1</u>.

When opening a new project, you can either add a Master Room Controller or a Virtual Master. The Virtual Master is used for controlling rooms via KRAMER NETWORK (see our Web site at <u>http://www.kramerav.com/NETWORK</u>). KRAMER NETWORK Virtual Master is described in detail in <u>Section 12</u>

6.1 Adding a Master Room Controller

In the following example the **RC-74DL** is selected as the Master room controller and the **RC-63DL** is the connected auxiliary device (some of the devices in the Add Device list (for example, the **WP-500**) do not accept auxiliary devices). Figure 102 shows the **Project Navigator** window. You can right-click the **Control Room label** to rename it or add a Master Device.

Project Navigator	▼ ×
+ -	Show unused ports
📁 Control Room	

Figure 102: The Project Navigator Window

To define the devices via the Project Navigator:

In the Project Navigator window area, click + to add a device to the tree.
 The Add Master Device window appears. Scroll down and select RC-74DL:

ADD MASTER DEV	ICE	
RC-63EA		
RC-63EAL		
RC-63EAX		
RC-63ED		
RC-63EDL		
RC-63EDX		
RC-712M		
RC-74DL		
RC-76M		
RC-76R		
RC-78R		
SL-1		
SL-10		E
SL-12		
SL-14RC		
SL-14RCN		
SL-1N		
SV-551		
SV-552		
VELLOID MALLER		
	ОК	Cancel

Figure 103: Adding a Master Device to the Project Navigator Window

2. Click OK.

The main window appears and reflects the selection of RC-74DL:

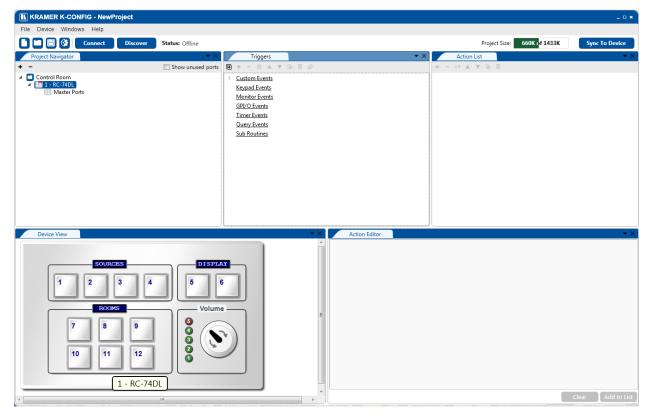


Figure 104: Main Window - Master Device Selected

In the main window you can check the **Show unused ports** box to show the list of the unused ports of the Master controller:

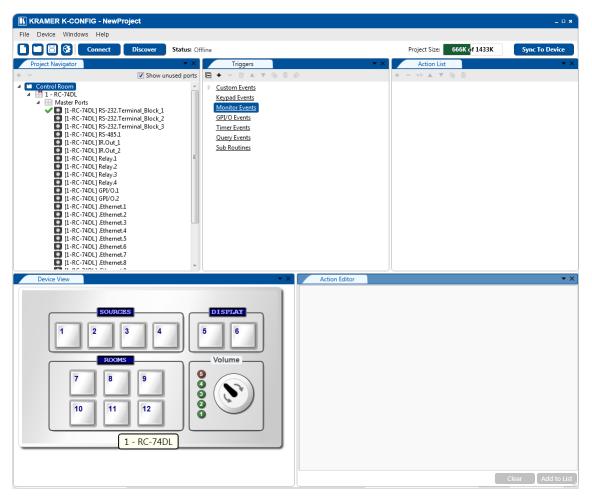


Figure 105: Main Window – Show Unused Ports

Once ports are assigned to controlled devices the used ports will appear on the list (see Section 7).

The **Port Manager** window (which does not appear in the default layout) lists the **RC-74DL** relevant ports (see Figure 106):

ort Manager					
		RC-74DL (ID 1)			
Name	Description	Driver	Properties		
[1-RC-74DL] RS-232.Terminal_Block_:		Select driver	<u>9600,8,N,1</u>	Clear	Main Dis
[1-RC-74DL] RS-232.Terminal_Block_		Select driver	<u>9600,8,N,1</u>	Clear	Main Dis
[1-RC-74DL] RS-232.Terminal_Block_		Select driver	<u>9600,8,N,1</u>	Clear	🔘 Main Dis
[1-RC-74DL] RS-485.1		Select driver	<u>9600,8,N,1</u>	Clear	Main Dis
[1-RC-74DL] IR.Out_1		Select driver		Clear	🔘 Main Dis
[1-RC-74DL] IR.Out_2		Select driver		Clear	Main Dis
[1-RC-74DL] Relay.1				Clear	
[1-RC-74DL] Relay.2				Clear	
[1-RC-74DL] Relay.3				Clear	
[1-RC-74DL] Relay.4				Clear	
[1-RC-74DL] GPI/0.1		Digital Input	Pullup	Clear	Threshol
	1				

Figure 106: The Port Manager Window for RC-74DL

3. Select the Master device (1 – RC-74DL) and Click + again.

ADD AUXILIARY DEVICE	ADD AUXILIARY DEVICE
	Add I/O Proxy
RC-13TC	FC-132ETH
RC-43SL	FC-22ETH
RC-43T	FC-24ETH
RC-53D	FC-26
RC-53DLC	FC-28
RC-53ED	SL-240
RC-53EDLC	SL-280
RC-54DL	
RC-5B2	
RC-5B4	
RC-62	
RC-62E	
RC-62EL	
RC-62EX *	
Add I/O Proxy	Add Virtual Device
FC-132ETH	 Virtual Device Templates
FC-22ETH	BlackSkin
FC-24ETH	BlueSkin
FC-26	CircleSkin
FC-28	CircleSkin SquareSkin SquareSkin Screens
SL-240	
SL-280	Sec. 1
Add Virtual Device Virtual Device Templates	
OK Cancel	OK Cancel

Figure 107: The Auxiliary Device Window

You can filter the controller device names by typing any part of the name in the text box on the right (same for virtual devices). For example, typing 53 will filter all the devices with 53 in their name:

ADD AUXILIARY DEVICE	ADD AUXILIARY DEVICE
	53
RC-13TC	RC-53D
RC-43SL	RC-53DLC
RC-43T	RC-53ED
RC-53D	RC-53EDLC
RC-53DLC	
RC-53ED	
RC-53EDLC	
RC-54DL	
dd I/O Proxy	Add I/O Proxy
FC-132ETH	FC-132ETH
FC-22ETH	FC-22ETH
FC-24ETH	FC-24ETH
FC-26	FC-26
FC-28	FC-28
SL-240	SL-240
SL-280	SL-280
Add Virtual Device	Add Virtual Device
BlackSkin	BlackSkin
trial	trial
Virtual-Device	Virtual-Device
√) Virtual Device Templates	 (→) Virtual Device Templates

Figure 108: Filtering the Controller Device Name

You can add:

- Room controllers and control panels (see <u>Section 6.2</u>)
- A control gateway device (see <u>Section 6.3</u>)
- A virtual device (see <u>Section 6.4</u>)
- Virtual device templates (see <u>Section 6.4.5</u>)

6.1.1 Master Device Shortcuts

You can right-click the Master Room Controller line in the Project Navigator area to perform various operations for different master controller devices. This section shows different examples of operations that are available for various master controllers.

6.1.1.1 RC-74DL Example

Right click an RC-74DL Master Device to:

- Add an auxiliary device (opens the ADD AUXILIARY DEVICE window)
- Delete the master controller device together with auxiliary devices
- Add a description of the master controller device, which will appear as the title of the Port Manager window
- Set a K-NET ID to the device (see Section 10.2)

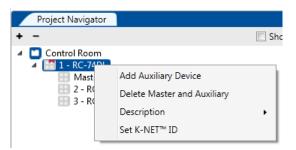


Figure 109: Master Controller Device Shortcuts - Example 1

6.1.1.2 SL-14RN Example

Right click an SL-14RN Master Device to:

- Add an auxiliary device (opens the ADD AUXILIARY DEVICE window)
- Delete the master controller device together with auxiliary devices
- Add a description of the master controller device

KRAMER K-C	ONFIG - NewP	roject	
File Device Win	dows Help		
	Connect	Discover	Status: Offline
Project Navigato	ər		
+ -			
🔺 🛄 Control Room			
4 1 - SL-1454	Add Auxiliary D	Device	
	Delete Master	and Auxiliary	
	Description		•

Figure 110: Master Controller Device Shortcuts - Example 2

6.1.1.3 RC-13TC Master Room Controller Example

Right click an RC-13TC Master Device to:

- Add an auxiliary device (opens the ADD AUXILIARY DEVICE window)
- Delete the master controller device together with auxiliary devices
- Add a description of the master room controller device
- Set a K-NET ID to the master room controller device (see Section 10.2)
- Set Automatic behavior (see <u>Set Automatic Behavior</u> below)

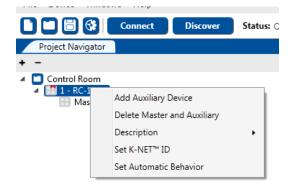


Figure 111: Master Room Controller Device Shortcuts - Example 3

Set Automatic Behavior

The RC-13TC Video Transport controller panel buttons receive actions automatically, according to their button names.



Before setting the **RC-13TC** to automatic behavior we recommend that you prepare the drivers via the driver manager (see <u>Section 5</u>).

To set to automatic behavior:

1. Right-click Set Automatic Behavior. The following message appears:



Figure 112: Set Automatic Behavior - Message



Note that if you have already assigned the drivers, the wizard will open immediately (see Figure 115).

- 2. Click OK.
- In the Port Manager window, assign the drivers to the port (see <u>Section 7</u>) as shown in the example in <u>Figure 113</u>. Each time you add a driver you will get a message referring to the automatic behavior setup.

Port Manager						×
			RC-13TC (ID 1)			
Name		Description	Driver	Properties		
[1-RC-13TC] RS-232.Ter	rminal_Block		<u>MP8795</u>	<u>19200,8,N,1</u>	Clear	Main Display
[1-RC-13TC] IR.1			Select driver		Clear	Main Display
[1-RC-13TC] IR.2			Select driver		Clear	Main Display
	K-CONFIG					
	-	automatically to dev	commands to be assigned ice buttons, tor tree after selecting drivers.			

Figure 113: Set Automatic Behavior – Port Manager Example

4. Once the drivers are assigned you can close the Port Manager window. The Project Navigator now lists the assigned ports.

Project Navigator	▼ ×
+ -	Show unused ports
 Control Room I - RC-13TC Master Ports MP8795 AEG MC 4414_ Kramer VP-444 	

Figure 114: Set Automatic Behavior - RC-13TC with Assigned Ports

5. Right-click the RC-13TC line in the Project Navigator and select Set Automatic Behavior. The following window appears:

DEVICE TRANSPORT COMMANDS WIZ	ZARD ×
Use this wizard to create automatic triggers ar according to Transport commands of default I All previous button triggers will be deleted.	
Select Ports and LCD Label according to Sourc	e Change:
[1-RC-13TC] RS-232.Terminal_Block	MP8795
	AEG MC 4414_
[1-RC-13TC] IR.2	Kramer VP-444
	OK Cancel

Figure 115: Set Automatic Behavior - Device Transport Commands Wizard Window

6. Click OK.

When setting the Keypad Events Trigger (see <u>Section 8.2</u>) the triggers and actions related to the assigned drivers appear automatically with regard to the buttons on the **RC-13TC**.

6.2 Adding Room Controllers

Auxiliary devices or keypad devices are added from the top list of the ADD AUXILIARY DEVICE window.

To add a room controller:

1. Select the auxiliary device (for example, **RC-63DLN**) and click OK.

You can also add the auxiliary device by right-clicking the Master Room Controller label, **RC-74DL** in this example.

The RC-63DLN front panel appears in the Device View area:

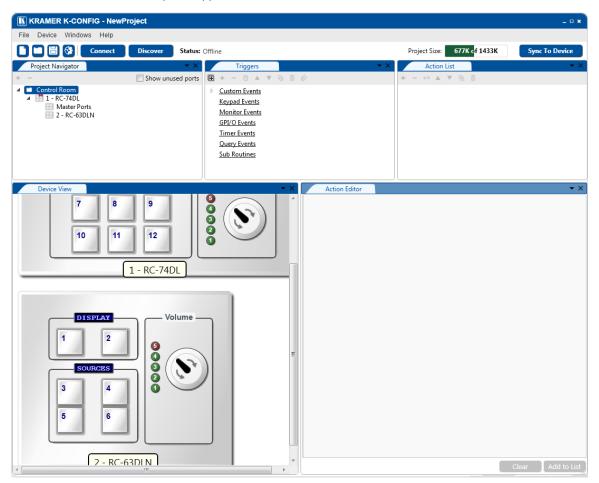


Figure 116: The Device View Area for RC-74DL and RC-63DLN

- 2. In the **Project Navigator** area, select 1 RC-74DL. It is necessary to select the Master room controller to add an additional device
- 3. Click +.
- 4. Select another device from the list (for example, the **SL-12**).



To add additional auxiliary devices to the list (depending on the Master room controller selected, up to four Aux K-NET control devices), repeat the above steps.

All four keypad devices that were added in this example appear in the in the Device view:

KRAMER K-CONFIG - NewProject			_ = ×
File Device Windows Help			
Connect Discover Status	Offline	Project Size: 691K of 1433K	Sync To Device
Project Navigator 🗸 🗸 🗸	Triggers • ×	Action List	▼ ×
+ - Show unused ports		+ - xa 🛦 🔻 🗟 📋	
Control Room Control Room Master Ports 2 - RC-63DLN 3 - RC-76R 4 - RC-43SL 5 - RC-43T	Custom Events Keypad Events Monitor Events GP/O Events Timer Events Query Events Sub Routines		
Device View	▼ X Action Editor		▼ ×
5 6 2 - RC-63DLN 1 2 1 2 3 4 3 4 5 6 5 6 3 - RC-76R 4 - RC-43SL			Clear Add to List

Figure 117: The Device View Area for RC-74DL and Four Auxiliary Devices



Be sure that your control room setup tree is correct before continuing with the configuration. If, at a later stage, an auxiliary K-NET device or a Master RC will be deleted from the tree, all the port assignments, triggers and action lists written for all the devices in the tree will also be deleted.

6.2.1 Auxiliary Device Shortcuts

You can right-click the auxiliary device line in the Project Navigator area to carry out several operations which can vary for different devices. This section shows different examples of operations that are available for auxiliary devices.

Generally the shortcuts let you:

- Delete the auxiliary device
- Add a description of the auxiliary device
- Set a K-NET ID to the auxiliary device (see <u>Section 10.2</u>)
- Upgrade the firmware (see <u>Section 10.3)</u>

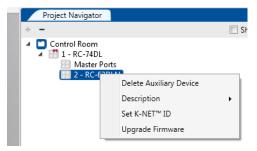


Figure 118: Auxiliary Master Device Shortcuts

The following sections describe additional shortcuts for specific auxiliary devices.

6.2.1.1 Several Identical Devices Installed

When several identical auxiliary devices are installed in a controlled room, you can set one or more of them to be the exact same as the other auxiliary device.

For example, three **RC-63DLN** units are installed in the controlled room. One can be set to act in the same manner as the other:

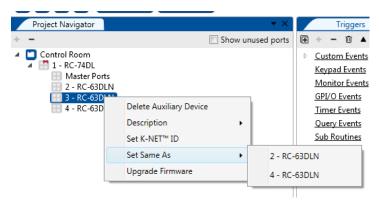


Figure 119: Auxiliary Device Shortcuts - Set the Same As

6.2.1.2 RC-3TBU Example

The Kramer **RC-3TBU** remote control panel replicates any 3 buttons of the Kramer **SL-14RC/SL-14RCN**. The **RC-3TBU** can be connected only to the **SL-14RC/N**, and you can set the 3 **RC-3TBU** buttons to copy any 3 buttons of the **SL-14RC/N** via the auxiliary device shortcut.

To do so, click Configure Switch Buttons:

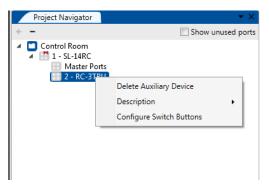


Figure 120: Auxiliary Device Shortcuts - Configure Switch Buttons for RC-3TBU

The following window appears:

K-CONFIG	×
Please connect the selected device directly to your PC	
ОК	

Figure 121: Auxiliary Device Shortcuts - Connect the Device to your PC

Set the connection type:

Connection N	lethod	×
O UDP	IP:	192 . 168 . 001 . 039
О ТСР	Port:	50000
C Serial	Port:	Default COM1 💌
C USB		NO USB DEVICES Refresh Ports
		Connect Cancel

Figure 122: Auxiliary Device Shortcuts - Set the Connection Method

Click Connect.

If you did not select the default drivers, the following message appears:

K-CONFIG	×
Please select default drivers in Port Manager first.	
ок	

Figure 123: Auxiliary Device Shortcuts – Selecting Default Drivers

Connect the **RC-3TBU** to the PC via USB, select the connection port and click the Connect button. The following window appears:

Configure RC-3TBL	y ×
RC-3TBU	SL-14
Switch 1	•
Switch 2	•
Switch 3	•
	OK Cancel

Figure 124: Auxiliary Device Shortcuts - Configuring RC-3TBU Buttons

Select the SL-14RC buttons you want to copy and click OK.

6.2.1.3 RC-13TC Auxiliary Device Automatic Behavior Setup

Right-click an **RC-13TC** Auxiliary device to set the automatic behavior of the device (see <u>Section 6.2.1.3</u> for further details):

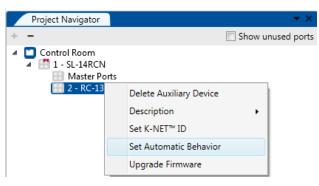


Figure 125: Auxiliary Device Shortcuts - Setting Automatic Behavior

6.3 Adding a Control Gateway Device

The Kramer control gateway devices let you expand the number of ports used to connect to the controlled devices (for example, the **FC-132ETH** with 32 serial ports, the **FC-22ETH** with two RS-232 ports, the **FC-28** with two RS-232 ports, four IR ports, two relay ports and two GPI/O ports, and so on).



Note that only master controllers that have an Ethernet port can accept I/O proxy devices.

To add a control gateway device (for example, the FC-26):

1. Click Add Auxiliary Device. The following window appears:

ADD AUXILIARY DEVICE	
]
RC-13TC	
RC-43SL	
RC-43T	
RC-53D	
RC-53DLC	
RC-53ED	
RC-53EDLC *	J
Add I/O Proxy]
FC-132ETH	
FC-22ETH	
FC-24ETH	
FC-26	
FC-28	
SL-240	
SL-280	
Add Virtual Device	
 Virtual Device Templates 	
OK Cancel	

Figure 126: Adding a Control Gateway Device

2. Click OK. **FC-26** appears in the Project Navigator window as follows:

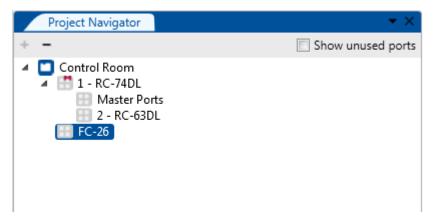


Figure 127: Control Gateway device - FC-26 Listed in the Project Navigator

Adding the control gateway adds additional ports through which you can send commands to devices. For example, the **FC-26** when connected to the **RC-74DL** via the Ethernet port, adds four more IR OUT ports and two more RS-232 ports to the system. So the **RC-74DL** can actually control two RS-232 and four IR controllable devices via the Ethernet connection.

These ports are defined in the Port Manager of the Master controller (RC-74DL in this example).

Once a control gateway device is added to the system, you can open the Port Manager Window to assign each of the **FC-26** ports to an Ethernet port in the **RC-74DL**.

Port Manager		#15e				
		RC-74DL (ID 1)				
Name	Description	Driver	Properties			
[1-RC-74DL] GPI/0.1		Digital Input 🔹	Pullup	Clear	Threshold	*
[1-RC-74DL] GPI/0.2		Digital Input 🔹	🔲 Pullup	Clear	Threshold	
[1-RC-74DL] .Ethernet.1		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	O Main Display	
[1-RC-74DL] .Ethernet.2		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.3		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	O Main Display	1
[1-RC-74DL] .Ethernet.4		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.5		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	=
[1-RC-74DL] .Ethernet.6		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	O Main Display	
[1-RC-74DL] .Ethernet.7		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.8		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.9		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	O Main Display	
[1-RC-74DL] .Ethernet.10		Select driver Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	-

Figure 128 shows the RC-74DL Port Manager after adding the FC-26 Device:

Figure 128: Control Gateway Device - Port Manager Window



Note that 15 Ethernet ports are added when the master device is a physical master room controller device and 50 Ethernet ports are added for a Virtual room controller device (see <u>Section 12</u>).

To set the ports:

1. Select an Ethernet port (Ethernet 11, for example) and click Select proxy (gateway) in the Driver column of the port manager window.

You can also select an Ethernet port by checking the **Show unused buttons** box and then right-clicking that port in the Project Navigator window:

🔣 K	RAMER K-CONFIG - NewPre	oject						_ 0 ×
File	Device Windows Help							
	Connect	Discover Status: Offli	ine		F	Project Size: 679K	o <mark>f 1433K</mark>	Sync To Device
P	Project Navigator	▼ ×	Triggers		• X	Action List		▼ ×
+ -		Show unused ports	🖻 + - û 🔺 🔻 G 🗎 🖉		+ -	×a 🛦 🔻 🖻 📋		
	 [1-RC-74DL]. Ethernet.6 [1-RC-74DL]. Ethernet.7 [1-RC-74DL]. Ethernet.8 [1-RC-74DL]. Ethernet.1 [1-RC-74DL]. Ethernet.1 [1-RC-74DL]. Ethernet.1 	7 3 9	Custom Events Keypad Events Monitor Events GPI/O Events					
	[1-RC-74DL] .Eth [1-RC-74DL] .Ethernet [1-RC-74DL] .Ethernet	[1-RC-74DL] .Ethernet.11	Description:	Driver: <u>Select driver</u>	Proxy: <u>Select proxy</u>	Properties: UDP,0.0.0.0,0	<u>Clear</u>	Main Display
	[1-RC-740L].Ethernet FC-28 [2-FC-28] RS-232.Terminal [2-FC-28] RS-232.Terminal [2-FC-28] R.Out_2 [2-FC-28] IR.Out_3 [2-FC-28] IR.Out_4 [2-FC-28] REJut_4 [2-FC-28] ReJut_4 [2-							

Figure 129: Control Gateway Device - Proxy (Gateway) Port

The following window appears:

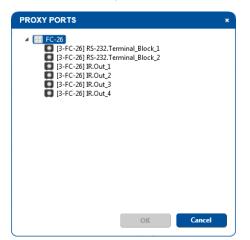


Figure 130: Control Gateway Device - Proxy (Gateway) Ports List

2. Select a port (you can select one or more ports, see <u>Section 6.3.1</u>), for example IR.Out_2:

PROXY PORTS	×
 FC-26 [3-FC-26] RS-232.Terminal_Block_1 [3-FC-26] RS-232.Terminal_Block_2 Kramer VP-444 [3-FC-26] ROut_3 [3-FC-26] R.Out_3 [3-FC-26] IR.Out_4 	
ОК	Cancel

Figure 131: Control Gateway Device - Select a Port

Note that if a port has already been assigned with a driver (**VP-444** is assigned to IR OUT 1 in the example above), that port will display the driver name and you can also choose it as a gateway port).

3. Click OK. Ethernet.11 port is assigned:

		RC-74D	L (ID 1)			
Name	Description	Driver		Properties		
[1-RC-74DL] .Ethernet.5		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.6		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.7		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.8		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display
[1-RC-74DL] .Ethernet.9		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.10		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.11	[3-FC-26] IR.Out_2	Select driver	[3-FC-26] IR.Out_2	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.12		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.13		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display
[1-RC-74DL] .Ethernet.14		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display
14 DC 74D13 FU						

Figure 132: Control Gateway Device - Select a Port

 (\mathbf{i})

Note that you can either assign a Control Gateway port or a regular driver to the Ethernet port on the master controller. If at this stage you decide to select a driver it will run over the gateway port.

4. Click the UDP, 0.0.0.0 in the Properties column. The following window appears:

[3-FC-26] IR.Out_2 ×
Port
0
OK Cancel

Figure 133: Control Gateway Device - Ethernet Settings for IR Port

5. Select the Protocol type set the IP number, and the port number as defined in the **FC-26** Web pages (see Figure 134, for example):

Kramer FC-26 Controller				
General Info				
Connected Clients				
Device Settings				
Communication		Communi	cation	
Serial Ports Settings		UDP Port	50026	Set
IR Command Learner	k	TCP Port	5026	Set
Security		Ethernet MAC	00-1d-56-02-9d-65	
Logs		DHCP	ON OFF	
About Us		IP address	192.168.72.26	
		Mask	255.255.0.0	
		Gateway	192.168.0.1	l.
			Set	

Figure 134: Control Gateway Device - FC-26 Communication Web Page

6. Copy the Ethernet settings:

[3-FC-26] IR.	.Out_2 ×
Port	
50026 😝	
ок	Cancel
	50026

Figure 135: Control Gateway Device - IR Port Ethernet Settings

7. Click OK.

The IR.Out_1 port is now assigned to Ethernet.11:

Port Manager	an fe						×
		RC-74DL	(ID 1)				
Name	Description	Driver		Properties			
[1-RC-74DL] .Ethernet.5		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	*
[1-RC-74DL] .Ethernet.6		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.7		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display	
[1-RC-74DL] .Ethernet.8		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display	
[1-RC-74DL] .Ethernet.9		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display	
[1-RC-74DL] .Ethernet.10		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display	
[1-RC-74DL] .Ethernet.11	[3-FC-26] IR.Out_2	Select driver	[3-FC-26] IR.Out_2	UDP,192.168.72.26,50026	Clear	Main Display	
[1-RC-74DL] .Ethernet.12		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display	
[1-RC-74DL] .Ethernet.13		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.14		Select driver	Select proxy	UDP,0.0.0.0	Clear	Main Display	
14 DC 34013 FU . 4F			<u></u>	1100 0 0 0 0 0		- · · · ·	Ŧ

Figure 136: Control Gateway Device - Port Manager, assigning an Ethernet Port

In the same way you can assign all the IR Out ports each to an Ethernet port:

		RC-74DL (ID 1)			
Name	Description	Driver	Properties		
[1-RC-74DL] GPI/0.1		Digital Input 🔹	Pullup	Clear	Threshold
[1-RC-74DL] GPI/0.2		Digital Input 🔹	Pullup	Clear	Threshold
[1-RC-74DL] .Ethernet.1	[3-FC-26] IR.Out_1	Select driver [3-FC-26] IR.Out	1 <u>UDP,192.168.72.26,50026</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.2	[3-FC-26] IR.Out_2	Select driver [3-FC-26] IR.Out	2 <u>UDP,192.168.72.26,50026</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.3	[3-FC-26] IR.Out_3	Select driver [3-FC-26] IR.Out	<u>3 UDP,192.168.72.26,50026</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.4	[3-FC-26] IR.Out_4	Select driver [3-FC-26] IR.Out	4 <u>UDP,192.168.72.26,50026</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.5		Select driver Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.6		Select driver Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.7		Select driver Select proxy	UDP,0.0.0.0	Clear	Main Display

Figure 137: Control Gateway Device - Assigning all the IR ports

To assign the RS-232 port to an RC-74DL port:

1. Click Select Proxy (Gateway), and fill in the details from the FC-26 Web page (see Figure 139).

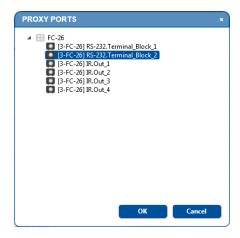


Figure 138: Control Gateway Device - Select Proxy (Gateway) Port

2. In the FC-26 Web page select the correct IP port and fill in the details.

Kramer FC-26 Controller			
General Info			
Connected Clients	Serial	Port Settings	
Device Settings	PORT	SETTINGS	
Communication		Ethernet settings - port #2	
Serial Ports Settings		Protocol	5002
IR Command Learner		Device Serial Mode	RS-232
		TCP Keep alive (sec)	60
Security		Serial Configuration	
Logs		Parity	Even
About Us		Data Bits	8
		Baud rate	38400 •
		Stops Bits	
Load/Save Configuration		Send Replies to new client by default	ONOFF
Load Save			thernet Settings Save Changes

Figure 139: Control Gateway Device - FC-26 Serial Port Settings Web page

3. Fill in the details:

ETHERNET SETTINGS	: [3-FC-26] RS-232.Term 🗙
Protocol TCP	
IP Address	Port
192 . 168 . 72 . 26	5002
	OK Cancel

Figure 140: Control Gateway Device - RS-232 Port Ethernet Settings

The Port Manager shows the RS-232 port assigned to Ethernet.5:

Port Manager							
		RC-74DL	(ID 1)				
Name	Description	Driver		Properties			
[1-RC-74DL] GPI/0.1		Digital Input	•	🔲 Pullup	Clear	Threshold	
[1-RC-74DL] GPI/O.2		Digital Input	•	🔲 Pullup	Clear	Threshold	
[1-RC-74DL] .Ethernet.1	[3-FC-26] IR.Out_1	Select driver	[3-FC-26] IR.Out	UDP,192.168.72.26,50026	Clear	Main Display	
[1-RC-74DL] .Ethernet.2	[3-FC-26] IR.Out_2	Select driver	[3-FC-26] IR.Out	UDP,192.168.72.26,50026	Clear	Main Display	
[1-RC-74DL] .Ethernet.3	[3-FC-26] IR.Out_3	Select driver	[3-FC-26] IR.Out	UDP,192.168.72.26,50026	Clear	Main Display	
[1-RC-74DL] .Ethernet.4	[3-FC-26] IR.Out_4	Select driver	[3-FC-26] IR.Out	UDP,192.168.72.26,50026	Clear	Main Display	
[1-RC-74DL] .Ethernet.5	[3-FC-26] RS-232.Terminal_Block_2	Select driver	[3-FC-26] RS-232	TCP,192.168.72.26,5002	Clear	Main Display	
[1-RC-74DL] .Ethernet.6		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.7		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.8		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.9		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.10		Select driver	Select proxy	UDP,0.0.0.0,0	Clear	Main Display	1

In the FC-26 Port manager you can assign the controlled device drivers to which the ports will be connected (for example, **VSM-4x4HFS** is connected to **FC-26** via the RS-232_2 port):

		FC-26 (ID 3)			
Name	Description	Driver	Properties		
[3-FC-26] RS-232.Terminal_Block_1		Select driver	<u>9600,8,N,1</u>	Clear	
[3-FC-26] RS-232.Terminal_Block_2	Kramer VSM-4x4HFS	Kramer VSM-4x4HFS	<u>9600,8,N,1</u>	Clear	
[3-FC-26] IR.Out_1		Select driver		Clear	
[3-FC-26] IR.Out_2		Select driver		Clear	
[3-FC-26] IR.Out_3		Select driver		Clear	
[3-FC-26] IR.Out_4		Select driver		Clear	

Figure 141: Control Gateway Device - FC-26 Port Manager

The difference between a control gateway device and a regular auxiliary device is that the control gateway is connected via an Ethernet port, which lets you control controlled devices from a distance (the **FC-26** does not have to be located close to the master room controller device) and you can use one of the virtual Ethernet ports so as not to "waste" a physical port on the Master room controller device.

6.3.1 Selecting Multiple Control Gateway Ports

i

When selecting a control gateway port you can select one RS-232 port per Ethernet virtual port or more than one IR port, relay port and GPI/O port.

In the following example, two control gateways are connected to the **RC-74DL**: **FC-28** and **FC-26**. To assign control gateways to a virtual Ethernet port, check the Show unused ports box in the Project Navigator window and then right-click that port (for example, RC-74L Ethernet Port 6):

Navigator		Triggers	▼ ×		Action List		
	Show unused ports	• + - 0 • • • 6 6	, ,		×2 🛦 🔻 🖣 📋		
[1-RC-74DL] GPI/O.1 [1-RC-74DL] GPI/O.2 [1-RC-74DL]. Ethernet.1 [1-RC-74DL]. Ethernet.2 [1-RC-74DL]. Ethernet.3 [1-RC-74DL]. Ethernet.4 [1-RC-74DL]. Ethernet.4		<u>Custom Events</u> <u>Keypad Events</u> <u>Monitor Events</u> <u>GPI/O Events</u> <u>Timer Events</u>					
[1-RC-74DL] .Ethern		Query Events	Deiterer		Descention		
[1-RC-74DL] .Ethernet.8 [1-RC-74DL] .Ethernet.9	[1-RC-74DL] .Ethernet.6	Description:	Driver: Select driver Se	Proxy:	Properties: <u>UDP,0.0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.10							

Figure 142: Multiple Control Gateways - Selecting the Virtual Ethernet Port

Click Select Proxy. The Proxy Ports window appears:

PROXY PORTS ×
 FC-28 [2-FC-28] RS-232.Terminal_Block_1 [2-FC-28] RS-232.Terminal_Block_2 [2-FC-28] IR.Out_1 [2-FC-28] IR.Out_2 [2-FC-28] IR.Out_3 [2-FC-28] Relay.1 [2-FC-28] Relay.2 [2-FC-28] GPI/O.1 [2-FC-28] GPI/O.2 FC-26 [3-FC-26] RS-232.Terminal_Block_1 [3-FC-26] IR.Out_1 [3-FC-26] IR.Out_2 [3-FC-26] IR.Out_3 [3-FC-26] IR.Out_3 [3-FC-26] IR.Out_4
OK Cancel

Figure 143: Multiple Control Gateway Ports - The Proxy (Gateway) Ports Window

Click a port to select it and click again to deselect it.

Note that:

You can select either one RS-232 port or any number of other port types. If an RS-232 port is selected, selecting any other port will deselect that RS-232 port.

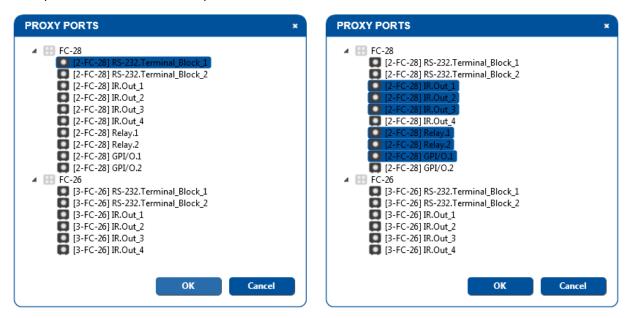


Figure 144: Multiple Control Gateway Ports - Selecting Different Proxy (Gateway) Port Types

You can select the ports of only one control gateway per Virtual Ethernet port: When ports are selected from one control gateway, selecting a port from another control gateway will deselect them:

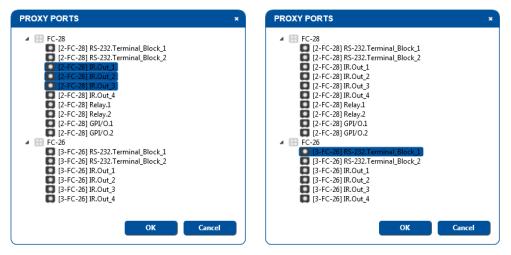


Figure 145: Multiple Control Gateway Ports - Proxy Ports Selected per Control Gateway

After selecting multiple ports click OK. The list of control gateway ports appears next to Virtual Ethernet port 6 in the Project Navigator window (to edit the list, right-click that line):

Project Navigator	▼ ×
+ -	🚺 Show unused ports
 Control Room 1 - RC-7401 1 - RC	-

Figure 146: Multiple Control Gateway Ports - Selected Proxy (Gateway) Ports in Project Navigator Window

		86 748	(75.1)			
		RC-74D	L (ID I)			
Name	Description	Driver		Properties		
[1-RC-74DL] .Ethernet.4		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.5		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.6	[2-FC-28] IR.Out_1,IR.Out_2,IR.O	Select driver	[2-FC-28] IR.Out_1 [2-FC-28] IR.Out_2 [2-FC-28] IR.Out_3 [2-FC-28] Relay.1 [2-FC-28] Relay.2 [2-FC-28] GPI/O.1	<u>UDP,0.0.0,0</u>	<u>Clear</u>	Main Display
[1-RC-74DL] .Ethernet.7		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.8		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.9		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.10		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.11		Select driver	Select proxy	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-RC-74DL] .Ethernet.12		Select driver	Select proxy	UDP,0.0.0,0	Clear	Main Display
[1-RC-74DL] .Ethernet.13		Select driver	Select proxy	UDP.0.0.0.0	Clear	Main Display

The Port Manager window shows the proxy ports list as follows:

Figure 147: Multiple Control Gateway Ports - Selected Proxy (Gateway) Ports in the Port Manager Window

6.3.2 Control Gateway Device Shortcuts

You can right-click the control gateway device line in the Project Navigator area to perform various operations for different control gateway devices. This section shows different examples of operations that are available for auxiliary devices.

Generally the shortcuts let you:

- Delete the device
- Add a description of the device
- Upgrade the firmware (see <u>Section 10.3)</u>

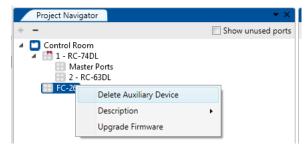


Figure 148: Control Gateway Device Shortcuts

• Right-clicking also lets you delete the master room controller device and auxiliary devices, add a description and set the K-NET[™] ID.

6.4 The Virtual Device



The virtual keypad device is compatible with master room controllers with ETH port and which can accept auxiliary devices.

To support the virtual keypad device application, a Virtual Device triggers program layer must be defined by **K-CONFIG** (see Figure 149).

ADD AUXILIARY	DEVICE		
RC-13TC			
RC-43SL			
RC_ART			*
Add I/O Proxy			
FC-132ETH			
FC-22ETH			
FC-24ETH			
FC-26			
FC-28			
SL-240			
SL-280			
Add Virtual Devie	e		
Room 4 Control			
Room 5			
trial			=
Virtual-Device			, in the second se
Virtual Device Te	mplates		
	ОК	Car	ncel

Figure 149: Adding a Virtual Device

This program layer will associate triggers sent from the virtual keypad UI application to the Master room controller for triggering the program-configured series of control actions. Once you have created a virtual keypad device layout, it can be shared using the Import/Export XML function under the File menu.

After adding a Virtual Device to the room control tree (you can add up to two virtual devices, as determined by the Master room controller), the keypad area shows the basic Virtual Device panel, that includes 12 buttons and three configurable text labels:

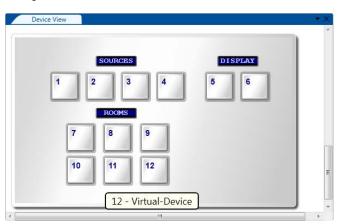


Figure 150: The Basic Virtual Device Front Panel

6.4.1 Edit the Device View

Right-click the virtual device icon in the **Project Navigator** area and select Edit Device View to open the **VIRTUAL DEVICE PROPERTIES** window (see Figure 151).

VIRTUAL DEVICE	E PROPERTIES				
Device Name:					
Version: 0		1		2	
FrontPanel	Add Panel		ורחן		
Button 1 Button 2	Add Button Add Label				4
Button 3 Button 4	Add Frame Add Knob	3			
Button 5					
Button 6 Button 7	Delete				
Button 8 Button 9	Properties				
Button 10 Button 11	Name FrontPanel				
Button 12 Label 1	Position X Position Y				
Label 2 Label 3	20 🛟 10 🛟 Width Height				
			Overwrite Xml	ок	Cancel

Figure 151: The Virtual Device Properties Window

The VIRTUAL DEVICE PROPERTIES window lets you:

- Add up to 128 buttons.
- Add knobs
- Add frames
- Add up to 32 active configurable text labels.
- Create up to six virtual panels (recommended).
- Set the position and size of buttons and labels.
- Keep track of the virtual keypad device versions by setting the version number. This helps keep track of the version, especially when exporting a virtual device.

 Save the virtual device as an XML file so that the labels on the buttons and text labels are saved even if their view is edited.

You can, at any time, delete buttons, text labels and panels.

For example, you can define the virtual keypad device layout as illustrated in Figure 152:

Device View	
Play	SOURCES Pause Stop
11 - D	VD Controller

Figure 152: Custom Virtual Device Appearance in K-CONFIG

To define the virtual device front panel, as illustrated in <u>Figure 152</u> (you do not have to follow the subsequent steps in the same order):

1. In the **VIRTUAL DEVICE PROPERTIES** window, delete buttons 4 to 12, labels 2 and 3, as illustrated in Figure 153:

VIRTUAL DEVI	CE PROPERTIES			
Device Name:				
Version: 0				
FrontPanel	Add Panel			
Button 1 Button 2	Add Button Add Label			
Button 3 Label 1	Add Frame Add Knob			
	Delete			
	Properties			
	Name FrontPanel			
	Position X Position Y			
	20 📫 10 📫			
	Width Height			
	500 🚔 300 🚔	Overwrite Xml	ок	Cancel

Figure 153: Editing the Virtual Device (Step 1)

Add a knob and frame and then set the size of the panel, the size of the buttons, the text label size and their position (set the position by selecting and dragging the item), as well as the virtual keypad device Name (see Figure 154):

1		
Volume		
	0K	Cancel

Figure 154: Editing the Virtual Keypad Device (Step 2)

- 3. Type the virtual keypad device name and click the:
 - OK button, if you want to save the device XML in this project only.
 - Overwrite Xml button, if you want to save the device XML in the Virtual Devices directory.

The Virtual Device appears in the **Device View** window (see Figure 155):

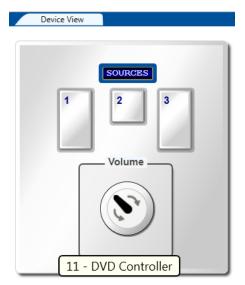
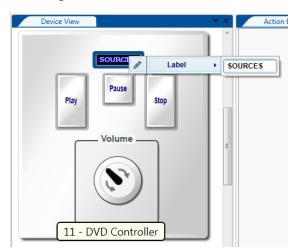


Figure 155: The "DVD Controller" Virtual Device Front Panel



4. Right-click a text label or button to set its name (see Figure 159):

Figure 156: Setting the LCD and Button Label Names K-CONFIG – Defining the Control Room via the Project Navigator

5. Right-click a button to set its behavior (see Figure 159):



Figure 157: Setting the Button Behavior

Set the Volume knob Function:

1 - RC-74DL
GVD
Volume
Turn Up
11 - DVD Controller
· · · · · · · · · · · · · · · · · · ·

Figure 158: Setting the Knob Function

Figure 159 illustrates the final appearance of the virtual device:

Play Pause Stop
Volume
11 - DVD Controller

Figure 159: Final Appearance of the "Room 1" Virtual Device Front Panel in K-CONFIG

6.4.2 Creating and Inserting Virtual Panel Templates

To create a virtual panel template:

1. Right click a virtual panel in the Device View area and select Create Panel Template (see Figure 160):

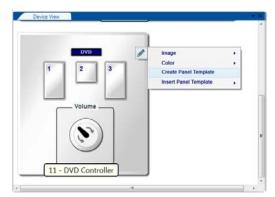


Figure 160: Creating a Virtual Panel Template

The virtual panel is saved to the Panel Templates directory on your PC for future use.

To insert a panel template (into a different project in this example):

- 1. Right-click the virtual panel.
- 2. Select a virtual panel from the Insert Panel Template List. DVD Controller in this example.

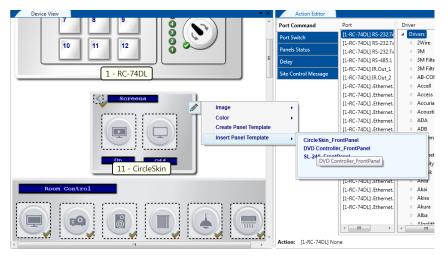


Figure 161: Selecting a Virtual Panel Template

The virtual panel is added beneath:

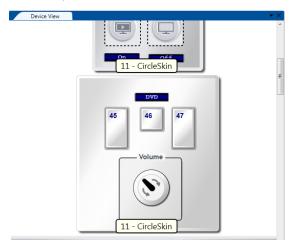


Figure 162: Virtual Panel Template in the Device View K-CONFIG – Defining the Control Room via the Project Navigator



Note that you cannot delete a virtual panel that has been added. You can only do this by deleting the virtual keypad device via the Project Navigator.

6.4.3 Selecting the Main Panel

When the Virtual Keypad device includes several virtual panels, by default, the first panel is set as the main panel which is initially presented upon program start. You can set a different panel to be the main (first) panel.

To select a new main panel:

Right-click a virtual panel that is not first in the device view.
 In the following example, there are two virtual panels included in the DVD Controller Virtual Keypad device.

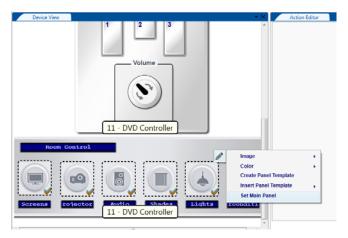


Figure 163: Setting a Virtual Panel to be the Main Panel

The Main Panel will move to be the first panel in the sequence of panels:

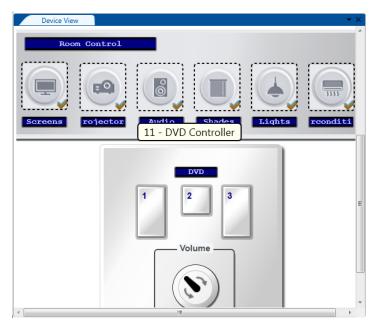


Figure 164: New Main Virtual Panel

6.4.4 Creating links

When creating a virtual device with multiple panels you can add a link from one panel to another via the Link feature when editing the button. In the following example the Virtual Device (Room 5) has three panels; you can set a link from one panel to the other by editing a button and creating a link to one of the other panels. This feature is very useful when using touch panels such as tablets or smartphones, and will let you switch from one control UI page to the other with a press of a button.

For example, you can set a button on the main panel to turn on the power on the projector and also link that button to a new panel which incorporates all the project features. One of the buttons in this new panel could be set for turning off the projector power and also link to the main panel.

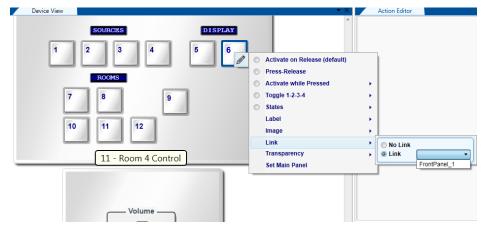


Figure 165: Virtual Device – Link to another Panel

A button with a link will appear as follows:



Figure 166: Virtual Device - a Button with a Link



The Virtual Device View button sizes, as well as their name and location in **K-CONFIG** have no functional meaning in the Virtual Device application.

Only the number of defined buttons, the knob and the text label (interactive field text) have functional meaning and are correlated to the Virtual Keypad device application.

6.4.5 Virtual Device Shortcuts

You can right-click the virtual device line in the Project Navigator area to perform various operations for different virtual keypad devices. This section shows different examples of operations that are available for auxiliary devices.

Generally the shortcuts let you:

- Delete the virtual keypad device.
- Add a description of the virtual keypad device.
- Edit the virtual keypad device view (see <u>Section 6.4.1</u>).
- Export the device xml, letting you export a virtual keypad device for sharing its design with another project configured program (see <u>Section 4.2.1.3</u>).

The following sections describe additional shortcuts.

6.4.5.1 Save a Virtual Keypad Device Template

To add a virtual keypad device as a template, right-click the virtual device and click Save as Template:

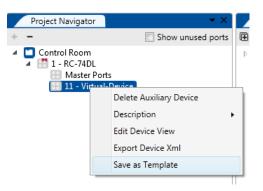


Figure 167: Virtual Keypad Device Shortcuts - Saving as a Template

The following message appears:

K-CONFIG		×
	Saved template Virtual-Device_1_1	
	ок	

Figure 168: Virtual Device Shortcuts - Saved as a Template

The template is added to the virtual devices templates list (for use when adding a virtual device template).

BlackSkin	
BlueSkin	FrontPanel
CircleSkin	
Conference 1	
SquareSkin	
Virtual-Device	
(introd Darvier, 1	
virtual-Device_1	
Virtual-Device_1 Virtual-Device_1_	

Figure 169: Virtual Device Shortcuts - New Template Added

6.4.5.2 Setting a Virtual Device to be the Same As Another Virtual Device

When more than one virtual device is defined in a controlled room, you can set one or more of them to be the exact same as one of the other virtual keypad devices:

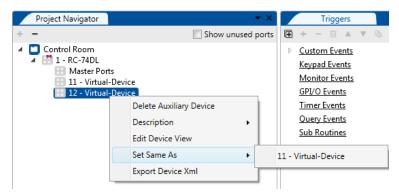


Figure 170: Virtua Device Shortcuts - Setting the Same As

6.5 Adding the Virtual Device Templates

The virtual device templates include a pre-designed virtual device with selectable pre-designed virtual panels, to help you quickly design virtual panels. Each template includes several selectable panels. You can choose a design and then choose the type of panels you need. You can set the Virtual device templates in the same way as a virtual device (see <u>Section 6.4</u>).



The virtual device templates are compatible with Master room controllers with ETH port and which can accept auxiliary devices.

To add the virtual device templates:

- In the project Navigator area, select the Master Controller and click the + icon. The ADD AUXILIARY DEVICE window appears.
- 2. Open the Virtual Device Templates category and select a template from the list.

ADD AUXILIARY D	EVICE		
Add I/O Proxy			
FC-132ETH			
FC-22ETH			
FC-24ETH			
FC-26 FC-28			
FC-28 SL-240			
SL-240			
(Add Virtual Device	_		
	e		
Virtual Device Ten	nplates		
BlackSkin	FrontPanel		
BlueSkin	in tront and		-
CircleSkin			
SquareSkin	Screens	0	
	✓ Projector	Ø	
	riojector		
		\$ ()	~
		ок	Cancel

Figure 171: Virtual Device Templates - Selecting the Template

Each template includes a group of eight selectable panels in the following categories (set for your convenience): Front Panel, Screens, Projector, Sound, Shades, Lights, Air conditioning and Front Panel 1.

All of the eight panels are selected by default. You can deselect the panels you don't need and leave the ones you want to use. In the following example Projector, Shades, Air Conditioning and Front Panel 1 were deselected:

ADD AUXILIARY DEV	ICE		
Add I/O Proxy			
FC-132ETH			
FC-22ETH			
FC-24ETH			=
FC-26			
FC-28			
SL-240			Ψ
 Add Virtual Device Virtual Device Templa 	ates		
BlackSkin	Projector		
BlueSkin			
CircleSkin SquareSkin	✓ Sound		=
	Shades		Ŧ
		ок	Cancel

Figure 172: Virtual Device Templates - deselecting Panels

6.5.1 Virtual Device Template Shortcuts

You can right-click the virtual device Template line in the Project Navigator area to perform various operations for different devices. This section shows different examples of operations that are available for auxiliary devices.

Generally the shortcuts let you:

- Delete the virtual device.
- Add a description of the virtual device.
- Edit the virtual device view (see <u>Section 6.4.1</u>).
- Export the device xml, letting you export a virtual device for sharing its design with another project configured program (see <u>Section 4.2.1.3</u>).
- Save the device as a template, by adding it to the virtual device list for adding as an auxiliary virtual device.

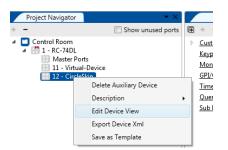


Figure 173: Virtual Template Device Shortcuts - Saving as a Template

The Room Controller Device View 6.6

You can determine the appearance of the various room control device panels and determine their appearance as well as save templates for future use. The room control device can have multiple panels with graphic backgrounds, graphic buttons and icons, all fully customized according to user design demands, and can be saved as templates for future use.

6.6.1 Setting the Appearance of the Panel

You can set the way the background panel and buttons appear on the Web page. You can also set the function of the buttons and knobs on the panel.

To change the panel background (color or image) right-click the panel background and select a color or image (see Figure 174):

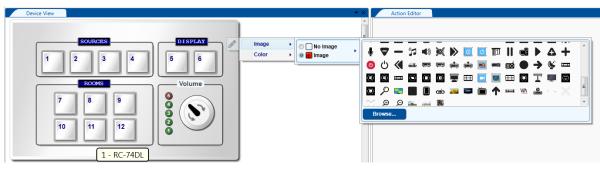


Figure 174: Device View - Editing the Panel Background

Device View Device Vie 5 6 Volume Volume 5 4 3 2 8 9 10 11 12 10 11 12 1 - RC-74DL 1 - RC-74DL

The panel background changes as selected:

Figure 175: Device View – Panel Background Examples



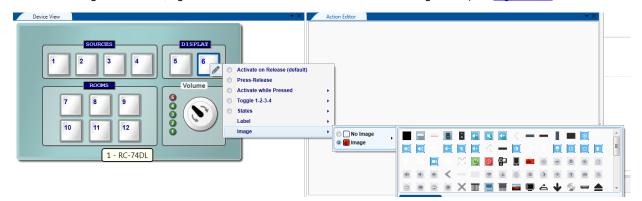


Figure 176: The Device Front Panel - Adding an Image to a Button

6.6.2 Setting the Button Label

To set the button label right-click the button select Label and type the label name (DVD in this example).

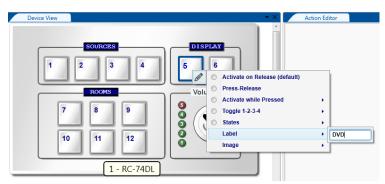


Figure 177: The Device Front Panel – Adding a Label to a Button

Setting the Button Transparency on Virtual Panels

The buttons on Virtual panels and virtual template panels can appear as buttons or set to be transparent for use as hidden buttons.

To set the transparency:

- 1. Right-click a button on the virtual panel.
- Set the transparency On.
 The Button is transparent and appears in dotted lines only (invisible on the Web page).

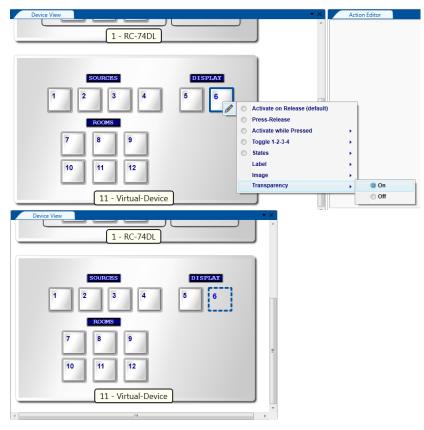


Figure 178: Setting the Button Transparency on a Virtual Panel

7 Assigning the Controlled Devices to Master and Auxiliary Device Ports

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

The Port Manager window lists the ports on the selected room controller device (Master room controller or Auxiliary device) or standalone room controller for assigning controlled devices to its ports. It enables writing a description for the assigned device and assigning a default driver to each port.



Note that ports on auxiliary devices can be used only for sending outgoing commands from the auxiliary device to an AV controlled device. If you need device responses to use Monitor Event triggers or Queries functions, which rely on bidirectional communication, connect the AV controlled device to the K-NET master room controller device. For similar reasons, GPI/O ports on the auxiliary devices will be disabled.

In the following example, the project navigator includes the **RC-74DL**, the **RC-63DL**, the **RC-53DLC** and the **SL-10**, see Figure 179.

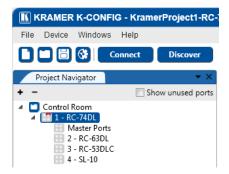


Figure 179: The Control Room Example

To set the ports of the Master device (for example, RC-74DL):

- 1. Select 1-RC-74DL in the Project Navigator area.
- 2. In the Windows menu, select Port Manager.

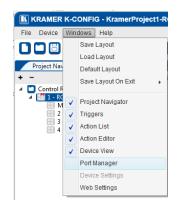


Figure 180: Select the Port Manager

The following window appears:

		RC-74DL (ID 1)			
ame	Description	Driver	Properties		
I-RC-74DL] RS-232.Terminal_Block_1		Select driver	<u>9600,8,N,1</u>	Clear	Main Displa
I-RC-74DL] RS-232.Terminal_Block_2		Select driver	<u>9600,8,N,1</u>	Clear	Main Displa
I-RC-74DL] RS-232.Terminal_Block_3		Select driver	<u>9600,8,N,1</u>	Clear	Main Displa
I-RC-74DL] RS-485.1		Select driver	<u>9600,8,N,1</u>	Clear	Main Displa
I-RC-74DL] IR.Out_1		Select driver		Clear	🔘 Main Displa
I-RC-74DL] IR.Out_2		Select driver		Clear	Main Displa
I-RC-74DL] Relay.1				Clear	
I-RC-74DL] Relay.2	1			Clear	
I-RC-74DL] Relay.3				Clear	
1-RC-74DL] Relay.4				Clear	
1-RC-74DL] GPI/O.1		Digital Input 🔹	Pullup	Clear	Threshold
I-RC-74DL] GPI/O.2		Digital Input 🔹	Pullup	Clear	Threshold
I-RC-74DL] .Ethernet.1		Select driver	<u>UDP,0.0.0,0</u>	<u>Clear</u>	Main Displa
I-RC-74DL] .Ethernet.2		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
1-RC-74DL] .Ethernet.3		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
I-RC-74DL] .Ethernet.4		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
1-RC-74DL] .Ethernet.5		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
I-RC-74DL] .Ethernet.6		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
I-RC-74DL] .Ethernet.7		Select driver	UDP,0.0.0.0,0	Clear	Main Displa
I-RC-74DL] .Ethernet.8		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
I-RC-74DL] .Ethernet.9		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
I-RC-74DL] .Ethernet.10		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
-RC-74DL] .Ethernet.11		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Displa
-RC-74DL] .Ethernet.12		Select driver	UDP,0.0.0,0	Clear	Main Displa
-RC-74DL] .Ethernet.13		Select driver	UDP,0.0.0,0	Clear	Main Displa
-RC-74DL] .Ethernet.14		Select driver	UDP,0.0.0,0	Clear	Main Displa
-RC-74DL] .Ethernet.15		Select driver	UDP,0.0.0,0	Clear	Main Displa

Figure 181: The RC-74DL Port Manager

The list on the left shows the various RC-74DL ports:

- RS-232 and RS-485
- IR out
- Relays
- GPI/O
- Ethernet ports

7.1 Assigning a Controlled Device Driver to an RS-232 / RS-485 / IR Port

To assign a controlled device to an RS-232 / RS-485 / IR Port:

1. Click the Select driver field next to [1-RC-74DL] RS-232.Terminal_Block_1.

The following window opens.

If the list does not include the drivers you need, you can import it by clicking the Import Drivers button.

Drivers Tree	×
Select by: Vendor Device	Sort by Vendor
+, -, 0, 12,	
Drivers 2Vire 2Vire 3M 2Vire 3M Filtrete 3MFiltrete 3MRadio Thermostat Access CRyan Accell Access HD Accurian Acurian Acu	
Import Drivers	
Show Latest Revisions Only	OK Close

Figure 182: The Drivers Tree Window

2. Select and double-click the vendor and then select the driver.

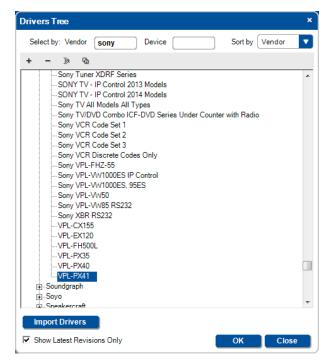


Figure 183: Select the Driver

3. Click OK.

The projector driver is assigned to the RS-232 port.

		RC-74DL (ID 1)			
lame	Description	Driver	Properties		
1-RC-74DL] RS-232.Terminal_Block_1	VPL-PX41-2	VPL-PX41-2	<u>38400,8,E,1</u>	Clear	Main Display
I-RC-74DL] RS-232.Terminal_Block_2		Select driver	<u>9600,8,N,1</u>	Clear	Main Display
I-RC-74DL] RS-232.Terminal_Block_3		Select driver	<u>9600,8,N,1</u>	Clear	Main Display
I-RC-74DL] RS-485.1		Select driver	<u>9600,8,N,1</u>	Clear	Main Display
I-RC-74DL] IR.Out_1		Select driver		Clear	Main Display
I-RC-74DL] IR.Out_2		Select driver		Clear	Main Display
I-RC-74DL] Relay.1				Clear	
-RC-74DL] Relay.2				Clear	
-RC-74DL] Relay.3				Clear	
1-RC-74DL] Relay.4				Clear	
I-RC-74DL] GPI/0.1		Digital Input 🔹	Pullup	Clear	Threshold
I-RC-74DL] GPI/O.2		Digital Input 🔹	Pullup	Clear	Threshold
1-RC-74DL] .Ethernet.1		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
I-RC-74DL] .Ethernet.2		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.3		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.4		Select driver	<u>UDP,0.0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.5		Select driver	<u>UDP,0.0.0,0</u>	<u>Clear</u>	Main Display
1-RC-74DL] .Ethernet.6		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.7		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.8		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
1-RC-74DL] .Ethernet.9		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
I-RC-74DL] .Ethernet.10		Select driver	UDP,0.0.0.0,0	Clear	Main Display
-RC-74DL] .Ethernet.11		Select driver	UDP,0.0.0.0,0	Clear	Main Display
-RC-74DL] .Ethernet.12		Select driver	UDP,0.0.0.0,0	Clear	Main Display
I-RC-74DL] .Ethernet.13		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
-RC-74DL] .Ethernet.14		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
-RC-74DL] .Ethernet.15		Select driver	UDP,0.0.0,0	Clear	Main Display

Figure 184: Assigning a Driver to a Port

4. If required, click the **Description** field to change the port description:

Port Manager					
RC-74DL (ID 1)					
Name	Description	Driver	Properties		
[1-RC-74DL] RS-232.Terminal_Block_1	Room 1 - Projector	<u>VPL-PX41-2</u>	<u>38400,8,E,1</u>	Clear	Main Display
[1-RC-74DL] RS-232.Terminal_Block_2		Select driver	<u>9600,8,N,1</u>	<u>Clear</u>	Main Display
11 PC 74DLL PC 322 Terminal Plack 2		Colort driver	0600 9 N 1	Close	Main Display

Figure 185: Writing the Port Description

- 5. In the same way add a driver to each of the other ports.
- 6. Click the **Properties** field to define the **Serial Settings** for the serial ports:

SERIAL SETTINGS: Room 1 - Projector				
Baud Rate	Data Bits	Parity Even	Stop Bits	3
Set to Def	fault	ОК	Cancel	

Figure 186: Serial Settings Window



When defining the ports of a master room controller which is Site-CTRL compatible, check the radio button "Main" to select the port which will appear in the main display of the Master room controller Web pages. The same display device will be monitored in the Site-CTRL overview page.

You can click the clear button to reset the port to its default state (no driver attached).

The driver that was assigned to the RS-232 port in the port manager will now appear automatically in the **Action Editor** area when that port is selected:

Action Editor				▼ X
Port Command	Port	Driver	Q	Command 🔍
Port Switch	[1-RC-74DL] RS-232.Terminal_Block	Mitsubishi	*	PWR_ON
	[1-RC-74DL] RS-232.Terminal_Block	D Optoma		PWR_OFF
Panels Status	[1-RC-74DL] RS-232.Terminal_Block	Þ PJLink		VGA_1
Delay	[1-RC-74DL] RS-485.1	Planar		VGA_2
	[1-RC-74DL] IR.Out_1	Plus		s-Video_1
Site Control Message	[1-RC-74DL] IR.Out_2	Projection Design		CV_1 =
	[1-RC-74DL] .Ethernet.1	Runco		YPbPr_1
	[1-RC-74DL] .Ethernet.2	Samsung		DVI_1
	[1-RC-74DL] .Ethernet.3	Sanyo		Vol_Mute_On
	[1-RC-74DL] .Ethernet.4	Sharp		Vol_Mute_Off
	[1-RC-74DL] .Ethernet.5	⊿ Sony	=	Custom Color Temperature :
	[1-RC-74DL] .Ethernet.6	VPL-PX35-2		Custom Color Temperature :
	[1-RC-74DL] .Ethernet.7	VPL-PX40-2		Progressive : Off
	[1-RC-74DL1.Ethernet.8 ▼	VPL-PX41-2 D Toshiba	-	Proaressive : TV
Action: [1-RC-74DL] N	lone			Clear Add to List

Figure 187: Action Editor - Automatic Driver Selection

Note that the driver should always be set via the Port Manager. Driver settings that are made via the Action Editor are not saved, and need to be set again every time an action is defined.

The Project Navigator shows the assigned controlled devices in their appropriate place. For example, the VPL-PX41 projector (described as Room 1 - Projector), appears under the Master room controller **RC-74DL** and the Kramer **VP-771** scaler which was assigned to the RS-232 port of the **RC-63DL** auxiliary device (procedure not shown here) appears under **RC-63DL**:

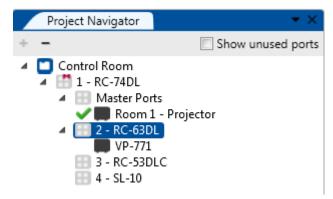


Figure 188: Project Navigator - Display of the Assigned Drivers

In the same way any assigned device, will show in the Project navigator (for example, controlled devices connected via the

RS-232 port, RS-485 port, IR OUT port, relays, and so on).

You can also choose to show the unused ports by checking the Show unused ports box:

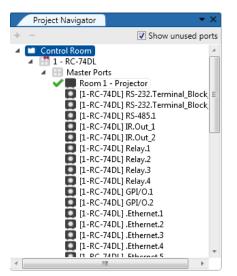


Figure 189: Project Navigator - Display of the Assigned and Unassigned (unused) Drivers

7.2 Setting the Functionality of the GPI/O Port

The GPI/O (General Purpose Input/Output) port functionality can be defined in the Port Manager as follows:

- Analog Input, Digital Input and Digital Output modes
- With or without the internal pull-up resistor
 In the K-CONFIG software this term is referred to as Pullup (as opposed to "pull-up")
- Threshold setup

Note that only the GPI/O ports on the Master room controller can be activated. The GPI/O Ports on the auxiliary device do not appear in the port manager.

Figure 190 shows the RC-74DL GPI/O ports in the Port Manager:

[1-RC-74DL] Relay.4			<u>Clear</u>		:
[1-RC-74DL] GPI/0.1	Digital Input 🔹	Pullup	Clear	Threshold	
[1-RC-74DL] GPI/O.2	Digital Input 🔹	Pullup	Clear	Threshold	
[1-RC-74DL] .Ethernet.1	Analog Input Digital Input	UDP,0.0.0,0	Clear	Main Display	
[1-RC-74DL] .Ethernet.2	Digital Output Select driver	<u>UDP,0.0.0.0,0</u>	Clear	Main Display	

Figure 190: Port Manager – Master RC GPI/O ports

To set GPI/O, do the following:

- 1. Select the Master RC that includes the GPI/O feature (for example, RC-74DL which has two GPI/O ports).
- 2. Select the Port Manager window.
- In the GPI/O.1 port, set the functionality of the port and name the port in the description box (for example, Temperature High for Digital Input, see <u>Figure 191</u>).
 You have to set the port functionality before you add commands to action lists.

[1-RC-74DL] GPI/0.1	Temperature High	Digital Input 🔹	🔲 Pullup	<u>Clear</u>	Threshold	
[1-RC-74DL] GPI/O.2		Digital Input 🔹	Pullup	<u>Clear</u>	Threshold	

Figure 191: Port Manager – Selecting Digital Input for a Temperature Sensor

4. Select one of the options described in the following sections.

7.2.1 Digital Input

Digital Input mode reads the digital input of an external sensor device that is connected to the GPI/O port, and can be defined:

✓ Pullup	With Pullup: by configuring in this way, the room controller can be used to detect an open circuit (which is detected as Hi); or a short to ground (which is detected as Lo). This is suitable for example, for a pushbutton switch (connecting one terminal of the switch to ground, and the other to the input) or for an alarm closing a circuit that activates a series of actions.
🔲 Pullup	Without Pullup: the room controller detects the voltage levels and translates them to High or Low according to the user defined threshold levels. For example, a high temperature alarm that exceeds the maximum voltage threshold.

Setting the Digital Input

In this example, an alarm causes a short circuit, thus activating a trigger.

To set the trigger:

Define the GPI/O in the Port Manager.
 Check **Pullup** for short circuit detection; the threshold is set automatically (**skip step 2**):

[1-RC-74DL] GPI/0.1	Alarm Condition	Digital Input	V Pullup	<u>Clear</u>	Threshold
Do not check Pullup fo	or voltage level detectio	n; the threshold to be	set by the user (procee	ed to ste	∍p 2):
[1-RC-74DL] GPI/0.1	High Temperature Alarm	Digital Input 🔹	Pullup	Clear	Threshold

2. Click the **Threshold** button to define the **GPI/O Threshold** (minimum from 0 and maximum up to 30V) according to the indication set by the controlled device (other voltages will not activate the trigger).

GPI/O THRESHOLD		×
Minimum		0.8
Maximum		2.2
Set to Default	ок	Cancel

Figure 192: GPI/O Threshold Window

To learn more about GPI/O Events, go to Section 8.4.

7.2.2 Digital Output

The digital output mode function is defined by the pull-up resistor setup:

• Without Pullup: The port is used for controlling external devices such as room or light switches. The external source device determines the voltage output; the maximum voltage is 30V DC and the maximum current is 50mA.

Note: take care that the current in this configuration does not exceed 50mA!

• With Pullup: the port can be used for controlling devices that accept a TTL signal such as for powering LEDs. The voltage output is TTL positive logic: open: ~2.4V; closed: ~0.2V.

Setting the Digital Output

Define the GPI/O in the Port Manager:

[1-RC-74DL] GPI/0.1	LED ON/OFF	Digital Output 🔹	Pullup	<u>Clear</u>	Threshold

Once defined as Digital Output, the GPI/O port will appear in the Action Editor > Port Switch:

Action Editor		▼ ×
Port Command	Port	Action
Port Switch	[1-RC-74DL] Relay.1	Open
Panels Status	[1-RC-74DL] Relay.2 [1-RC-74DL] Relay.3	Close
Delay	[1-RC-74DL] Relay.4	
Site Control Message	[1-RC-74DL] GPI/O.1 [2-RC-63DL] Relay.1 [2-RC-63DL] Relay.2 [4-SL-10] Relay.2 [4-SL-10] Relay.3 [4-SL-10] Relay.4 [4-SL-10] Relay.5	
Action: [1-RC-74DL] GP	I/O.1 - Close	Clear Add to List

Figure 193: The GPI/O Defined as Digital Output Mode

7.2.3 Analog Input

The analog input mode accepts an analog external device, such as, a volume control device:

[1-RC-74DL] GPI/0.1	Analog Input	Pullup	<u>Clear</u>	Threshold

The Pullup and Threshold features are disabled.

The trigger is activated once when the voltage is within the specified voltage range.

7.3 Assigning a Controlled Device Driver to an Ethernet Port

The Ethernet ports let you send control commands via the Ethernet port to up to 15 IP addresses located on the same subnet and associated with IP controlled devices.

To define an Ethernet port, do the following:

1. Set the Ethernet port Driver and Description.

[1-RC-74DL].Ethernet.1 Presentation Switcher/Scaler VP-443 UDP,0.0.0.0 Clear O Main Displa
--

2. Click the **Properties** field to define the **Ethernet Settings**:

ETHERNET SETTINGS: Presentation Switcher ×	ETHERNET SETTINGS: Presentation Switcher ×
Protocol UDP Port IP Adress Port 0 . 0 ••••••••••••••••••••••••••••••••••••	Protocol IP IP Adress Port 170 . 8 . 16 . 2 1
OK Cancel	OK Cancel

Figure 194: Ethernet Settings Example

The Ethernet port settings are complete:

[1-RC-74DL] .Ethernet.1	Presentation Switcher/Scaler	<u>VP-443</u>	TCP,170.8.16.2,1	Clear	Main Display



Note that clicking the Clear button will not reset the Ethernet properties.

7.3.1 Setting the Volume Properties

For Master controllers with an integrated power amplifier (for example, the **SV-551** and **SV-552**) you can set the volume properties via the **Port Manager** (analog or digital), as illustrated in <u>Figure 195</u>.

[1-SV-552] .Ethernet.15		Select driver	<u>UDP,0.0.0,0</u>	Clear	Main Display
[1-SV-552] Internal PowerAmp	Digital Volume 🔹	-		Clear	•
•	Analog Volume Digital Volume	III			•
[1-5V-552] .ttnernet.15		Select ariver	<u>UDF,0.0.0,0</u>	<u>Liear</u>	Imain Uispiay
נו-גע-גערפרנייט [1-SV-552] Internal PowerAmp	Digital Volume 🔹	2 - RC-63DLN	<u>UDL'0'0'0'0'0</u>	<u>Liear</u> <u>Clear</u>	Main Uispiay

Figure 195: Set Volume Properties

Set the volume control to:

- Analog, if the volume of the integrated amplifier is controlled by an external analog audio knob (via the SV-551/SV-552 10k volume level input port, connected either to an analog audio knob of a K-NET auxiliary device such as the RC-63AL, or any other compatible volume level knob)
- Digital, if the volume of the integrated audio power amplifier is controlled by an auxiliary device with a digital knob (for example, RC-63DL). In this example, the amplifier port should be "assigned" via the Port Manager to the relevant RC-63DL to achieve volume control.

For digital audio level control, select the auxiliary device that will control the audio

8 Using the Triggers

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

A trigger initiates a series of actions that can be activated by an event, a press of a button or a preset schedule. The triggers are listed as events that trigger a series of user-configured actions:

- <u>Custom Events</u> include four built-in triggers. Other custom events can be added via K-CONFIG (see <u>Section 8.1</u>).
- <u>Keypad Events</u> add triggers to Keypad events by clicking a keypad panel button or knob on the master room controller and auxiliary devices (see <u>Section 8.2</u>).
- <u>Monitor Events</u> add triggers to the monitor event by setting an incoming command that will onset a series of user-configured actions (see <u>Section 8.3</u>).
- <u>GPI/O Events</u> add a GPI/O trigger to activate a series of user-configured actions following a controlled sensor indication such as an alarm set, for example (see <u>Section 8.4</u>).
- <u>Timer Events</u> add timer triggers that will start a timer following timer stop/start states (see <u>Section 8.5</u>).
- <u>Query Events</u> query a controlled device to start a series of user-configured actions according to monitored operation parameters such as projector lamp hours and the power status of the main display (for example, a projector), see <u>Section 8.6</u>.

Note that query Events will not appear on the Triggers list for devices that do not have Ethernet.

<u>Sub Routines</u> – when the same series of user-configured actions repeats itself in several action lists, you can
define a Sub Routine once and use it in all these action lists to save configuration time (see <u>Section 8.7</u>).

Figure 196 shows the trigger list and its available operations:

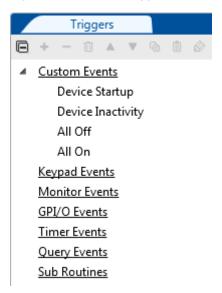


Figure 196: The Standard Built-in Triggers List

You can:	Expand the trigger list	Œ	
	Collapse the trigger list		
	Add a new trigger	+	
	Delete a trigger	-	
	Clear the trigger actions		
	Move a trigger up in the trigger list		
	Move a trigger down in the trigger list	•	
	Paste actions to a selected trigger	G	
	Copy the actions from a selected trigger	Ē,	
	Edit a trigger	Ø	



Note that not all the actions are available for all types of triggers.

8.1 The Custom Events Trigger

The built-in triggers within the Custom Events are important for proper operation of the system and cannot be deleted:

• The **Device Startup** trigger – is executed on configured device power up and lets you assign a series of actions that will define the status of the room controlled system following power-up, and will constitute the basic system state.

For example, define the light status of the OFF button of the keypad device upon power up; set the main display status to OFF and so on.

We recommend that you use this trigger to wake up the room to a known and pre-configured state. For VP-81KSI only, startup is defined as detection of a PC-Graphics input signal.

• The Device **Inactivity** trigger – lets you define the room status in case of monitored device inactivity for a preconfigured period (from 0 to 180 minutes) and is set by right-clicking the trigger and editing the inactivity time interval. For example, power down the main display and then roll up the projector screen after the inactivity preset time.

Device inactivity means that no button was pressed on a room controller device. Note that, for VP-81KSI only, inactivity relates to the incoming syncs on the PC Graphics input channels.

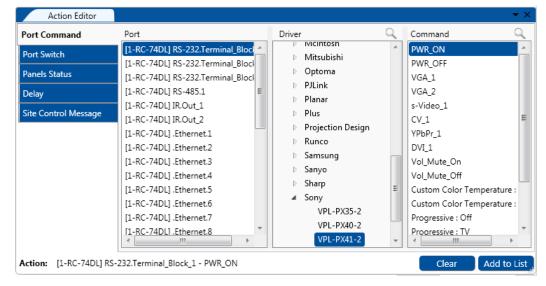
- The All Off and All On triggers the actions assigned to the All Off and All On triggers apply to the On and Off
 actions in the Site-CTRL Management Tool software, as well as in the built-in Web pages Macro tab.
- Custom you can add new scheduling triggers to the custom events list. A button that is used to trigger the
 defined custom triggers will be available on the Web page of the main room controller.

To add actions to a custom trigger, for example, the Device Startup trigger:

1. Select the **Device Startup** trigger:

Triggers 🗸 🗸
🔁 + - û 🔺 🔻 G î 🖉
<u>Custom Events</u>
Device Startup
Device Inactivity
All Off
All On
Keypad Events
Monitor Events
GPI/O Events
Timer Events
Query Events
Sub Routines

Figure 197: Custom Events - Selecting the Device Startup Trigger



2. In the Action Editor, select a Port Command:

Figure 198: Custom Events - Selecting the Power On Command

The Action Editor shows the ports and commands relevant to both the RC-74DL and the RC-63DL (see Figure 199).

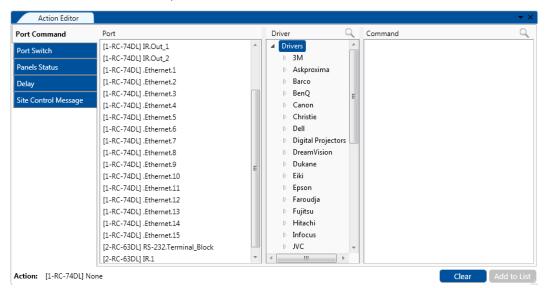


Figure 199: The Action Editor for RC-74DL and RC-63DL

3. Click the Add to List button.

The command is added to the Device Startup trigger



Figure 200: Custom Events - Command added to the Action List

4. In the same way, add all the relevant commands to the **Device Startup** trigger. The trigger appears bold in the list.

Action List	▼ ×
+ - xa 🛦 🔻 🕼 📋	
[1-RC-74DL] RS-232.Terminal_Block_1 - PWR_ON [1-RC-74DL] IR.Out_1 - PWR_ON	
Delay in Seconds - 0.4	
[1-RC-74DL] Relay.4 - Open	
	,

Figure 201: Custom Events - Commands added to the Action List

To add a new custom event:

1. Select Custom Events.

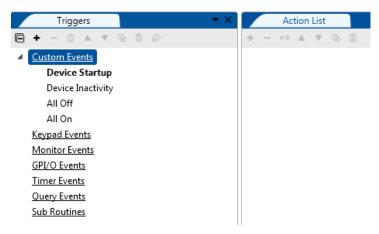


Figure 202: Custom Events – Add a New Trigger

2. Click the + icon and type the new name.

Enter Custom Trigger Name				
ОК	Cancel			



Figure 203: Custom Events – Add a New Trigger Name

3. Click OK.

If the configuration is not finalized, finalize it now.

The new trigger is added to the **Custom Events** trigger list and the **Scheduling** window automatically opens, see Figure 204 (you can open it always by clicking the icon, or right-clicking the trigger).

For room controller devices with internal clocks, the scheduling process lets you activate All Off, All On and Custom trigger actions according to a preset schedule. The room controller device's internal clock will synchronize with the host

PC clock when uploading the configuration file to the device, so if scheduling is used, you have to verify that the PC clock is set appropriately.

1	•	
(
	U	

Before setting the schedule, you need to set the room controller device's date and time (see <u>Section 10.6.1</u>).

Scheduling				×
Active Trigger: Complete Shutdown	-			
Time:	De	scription:		
Repeat Every:				
🗌 Sun 🔲 Mon 🔲 Tue 🛛	Wed 🗌 Thr	🗆 Fri 🔲 Sat		
Add Edit Delete	Apply			
Active Trigger	Time	Repeat Every	Description	
J				
			-	Close

Figure 204: Custom Events - The Scheduling Window

The following examples show different schedules setup for deactivating a room controlled system. In each example, the **Time**, the **Active Trigger**, the **Description** of the selected schedule and the required days (**Repeat Every**) are set, and custom triggers are added as needed:

Scheduling			×
Active Trigger: All On Time: 13:30		scription:	nup
Repeat Every:			•
Active Trigger	Time	Repeat Every	Description
Weekend Procedure All On	13:30 08:00	Friday Monday	complete shutdown and powe complete shutdown and powe
			Close

Figure 205: Custom Events - The Scheduling Example 1

Scheduling				×
Active Trigger: All Off Time: 17:45] scription: st Lights		
Repeat Every:				
Sun Mon Tue	Ved 🔽 Thr	🗹 Fri 🗌 Sat		
Add Edit Delete	Apply			
Active Trigger	Time	Repeat Every	Description	
All On	09:30	Monday & Tuesday &	Activate Room 1	
All Buttons Illuminate	09:35	Monday & Tuesday &	Test Lights	
All Buttons Illuminate	17:40	Monday & Tuesday &	Test Lights	
All Off	17:45	Monday & Tuesday &	Test Lights	
			_	
1				Close
			-	

Figure 206: Custom Events - The Scheduling Example 2

Click the **SOURCES** button.

8.2 **Keypad Events Trigger**

1.

Trigger Event triggers include user-configured actions that are triggered by pressing a certain button on a room controller device in the controlled room.

To set a Keypad trigger, for example, pressing the SOURCES button (3) on the RC-63DL auxiliary device:

The selected button frame turns blue and the edit icon appears: Device View DISPLAY Volume 2 5 4 3 2 1 SOURCES 2 4 6 5 - RC-63DL



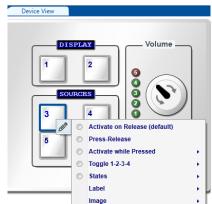
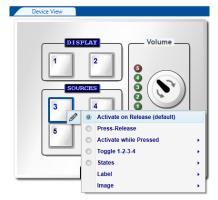
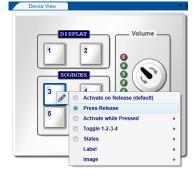


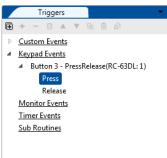
Figure 207: Keypad Events - Selecting a Button

2. Check and set the appropriate button behavior: Activate on Release: activates the trigger upon button release.



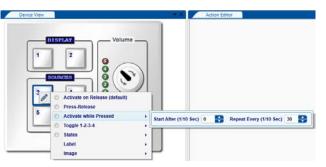
 Press-Release: activates a trigger (Press) all the while the button is pressed and another trigger (Release) when the button is released.



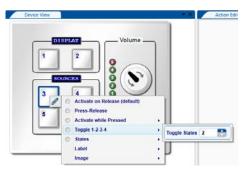


 Activate while Pressed: the trigger is activated again and again as long as the button is pressed. You can set the trigger delay time (Start After...), as well as the repetition delay time (Repeat Every...).

Note that time is set in 1/10th of a second intervals.



Toggle 1-2-3-4: select the number of toggle states (from 2 to 10). With each press of the button, the next toggle state is activated (upon completion of that toggle). When in the last toggle state, the next press of the button will activate the first toggle state once again.
 We recommend that you assign a different button color command to each trigger state so that you can identify each toggle state by the associated color of the button. For example, the toggle button could be set to have two states and used as an on/off switch. The first press of the button will trigger an "On" action list. The next press on the same button will trigger the "Off" action list. Note that not all room controllers can have up to 10 toggle states, some have less.

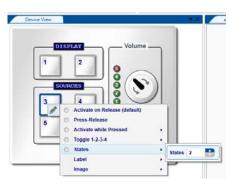


 States: select the number of states from 2 to 4. The state of the button can be changed through Panels Status in the Action Editor.

Each button state is independent of the other. The state behavior lets you determine which sequence of actions (as defined for each state) will be carried out the next time this button is pressed.

For example, if you need to control two projectors, you can use one (selector) button to select between the two and a set of three other (control) buttons to control the selected projector. Each of the three control buttons is set to two states: state 1 relates to projector 1 actions and state 2 relates to projector 2 actions. The selection button is set to two toggle states: toggle 1 sets the state of the control buttons to 1 and the next toggle sets it to projector 2.

Pressing the selector button will change the state of the other three buttons to control the selected projector. See <u>Section 9.4.1</u> for details on how to use Panels Status.



In addition, you can set the button label and background image (see Section 6.6)

When selecting the button behavior, the Keypad Events list shows the behavior of the buttons. In the example in <u>Figure 208</u> Button 3 is set to States, Button 4 is set to Toggle, Button 1 is set to Activate while Pressed (Click) and button 2 is set to Activate on release (Hold).

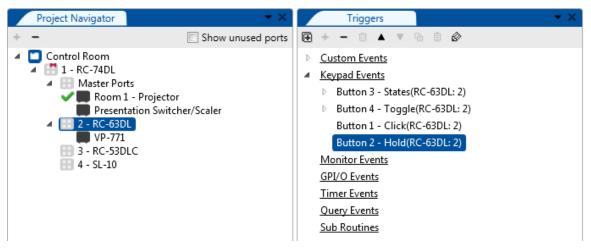


Figure 208: Button Behavior in the Triggers List

3. Add actions to the trigger list (see Section 9).

8.2.1 Knob Keypad Events

The knob Keypad Event is especially useful when trying to control audio amplifiers or similar devices using serial command tables (see <u>Section 9.2.1</u>). Simply add the command table to the action list that is assigned to the knob.

 (\mathbf{i})

When controlling the built-in amplifier of the SV-551/SV-552 via the digital knob of the RC-63D series or RC-53D series units, you do not need to configure the digital knob behavior via the knob turning trigger. All you have to do is to associate the digital audio knob of the user interface unit with the SV-551/SV-552 audio amplifier on their port manager tab.

The knob triggers are activated by clicking the knob on the keypad device panel. The knob frame turns blue:

DISPLAY 1 2 SOURCES 3 4 5 6	Volume () () () () () () () () () ()
<mark>2 - RC-63D</mark>	

Figure 209: The Knob Triggers

Two general types of triggers are available, depending on the area in which you click on the knob. The upper area will add the **Knob turn up** trigger to the Keypad Events list and the lower part will add the **Knob turn down** trigger to the Keypad Events list:

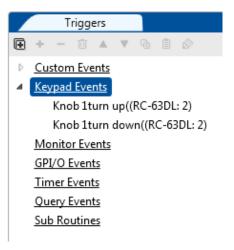


Figure 210: Keypad Events List

You can also set the Knob turn up or turn down with states:

Device View	▼ ×
SOURCES DISPLAY	E
ROOMS Volume 7 8 9 0	States 4
Room Control	· ·

Figure 211: The Knob Triggers with States

Up to 4 states can be defined, as appears in the Triggers list (showing 2 states):

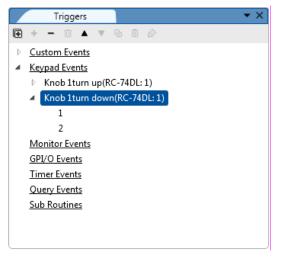


Figure 212: The Keypads Event List with States

Add actions to the list (see Section 9.1).

8.3 Monitor Events Triggers

The monitor event is a trigger that activates a sequence of actions when a certain selected driver message, usually a reply of some sort, is detected coming from the connected controlled device on the relevant serial or Ethernet port (for example, the projector Power: Off command).



Note that you need to set the serial reply commands on serial ports before creating a monitor event, otherwise the command drop down box in the Monitor Events Trigger window will be empty. Serial reply commands are set via the Driver Manager, see <u>Section 5.3</u>).

Note that serial ports on auxiliary K-NET devices can be used only for outgoing serial commands, in contrast to the master room controller which supports bidirectional serial communication. Therefore, monitor event triggers can only be defined for the serial ports of the master room controller in a certain Room Control setup and not for the serial ports of the auxiliary K-NET devices.

To add a monitor event trigger:

1. Click the Add Monitor Event button. The Monitor Events Trigger window appears. Select the Port, Driver and Command that will trigger the monitor event actions:

onitor Events Trigger ×	Monitor Events Trigger	
Please select the port and the command that will trigger the actions.	Please select the port and the command that will trigger the actions.	
Port [1-RC-74DL] RS-232.Terminal_Block_1	Port [1-RC-74DL] RS-232.Terminal_Block_1	
Driver VPL-PX41-2		
Reply	VPL-PX41-2	
PWR_ON PWR_OFF HDMI_2 Vol_Up	Reply PWR_OFF	
Vol_Down Blank_On Blank_Off	OK Cancel	

Figure 213: The Monitor Events Trigger Window

2. Click OK.

The Monitor Event is added to the available Triggers list:

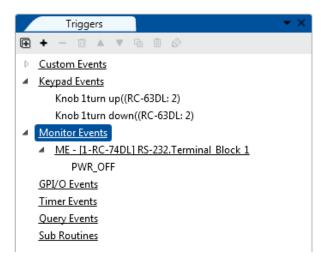


Figure 214: Adding a Monitor Event to the Available Triggers List

 (\mathbf{i})

You can edit the trigger to respond to a different command by selecting that command and then clicking the button.

3. Add actions to the trigger (see <u>Section 9</u>).

8.4 GPI/O Events Triggers

The GPI/O (General Purpose Input/Output) port can be configured via the **K-CONFIG** software. Using GPI/O, you can select a wide range of events that can trigger a series of actions, for example, when an alarm is set or if the room temperature exceeds a certain value.

Only GPI/O ports on the master room controller can be used in the Room Control setup (**SL-12** is the master room controller in this example). The GPI/O ports are set in the port manager as follows:

[1-SL-12] GPI/O.1	Alarm Condition	Digital Input 🔹	🔲 Pullup	<u>Clear</u>	Threshold
[1-SL-12] GPI/O.2	Temparature High	Digital Input 🔹	🔲 Pullup	<u>Clear</u>	Threshold
[1-SL-12] GPI/O.3	Open	Analog Input 🔹	🗌 Pullup	<u>Clear</u>	Threshold
[1-SL-12] GPI/O.4	LED On/Off	Digital Output 🔹	🗹 Pullup	<u>Clear</u>	Threshold

Figure 215: GPI/O Events - Port Manager Setup

Digital output acts in the same way as do relays so it cannot be used as a trigger (see Section 9.3).

Once the master room controller is set, the GPI/O Events appears in the Project Navigator:

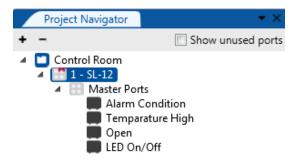


Figure 216: GPI/O Events - GPI/O in Project Navigator

To create a GPI/O event:

1. Select **GPI/O Events** and click + to create a new GPI/O trigger. The following window appears:

GPI/O TRIGGER PROPERTIES	×
GPI/O Port	
[1-SL-12] GPI/O.1	
Behavior	
Level Moved from High to Low 🔹	
OK Cancel	

Figure 217: GPI/O Events – GPI/O Trigger Properties

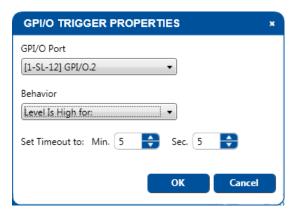
2. Select the GPI/O port from the list and its function behavior:

GPI/O TRIGGER PROPERTIES	GPI/O TRIGGER PROPERTIES
GPI/O Port [1-SL-12] GPI/O.1 [1-SL-12] GPI/O.2 [1-SL-12] GPI/O.3 OK Cancel	GPI/O Port [1-SL-12] GPI/O.1 • Behavior Level Moved from High to Low • Level Moved from Low to High Level Is High for: Level Is Low for: OK

Figure 218: GPI/O Events - Digital Input: Selecting the GPI/O Port and Behavior

3. Select the condition for activating the trigger.

For Digital Input mode:				
Behavior	Action	Pullup	Trigger Condition Description	
Level moved from High to	Activates the trigger immediately	checked	Closing the circuit	
Low		not checked	voltage exceeding its maximum defined value	
Level Moved from Low to	Activates the trigger immediately	checked	Opening the circuit	
High		not checked	voltage decreasing below its minimum defined value	
Level is High for:	The trigger is activated on the	checked	Circuit remains open	
first occurrence		not checked	The voltage exceeding its maximum defined value and staying there for a set period of time (see Figure 219)	
Level is Low for:	The trigger is activated after the defined timeout expires	checked	Circuit remains closed	
		not checked	The voltage decreasing below its minimum defined value and staying there for a set period of time (see Figure 219)	



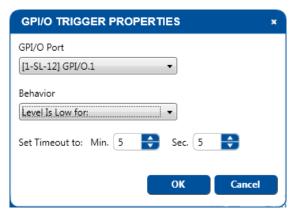


Figure 219: GPI/O Events – Setting the Digital Input Condition Timeout

For Analog Inputs		
Behavior	Action	
Value is lower than	Activates the trigger once the voltage is below the set voltage	
Value is Higher	er Activates the trigger once the voltage is above the set voltage	

Value is between	Activates the trigger once the voltage is within the set range of voltages	l
------------------	--	---

GPI/O TRIGGER PROPERTIES	GPI/O TRIGGER PROPERTIES *	GPI/O TRIGGER PROPERTIES ×	GPI/O TRIGGER PROPERTIES ×
GPI/O Port [1-SL-12] GPI/O.3	GPI/O Port [1-SL-12] GPI/O.3	GPI/O Port [[1-SL-12] GPI/O.3 •	GPI/O Port [1-SL-12] GPI/O.3 •
Behavior Value is Lower than:	Behavior Value is Lower than:	Behavior	Behavior Value is between:
Value is Higher than: Value is between:	Low Value 0.8	High Value 2.2	Low Value 0.8 High Value 2.2
OK Cancel	OK Cancel	OK Cancel	OK Cancel

Figure 220: GPI/O Events - Analog Input: Selecting the GPI/O Port and Behavior

You can now add commands to the event (see Section 9.1).

8.5 Timer Events Triggers

Timer Events include Timer triggers that let the control system wait for a configured timeout or event to occur and then act accordingly. To add a new trigger, select Timer Events and right click it or click the + icon.

8.5.1 Power ON Example

In the following example, button 3 on the **RC-63DL** is used to turn the projector ON. If, after sending the power ON command, no suitable reply is received from the projector during the selected 5-second time period, the Timer trigger is executed (displaying some type of visible alert to the user or resending the ON commands, as defined by the user).

If a suitable reply is received within the 5-second time period, it will trigger a predefined Monitor Event action list which stops the Timer trigger (see Figure 221) and prevents the alert or error from being sent.

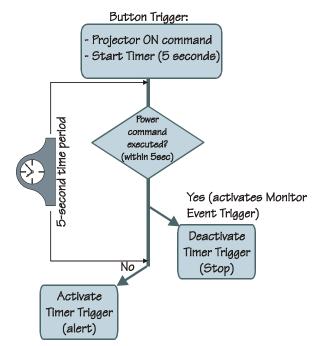


Figure 221: Timer Events - Timer Trigger Flowchart: Power ON Example

This setup includes three simple steps:

Step I: Define the Timer Trigger.

Step II: Define the Button trigger (which includes the Timer Trigger Start state).

Step III: Define the Monitor Event Trigger (which includes the Timer Trigger Stop state).

Step I: Define the Timer Trigger

 Select Timer Events and click the + icon to add a new timer trigger. The Timer Trigger name window appears. Type the Trigger Name (for example, PRJON) and set the timeout:

Timer Trigg	er :	×
Trigger Name:	PRJON	
Set Timeout to:		
Minutes	0 🚔 Seconds 5 🚔	
	OK Cancel	

Figure 222: Timer Events – Adding the Trigger Name and Timeout

2. Click OK.

The Timer trigger appears in the available Timer Events list:

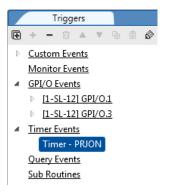


Figure 223: Timer Events - the Timer Trigger in the Triggers List

- 3. Add the following actions (Button 3 blinks in red for 5 seconds (to indicate a problem) and then illuminates in green:
- 4. Click OK.

Action Editor		• ×
Port Command	1 - RC-74DL	A
Port Switch		
Panels Status		
Timer Start/Stop		
Delay		
Site Control Message		=
	2 - RC-63DL	
		Ψ
Action: Buttons Action	Clear Add	to List

Figure 224: Timer Events – adding Button Status

5. Click the Add to List button.

The command is added to the Action List.

Add a 5-second delay and then button illuminates green.
 The PRJON Timer trigger action list appears as follows:

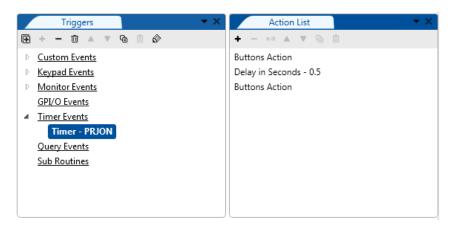


Figure 225: Timer Events - the Timer Trigger Action List

Step II: Define the Button Trigger

- 7. Define a button trigger: Button 3 Click (see <u>Section 8.2</u>).
- 8. From the Action Type list select Port Command and add the projector power on (PWR_ON) command:

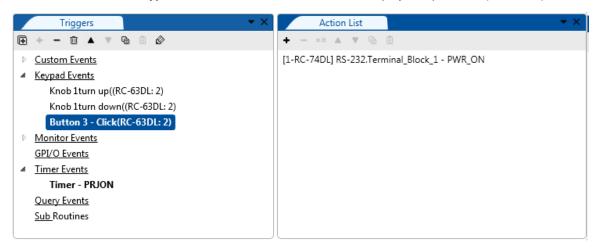


Figure 226: Timer Events - Projector Power On Command in the Button Trigger Action List

 From the Action Editor list select Timer Start/Stop and select the relevant Timer Trigger (in this example, Timer – PRJON):

Action Editor	→ X
Port Command	
Port Switch	Timer Trigger Timer - PRJON
Panels Status	Timer - PRJON
Timer Start/Stop	
Delay	State
Site Control Message	
	Clear Add to List

Figure 227: Timer Events - Selecting the Timer Start/Stop Action

10. Select Timer Trigger State Start and click Add to List:

Action Editor	▼ X	
Port Command		
Port Switch	Timer Trigger	
Panels Status	Timer - PRJON	
Timer Start/Stop		
Delay	State	
Site Control Message	Start 🔻	
Action: Timer - PRJON - Start Clear Add to Lis		

Figure 228: Timer Events - Selecting the Timer Start/Stop Action (Start State Selected)

The button trigger includes powering on the projector and starting the **Timer Trigger**. The Timer trigger actions will be executed within 5 seconds unless they are interrupted by the monitor event.

	Triggers 🗸 🗸 🗸	Action List 🗸 🗸 🗸
Ð	+ - 🛍 🔺 🔻 🖻 🏦 🔗	+ - ×≥ ▲ ▼ @ 🗊
₽	Custom Events	[1-RC-74DL] RS-232.Terminal_Block_1 - PWR_ON
	Keypad Events	Timer - PRJON - Start
	Knob 1turn up((RC-63DL: 2)	
	Knob 1turn down((RC-63DL: 2)	
	Button 3 - Click(RC-63DL: 2)	
\square	Monitor Events	
	GPI/O Events	
4	Timer Events	
	Timer - PRJON	
	Query Events	
	Sub Routines	

Figure 229: Timer Events - Active Button Trigger Action List

Step III: Define the Monitor Event

11. Add a monitor event trigger and select the **On reply from On** command:

Monitor Events Trigger	×
Please select the port and the command that will trigger the actions.	r
Port [1-RC-74DL] RS-232. Terminal_Block_1	
Driver VPL-PX41-2	
Reply	
PWR_OFF -	
PWR_OFF HDMI_2	
Vol_Up Vol_Down	el
Blank_On	
Blank_Off On reply from On	
OnReply_from_Off	

Figure 230: Timer Trigger – Add the Monitor Event

Once the projector power is ON, the On reply from On activates the monitor event action(s).

12. Add the required action to the trigger (Stop):

Action List	→ ×
+ - ×≈ ▲ ▼ @ [
Timer - PRJON - Stop	

Figure 231: Timer Trigger - Monitor Event Action List

Once the projector replies, the monitor event command is executed, the timer trigger is stopped and normal operation is carried on.

The command list, shown in Figure 230, includes "ON reply from OFF". In some cases, the AV device will reply differently to the same command, depending on its state. When building timers combined with monitor event structures, be certain to take into account the various replies that may return from the AV controlled device and handle each one of them with an appropriate Monitor Event trigger.



Note that a command name cannot include spaces. Some command names, in former versions had spaces. For your convenience these command names will still appear with spaces. If you want to change these names via the Common Commands Tree Editor, you will not be able to rewrite them back to their original names (with spaces).

8.5.2 System Inactivity Example

In this example, the Timer trigger is used to perform a sequence of actions if no signals are fed into the controlled AV room system for a predefined time period (for example, 20 minutes, see Figure 232). A switcher (for example – the Kramer **VP-411DS**) will send out a dedicated serial command once all PC sources are disconnected. We will use this command to trigger a 20 minute timer. Each action list executed during timer activity interval will start with a command to stop this timer. Upon System Inactivity timer timeout, we will shut down the display device and perform other shut off tasks.

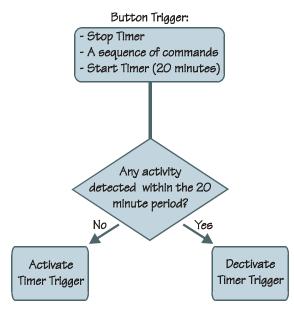


Figure 232: Timer Events – Timer Trigger Flowchart: Inactivity Example

To indicate inactivity, you have to add a "Stop" trigger prior to the sequence of actions and a "Start" trigger upon completion of the actions sequence.

This setup includes two steps:

Step I: Define the Timer Trigger (which will be used for all the triggers)

Step II: Define the Button (and other) triggers

Step I: Define the Timer Trigger

 Select Timer Events and click the + icon to open the Timer Trigger window. The Timer Trigger window appears. Type the Trigger Name and set the timeout to 20 minutes (for example, System Inactivity):

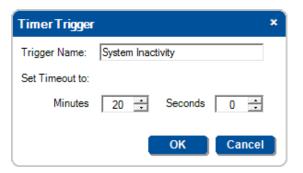


Figure 233: Timer Events – the Timer Trigger Name Window (Inactivity)

2. Click OK.

The Timer trigger appears in the available triggers list:

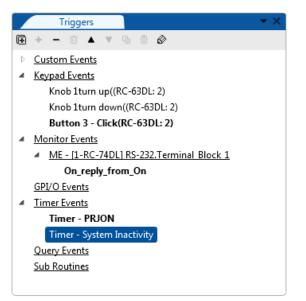


Figure 234: Timer Events - the Timer Trigger in the Triggers List (System Inactivity)

3. Add the following actions (having each button on the **RC-63DL** blink and then remain on, or any other commands added):

Action List	→ ×
+ - xa 🔺 🔻 🖻	1
Buttons Action	
[1-RC-74DL] RS-232.Term	ninal_Block_1 - Blank_On

Figure 235: Timer Events - Timer Trigger Action List

Step II: Define the button (or other) Trigger

4. Select a trigger from the Triggers list (for example, Button 1):

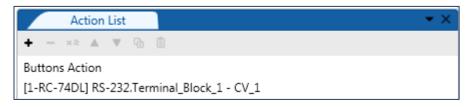


Figure 236: Timer Events - Button 1 Action List

5. Add the Timer Stop trigger:

Action Editor	▼ ×
Port Command	
Port Switch	Timer Trigger
Panels Status	Timer - System Inactivity
Timer Start/Stop	
Delay	State
Site Control Message	Stop 🔻
Action: Timer - System In	nactivity - Stop Clear Add to List

Figure 237: Timer Events – Add the Stop Timer Action

6. Move the added **Stop Timer** trigger to the top of the list using the arrow icons:

Action List	- ×
+ - ×≥ 🔺 🔻 🕒 📋	
Timer - System Inactivity - Stop	
Buttons Action	
[1-RC-74DL] RS-232.Terminal_Block_1 - CV_1	

Figure 238: Timer Events - Move the Stop Timer Action

7. Add the Start Timer trigger:

Action Editor	- ×
Port Command	
Port Switch	Timer Trigger
Panels Status	Timer - System Inactivity
Timer Start/Stop	
Delay	State
Site Control Message	Start 🔻
Action: Timer - System I	nactivity - Start Update Clear Add to List

Figure 239: Timer Events – Add the Start Timer Action

8. Figure 240 shows the Button 1 trigger action list:

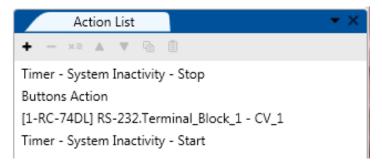


Figure 240: Timer Events - Button 1 Action List with Timer Triggers

9. In the same way, you can add the Stop and Start actions to each trigger.

Adding the Stop action prior to the actual executed action list, stops the System Inactivity trigger. The Start action that follows the action sequence starts the 20 minute timer and will be active until a button will be pressed or a trigger activated within the 20 minute period.

8.6 Query Events

Before creating a Query Event you need to define a Query via the Driver Manager (see <u>Section 5.3.3</u>), as follows: Driver Manager > Define Query Table> accept table and exit Driver Manager> Create a query event.

To create a query event:

 Select Query Events and click the + icon. The following window appears:

QUERY EVENTS
Please select the port and the query that will trigger the actions.
Port
[1-RC-74DL] RS-232.Terminal_Block_1
Driver
VPL-PX41-2
Query
•
Send query every 1 Minute *
$\hfill \square$ Set trigger when response doesn't match any analyzing rule
Set trigger when no response from device (according to the time or containing limits)
Time to retry if no answer recognized
Time to wait between retries 5 Seconds v
Set triggers for folowing query results:
OK Cancel

Figure 241: Query Events - The Query Events Window

2. Select the **Port** and **Driver** (the driver appears automatically if defined in the port manager).

3. Select the **Query**.

In this example, Power.

QUERY EVENTS ×
Please select the port and the query that will trigger the actions.
Port
[1-RC-74DL] RS-232.Terminal_Block_1
Driver
VPL-PX41-2
Query
 Fan
LampHour Power
Set trigger when no response from device (according to the time or containing limits) Time to retry if no answer recognized
Time to wait between retries 5 Seconds
Set triggers for folowing query results:
OK Cancel

Figure 242: Query Events – Select the Query

Query results shows the query table as defined in the **Driver Manager**. In this example Off, On and Standby were defined.

QUERY EVENTS	×
Please select the port and the que	ry that will trigger the actions.
Port	
[1-RC-74DL] RS-232.Terminal_Blo	ck_1 •
Driver	
VPL-PX41-2	
Query	
Power	•
Send query every	1 Minute 🔹
Set trigger when response does	sn't match any analyzing rule
Set trigger when no response f (according to the time or conta	
Time to retry if no answer recogniz	zed 3
Time to wait between retries	5 Seconds 🔹
Set triggers for folowing query res	ults:
Off	
🔲 On	
Standby	
	OK Cancel

Figure 243: Query Events – The Query Results

4. Select the query results which will trigger an action list:

QUERY EVENTS	×
Please select the port and the que	ry that will trigger the actions.
Port	
[1-RC-74DL] RS-232.Terminal_Blo	ck_1 ▼
Driver	
VPL-PX41-2	
Query	
Power	•
Send query every	1 Minute 🔹
Set trigger when response doe	sn't match any analyzing rule
Set trigger when no response f (according to the time or conta	
Time to retry if no answer recogni:	zed 3
Time to wait between retries	5 Seconds 🔹
Set triggers for folowing query res	ults:
Off	
☑ On	
Standby	
	OK Cancel
	Cancel

Figure 244: Query Events - Select the Query Results

5. Click **OK** to create the Query trigger.

Selecting On means that after the power is on the query event will be triggered.

By default queries are disabled (upon device startup). A query will be triggered only if the matching "Query start" action was executed from the Query Start/Stop action (see <u>Section 9.9</u>) or another trigger. (For example, a "Device startup" trigger or a button trigger). You can also stop a query from triggering by executing the "Query stop" action.

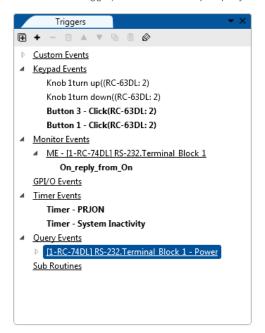


Figure 245: Query Events - The Power-On Trigger

Create the action list for this trigger.
 After adding commands to the list, the query trigger appears **bold**.

You can add more Power query events in accordance with the Query table defined in the Driver Manager. If checked, the Off and Standby Query results will also appear as separate Query Events:

Set triggers for folowing query results:	
☑ Off]
☑ On	
Standby	

Qu	uery Events
	[1-RC-74DL] RS-232.Terminal Block 1 - Power
	On
	Off
	Standby

Figure 246: Query Events - Creating Several Query Triggers

Open the drop down box list to select the rate at which the query is sent (30 seconds, 1 minute, and so on).

You can also add the following related triggers (which are relevant only for parsed replies, when the Parse Reply option in the Driver Manager is checked):

- Set trigger when response doesn't match any analyzing rule If the controller recognizes in an incoming command the structure defined as "reply must contain the following syntax" but the parsed relevant information does not match any of the used results for this query, a no match event will be triggered (NoMatch).
- Set trigger when no response from device (according to the time or containing limits) If the controlled device reply to the query command cannot be parsed, a communication Error query event is triggered (CommErr). Define the number of retries in case of a communication error (from 1 to 3), as well as the waiting time between each try (1 second, 3 seconds, and so on).

Use queries to define the Site-CTRL monitored operation parameters (such as the projector lamp hours and the power status of the main display device). The list of available queries appears in the Queries area in the Driver Manager (see <u>Section 5.3.3</u>).

8.7 Sub Routines

Sub routines include triggers that have action lists of common procedures. These common procedures can be incorporated into other event triggers as many times as required.

To use a sub routine:

1. Select Action Groups from the Triggers list and click the + icon. The following window appears:



Figure 247: Sub Routines - Create a new Action Group Trigger

2. Type the name:

Sub Routine Trigge	r-Set Name	×	
Prepare for Shutdov	vn		
	ОК	Cancel	

Figure 248: Sub Routines - Set the Sub Routine Trigger Name

3. Click OK and add actions to the trigger (see <u>Section 9</u>):

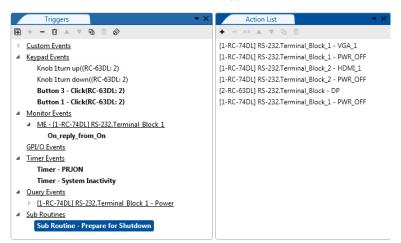


Figure 249: Sub Routines - Set the Action Group Trigger Name

In this example, the subroutine includes power down of the input sources and it can be incorporated into daily and/or weekly shutdown triggers, GPI/O events (temperature alarm, for example), and so on. This sequence of commands will not have to be written again and again for specific triggers and can be used as a sub routine within a trigger as required.

- 4. Open or create an Event Trigger (for example, one of the built-in Custom Events, All Off).
- 5. In the Action Editor select Sub Routines and add the Sub Routine see Figure 250.

Action Editor	▼ ×
Port Command	
Port Switch	Select Sub Routine
Panels Status	Sub Routine - Prepare for Shutdown
Timer Start/Stop	
Delay	
Query Start/Stop	
Sub Routines	
Site Control Message	
Action: Run - Sub Routin	ne - Prepare for Shutdown Clear Add to List

Figure 250: Sub Routines - Selecting the Sub Routine Action Group Trigger in the Action Editor

Click the Add to List button.
 The sub routine was added to the All Off Custom Event:

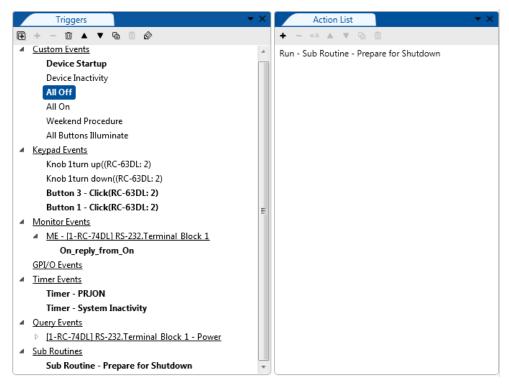


Figure 251: Sub Routines - Sub Routine Trigger is added to an Event Trigger

In the same way you can add Sub Routines to other events as well as to other sub routines.

9 Adding Actions to a Trigger

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

K-CONFIG lets you add actions to the different types of triggers that are built-in or created via the Triggers list. This section describes the different types of actions within the following categories that can be added to the action list:

- Port Command (Section 9.2)
- Port Switch (Section 9.3)
- Panels Status (Section 9.4)
- Switcher Command (Section 9.5)
- Power Amplifier (Section 9.6)
- Timer Start/Stop (Section 9.7)
- Delay (<u>Section 9.8</u>)
- Query Start/Stop (<u>Section 9.9</u>)
- Sub Routines (Section 9.10)
- Site Control Message (<u>Section 9.11</u>)



Note that only the relevant action types appear for each room configuration, therefore this section's examples will show different types of room configurations.

The Action Editor will show a list of the maximum available command categories. For example, if **RC-13TC** is the only controller controlled via **K-CONFIG**, the Action Editor will include Port Command, Panels Status, Delay and Site Control Messages. If **RC-63DL** is added as an auxiliary device, the Port Switch category is added to the Action Editor (for controlling the **RC-63DL** relays). This lets you control, for example, the relays on the **RC-63DL** via the **RC-13TC**.

9.1 General Instructions

The **Action Editor** area is divided in two. The list of available action types is listed on the left and once an action type is selected, the available actions appear on the right.

Action Editor			▼ X
Port Command	Port	Action	
Port Switch	[1-RC-74DL] Relay.1	Open	
Panels Status	[1-RC-74DL] Relay.2 [1-RC-74DL] Relay.3	Close	
Delay	[1-RC-74DL] Relay.4		
Site Control Message	[2-RC-63DL] Relay.1 [2-RC-63DL] Relay.2		
		Clear	Add to List

For example, the Switcher Command Action Editor displays the following available action types:

Figure 252: The Action Editor – Available Action Types

Generally, actions are added to triggers via the Action Editor in a similar way:

- 1. Select the Trigger.
- 2. Select an action type and relevant action.
- Click the Add to List button.
 The action is added to the trigger.

At any time you can move the action up or down the list, delete it or duplicate it using the icons above the action list.



At any time you can add delete or change a trigger. Note that in some cases it will affect other triggers.

9.2 Adding a Port Command

To add actions to a trigger (for example, to the built-in All On trigger):

- 1. In the **Triggers** area, select the **All On trigger**.
- 2. In the Action Editor, select the Port Command and select the desired port. A specific driver was assigned to the selected port, therefore it is selected automatically

Action Editor			▼ ×
Port Command	Port	Driver 🔍	Command 🔍
Port Switch	[1-RC-74DL] RS-232.Terr	Optoma *	PWR_ON
T OTC OMILET	[1-RC-74DL] RS-232.Terr	PJLink	PWR_OFF
Panels Status	[1-RC-74DL] RS-232.Terr	▷ Planar	VGA_1
Delay	[1-RC-74DL] RS-485.1	▷ Plus	VGA_2
	[1-RC-74DL] IR.Out_1	Projection Design	s-Video_1
Site Control Message	[1-RC-74DL] IR.Out_2 🗉	▷ Runco	CV_1
	[1-RC-74DL] .Ethernet.1	Samsung	YPbPr_1
	[1-RC-74DL] .Ethernet.2	▷ Sanyo	DVI_1
	[1-RC-74DL] .Ethernet.3	▷ Sharp	Vol_Mute_On
	[1-RC-74DL] .Ethernet.4	✓ Sony	Vol_Mute_Off
	[1-RC-74DL] .Ethernet.5	VPL-PX35-2	Custom Color Temperature
	[1-RC-74DL] .Ethernet.6	VPL-PX40-2	Custom Color Temperature
	[1-RC-74DL] .Ethernet.7	VPL-PX41-2	Progressive : Off
	[1-RC-74DL] .Ethernet.8	▷ Toshiba	Progressive : TV
	[1-RC-74DL] .Ethernet.9 🔻	▷ Vidikron	Progressive : Film 🔹
	< >	Viewsonic *	< <u> </u>
Action: [1-RC-74DL] Nor	ne		Clear Add to List

Figure 253: Selecting the Port Command Action Type

 Select the Command (for example, PWR_ON): Note that PWR_ON is a shared command, previously defined in the Driver Manager (see <u>Section 5</u>).

Panels Status [1-R Timer Start/Stop [1-R Delay [1-R	RC-74DL] RS-232.Terminal CC-74DL] RS-232.Terminal RC-74DL] RS-232.Terminal RC-74DL] RS-485.1		Planar	-	Command PWR_ON PWR_OFF	2
Panels Status [1-R Timer Start/Stop [1-R Delay [1-R	RC-74DL] RS-232.Terminal RC-74DL] RS-232.Terminal	D	Plus	*	_	Â
Query Start/Stop [1-R] Sub Routines [1-R] Site Control Message [1-R]	C-74DL] IR.Out_1 C-74DL] IR.Out_2 C-74DL] .Ethernet.1 C-74DL] .Ethernet.2 C-74DL] .Ethernet.3 C-74DL] .Ethernet.4		Samsung Sanyo Sharp		VGA_1 VGA_2 s-Video_1 CV_1 YPbPr_1 DVI_1 Vol_Mute_On Vol_Mute_Off	W
[1-R/ [1-R/ [1-R/	CC-74DL] .Ethernet.5 CC-74DL] .Ethernet.6 CC-74DL] .Ethernet.7 CC-74DL] .Ethernet.8 We have a second se	P D	VPC-PX41-2 Toshiba Vidikron Viewsonic	The second secon	Custom Color Temperatu Custom Color Temperatu Progressive : Off Progressive : TV	r Ŧ

Figure 254: Selecting the Command

4. Click the Add to List button.

The command is added to the Action List area (the trigger name appears at the top of the list):

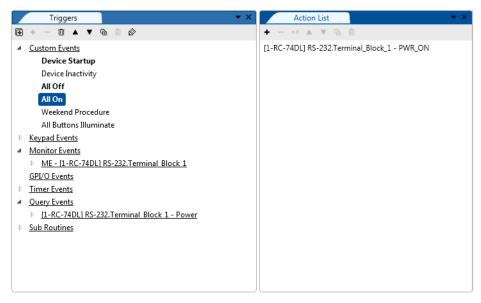


Figure 255: The New Command in the Action List

5. In the same way you can use the Action Editor to add further commands to the action list:

Action List	- ×
+ - xa 🛦 🔻 🖻	
[1-RC-74DL] RS-232.Terminal_Block_1 - PWR_ON [1-RC-74DL] RS-232.Terminal_Block_1 - Vol_Mute_On [1-RC-74DL] RS-232.Terminal_Block_1 - Vol_Mute_Off	

Figure 256: The Action List for the All On Trigger

You can:	Delete an action	-
	Duplicate an action	×≥
	Copy and Paste an action	G 📋
	Move actions up or down	A

Once a Trigger's action list is assigned with commands, it turns **bold**:

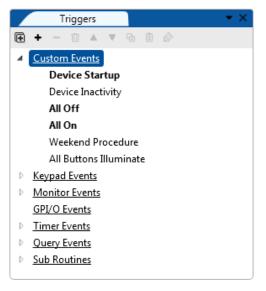


Figure 257: The All On Trigger (after adding commands to the action list)

9.2.1 Adding a Table Action

After creating tables via the Driver Manager (see Section 5.5.4) you can use it in the action editor Port Command list:

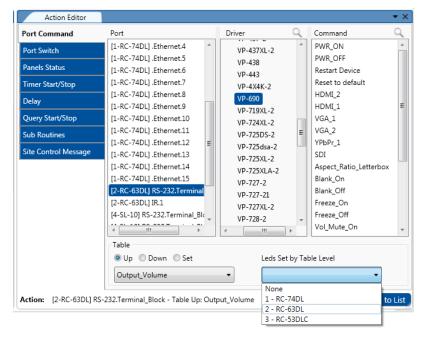


Figure 258: The Table Port Command

Select the:

- Table (Output_Volume).
- Select the room controller device whose LEDs should behave as defined in the table (**RC-63DL**). Select **None** if you do not want the LEDs to behave as defined in the commands table.
- Set the behavior of the table commands to go gradually up, down, or set to a specific value. If you click Set, you can choose a specific volume level (see <u>Figure 259</u>):

Action Editor				• ×
Port Command	Port	Driver	Command	Q
Port Switch	[1-RC-74DL] .Ethernet.4	VP-727-21	PWR_ON	*
Panels Status	[Input_Volume_1 [Input_Volume_2	VP-727XL-2 VP-728-2	PWR_OFF Restart Device	
Timer Start/Stop	[Input_Volume_3	E VP-729-2	Reset to default	
Delay Query Start/Stop	[Input_Volume_4 [Input_Volume_5] Input_Volume_6	VP-730-2 VP-731-2 VP-747-2	HDMI_2 HDMI_1 VGA 1	E
Sub Routines	I. Input_Volume_7 [] Input_Volume_8 [] Input_Volume_9	VP-747-2 VP-770 VP-771	VGA_1 VGA_2 YPbPr 1	
Site Control Message	[Input_Volume_10 [Input_Volume_11	VP-790 VP-81KSi	≡ SDI Aspect Ratio Lett	erbox
	Input_Volume_12 Input_Volume_13	VP-885-2 VP-8X8-2	Blank_On Blank Off	
	Input_Volume_14	VP-8X8A-2	Freeze_On Freeze Off	
	[Input_Volume_16 Input_Volume_17 Input Volume 18	VS-162V-2	Vol_Mute_On	-
	Input_Volume_19 Input_Volume_20		et by Table Level	_
		▼ 1 - R0	C-74DL	•
Action: [1-RC-74DL] No	one	Up	odate Clear A	Add to List

Figure 259: The Table Port Command – Setting a specific Volume Level

Add the command to the Action list:

Action List	• ×
+ - ×a 🔺 🔻 🕼 📋	
[1-RC-74DL] RS-232.Terminal_Block_1 - PWR_ON	
Timer - PRJON - Start	
[2-RC-63DL] RS-232.Terminal_Block - Table Up: Output_Volume	

Figure 260: The Table Port Command - Added to the Action List

You can create several other tables for different commands, or combine different command levels in the same table.

9.3 Adding a Port Switch Action

The port switch action lets you open/close relay ports or GPI/O configured as digital outputs on the master room controller and auxiliary devices or control gateways.

Action Editor		→ ×
Port Command	Port	Action
Port Switch	[1-RC-74DL] Relay.1	🔘 Open
Panels Status	[1-RC-74DL] Relay.2 [1-RC-74DL] Relay.3	Olose
Timer Start/Stop	[1-RC-74DL] Relay.4	
Delay	[2-RC-63DL] Relay.1 [2-RC-63DL] Relay.2	
Query Start/Stop	[4-SL-10] Relay.1	
Sub Routines	[4-SL-10] Relay.2 [4-SL-10] Relay.3	
Site Control Message	[4-SL-10] Relay.4	
	[4-SL-10] Relay.5	
	L	Update Clear Add to List

Figure 261: Selecting the Port Switch Action Type

Select the port and check the desired action (Open or Close) and add to the action list:

Action List	• ×
+ - ** • • • •	
[1-RC-74DL] RS-232.Terminal_Block_1 - PWR_ON	
[1-RC-74DL] Relay.4 - Close	

Figure 262: Port Switch Action Type added to the Action List

9.4 Adding a Panels Status Action

The Panels Status Action type lets you set various parameters on each of the master and auxiliary device buttons. Note that you can define only one panel status per command.

Figure 263 shows the **Panel Status Action Editor**. The control keypad device (**RC-74DL**) and the auxiliary keypad devices panels appear on the right side. The left side shows the various actions:

- Button Status, see Section 9.4.1
- LCD Label, see <u>Section 9.4.2</u>
- LEDs Light, see <u>Section 9.4.3</u>
- Panel Lock, see Section 9.4.4

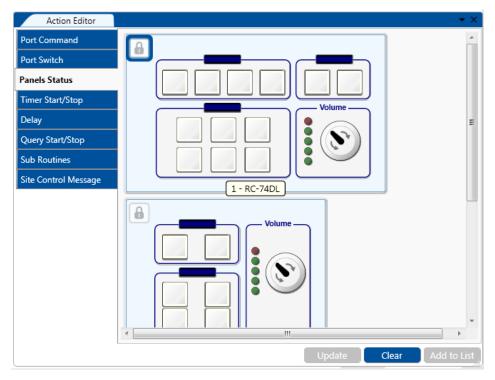


Figure 263: Panels Status Action Editor

Note that the availability of the Panels Status actions changes in accordance with the room controller device specifications. For example, the **SV-552** does not have multicolored illuminated buttons, therefore the button status action is disabled for this device.

Figure 264 shows Panels Status commands that were added to the action list. The list shows a general name for each action. For example, even though "Buttons Action" appears twice, it includes different actions related to the panel buttons.

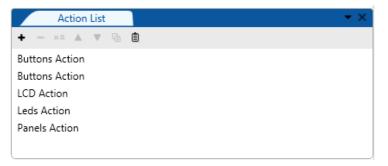


Figure 264: Panels Status Action List

When an action is selected, the details of that action will appear in the Action Editor. For example, selecting the Panels Action shows that **RC-74DL** is locked and the LCD Action shows the **RC-74DL** LCD displaying the date:

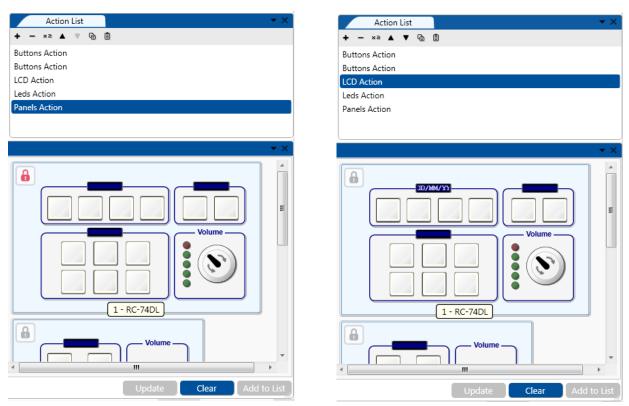


Figure 265: Panels Status Action - as Appears in the Action Editor

9.4.1 The Button Status

The **Button Status** lets you define a button's behavior and set its light color, as well as enable/disable it or set its state.

To define the button status:

- 1. Choose the Panels Status tab.
- Click a front panel button in the Action Editor (for example button 1 on the RC-74DL). The button frame turns blue:

Action Editor	→ ×
Port Command Port Switch	
Panels Status	
Timer Start/Stop	
Delay	
Query Start/Stop	
Sub Routines	
Site Control Message	1 - RC-74DL
	Volume v
Action: Buttons Action	Update Clear Add to List

Figure 266: Panels Status - Selecting a Button

Note that only the relevant actions are available for each button type.

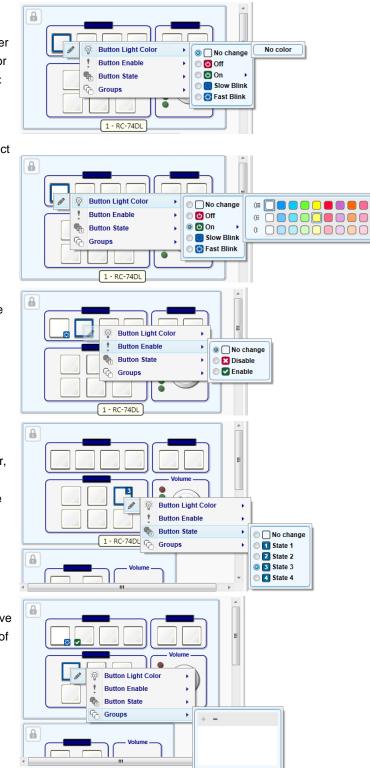
Select Button Light Color and choose the button behavior to **No Change** (there is no other change in the current button behavior except for the color change), **Off**, **On**, **Slow Blink** or **Fast Blink.**

For **No change** and **Off** there is no color to select; for **On**, **Slow Blink** and **Fast Blink** select a color + intensity (one of three levels).

Select **Button Enable** to **disable** or **enable** the button.

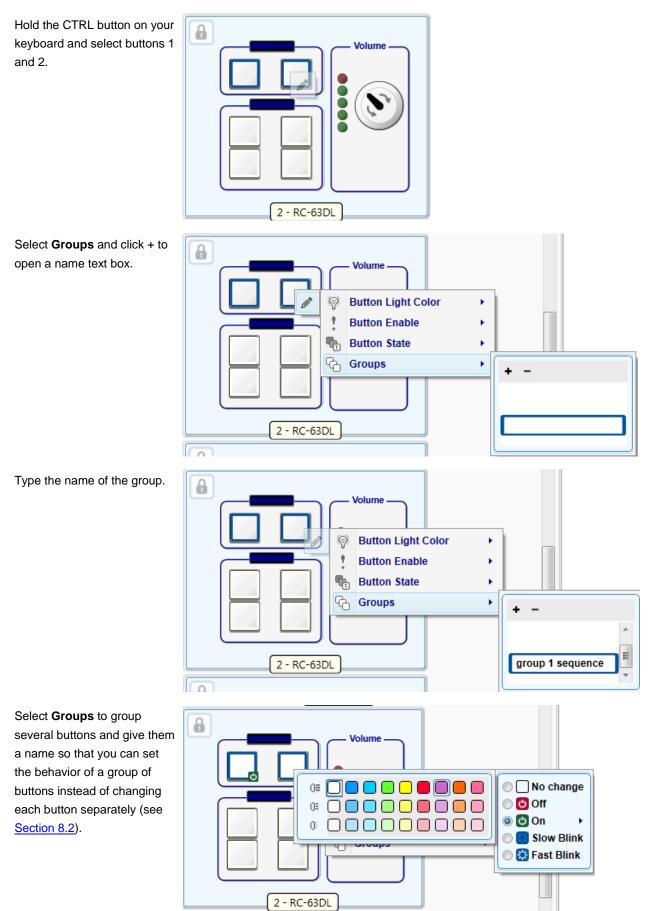
Select **Button State** to define the state of the button (first you need to set the button behavior, see <u>Section 8.2.</u> In this example the button behavior was set to four states). For each state you can set the button appearance.

Select **Groups** to group several buttons and give them a name so that you can set the behavior of a group of buttons instead of changing each button separately (see <u>Section 8.2</u>).

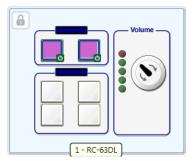


In this example Button 1 on the RC-63DL is set to 10 toggles. In each toggle buttons 1 and 2 need to change colors.

To use the Group feature in this case, select the Panels Status Action Editor and do the following:



The selected button color is applied to the buttons in the defined group selecting.



9.4.2 The LCD Label

LCD Label lets you alter an LCD label on the front panel of the device.

To alter an LCD label on the room controller keypad of the device:

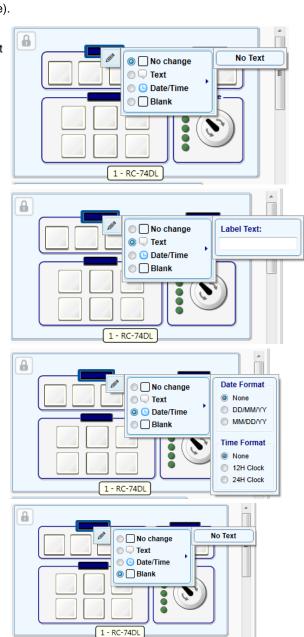
- 1. Choose the Panels Status tab.
- 2. Select the LCD Label (its frame turns blue).

Check No Change and the current status will not	
change.	

Check Text and type a label text.

Check **Date/Time** and select the date format, **None**, **DD/MM/YY** or **MM/DD/YY** and the time format, **None**, **12H** or **24H**.

Check Blank to turn the label blank.





Note that the front panel shows the button status previously set.

9.4.3 The Knob LEDs Light

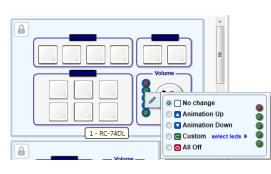
The knob LEDs light (located next to a digital audio knob) lets you select a room controller device and set the behavior of its LEDs.

To define the knob LED lights behavior, click the "LEDs" on the left side of the knob:

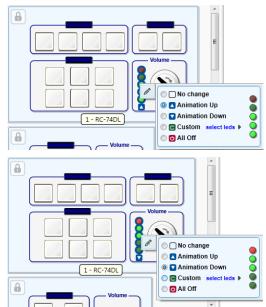
8

8

Check No Change and the current status will not change.



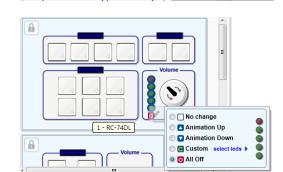
Check Animation Up or Animation Down to set the turning-on direction of the knob LEDs.



Check Custom and select the knob LEDs that

should be turned on.

Check All Off to turn off the knob LEDs.



RC-74DL

🗅 🥅 No change

Animation Up 🛛 🔽 Animation Dowr

Custom select I

🛛 🔁 All Off

8

 \bigcirc

Õ

9.4.4 The Panel Lock

The Panel Lock lets you select a room controller device and lock its front panel buttons. To lock the front panel, click the room controller device panel area. The button frame turns blue, see <u>Figure 267</u>.

No change Onlock Olock Olock	Volume
[[1-R	C-74DL

Figure 267: Panel Status - Panel Lock

Note that an unlock/lock icon appears on the top left side of the panel.

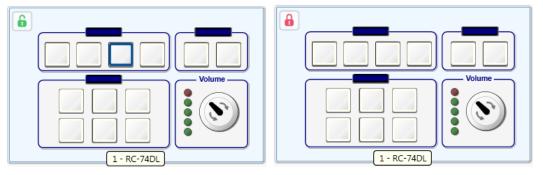


Figure 268: Panel Status - Panel Lock or Unlock State

9.5 Adding a Switcher Command

The Switcher Command lets you select an input to switch to the outputs

Action Editor	▼ X
Port Command	
Port Switch	Select Command
Panels Status	•
Switcher Command	[1-SV-552] Button Video 1 [1-SV-552] Button Video 2
Power Amplifier	[1-SV-552] Button PC 1
Delay	[1-SV-552] Button PC 2 [1-SV-552] Button PC 3
Site Control Message	[1-SV-552] Button HDMI
	Clear Add to List

Figure 269: Switcher Command – Select an Input

After selecting the input click the Add to List button. The new command is added to the selected trigger action list.

9.6 Adding an Audio Power Amplifier

The **Power Amplifier** action lets you set the output volume for devices with built-in power amplifiers (**SV-552** in this example).

You can set the volume to a certain level, increase or decrease it or mute the volume (On or Off).

Action Editor	▼ X
Port Command	
Port Switch	Select Command
Panels Status	•
Switcher Command	Volume Set Volume Up
Power Amplifier	Volume Down
Delay	Mute
Site Control Message	
	Clear Add to List

Figure 270: Power Amplifier - Select an input

After setting the desired volume behavior, click the Add to List button.

9.7 Timer Start/Stop

The **Timer Start/Stop** action lets you select a trigger and set its state to Start or Stop. Once the Timer triggers are defined, the **Timer Start/Stop** states will appear and will let you start the timer that activates/deactivates the Timer trigger action and stop it (see examples, in <u>Section 8.5</u>).

::::::		
	Action Editor	▼ X
	Port Command	
=	Port Switch	Timer Trigger
	Panels Status	Timer - PRJON
	Timer Start/Stop	Timer - System Inactivity
	Delay	State
	Query Start/Stop	· · · · · · · · · · · · · · · · · · ·
	Sub Routines	
	Site Control Message	
Ŧ		Clear Add to List

Figure 271: Timer Start/Stop - Select a Timer Trigger

9.8 Delay

The **Delay** action lets you set a delay time of up to 60 seconds between actions. Set the delay time and click the **Add to List** button.

Action Editor	▼ X
Port Command	
Port Switch	
Panels Status	
Timer Start/Stop	
Delay	
Query Start/Stop	Delay in Seconds: 3.2
Sub Routines	
Site Control Message	
Action: Delay in Second	s - 3.2 Clear Add to List

Figure 272: Delay - Set the Delay Time

9.9 Query Start/Stop

Query Start/Stop is used to trigger a query within the action list. To do so select the query and then select start or stop.

Action Editor	▼ ×		
Port Command			
Port Switch	Query Trigger		
Panels Status	Query:Power - [1-RC-74DL] RS-232.Terminal_Block_1		
Timer Start/Stop	Query:Fan - [1-RC-74DL] RS-232.Terminal_Block_1 Query:LampHour - [1-RC-74DL] RS-232.Terminal_Block_1		
Delay			
Query Start/Stop			
Sub Routines	State		
Site Control Message	▼		
	Clear Add to List		

Figure 273: Query Start/Stop - Selecting the Query Trigger

9.10 Adding Sub Routines

Sub routines are enabled once a sub routine trigger is defined (see <u>Section 8.7</u>). After setting the sub routine trigger, you can add the sub routine trigger to any other trigger. This is helpful for using if you need to repeat a sequence of actions several times within a trigger or repeat the same sequence of action in several triggers.

Action Editor	• X
Port Command	
Port Switch	Select Sub Routine
Panels Status	•
Timer Start/Stop	Sub Routine - Prepare for Shutdown
Delay	
Query Start/Stop	
Sub Routines	
Site Control Message	
	Clear Add to List

Figure 274: Sub Routines – Select a Sub Routine

9.11 Site Control Message

The Site Control Message action is used to send messages to Site-CTRL SW application and display them.

Select the **Port**, the **Query** and the **Status**. If relevant, the status is set so that it fits the Site Control filtering categories. The message is typed as required.

Action Editor		• ×
Port Command		
Port Switch	Port	
Panels Status	[1-RC-74DL] RS-232.Terminal_Block_1 Clear	
Timer Start/Stop	Query	
Delay	LampHour Clear	
Query Start/Stop	Power	
Sub Routines	LampHour Fan	
Site Control Message	•	
	Message Send parsed value (for LampHours query)	
	Clear Add t	o List

Figure 275: Site Control Message - Select the Query Event

Note that the **Status** sets the level of the displayed message so that when in **Site-CTRL** messages can be filtered according to their levels of risk or importance this message will also be filtered in accordance with the **Site-CTRL** filtering levels.

Note that if you select the LampHour query you need be sure that "Send parsed value" is checked, to allow the SiteCTRL main screen to show the Lamp Hour life in percentage.

10 Connecting to the Device

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	
Planning	Carefully plan your controlled room	
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	10
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

While many actions are available to **K-CONFIG** users without needing to connect to the device itself, the following actions require that the device is connected to your PC. These actions include:

- Set the K-NET IDs, see Section 10.2
- Firmware upgrade, see Section 10.3
- General settings, see Section 10.4
- Ethernet settings, see Section 10.5
- Security settings, see <u>Section 10.6</u>
- Date and time settings, see Section 10.6.1
- Syncing the configuration to the device, see Section 10.7
- Reading the configuration from the device, see <u>Section 10.7.1</u>
- Clearing the configuration from the device, see <u>Section 10.9</u>

You can connect your PC to:

- A Master room controller device
- An auxiliary device that is connected with a K-NET cable to its Master room controller.
- An auxiliary device that is connected directly to the PC.

10.1 Connecting Methods

Before you perform any of the actions described above, you need to physically connect to the room controller device.

This can be done in any of the following ways:

- Connecting via the Ethernet
- Connecting to the device via the RS-232 port (no null-modem is required).
- Connecting the room controller device directly to your PC via the USB connector whether it is defined as an auxiliary device or a standalone Master room controller.

You can connect only via the available ports on the room controller device.



Note that you can read from a room controller device only via the Ethernet.

To connect a room controller device:

1. Click the **Connect** button in the quick access toolbar. You can also select Connect from the Device menu.

Connection Method		
ODP	IP:	192 . 168 . 001 . 039
🔘 ТСР	Port:	50000
		Default
Serial	Port:	COM1 -
O USB		NO USB DEVICES -
		Refresh Ports
	_	
		Connect Cancel

Figure 276: Connection Method Window

Alternatively you can click the DISCOVER button to get a list of discovered room controller devices and then choose the desired room controller device from that list and click Connect.

DISCOVERED DE	EVICES				×
		IP	NAME	MODEL	CONNECTION TYPE
Connect	IDV	192.168.56.1	KRAMER_3500	SV-551	Ethernet
Connect	IDV	192.168.56.3	KRAMER_4610	SV-551	Ethernet
					Refresh

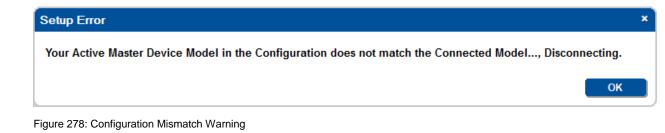
Figure 277: Discover Devices

- 2. Select the Connection Method (Ethernet, Serial or USB).
- 3. Enter the data that is relevant to the selected connection method:
 - UDP the room controller device IP address and the port number. Click Default to return to the default IP address (<u>Section 10.1.1</u>).
 - TCP the room controller device IP address and the port number (note that you have to set the port number to 50000).

Click Default to return to the default IP address (Section 10.1.1).

- Serial select the port number to which the room controller device is connected and set the baud rate (Section 10.1.2).
- USB select the USB port to which the room controller device is connected. Click Refresh if a new port was added (<u>Section 10.1.3</u>).

If the project navigator room configuration does not reflect the actual controlled room, the following warning appears:



10.1.1 Connecting via the Ethernet

To connect via the Ethernet (UDP + TCP):

- 1. Set your PC to enable Ethernet connection (see <u>Section 10.1.1.1</u>).
- 2. Type the room controller device IP address.
- 3. For TCP only, set the port number to 50000.
- 4. Click **Connect**.

10.1.1.1 Setting the ETHERNET Connection

You can connect the room controller device (for example, the **SV-551)** via Ethernet using either of the following methods:

- Directly to the PC using a crossover cable.
- Via a network hub, switch, or router, using a straight-through cable.

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

You can connect the Ethernet port of the room controller 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 room controller device (192.168.1.39) during the initial configuration.

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

- 1. Click Start > Control Panel > Network and Sharing Center.
- 2. Click Change Adapter Settings.
- 3. Highlight the network adapter you want to use to connect to the device and click **Change settings of this connection**.

The Local Area Connection Properties window for the selected network adapter appears as shown in <u>Figure</u> <u>279</u>.

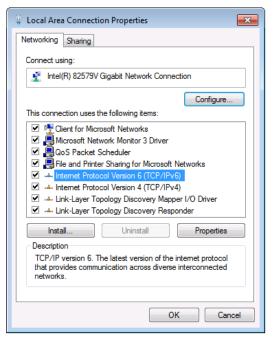


Figure 279: Local Area Connection Properties Window

- 4. Highlight either Internet Protocol Version 6 (TCP/IPv6) or Internet Protocol Version 4 (TCP/IPv4) depending on the requirements of your IT system.
- 5. Click Properties.

The Internet Protocol Properties window relevant to your IT system appears as shown in Figure 280 or Figure 281.

Internet Pr	otocol Version 4 (TCP/I	Pv4) Pro	perties	5		? 🗙
General	Alternate Configuration					
this cap	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.					
() Ob	tain an IP address automa	tically				
O Us	e the following IP address:					
IP ad	dress:		1.1			
Subn	et mask:					
Defa	ult gateway:					
O Ob	tain DNS server address a	utomati	cally			
-O Us	e the following DNS server	addres	ses:			
Prefe	rred DNS server:					
Alter	nate DNS server:			•		
Va	ilidate settings upon exit				Adva	anced
				ОК		Cancel

Figure 280: Internet Protocol Version 4 Properties Window

nternet Protocol Version 6 (TCP/I	Pv6) Properties	? 💌
General		
	ed automatically if your network supports this capability. network administrator for the appropriate IPv6 settings.	
Obtain an IPv6 address auto	omatically	
Use the following IPv6 address	ess:	
IPv6 address:		
Subnet prefix length:		
Default gateway:		
Obtain DNS server address a	automatically	
Ouse the following DNS serve	r addresses:	
Preferred DN5 server:		
Alternate DNS server:		
Validate settings upon exit	Adva	anced
	OK	Cancel

Figure 281: Internet Protocol Version 6 Properties Window

Select Use the following IP Address for static IP addressing and fill in the details as shown in <u>Figure 282</u>.
 For TCP/IPv4 you can use any IP address in the range 192.168.1.1 to 192.168.1.255 (excluding 192.168.1.39) that is provided by your IT department.

Internet Protocol Version 4 (TCP/IPv4) Properties					
General					
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.					
Obtain an IP address automatical	y I				
Use the following IP address:					
IP address:	192.168.1.2				
Subnet mask:	255.255.255.0				
Default gateway:					
 Obtain DNS server address auton 	Obtain DNS server address automatically				
Ouse the following DNS server add	resses:				
Preferred DNS server:					
Alternate DNS server:	• • •				
Validate settings upon exit	Advanced				
	OK Cancel				

Figure 282: Internet Protocol Properties Window

- 7. Click OK.
- 8. Click Close.

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

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

10.1.2 Connecting via the RS-232 Port

To connect via an RS-232 port:

- 1. Select the PC COM number port to which the room controller device is connected.
- 2. Select the baud rate.
- 3. Click Connect.

10.1.3 Connecting via a USB Port

To connect via a USB port:

- 1. Select the PC COM port to which the room controller device is connected.
- 2. Click Connect.

10.2 Set the K-NET IDs

Once the controlled room is ready, that is, the items are all actually installed you need to assign the KNET ID for the Master and auxiliary devices. The ID number of the master room controller is always 1, auxiliary devices will have a KNET ID from 2 and on, and the ID numbers allocated to the Virtual devices are 11 and 12. For example, in a controlled room, the Master controller is **RC-74DL**. One of the auxiliary devices connected is the **SL-10**. In order to communicate with the **SL-10**, you need to set the K-Net ID on the **SL-10**.

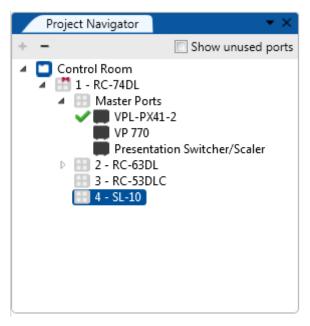


Figure 283: KNET ID – A Controlled Room Setting Example

By default, the following devices' K-NET ID is set to 2 (auxiliary device) resulting in a communication error with **K-CONFIG** when trying to identify them as master room controllers (K-NET ID 1):

- RC-62
- RC-62X
- RC-63A
- RC-63D
- RC-63DL
- RC-63DLN

In such cases, the devices' K-NET ID must be set to 1 manually. For more information, see Section 10.2.1.

To set the K-NET ID to an auxiliary device:

1. Right click the required auxiliary device in the **Project Navigator** area and select **Set K-NET ID**. The following window appears:

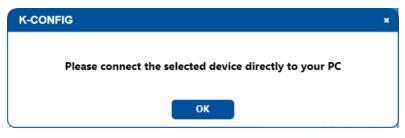


Figure 284: KNET ID - Connect the Device Directly to PC

2. Connect the auxiliary device (SL-10) directly to the PC (via USB) and then click OK.

(i

If you are connecting the device via USB for the first time, you might need to define the USB port. To do this, follow the instructions in <u>Section 3.2</u>.

The Connection Method window appears:



Connection Method *		
© UDP ○ TCP	IP: Port:	192 . 168 . 001 . 039 50000
		Default
C Serial	Port:	COM1 💌
C USB		NO USB DEVICES
		Refresh Ports
		Connect Cancel

Figure 285: KNET ID - The K-NET ID Connect Window

3. Click **Connect**.

The Setting K-NET[™] ID window appears.



Figure 286: KNET ID - Setting K-NET ID

4. Click **OK** to set the ID number.



Figure 287: KNET ID -K-NET ID assigned

10.2.1 Setting K-NET IDs Manually

By default, the K-NET ID of the following devices is set to 2:

- RC-62
- RC-62X
- RC-63A
- RC-63D
- RC-63DL
- RC-63DLN

In order for **K-CONFIG** to recognize the following devices as master room controllers, their K-NET ID must be set to 1 using the MACH-NUM Protocol 3000 command. For more information about using Protocol 3000 commands, refer to the Protocol 3000 User Manual available at: <u>www.kramerav.com</u>.

To manually set the K-NET ID to 1:

- 1. Connect the device to your PC via Ethernet, USB or RS-232.
- 2. Using standard telnet communication software, such as Hercules, send the following Protocol 3000 command:

##MACH-NUM 01<CR>

The K-NET ID is set to 1. Some devices may require a restart to complete this operation.

10.3 Firmware Upgrade



Before uploading a new firmware to a room controller device, make certain that the firmware you have selected matches the connected room controller device. In some cases, it will be possible to upload firmware that does not match a room controller device, resulting in inoperability of the room controller device.



Before uploading a new firmware to a room controller device, disconnect it from Site-CTRL and Web Access.

To load new firmware:

- 1. Check for the latest firmware at: <u>www.kramerav.com/manual/K-Config 3</u>.
- 2. Connect the room controller device.
- Select Firmware Update from the Device menu. The Firmware Update window appears:

Firmware Update	
Select Device for FW Upgrade:	
Upload File	
Select File:	
File Type: UNKNOWN	Browse
Progress	0%
Do not check CRC	Upload
	CLOSE

Figure 288: Firmware Update Window

4. Select the room controller device to upgrade from the **Select Device for FW Upgrade** list box (**SL-10** in this example).

You can select the master room controller or any of the connected auxiliary devices.

5. Click the **Browse** button to find the firmware file.

Firmware Update				
Select Devic	e for FW Upgrade:	SL-10		
Upload File				
Select File:	R:\Software Repos	itory\Release\SL-10\4.0.	11.9835 01-09-20	
File Type:	File Type: FIRMWARE Browse			
Progress				
		0%		
📃 Do not c	heck CRC		Upload	
			CLOSE	
			CLUSE	

Figure 289: Load Firmware Upgrade Window

6. Click **Upload**. The following warning appears:

Warning	×	
1	Click OK to upgrade your device firmware. Do not interrupt the file transfer before completion. Doing so may damage the device.	
	OK	

Figure 290: Firmware Upgrade Warning

7. Click OK.

Firmware L	Firmware Update			
Select Devi	ce for FW Upgrade:	SL-10		
Upload File				
Select File:	R:\Software Repos	sitory\Release\SL-10\4.0.11.9835 01-09-20		
File Type:	File Type: FIRMWARE Browse			
Progress		-fi-= (2001)		
	Sen	iding (39%)		
Do not	check CRC	Upload		
		CLOSE		

Figure 291: Firmware Upgrade Process

8. Upon Completion the following window appears:

^
lly
ОК

Figure 292: Firmware Upgrade Successful

9. Click OK.

Note that you might be asked to restart the unit.

Firmware U	Firmware Update		
Select Devi	ce for FW Upgrade:	SL-10	
Upload File			
Select File:	R:\Software Repos	itory\Release\SL-10\4.	0.11.9835 01-09-20
File Type:	FIRMWARE		Browse
Upload F	inished		
Do not	check CRC		Upload
			CLOSE

Figure 293: Firmware Upgrade Process Complete

10. Upon completion, open the Device Settings window to make sure the firmware was correctly upgraded.



If the firmware version number remains the same, close the **Device Properties** windows, disconnect and then reconnect the device, and open the **Device Properties** window again to check the Firmware version number.

Device setting readout is possible with standalone room controllers and K-NET master room controller or Aux K-NET devices connected with a K-NET cable to their master room controller, as defined in the Room Control tree.

10.4 Device Settings Window

The Device Settings window reads the data from the connected room controller device.

To connect the room controller device:

- Click the Connect button on the main window or select Connect from the Device menu. The Connect window appears (see <u>Figure 38</u>).
- 2. Select the connection method to the standalone controller or master room controller and click the Connect button (in the Connection Method Window).



Device setting readout is possible with standalone room controllers and K-NET master room controller or Aux K-NET devices connected with a K-NET cable to their master room controller, as defined in the Room Control tree.

Figure 294 shows the general device settings tab, which includes the (master and auxiliary) room controller device information: Name, Model, Description, S.N (Serial Number), Firmware, K-Net-ID and the Unlock keypad PIN code text box where you can set the key pressing sequence to press to unlock the keypad in case it is locked by a trigger (activated by pressing a button, a schedule or via Web Access).

Since the button key number does not appear on the actual keypad, the system integrator should inform the user regarding the key sequence.

Device Settings	E
General Ethernet Securit	y Date and Time
Name	23232
Model	RC-74DL
Description	
S.N	12345678911
Firmware	4.0.26.19352
K-Net-ID	1
Unlock keypad PIN code	
	Set Changes

Figure 294: General Device Settings

If you want to view the auxiliary device settings select that device in the Project Navigation area:

The Device Settings appears empty:

Device Settings	8
Name	
Model	
Description	
S.N	
Firmware	
K-Net-ID	
Unlock keypad PIN code	
	Set Changes

Figure 295: Selecting an auxiliary device

Click the Retrieve Device Details button. The following window appears:

Retrieve Auxiliary Settings	×
Please make sure Auxiliary device is connected to Master.	
ок	

Click OK. The system retrieves the room controller device settings and the following window appears:

Device Set	tings			
General	Ethernet	Security	Date and Time	
Name		(23232	
Model		(RC-74DL	
Descrip	tion	(
S.N		(12345678911	
Firmwa	re	(4.0.26.19352	
K-Net-I	D	(1	
Unlock	keypad PI	N code (
				Set Changes

Figure 296: Auxiliary Device Settings

Note that for some room controller devices (for example, the **RC-52N**) you can set the light intensity of the buttons (from 1 to 3); and for some room controller devices the light intensity is set to 3 and cannot be changed (for example. the **RC-2**):

Device Setting	gs		
General Et	hernet	Security	Date and Time
Name		(KRAMER_0001
Model		(RC-52A
Description	n	(Unsupported
S.N		(0
Firmware		(0.9.0.16263
K-Net-ID		(1
Dim light p	power	ļ	2 •
Unlock key	/pad PII	N code	1 2 3 3
			Set Changes

Figure 297: The Dim Light Power Feature



Note that most room controller devices don't have the Dim light power feature.

10.5 The Ethernet Settings Tab

Figure 298 shows the Ethernet information, which can be changed, if required:

Device Settings	1000 07000 000	×
General Ethernet Securi	ty Date and Time	
Port	TCP,50000	
IP	192 . 168 . 1 . 54	
Gateway	0.0.0.0	
Mask	255 . 255 . 0 . 0	
Мас	00-1d-56-00-c3-92	
DNS Master	0.0.0.0	
DNS Secondary	0.0.0.0	
DHCP Enabled		
	Set Cha	anges

Figure 298: Ethernet Settings

10.6 The Security Tab

Figure 299 shows the Security Settings:

Secure Mode OFF User Pass 123456789012345 Admin Pass 1234	eneral Ethernet S	Date and Time
	Secure Mode	OFF
Admin Pass 1234	User Pass	123456789012345
	Admin Pass	1234

Figure 299: Security Settings

Function	
Secure Mode:	OFF – the product definitions and configuration can be changed without requiring a password
	ON – a password is required to change the configuration and view or change the room controller device definitions
User pass:	This password lets you view the room controller device definitions in Web Access and Site-CTRL without changing the definitions
Admin Pass	Lets you change the room controller device definitions and configuration via Web Access and K-Config

Figure 300 shows the Date and Time settings (see Section 10.6.1):

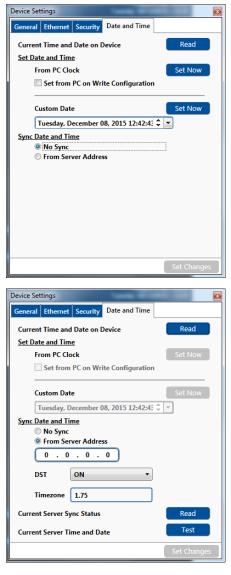


Figure 300: Date and Time Settings

Function	
and time server device's interna	es to room controller devices with an Ethernet connection settings options and lets you set the room controller I clock to use with the scheduler (see <u>Section 8.1</u>). ne can be set either manually, via a local server or via the
Current Room Controller Device Time and Date	Click the Read button to read the device's current date and time
Set Date and Time	Click the Set Now button to set the date and time via one of the following options:
	From PC Clock (if No Sync is checked)
	You can check the box next to Set from PC on Write Configuration to have the date and time updated whenever writing a configuration
	Custom Date (if No Sync is checked)
	Select a date and time from the drop down calendar
Sync Date and Time	Check radio button: No Sync – to read the date and time from the PC clock or by setting a custom date (see above) From Server Address – type an IP address to read from a server address
DST	Daylight Saving Time or Summer Time correction. Set to ON if necessary
Timezone	Set the time zone relevant to UTC (Coordinated Universal Time). The time zone can be set from -13 to +12 hours relative to UTC in 15 minute intervals (00, 15, 30 or 45 minute intervals). For example, the time zone in Adelaide, Australia is UTC +9:30, therefore 9:30 needs to be entered in Timezone for that particular location. If the value entered is out of range, the following message appears: Kramer K-Config Illegal Timezone, please use Hours(-13 to 12):Minutes(00, 15, 30, 45) format
	ОК
Current server Sync Status	Click the Read button to read the date and time on the server Note that the time displayed includes the DST and timezone modifications
Current Server Time and Date	Click the test button to check the status on the server

 (\mathbf{i})

Note that the **Date and Time** area appears only for room controller devices that include an Ethernet connector and support this function.

10.6.1 Setting the Date and Time

You can set the date and time on machines that have an Ethernet connector to use with the scheduler. You can set the time from several sources such as from a PC connected to the room controller device, an NTP (local) server, or the Ethernet. You can also set the time and date manually.

To read the current date and time on the device, click the Read button:

Current Device Time and Date

Read

The device time and date appears:

Wed, Oct 02 2013, 11:32:04



The following table summarizes the date and time setting options:

Set Date and Time	Procedure		
From a connected PC Clock	1. Click the "Set Now"	From PC Clock Set Now	
	button. 2. Click Read (from device)		
	to check the updated values.	Sun, May 12 2013, 11:56:09 Read	
	If you want the time and date to be set whenever writing a configuration, check "Set from PC on Write Configuration".		
Manually	1. Click the dropdown box.	Custom Date	
		Monday, November 30, 2015 9:12:37 🗘 💌	
	2. Select the desired date and time from the dropdown	Monday, November 30, 2015 9:12:37 🗘 🔽	
	box.	▲ November, 2015 ▶	
		Su Mo Tu We Th Fr Sa	
		25 26 27 28 29 30 31 1 2 3 4 5 6 7	
		8 9 10 11 12 13 14	
		15 16 17 18 19 20 21 22 23 24 25 26 27 28	
		29 30 1 2 3 4 5	
		9:12 AM 🗘 🔪	
	3. Click the Set Now button.	Custom Date Set Now	
	4. Click Read (from room controller device) to check the updated values.	Wed, Oct 02 2013, 11:13:57	
From a server address	1. In the Sync Date and		
	Time area, check "From Server Address".	Sync Date and Time	
	Cerver Address .	No Sync	
		From Server Address	
	2. Turne the ID address	0.0.0.0	
	2. Type the IP address. For example, 192.168.0.6	Sync Date and Time	
		No Sync	
		From Server Address	
		192 . 168 . 0 . 6	
	3. Set the DST to ON (for adjusting the time to the	DST OFF	
	"summer" clock) if required	Timezone OFF	
	4. Set the time zone according to UTC. For example, the time in Jerusalem is UTC +2:00.	Timezone 2:00	
	5. Click the Read (from server) button (below the IP number).	Current Server Sync Status Read Current Server Time and Date Test	
	6. Click Read (from device) to check the updated values.	Current Device Time and Date Read	
	The room controller device updated date and time appear	Sun, May 12 2013, 12:18:04 Read	
	In case there was a problem reading the date and time, the following message appears:	Failed getting Date and Time. Read	

10.7 Syncing the Configuration to the Room Controller Device

Once the configuration is ready, you can sync (write) the configuration to the room controller device, by selecting Sync Configuration to Device from the Device menu list.

Note that:

- In Master-Auxiliaries configurations, the configuration file is always written to the master room controller.
- When using a standalone room controller, the configuration file is written to the room controller.

In case you have written a configuration file to a room controller device and it is now connected as an auxiliary device to another master room controller, you have to define the device as an auxiliary device and upload an updated configuration file to the master room controller.

Before writing the configuration to the device you have to save it as a project.

To write a configuration to the room controller device, do the following:

- 1. Connect the PC to the Master or the standalone room controller via the Ethernet/RS-232/USB.
- 2. Click the **Connect** button (or select Connect from the Device menu list) or click Discover to discover the room controller device.

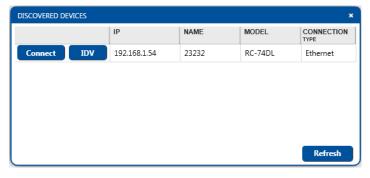


Figure 301: Discovering a Room Controller Device

The following message appears:

K-CONFIG	×
Do you want to open a Project with this Device?	
Yes No	

3. In the **Device** menu, select **Sync Configuration to Device** (or click the Sync to Device button on the top right).

You will be prompted to save the configuration as a project:

🗱 Save As	and the second se		×
Config	2 🕨 projects 👻 🔩	Search projects	م
Organize 🔻 New fold	er	:=: •	0
☆ Favorites	Name	Date modified	Туре
🧮 Desktop	KramerProject1 SL-10 A.kpr	7/31/2013 9:53 AM	KPR File
\rm Downloads	KramerProject1 SL-10 B.kpr	7/31/2013 11:30 AM	KPR File
🖳 Recent Places	📄 KramerProject1 SL-10.kpr	7/31/2013 9:50 AM	KPR File
	KramerProjects SL-12 for gpio.kpr	9/15/2013 12:32 PM	KPR File
词 Libraries 🛛 🗉			
Documents			
J Music			
Pictures			
Videos			
🖳 Computer			
	•		۰.
File <u>n</u> ame: Kram	erProject1		-
Save as <u>t</u> ype: Kram	er K-Config Project Files (*.kpr)		•
) Hide Folders		Save	cel

Figure 302: Loading a Configuration

If required, change the file name and then click Save.
 The Write Configuration warning appears:

×

Figure 303: Write Configuration warning

If the KPR project file size exceeds its limit (see Section 10.7.1), the following warning appears:



Figure 304: Write Configuration warning (without the KPR Project) K-CONFIG – Connecting to the Device



Note that during the Sync process, **K-CONFIG** writes the current configuration and saves (to its current project name) it as well.

5. Click Yes.

The Writing process appears on the top right part of the main window. After uploading the room controller device resets

KRAMER K-CONFIG - RC-	74DL with Images			_ 0 ×
File Device Windows Help				
Disconnect	Discover Status: Formattin	ng current device configuration	Project Size: 877K of	433K Preparing 🗶
Project Navigator	▼ ×	Triggers	 × Action List 	•)
+ -	Show unused ports	1 + - O 🔺 V 🖥 🕯 🖉	+ - ×s 🔺 🖉 📋	
Control Room		<u>Custom Events</u> Kevnad Events		

KRAMER K-CONFIG - RC	-74DL with Images		_ 0 ×
File Device Windows Help			
Disconnect	Discover Status: Uploading files	Progress (1/26)	Updating. Please wait
Project Navigator	▼ X Triggers	 × Action List 	- ×
+ -	🗌 Show unused ports 🕢 + 🦳 🛍 🔺 🕫 🗎 🖉	+ - ×s 🔺 🖉 📋	
Control Room	<u>Custom Events</u> Keypad Events		

KRAMER K-CONFIG - RC-74DL with Images			_ 0 ×
File Device Windows Help			
Disconnect Discover Status:	ploading files	Progress (9/26) Sending (36%)	
Project Navigator	 X Triggers 	Action List	~ ×
+ - Show unused	ports 🕀 + - 🗊 🔺 🔻 🖻 🗊 🔗	+ - ×2 🔺 🔻 🔂 🗒	
 Control Room 1 - RC-74DL Master Ports 11 - AlexChezyTest 	Custom Events Keypad Events Button 1 - Cick(RC-74DL: 1) Monitor Events GPV/O Events Timer Events Query Events Cub Positions		

KRAMER K-CONFIG - RC	-74DL with Images				_ 0 ×
File Device Windows Help					
Connect	Discover Status: Offline			Project Size: 877K of 1	433K Resetting 🕱
Project Navigator	→ ×	Triggers	▼ ×	Action List	• >
+ -	Show unused ports		+	- ×2 🔺 🔻 🔂 📋	
Control Room		<u>Custom Events</u> Kevpad Events			

Figure 305: Writing Configuration and Device Resetting Process

6. Upon completion, the following window appears:

K-CONFIG	×
Writing configuration process and restarting the device were successful	
ок	

Figure 306: Writing Configuration Complete

- 7. Click OK.
- 10.7.1 Uploading the Project (*.kpr) File

When syncing the configuration to the room controller device, you can define whether to upload or not upload the project file. This option is relevant only if the project file exceeds the size limit.

Even if you set **File** > **Upload Project** > **No**, and the project file did not yet reach its size limit, it will still save the project file to the room controller device.

When almost reaching the limit, the project size box turns orange and once it exceeds the size limit it turns red.

_ ē ×	_ @ X
Project Size: 1338K of 1433K Sync To Device	Project Size: 1437K of 1433K Sync To Device
• ×	• x

Figure 307: Writing Project Complete

Once exceeding the limit, and attempting to sync the configuration to the room controller device, the following message appears:

K-CONFIG	×
This project exceeds the allowed size	
Its total size is: 1470752 bytes,	
while the maximum allowed size is: 1468000 bytes	
Nevertheless the project can be saved	
You can reduce its size by setting menu File->Upload Project->Off	
ок	

Figure 308: Writing Complete

10.8 Reading the Configuration from the Room Controller Device

In order to read the Device configuration you have to add the system setup in the Project Navigator window. Note that you cannot read the room controller device configuration via the USB port.

- 1. Connect the PC to the Master or the standalone room controller.
- 2. Click the **Connect** button (or select Connect from the Device menu list).
- 3. In the **Device** menu, select **Read Configuration from Device**. The following message appears:



Figure 309: Read Configuration from Device - New Project Message

4. Click OK.

Read is in Process:

🖬 📴 🚱 Disconnect Status Online					
oject Navigator	X Triggers	2	Action List - D	evice inactivity	
Control Room 	B Cattorn Corteit Overse Shaha At Or At On Orense Insuface Office Contra Office Contra Office Contra Office Contra Open Contra Solutioners		(1-SL-10), Elfuerent 3	-Maja , Cit	
vice View - 1 - SL-10	-14 -	Action Editor	Port Command		
SL-10 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0	Dilay Sie Corbol Hessage	Port 15.111 PS 462.5 11.5.111	Crimes Divers Divers Crises Fache Trane Sory Trane Sory Tranba VenSonic	Comard

Figure 310: Read Configuration from Device - Reading Process

Upon completion, the following message appears:

Load Configuration	×
Configuration loaded successfully	
	ок

Figure 311: Read Configuration from Device - Reading Complete

The Device configuration is now uploaded to the PC.

10.9 Clear Configuration from Room Controller Device

To clear the room controller device configuration:

- 1. Connect the PC to the Master or the standalone room controller.
- 2. Click the **Connect** button (or select Connect from the Device menu list).
- 3. In the **Device** menu, select **Clear Configuration from Device**. The following message appears:

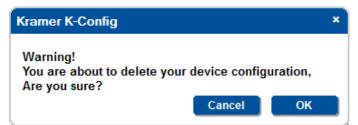


Figure 312: Clearing Configuration from Device – Warning Message

4. Click OK.

The device is being formatted and upon completion, the following message appears:



Figure 313: Clearing Configuration from Device - Warning Message

Any attempt to read the formatted room controller device now, results in the following message:



Figure 314: Clearing Configuration from Room Controller Device - No File Loaded

11 Using the Embedded Web Pages

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	11
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	<u>12</u>

The Web pages let you control the controller and gateway device via the Ethernet and perform minor configuration operations. The Web pages include all the configured items and more, and are accessed using a Web browser and an Ethernet connection.



Note that the Web page features are described in more detail throughout the guide.

To do so:

- Connect the room controller device to the PC via the Ethernet (see instructions in the device's user manual).
- Make sure that your browser is supported

The following operating systems and Web browsers are supported:

Operating Systems	Applicable Browser Versions and Higher
Windows 7 and higher	Chrome: 35
	Internet Explorer (32/64 bit) version 10
	Firefox 30
Mac (PC)	Chrome: 35
	Firefox: 30
	Safari: 7
iOS	Chrome: 35
	Safari (depends on the IOS version)
Android OS	Chrome: 25

11.1 Browsing the K-CONFIG Web Pages

Note that the Web pages reflect the configuration that was synced from **K-CONFIG** to the room controller device. Any change that is done in the Web pages (for example, scheduling) will remain only until the room controller device is once again synced (with same or new configuration).

If the Ethernet/power cable was disconnected, the following message appears:

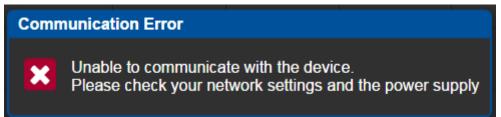


Figure 315: The Embedded Web Pages - Communication Error Message

Reconnect cables to restore Web page.

To browse the **K-CONFIG** Web pages, make sure that the device is powered and connected to your PC via the Ethernet.

Discover the room controller device:

- 1. Open your Internet browser.
- 2. Type the IP address of the room controller device in the Address bar of your browser. The Web page loads.

← → C [] 192.168.1.54	☆ 🔘 ≡
Loading web components, please wait	

Figure 316: The Embedded Web Pages - Loading the Web Pages

11.2 The Room Controller Devices Web Page

The room controller Devices Web page lists the master room controller device panel, slave keypad panel, and the Virtual device panels (with their K-Net IDs) as configured by **K-CONFIG**:

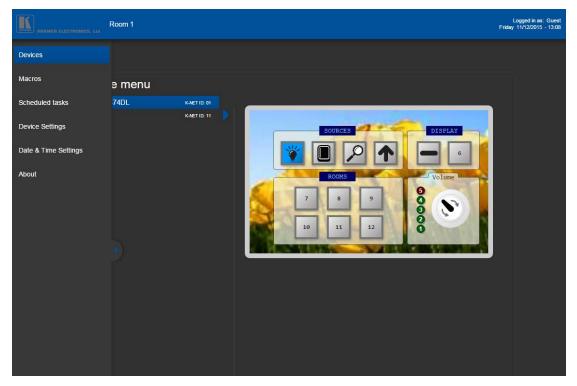


Figure 317: The Embedded Web Pages - the Devices Web Page (and Pages List)

The Room Controller panel appears on the Web page exactly as it was configured in K-CONFIG:



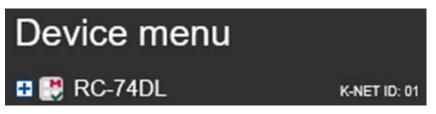
Figure 318: The Embedded Web Pages - Master Controller Panel

Click the menu arrow to hide the Web page list:

Device menu		
🛚 📑 RC-74DL	K-NET ID: 01	
Trial	K-NET ID: 11	SURCES DISPLAY Image: Construction of the second seco

Figure 319: The Embedded Web Pages - The Devices Web Page

The M icon next to RC-74DL designates a Master Device and the green \checkmark mark indicates that the device is connected to the PC:



Click the + icon to see the controlled device drivers that were defined for the master room controller:

Device menu			
 RC-74DL 4x4HFS RB-6 TV MX660 	K-NET ID: 01	SOURCES	DISPLAY
trial	K-NETID: 11	Rooms 7 8 9 10 11 12	Volume O O O O O

Figure 320: The Embedded Web Pages – The Devices Web Page

Click the **blue** arrow next to switch to single-panel mode in which each panel is displayed in a separate page:



Figure 321: The Embedded Web Pages - The Virtual Device Panel

The virtual device configured in **K-CONFIG** appears in a new window and can be used to control the various devices. Click the home icon to return to the main page. The **Other menu** button was set up to link to yet another virtual panel. Click it to open the next virtual panel:



Figure 322: The Embedded Web Pages - The Virtual Device Panel

Click the X icon to display all the panels on one screen and scroll the page to view them.



In K-CONFIG the Other menu button is configured to link to the next configured virtual panel:

Figure 323: The Embedded Web Pages – Link to Front Panel 1 (in K-CONFIG)

The master controller lists the drivers. Click a driver on the list (for example VSM-4x4HFS) to view the groups of commands that have been defined in the **K-CONFIG** Driver Manager:

Device menu		
E 📑 RC-74DL	K-NET ID: 01	Routing
■ 4x4HFS ■ RB-6		Transport
		Input
📼 MX660		Volume
🔲 trial	K-NET ID: 11	Image
		Power
		Device Specific

Figure 324: The Embedded Web Pages - The Driver Command Groups

Each category shows the active commands that are defined on the **K-CONFIG** Driver Manager. Click a group button to open and run any of the commands on the list:

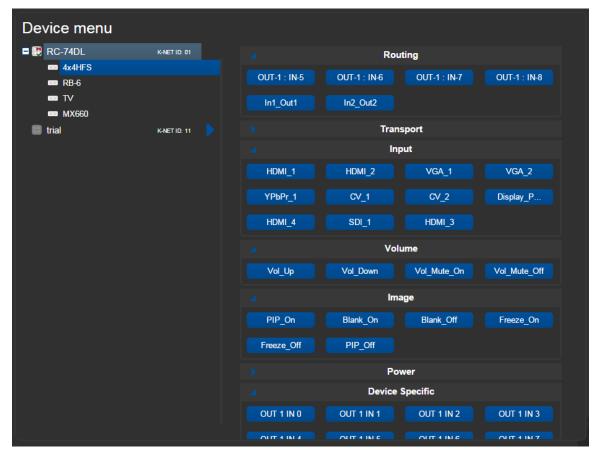


Figure 325: The Embedded Web Pages - VSM-4x4HFS Driver Command Buttons

For the TV, in this example, there will be a different set of commands configured (see Figure 327) that are related to the TV:

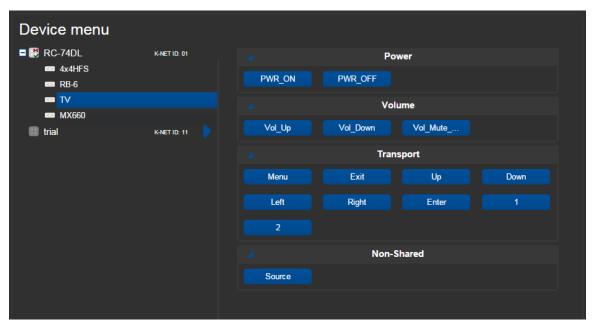


Figure 326: The Embedded Web Pages - TV Driver Command Buttons

In the K-CONFIG Action Editor you can find the commands defined in the configuration.

Port Command	Port	Driver Q	Command 🔍
Port Switch	[1-RC-74DL] RS-232.Terminal_Block_1	▲ Drivers	PWR_ON
	[1-RC-74DL] RS-232.Terminal_Block_2	▷ BenQ	PWR_OFF
Panels Status	[1-RC-74DL] RS-232.Terminal_Block_3	Draper	Vol_Up
Delay	[1-RC-74DL] RS-485.1	Kramer	Vol_Down
	[1-RC-74DL] IR.Out_1	Pacer	Menu
Site Control Message	[1-RC-74DL] IR.Out_2	Panasonic	Exit
	[1-RC-74DL] .Ethernet.1	▲ Samsung	Up
	[1-RC-74DL] .Ethernet.2	DM65E	Down
	[1-RC-74DL] .Ethernet.3	▷ Sony	Left
	[1-RC-74DL] .Ethernet.4		Right
	[1-RC-74DL] .Ethernet.5		Enter
	[1-RC-74DL] .Ethernet.6		Source
	[1-RC-74DL] .Ethernet.7		1
	[1-RC-74DL] .Ethernet.8		2
	[1-RC-74DL] .Ethernet.9		Vol_Mute_Toggle
	[1-RC-74DL] .Ethernet.10		
	[1-RC-74DL] .Ethernet.11		
	[1-RC-74DL] .Ethernet.12		
	۲ III ۲		

Figure 327: The Embedded Web Pages - Action Editor

11.3 The Macros Web Page

The Macros Web page lists all the macros that were configured in **K-CONFIG** and lets you run them by clicking the appropriate button:

Macros		
All Off	All On	

Figure 328: The Embedded Web Pages - The Macros Web Page

11.4 The Scheduled Tasks Web Page

The Scheduled tasks page displays the schedule setup that was configured in **K-CONFIG** together with the tasks that were added via the Web page (this example included no schedules in the configuration, therefore the Schedules tasks tables appears empty):

kes									
	Schedule	d tacke							
105		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	
eduled tasks	Summer .	monoay	ressoay	weakesday	manacay	ritesy	Galdiday	ounday	
ice Settings	00:00								
& Time Settings	01:00								
ut.	02:00								
	03:00								
	04:00								
	05:00								
	06:00								
	07:00								
	08:00								
	09:00								
	05.00								
	10:00								

Figure 329: The Embedded Web Pages - The Scheduled Tasks Web Page

Hover over the table and click + to insert a macro:

chedu	led tasks			Schedu	led tasks			Schedu	led tasks		
	Monday	Tuesday	Wednesday		Monday	Tuesday	Wednesday		Monday	Tuesday	Wednesda
00:00				00:00				00:00			
01:00	Đ			01:00	÷			01:00	01:00 - Al Off		
02:00	Add mac	ra j		02:00	Add macr Time:	ro for: Monday	×	02:00			
03:00				03:00	Macro;	All Off •		03:00			
04:00				04:00		Add		04:00			

Figure 330: The Embedded Web Pages – Adding a Macro to the Schedule K-CONFIG – Using the Embedded Web Pages

After setting the schedule, click the Save button to save the setup:

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
0:00							
1:00	01.00 - AI Off						
2:00							
03:00							
4:00							
5:00							
6:00							
7:00							
00:80							
9:00							
0:00							

Figure 331: The Embedded Web Pages - Saving the Schedule

The following warning appears:

Saving Warning							
1	The added tasks will be deleted with the next	"sync to devic	e" process:				
		ОК	Cancel				

Figure 332: The Embedded Web Pages – Saving Warning

Note that once a configuration is synced to the room controller device, this schedule will be deleted.

chedul	ed tasks			Schedu	led tasks		
	Monday	Tuesday	Wednesday		Monday	Tuesday	Wednesday
00:00				00:00			
01:00	01:00 - Al Off 0 🛖 - 🥢 🏠			01:00	01:00 - Al Off 0 + - 🐼 1		
02:00	Edit H	acros		02:00	Edit N	londay macros	×
					Time	Macro	
03:00				03:00	1 : 0 1 : 15	All Off ▼ All On ▼	×
04:00				04:00			

You can also edit a schedule and then save it:

Figure 333: The Embedded Web Pages - Editing a Macro

11.5 The Device Settings Web Page

The Device settings Web page displays the device and security settings and lets you change some of the parameters:

Device settings	
⊿ 💽	RC-74DL (K-NET ID: 01)
Unit name	23232 Set
Model	RC-74DL
Firmware version	04.00.26.19352
Serial number	12345678911
K-net ID	01
Ethernet Settings	
DHCP	ON OFF
IP address	192 . 168 . 1 . 54 Set
Mask address	255 . 255 . 0 . 0 Set
Gateway address	0 . 0 . 0 . 0 Set
Mac address	00-1d-56-00-c3-92
UDP port	50000 🗢 Set
TCP port	50000 🗢 Set
Login Settings	
Login enable	ON OFF
User password	Set
Admin password	Set

Figure 334: The Embedded Web Pages – The Device Settings Web Page

11.6 The Date and Time Settings Web pages

This page lets you set the time and date and is similar to the Date and Time tab in the K-CONFIG Device Settings:

Date & Time settings		
Current	Tuesday 08/12/2015 13:5	7
Set device date & time		
Manual	1:51 PM	Set
From PC clock	08/12/2015 13:57:38	Set
From server address	0.0.0.0	Set
	Time-zone: 1 💠 45 🔻	Set
	DST ON	

Figure 335: The Embedded Web Pages - Date and Time Settings

11.7 The About Web Page

This page shows the Web page version and Kramer details:

KRAMER	WEB VERSION 3.0.18 Kramer Electronics Ltd. 3 Am VeOlamo St. Jerusalem, Israel, 9546303
	Tel: +972-73-2650200
	Fax: +972-2-6535369
	Email: info@kramerel.com
	Web: http://www.kramerelectronics.com
© 2015 - Kramer Ele	ctronics Ltd. all rights reserved.

Figure 336: The Embedded Web Pages – The About Web Page

12 Creating a KRAMER NETWORK Virtual Master

You are here:

Configuration Steps	Description	Section
Introduction	General information and system requirements	1
Planning	Carefully plan your controlled room	2
Installation	Install the Software	<u>3</u>
Introduction to K-Config	Get to know the K-Config main window, menus and quick access icons	<u>4</u>
Driver Manager	Define the Controlled Device Drivers	<u>5</u>
Project Navigator	Define the Controlled Room	<u>6</u>
Port Manager	Assign the controlled devices to the Master and Auxiliary device ports	<u>7</u>
Triggers	Activate the Triggers	<u>8</u>
Adding Actions	Describes how to add the various actions to a trigger	<u>9</u>
Connecting to a Device	Describes how to connect to a device, upgrade the firmware, read/write to the device and so on	<u>10</u>
Using the Web pages	Describes how to control the device via the Ethernet and perform minor configuration operations	<u>11</u>
Creating a Virtual Master	Describes how to create a Virtual Master to control a room via KRAMER NETWORK	12

KRAMER NETWORK 1.0 is an IP-based enterprise management software platform for AV networks. Using any laptop, PC or tablet, **KRAMER NETWORK** lets IT managers to easily and remotely configure, route, control, and manage Kramer Pro-AV devices, room environments, and IP streaming devices from a single point in the network via a user-friendly Web-based interface.

Using **KRAMER NETWORK** you can easily manage a room in a floor of a building which is part of a network site. One way of doing this is by using a **KRAMER NETWORK** Virtual Master room controller that is created in **K-CONFIG**. The **KRAMER NETWORK** Virtual Master control configuration is saved in **K-CONFIG** and is then uploaded to a room defined in **KRAMER NETWORK**.

12.1 Opening a New Project

The Virtual Master room controller device is designed to be displayed in the **K-CONFIG** Web pages and it includes 50 Virtual Ethernet ports. You can connect the ports to various controlled devices via the Port Manager window and also add auxiliary devices. You can create the Virtual Master room controller by selecting either New Project or New K-Network Project (a shortcut) from the File menu.

To open a Kramer Network Virtual Master room controller:

1. Select the Virtual-Master room controller from the ADD MASTER DEVICE window:

ADD MASTER DEVICE		
RC-63EDX		
RC-712M		
RC-74DL		
RC-76M		
RC-76R		
RC-78R		
SL-1		
SL-10		
SL-12		
SL-14RC		
SL-14RCN		
SL-1N		
SV-551		
SV-552		
Virtual-Master		
VP-31KSI		
VP-81KSI		
WP-500		
WP-501		*
	ок	Cancel

Figure 337: Virtual Master Device - Selecting the Virtual-Master

2. Click OK.

The virtual-master appears in the Project Navigator area:

Project Navigator	▼ ×
+ -	Show unused ports
 Control Room Virtual-Master Master Ports 	
Device View	▼ ×
Virtual Master	_
1 - Virtual-Maste	er

Figure 338: Virtual Master Device - the Virtual-Master in the Project navigator

Click the + sign to add an auxiliary device to the Virtual-Master room controller:

ADD AUXILIARY DEVICE	ADD AUXILIARY DEVICE	
dd I/O Proxy		
FC-132ETH		
FC-22ETH		
FC-24ETH		
FC-26		
FC-28	Add I/O Proxy	
SL-240		
SL-280	FC-132ETH	
	FC-22ETH	
	FC-24ETH	
	FC-26	
	FC-28	
	SL-240	
	SL-280	
Add Virtual Device	31-200	
 Virtual Device Templates 	Add Virtual Device	
BlackSkin		
BlueSkin	AlexChezyTest	
CircleSkin	DVD Controller	=
SquareSkin	Room 4 Control	
Virtual-Device	Room 5	
	L	•
	Virtual Device Templates	
ОК Салсе	ок	Cancel

Figure 339: Virtual Master Device - Selecting an Auxiliary Device

You can add three types of devices:

- Control gateway devices (see <u>Section 6.3</u>)
- Virtual keypad devices (see <u>Section 6.4</u>)
- Virtual keypad device templates (see <u>Section 6.5</u>)

Set the master ports (via the Port Manager) and select the auxiliary devices (physical or virtual devices):

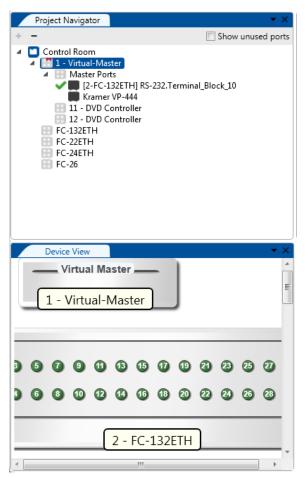


Figure 340: Virtual Master Device - Room Configuration

12.2 Syncing the Virtual Device Configuration to the Virtual Master Device

To sync a configuration for use with KRAMER NETWORK:

- 1. In the file menu, select Save Project As to save the Virtual Master configuration as a project.
- Click the Sync to Device button on the top right.
 The Export Configuration Krnt File window appears:

Drganize - New fold	ler			107 •	
Favorites	Name	Date modified	Туре	Size	-
Desktop	JE ButtonImages	6/7/2016 7:21 AM	File folder		
Downloads	ConfigDriversDir	11/29/2015 1-23 PM	File folder		
Secent Places	Devices	7/25/2016 7:24 AM	File folder		
ERENDERING	🕌 GL	11/29/2015 1:25 PM	File folder		
	3 KConfig3	7/27/2016 7:28 AM	File folder		
Jibraries	KConfig3Temp	7/27/2016 7:28 AM	File folder		
Documents	3 KramerTempFolder	7/18/2016 3:57 PM	File folder		
👌 Music	PanelTemplates	7/25/2016 2:42 PM	File folder		
Pictures	🍌 Temp	12/8/2015 2:26 PM	File folder		
Videos	🕌 Templates	7/26/2016 3:54 PM	File folder		
Computer					
🟭 Local Disk (C:) 🔹	*				
File game: Mitt	alMaster-Configuration-07-27-2016.kmt				
Save as type: Kram	er Configuration Krnt Files (*.krnt)				

Figure 341: Virtual Master Device - Syncing to Device

3. Click the Save button.

The Krnt file can be used for KRAMER NETWORK.