Integration Note

Manufacturer:	Rako Controls
Model Number(s):	**Various**
Minimum Core Module Version:	6.3, Build 49
Document Revision Date:	2/5/2015

OVERVIEW AND SUPPORTED FEATURES

The Rako Controls lighting system uses a central Ethernet Bridge to allow a third party system to communicate with and control the lighting.

RAKO LIGHTING SYSTEMS SUPPORT THE FOLLOWING FEATURES:

Any feature not specifically noted as "supported" is not supported.

Lighting Load Control: Control of lighting dimmer and relay devices in the RAKO system is supported, as well as feedback of selected scene.

Shade Control: Control of shades is supported.

Virtual Keypads: Pre-designed keypad templates emulating real RAKO keypads are available in Configurator.

Schedule Control: Multiple schedules can be set using the Viewer software allowing timed control of the RAKO system. Control and feedback of RAKO's Holiday mode is also supported.

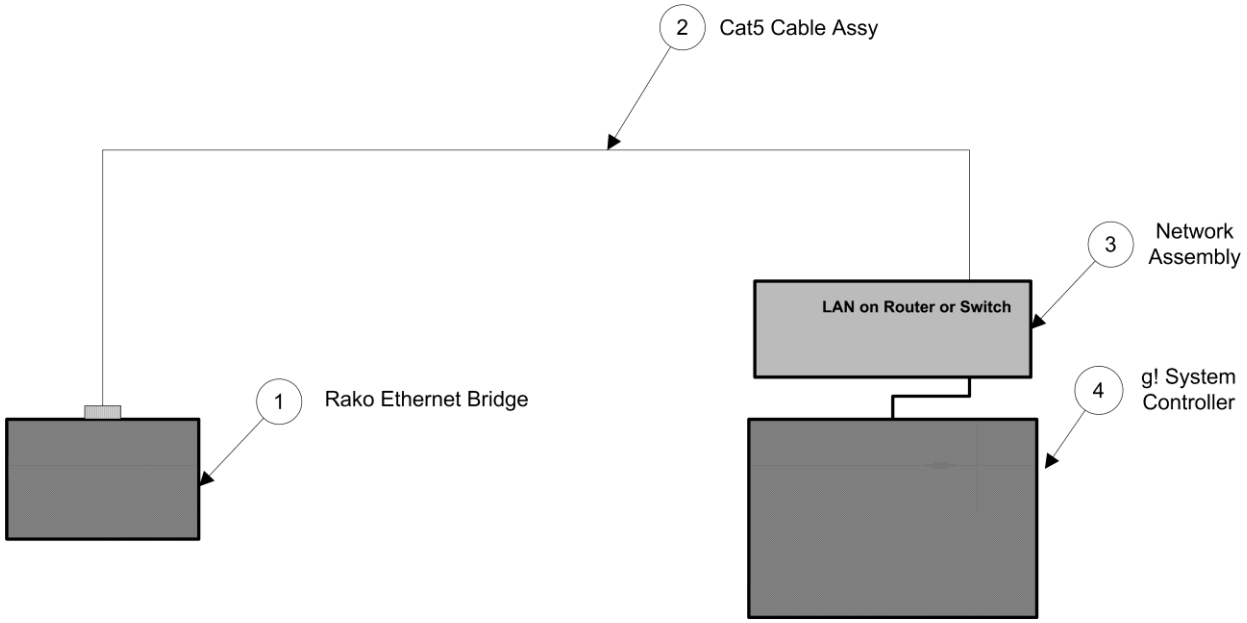
Scene Creation: The **g!** system can be used to create lighting scenes and also offer the ability for the user to create custom scenes within the GUI.

Event Mapping: Event mapping allows events in RAKO (such as a keypad button press) to initiate a command (or group of commands) in **g!.**

Device Discovery: UDP discovery allows the **g!** system to discover all devices programmed into the RAKO bridge.

CONNECTION DIAGRAM: ETHERNET CONTROL

Refer to the **Bill of Materials** and **Wiring Diagram** that follow.



BILL OF MATERIALS

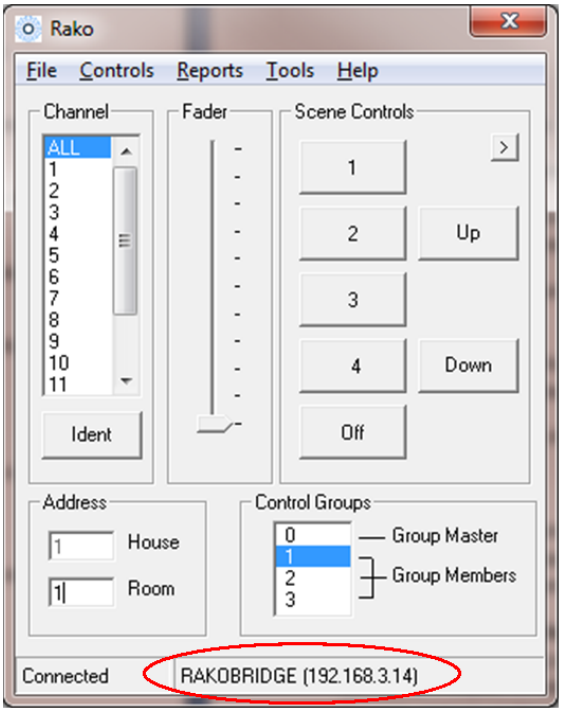
#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	Rako Bridge	Rako	RTC-Bridge*	Ethernet	RJ-45 Female	*example of Rako part number, refer to Rako bridges
2	Cat5 Cable Assy.	Installer	N/A	Ethernet	RJ-45 Male X RJ-45 Male	Must terminate all 8 conductors
3	Network Assembly	ELAN	NWA18	Ethernet	RJ-45 Female	
4	g! Controller	ELAN	Various (e.g. HC12)	Ethernet	RJ-45 Female	

RAKO CONFIGURATION FOR ETHERNET CONTROL

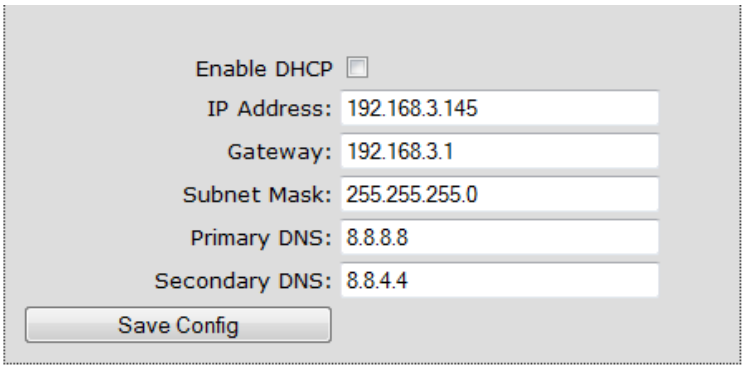
The RAKO system must first be programmed either manually or by using the RaSoft software. A complete guide to RAKO programming can be found here: http://rakocontrols.com/useful-information/#setup

Assigning a Static IP Address to the Bridge

It is recommended that the RAKO bridge is given a static IP address, which must be within the same range as the **g!** Home Controller. If your bridge is still configured with its factory settings, you should be able to type "*rakobridge*" into the address bar of your browser to view the web interface. If not, the current IP address of the bridge is displayed in the RaSoft software when it is first opened:



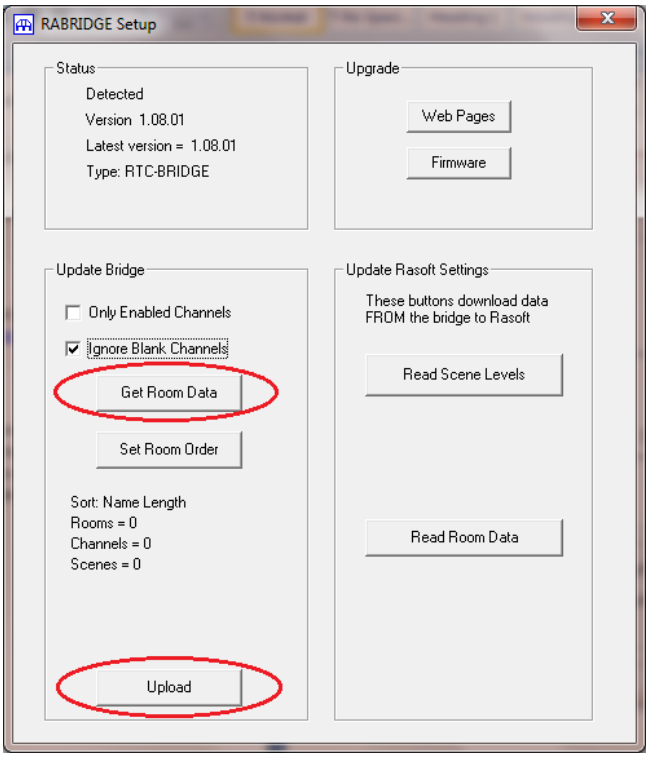
If you type the IP address into the address bar of your browser, the web interface for the bridge should be displayed. You must then select **Configuration** and enter the username and password (by default these are "*admin*, *microchip*"). Enter your static IP details at the bottom of the page and choose **Save Config**:



Uploading your configuration to the bridge

It is possible to operate the RAKO system without first sending your configuration to the bridge. However, it is recommended that you do upload your configuration to the bridge as this is essential for discovering devices in **g!.**

In the RaSoft software, choose **Controls > Bridge > Setup** to display the RABridge Setup screen:



First click on **Get Room Data** and you will see the **Rooms**, **Channels** and **Scenes** fields populate. Then press **Upload** to transfer your configuration to the bridge.

G! CONFIGURATION

Set Up & Discovery

In the Lighting tab in Configurator, add an Ethernet communication device, choosing **Ethernet / Rako Bridge (RA/RTC/WA/WTC-Bridge.** Enter the static IP address of the RAKO bridge in the **IP Address** field.

Choose to add a new lighting interface and select **Rako Bridge (RA/RTC/WA/WTC-Bridge)** from the list. **All House** is added by default as this is a concept common to all RAKO systems. Click on **Discover Devices** and all RAKO rooms and devices should appear in the list.

NOTE: If any devices fail to discover, ensure no other applications are connected to the bridge (such as the RaSoft software) and re-run discovery until all devices are present.

If your bridge is fitted with a real time clock, an additional device will be added called **Holiday Controller.** Use this device to activate **Holiday Mode** in your Rako system.

Manually Adding Devices

You may wish to manually add devices from your RAKO system in **g!.** Right-click on **All House** and choose **Add New Device… .**

The driver supports 4 different types of lighting device:

Rako Dimmer Load: choose this device type if you are adding a dimmer unit (such as an RDL500-L). Enter the **Room** and **Channel** numbers according to the RAKO programming.

Rako On/Off Load: choose this device type if you are adding a relay unit (such as an RDS800-C). Enter the **Room** and **Channel** numbers according to the RAKO programming.

Rako Room: add a room that exists in the RAKO programming and enter its **Room** number.

Rako Shade: choose this device type if you are adding a relay unit (such as an RACUB). Enter the **Room** and **Channel** numbers according to the RAKO programming.

Note:

1. The Rako system feeds back scene status to **g!,** but not the actual level of a particular light or circuit. Therefore some **g!** interface buttons (such as scene buttons and momentary raise/lower buttons) work better than others (such as sliders and hold-to-dim buttons) with the Rako system.
2. It is recommended that scene commands are only ever sent to rooms and not to individual channels.

Holiday Mode

If your Rako Bridge is fitted with a real time clock, a device called **Holiday Controller** will be automatically discovered in configurator (note: it is not possible to manually add a device of this type). This device controls “Holiday Mode” in Rako, a feature which allows the user to record all events in the lighting system for a given period and then replay them.

The Holiday Controller device supports the following commands:

On: Use this command to begin holiday mode running (i.e. to “replay” recorded data).

Off: This command switches holiday mode off.

Start Record: Begin recording usage of the lighting system.

End Record: Finish recording usage of the lighting system.

If scene buttons are used in the **g!** user interface for the above commands, the Rako bridge will feedback the current state of holiday mode accordingly.

G! CONFIGURATION DETAILS

The following table provides settings used in the **g!** Configurator. Please refer to the Configurator Reference Guide for more details.

- "<Select from list>" the Configurator. — Select the appropriate item from the list (or drop-down) in
- "<User Defined>", etc. — Type in the desired name for the item.
- "<Auto Detect>", etc. — The system will auto detect this variable.

Refer to the **g! System Programming Details** below for additional information.

Devices	Variable Name	Settings (Ethernet)
Communication Devices	**Name**	<User Defined> (Default: **Lighting**)
	System #	<Auto Detect>
	Device Type	**Ethernet / Rako Bridge (RA/RTC/WA/WTC-Bridge) (Ethernet)**
	Enable Sharing	<Select from list>
	Sharing Port	<Auto Detect>
	IP Address	<User Defined> (Enter address of Rako Bridge)
	Port	<Auto Detect>
Lighting Interface	**Name**	<User Defined> (Default: **Rako Bridge (RA/RTC/WA/WTC-Bridge)**)
	System #	<Auto Detect>
	Device Type	**Rako Bridge (RA/RTC/WA/WTC-Bridge)**
	Communication Device	<Select from list> (Default: **Lighting**)
<Discover Devices>	**Press the Discover Devices button to discover all devices stored on the bridge.**	
Lighting Devices	**Name**	<Auto Detect>
	System #	<Auto Detect>
	Device Type	<Auto Detect>
	Hide Device From Scheduler	<Select from list>
	Room / Channel	<Auto Detect>
Keypads	**Name**	<User Defined>
	System #	<Auto Detect>
	Model	<Auto Detect>
And / Or:		
Custom Tab		
Notes: Keypads are not auto detected.		

COMMON MISTAKES

No devices are being discovered

- Check the IP address of the communication device matches the IP address of the bridge.
- Ensure your Rako configuration is correctly uploaded to the bridge.

Some, but not all, devices are discovered

- Ensure no other applications are connected to the bridge (such as the RaSoft software) and re-run discovery until all devices are present.