RTC-Bridge User Manual

For an overview of Bridges: "Bridge Application Sheet"

For programming a wireless system: "Wireless Module Programming Guide"/"Wireless RAK Programming guide"

Contents:

1 Functions of the RTC-Bridge

RTC-Bridge will add the following features to a RAKO wireless system:

- **Network interface**: including remote control via mobile devices.
- **Storing Project file information:** Room, Channel and Scene information can be stored.
- **Timed Events**: Automatic functions at fixed times including dawn & dusk times.
- **Mapping**: Commands can be redirected to perform other tasks.

- **Macros**. Series of commands that are triggered by a single command or event. Specific steps can be enabled and disabled giving conditional functionality.
- **Holiday Mode.** Replays recorded scene activity, creating an occupied look to a property.

2 Installing the RTC-Bridge
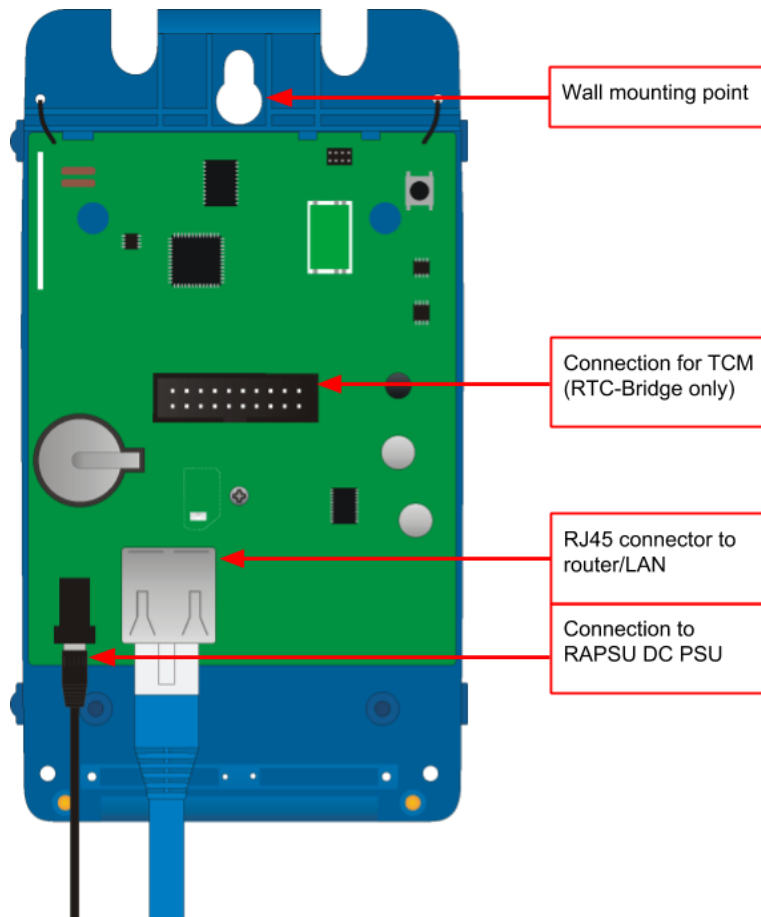
- **Step 1:** Loosen the two screws and the bottom of the casing and remove lid.

- **Step 2:** Plug the power supply provided into the RTC-Bridge and an available 13A socket.

- **Step 3:** Plug the Ethernet patch cable from the RTC-Bridge to a spare port in a router or network switch.

- **Step 4:** Mount the Bridge to a wall using fixing point at top of case if desired.

- **Step 5:** Replace lid to complete installation.

3 Discovering the Bridge and Setting the House Number

Before proceeding with any programming the Bridge needs to be discovered and the House number set.

3.1 Discovering the Bridge

Open Rasoft Pro programming software. Ensure that the laptop is connected to the same network as the Bridge.

The Bridge should appear in the "Communication" window in the bottom right of the software with a red stop sign. If it does not appear press "Refresh".
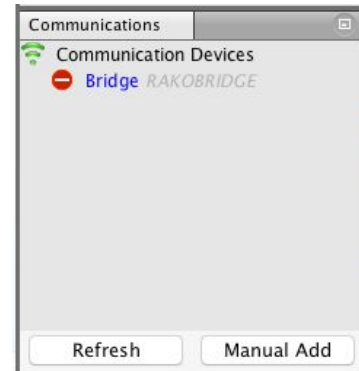
3.2 To set the Bridge House number

The Bridge always has a **default House Number of 1.** Before beginning any programming using the Bridge it is important to first set the House number to match the one used when creating the Project File. Failure to do so may result in interference with other systems.

- **Step 1:** Right click on the Bridge in the communications window in the bottom right of the software. Select "Open in Browser" to open the Bridge webpages.

- **Step 2:** Click "configuration" and enter the username and password.

- **Step 3:** Fill in the "Wireless House Address" to match the project file

- **Step 4:** Scroll down and press "Save config" to upload the new House Number to the Bridge.

The Bridge is now ready to be connected. Do this by double clicking on the Bridge as below.

WARNING

If a pop up box appears with a warning about the House number click "**Cancel**". This means there is a conflict between the "**Project File House Number**" and "**Bridge House Number**".

Do not continue programming. Return to Step 1 of this section and resolve the conflict before continuing.

3.3 If you cannot connect to the Bridge

If the software cannot connect to the Bridge first restart the software and ensure that it is fully updated. If the Bridge still does not appear it is most likely a networking issue. If this problem cannot be solved then the Bridge can be connected to point to point using a standard ethernet cable.

NB
By default the Bridge is connected via DHCP, this and other network settings can be edited via the Bridge webpages. It is possible to clear all network settings from a Bridge. Please call Rako technical support for information on how to do this.

4 Adding the Bridge as a device

Once the Bridge has been successfully connected it will need to be added into the software as a device.

- Select "File"- "New Device" to open the new device wizard. Choose "Bridge" as the device to be added.

- Select "Next" on the "Assign to Room" step. No room or channel needs to be associated to the Bridge.

- Select the Bridge from the list, it will appear if you are successfully connected in the communications window. Click "Refresh" if it does not appear.
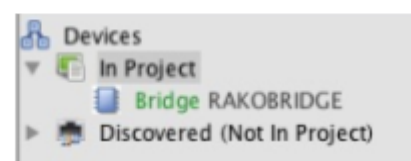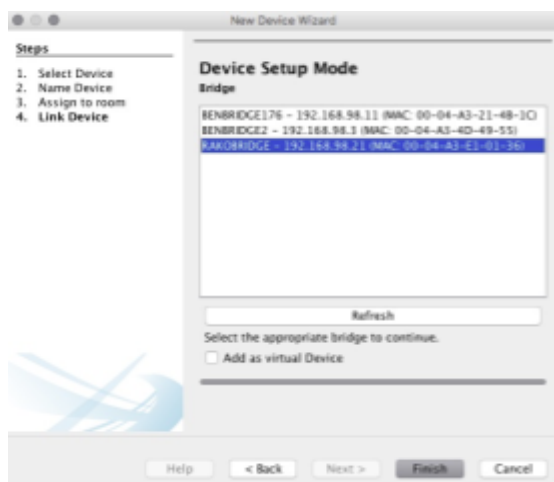
- The Bridge should now appear in the device list with green text and a blue icon. The device is now assigned.

- Press the "Update Now" button in the centre of the screen to complete setup. If this does not appear click on the Bridge in the device list.

5 Uploading the project file

Once **the entire system** has been completed the project file should be uploaded to the Bridge. The Bridge stores the Room, Channel and Scene information for the system. This information is required for the App. to operate correctly.

The "Smartphone/Web Data" tab is used to upload the Project File to the Bridge. Once selected it will open the page as below. Press "**Save & Upload Room Data To Bridge**" to upload.

Note: Sorting the Room columns will affect the smartphone order

Rooms:

ID	Enabled	Title	Type	Mode
13	☑	Hall	Switch	4 Scenes + Off
21	☑	KItchen	Blinds	4 Scenes + Off
29	☑	Study	Lights	7 Scenes + Off
37	☑	living room	Lights	4 Scenes + Off
45	☑	Master bed	Lights	4 Scenes + Off
0	☑		Lights	4 Scenes + Off

Channels:

ID	Enabled	Title	Type
1	☑	Spots	
2	☑	Wall lights	
3	☑	Pendant	
4	☑	Channel 4	
5	☑	Channel 5	
6	☑	Channel 6	
7	☑	Channel 7	
8	☑	Channel 8	
9	☑	Channel 9	

Scenes:

ID	Enabled	Title
1	☑	Scene 1
2	☑	Scene 2
3	☑	Scene 3
4	☑	Scene 4

Save & Upload Room Data To Bridge

Type - This will change the appearance of the icon used at the top of the room screen on the App. It will also affect the keypad that appears. For example a room set to "switch" will show two buttons: "on" and "off" whereas a "blind" type room will show three buttons: "open", "stop" and "close".

Mode - The mode of the room is only set when "lighting" is selected as the type. It will set the variety of "keypad" that will appear in the App. Typically it is best to make this match the physically keypad in the room.

NB
1) *If a number of scenes that is not 4, 7 or 16 is desired then "named scenes" should be selected. Give custom names to the scenes in the room editor and any number of scenes can be made to appear on the App.*
2) *While the order of the rooms can be changed from this screen the order of the channels is always fixed. To get channels in a specific order they must be addressed or mapped in the desired order.*

6 Downloading the project file

If information has been uploaded to the Bridge then it is possible to import the Room, Channel and Scene data into a blank project file.

The tab used for downloading information from the Bridge is called "**Room Import**" select it to open the page below.

- **Step 1:** Press the "Download Data" at the top of this page. This will open the data for preview on this page.

- **Step 2:** Press "Refresh List" if the rooms do not appear. If no rooms appear or only "default room" or "test bench" then there is no information to be downloaded from the Bridge.

- **Step 3:** Press "Import Data" to write the Room and Channel information in to the Project File.

- **Step 4:** Press "Refresh Channel Levels" to write the Scene data in to the Project File.

7 Events

Events can be viewed, added and changed using either Rasoft Pro or the Rako App.

The Bridge can generate automated Events that trigger commands at specific times.
For example it is possible to automatically turn on the Garden lights on at Dusk and turn off the Garden lights at Dawn.

7.1 Setting Events using Rasoft Pro

Bridge Events can be viewed and edited using Rasoft Pro. To open the events page in the software select the Bridge in the device editor and select the "Events" tab from the top of the window.

Mappings List:
Selects the map to be created/edited and shows a summary of each Event.

Event Trigger/Active Days:
Sets the time this event will occur (Dawn, Dusk or a specific time).

Also can set the days on which this event will occur.

Output Action:
Sets the Action triggered by the Event.

Mappings List:
All Events are listed down the left hand side of the screen. Select it such that it is highlighted to edit the "Event Trigger/Active Days" and "Output Action" sections for this Event.

Event Trigger/Active Days:
The "Event Trigger" and "Active Days" are the timing conditions that define when the event will occur.

NB

The dawn and dusk settings can be changed via the location settings in the webpage interface. An offset from this value can be set from this screen if desired.

Output Action

The Output action section on the right hand of the screen will define the command to be sent when the conditions in "Event Trigger"/"Active Days" are met.

NB

The "Action" drop down menu is used to select the command sent when the event is triggered. Typically these will be scene commands but it is possible to trigger and control Macros, Holiday settings etc.

7.2 Setting Events using the Rako App.

Events can also be created via the Rako App. The method to create events in the App is essentially the same as detailed above.

NB

It is also possible to set Events from the Bridge webpages if required

8 Mappings

When Mapping are used the Bridge can "listen" to a Rako command (Source) and perform a certain action (Output Action) every time it is "heard".
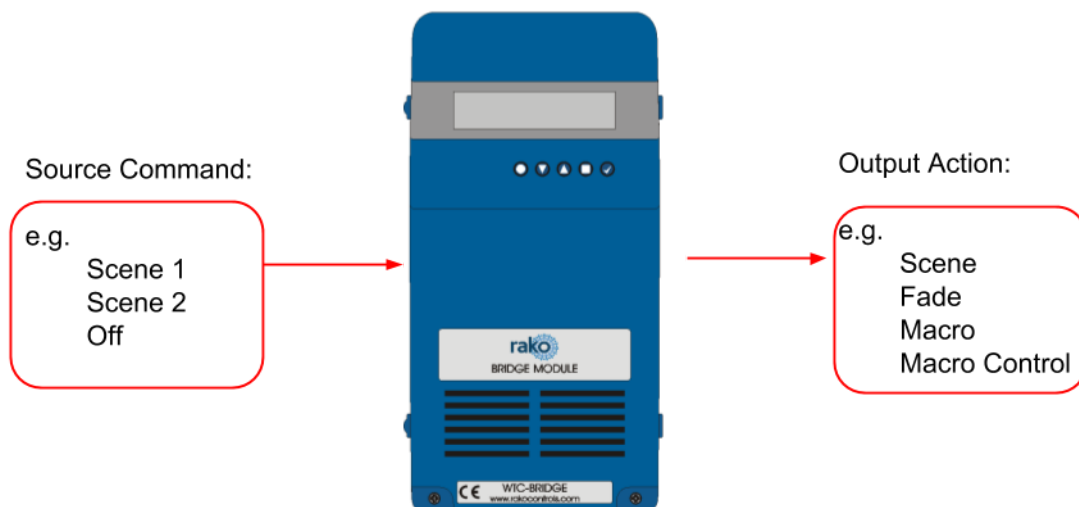
NB

It is usually preferable to use a programmable keypad rather than Bridge Mapping when possible. Where WCMs are RNCs are used in the system use **Keypad Mapping** *rather than Bridge Mapping.*

8.1 Mapping wireless commands to give multi-room functionality

Wireless commands can be mapped to additional wireless commands to make multiple rooms turn on at once. In the example below the "Hall Scene 1" is mapped to also trigger "Kitchen Scene 1".

8.2 Triggering Macros from Maps

When a Macro is used it must be triggered from a map (this could also be from a WCM map, WAVFR map etc.). Below Mapping 2 is an example of a map being used to trigger a macro: in this case "Start Macro 2".

Mappings List:
Selects the map to be created/edited and shows a summary of each mapping.

Source/Condition/Active Days:
Selects the command that needs to be "heard" for the output action to be triggered.

Also the "Condition" and "Active Days" sections can be used so that the map will only trigger at certain times.

Output Action:
Selects the action that occurs when the Source command is "heard" assuming the Active Days and Condition are met.

The action can range from transmitting a scene to starting/controlling a Macro.

NB
It is also possible to "Enable" and "Disable" maps from other commands via the "Mapping Control" Action.

9 Macros

Macros allow a sequence of actions to take place when triggered by an Event or Map. The Bridge can store up to 60 Macros each of which can have a maximum of 32 Steps.

The Bridge Macro screen is located from the tab in the Bridge device editor.
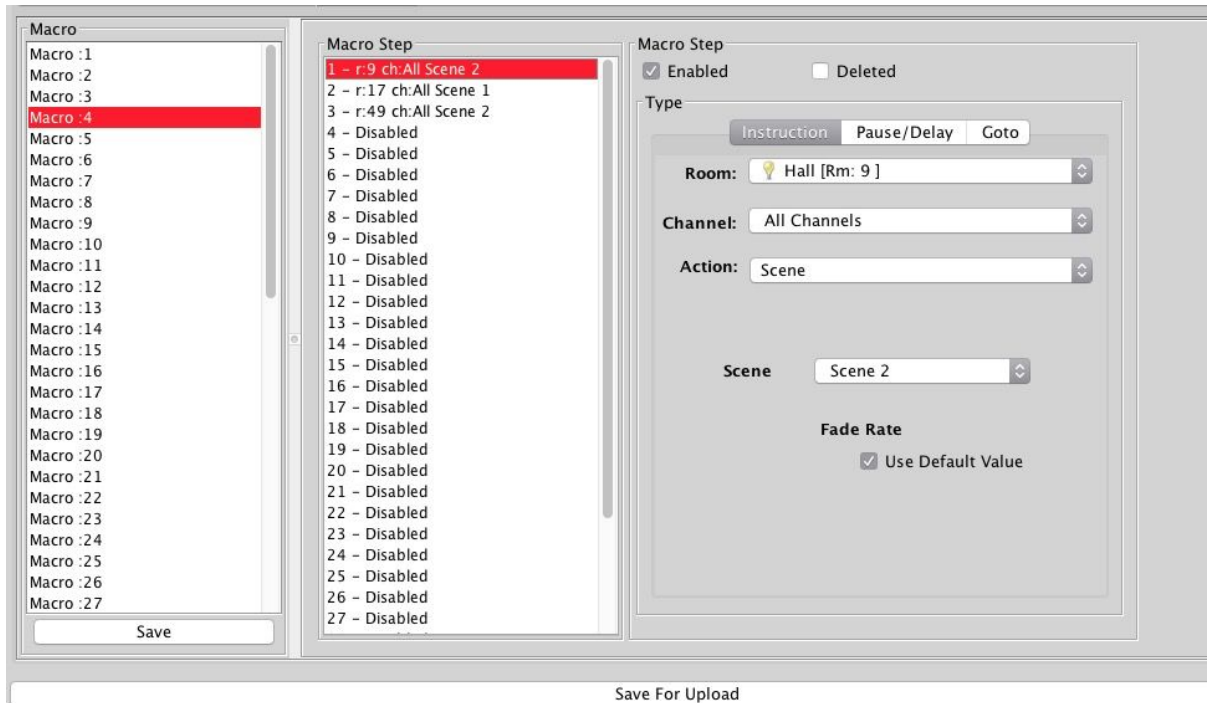
There are 3 steps in this example Macro:
- Room 9, All Channels, Scene 2
- Room 17, All Channels Scene 1
- Room 49, All Channels Scene 2

With this simply Macro the Bridge will just run through the three commands listed. More complex functionality can be achieved by using commands in the tables outlined below.

9.1 Writing Macros

Macro steps can be one of 4 types:

Action	Pause	Delay	Goto
Can be a simple command including Scenes, Fades etc. Can also include "Macro Control", "Mapping Control" for more complex programming.	A running Macro will stop at a Pause and remain there until it hears a Continue.	The Macro can wait at this step for a defined period of time. Useful when programming PIR timeouts etc.	The Macro can be sent to a defined step in this or another Macro.

9.2 Triggering Macros

Macros can be triggered in several ways. Most commonly:
- Wired device direct Map (WCM/WAVFR/etc.)
- Bridge Mapping
- Bridge Event
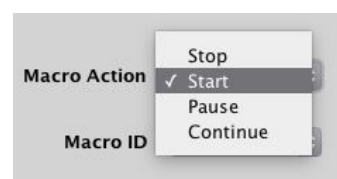
Once a macro trigger is sent it will perform one of four different functions to a Macro:

Start	Stop	Pause	Continue
This will cause the Macro to start from the beginning (Step 1) regardless of its current position in the Macro.	This will cause a Macro that is already running to Stop running and return to Step 1.	This will cause a Macro to Pause at whatever step it is currently running.	This will cause the Macro to continue from a Pause state, performing the step immediately after this and proceeded.

NB
It is also possible to "Enable" and "Disable" Macros (or parts of Macros) via the "Macro Control" Action.

10 Holiday Mode

Holiday mode allows the Bridge to record normal lighting activity in a property over a period of time. This can then be replayed whilst the property is empty in order to give a realistic impression that it is occupied.

Holiday mode has three states:

- **Record**: Used to create a log of the used of the system.
- **Playback**: Used when the house is unoccupied to replay the information gathered in "Record".
- **Idle**: Used when the system is in normal occupied operation and no recording is being made.

Holiday mode is most easily controlled from the App. However it is also possible to change the holiday mode state from a keypad map, Bridge map and by pressing buttons directly on the Bridge.

NB
For how to control Holiday mode via the App. see "App user Guide".

11 UDP Feedback

It is possible to monitor commands received and transmitted by the Bridge. This can be done using the UDP Feedback feature.

11.1 Live feedback

In the very bottom right of the software (below the communications window) is the Live feedback section. Each command received or transmitted by the Bridge will appear here and it is useful for checking commands have been programmed as desired.
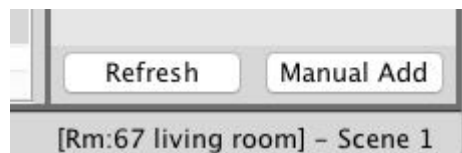
11.2 UDP feedback log

When more detailed or long term feedback is required then a log of commands received/transmitted by the Bridge can be opened. In the toolbar select "Window" - "Output" - "Output" (as shown below).
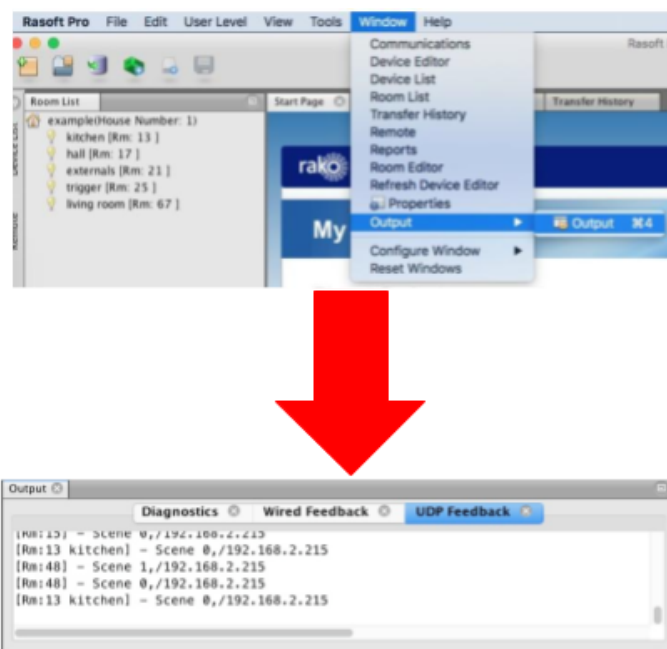
NB

With a timeclock Bridge it is also possible to monitor UDP feedback using "monitor mode" on the Bridge itself.

12 Performing a Firmware upgrade

To ensure continued access to all features of the Bridge it is advised that it is updated with the latest firmware if possible. This requires an active internet connection.

Upgrade		Refresh
Firmware		Update Available
Current Version		2.3.0
Available Version		2.3.2
☑ Perform Update		
☐ Custom Firmware		
Webpages		
Current Version	2.4.2	
Available Version	2.4.2	
☐ Perform Update		
Update All		

Click "Refresh" to see if updates are available. Select "Update All" if updates are available to perform a firmware upgrade on the Bridge.

Rako thanks you for having purchased a Rako product and hopes that you are pleased with your system. Should for any reason you need to contact us please contact us via our website www.rakocontrols.com or by phoning our customer help line on 01634 226666.