# WSR-DALI User Manual

This manual covers all features of the WSR-DALI, for a simple step by step guide to programming DALI in Rasoft Pro see DALI programming quick guide.

What is the WSR-DALI?

The WSR-DALI allows the integration of an addressable DALI network into a Rako wired system. Up to 64 Dali ballasts can be assigned to 15 different Rako channels in a single room either by DALI short addresses or using DALI groups. Auto-heal functionality for easy replacement of faulty ballasts is also available.
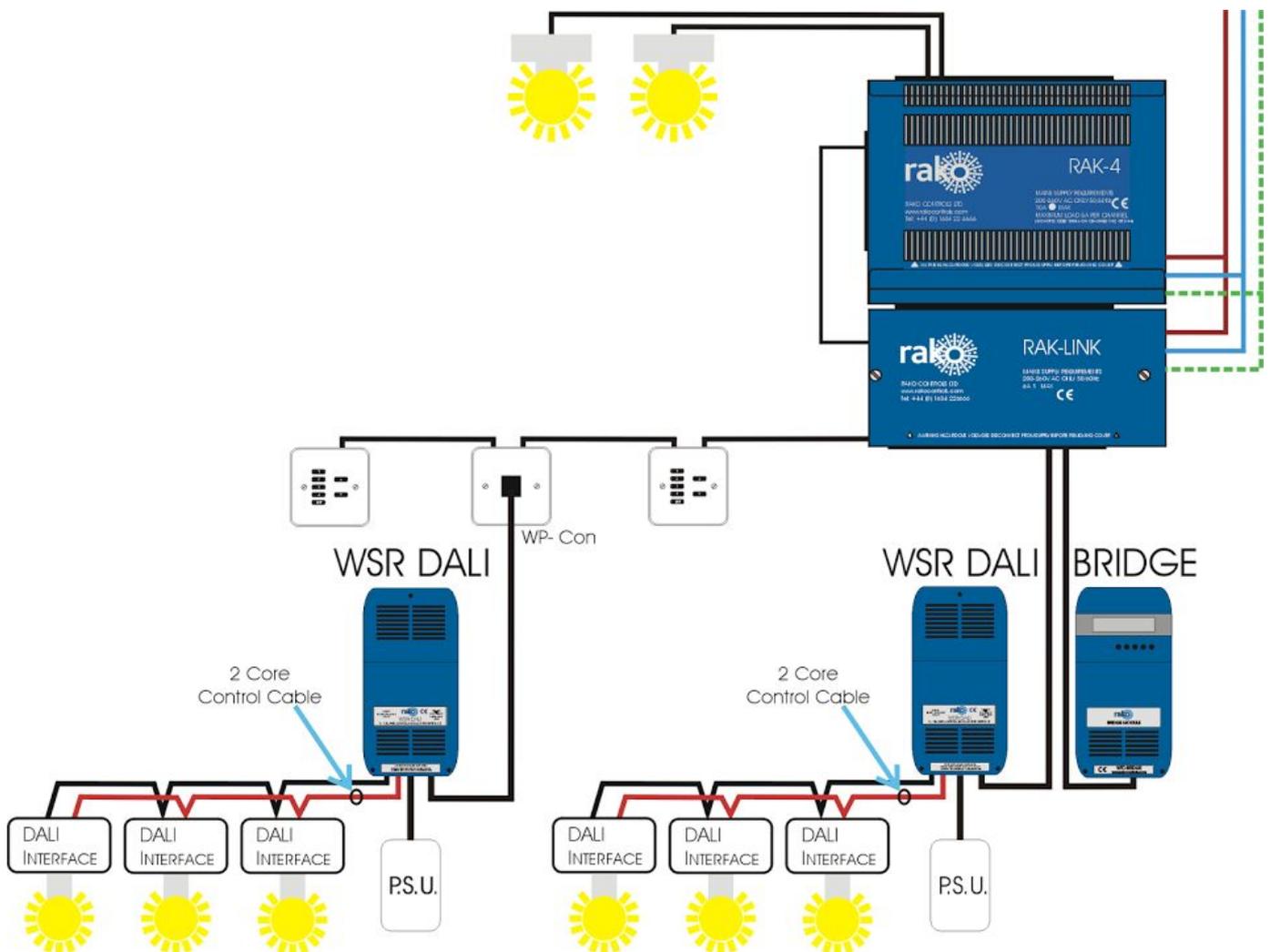
Getting started with the WSR-DALI
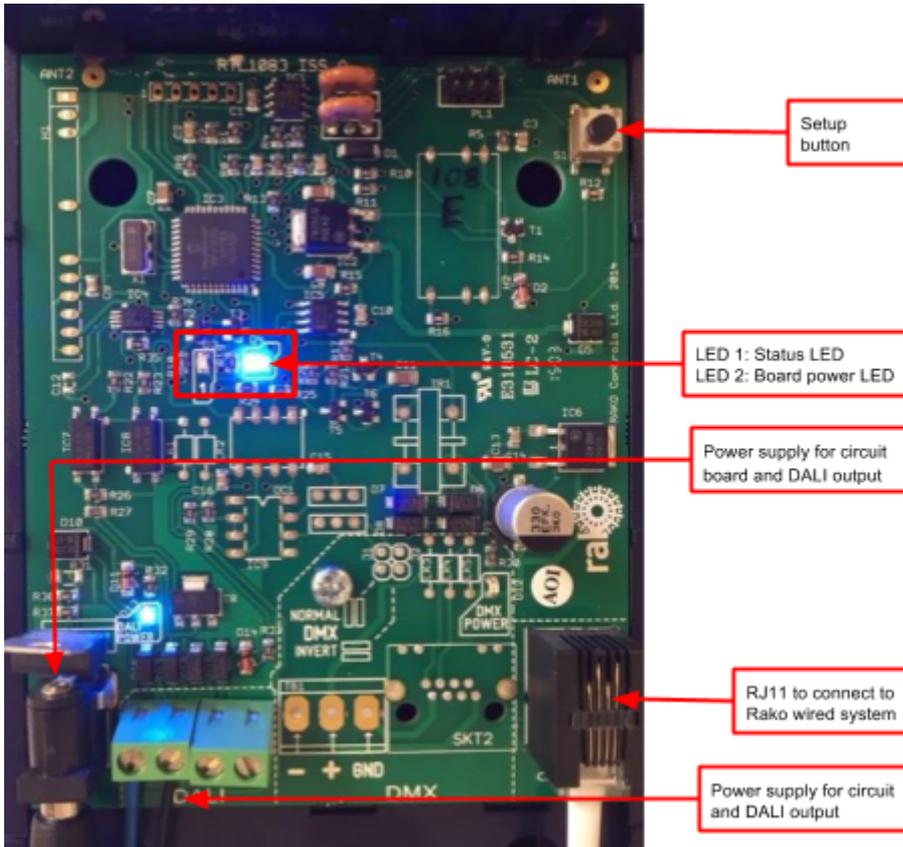
The WSR-DALI must be connected to the Rako wired system by the RJ11 port either plugged directly to RAKLink or RAKStar or punched down to the CAT5 cable via a WP-CONC.   The WSR-DALI requires 18V DC, a suitable power supply attached to a 13A plug is provided with the product. When successful powered up LED 2: the "Power LED" will illuminate.

Note that this power supply is to power the circuit board and DALI output of the WSR-DALI only. The power for the fittings themselves is provided directly to the ballast, the output from the RSR-DALI is a control signal only.

What is DALI?

DALI (Digital Addressable Lighting Interface) is protocol by which a network of DALI compatible ballasts can communicate with each via bi-directional data exchange. Ballasts are assigned a unique address between 0 and 63 (called a Short Address) so they are identifiable to the DALI controller (WSR-DALI).

Three different types of commands can be sent across the DALI network.

Direct – A command sent to a single ballast.

Group – Ballast can be associated to one another within a network by using DALI groups. A group command will be sent to all Ballasts within the DALI group.

Broadcast – A command sent to every ballast on the DALI network.

Adding the WSR-DALI as a device

For the WSR-DALI to operate correctly with a RAKO system some initial setup must be performed. This is done using a PC running RASOFT Pro (WSR-DALI is not supported by RASOFT classic) and communicating with a RAKO Bridge connected to the same wired system as the WSR-DALI .

Open the Project File for the installed Rako system and make sure that Rasoft is connected to a communication device.
NB
The communication window at the bottom right should indicate whether a Bridge is connected or not. For instructions on how to connect to a Bridge see Rasoft Pro programming guides.

- Select "File" - "New device" to bring up the "New device Wizard" and choose "WSR-DALI" from the list.

- Choose a suitable device name (if you have multiple WSR-DALIs make sure it is identifiable from this description). Leave "Device ID" blank with the "Automatic ID" box checked.

- Associate the WSR-DALI to a room from the drop down menu. The room selected here will set the "Local Room" for this device, leave "Associate to channel" blank.

- Once this screen appears press and hold the blue button on the WSR-DALI. After a few seconds it will enter Setup Mode and the status LED will start to blink. Release the button and "Waiting for device to enter setup" should change to "Device Found".

- Click the "Finish" button to complete setup rako
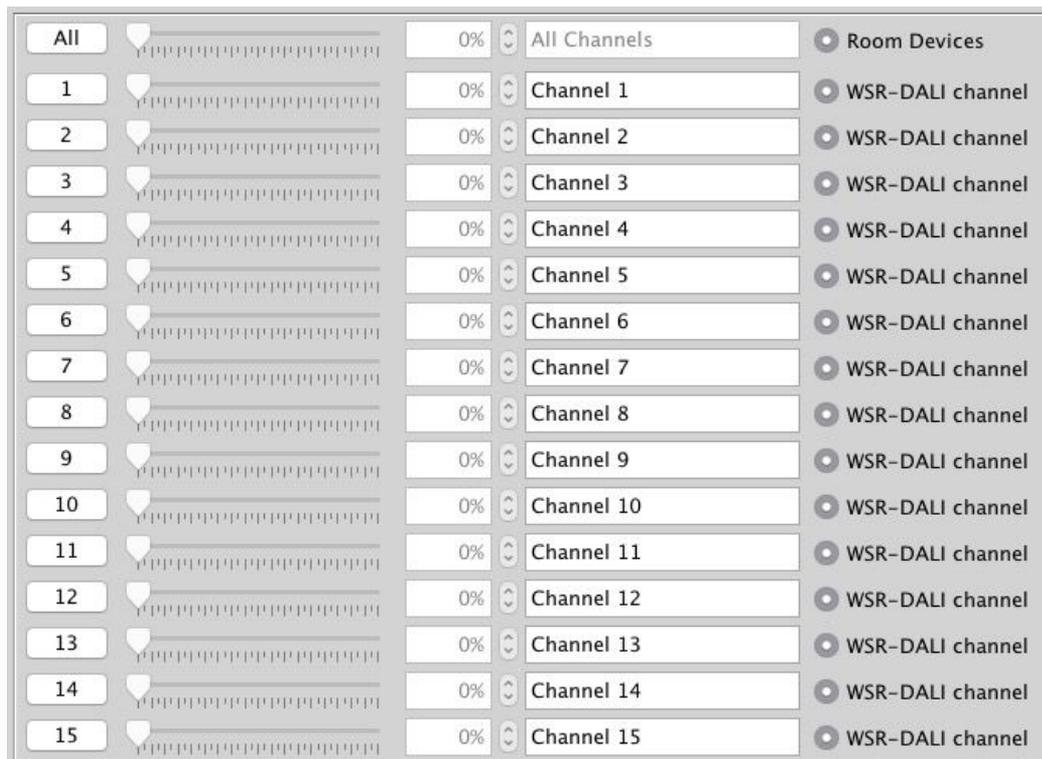
The RSR-DALI is a multi-channel device and will occupy the entire room. By default Short Address 0 will be addressed to Channel 1 in the Rako Room, DALI Short Address 1 to Channel 2 and so on for all 15 Channels.

Addressing the DALI Ballasts

At this stage the WSR-DALI has been addressed and the Rako channels are associated to DALI short addresses. However the ballasts themselves do not have DALI short addresses assigned to them. To address the DALI ballasts open the "DALI Setup" tab in the WSR-DALI device editor (select the RSR-DALI in the device list to open the device editor).
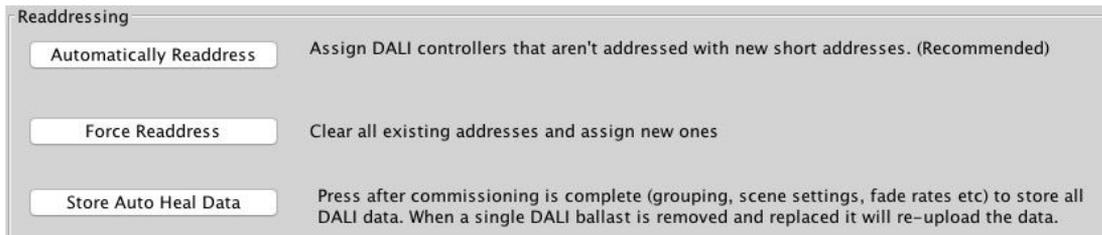
Force Readdress:

This will delete all current short addresses and replace them with an entirely new set. It is advisable to use this button when initially addressing the DALI ballasts in a new system.

Automatically Readdress:

This button will assign DALI short addresses to any Ballast that is unaddressed. If additional ballasts are added this will assign addresses to the new ballasts while leaving the previous addresses unaffected.

Managing the WSR-DALI channels

To use the Circuits mapping page "Use group mapping" must be selected. When in "Use Direct mapping" mode Rako channels will always be set as DALI short addresses -1 (DALI short address 0 = Rako channel 1, DALI short address 1 = Rako channel 2 etc.) regardless of how the mapping page appears.

Sometimes it may not be desirable to have the DALI channels arranged in the order they have been auto-assigned using "Automatically Readdress" or "Force Readdress". This is achieved using the Circuits (Mapping) tab in "Use Grouped Mapping".
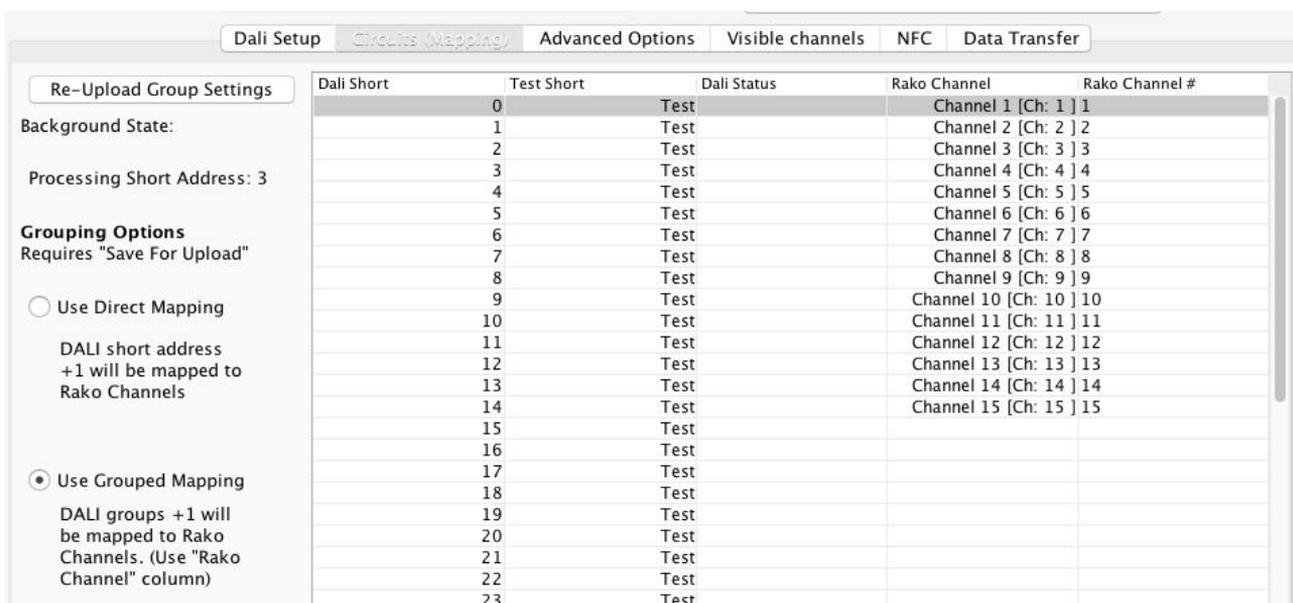
When "Use Grouped Mapping" is selected the Rako channels become mapped to DALI groups. This means that any number of DALI short addresses can be mapped to a single Rako channel and in any order. This is useful if more than 15 Dali short addresses need to be assigned to a single WSR-DALI or if the ballast(s) are not set to the desired Rako channel.

It is possible to test which ballast is associated to which short address by using the test column on the mappings page. Double click on "test" to send and "on" to this ballast, double clicking again will send an "off." When an "on" is successfully sent the row will appear as below.

Dali Short	Test Short	Dali Status	Rako Channel	Rako Channel #
0	Send On		Channel 1 [Ch: 1]	1

Shortcut commands exist for testing individual DALI short addresses, select the column of the short address to be tested first

> **The <, key =** Send on
>
> **The >. key =** Send off
>
> **The ?/ key =** Toggle on/off

Auto Heal Data

When programming is complete press this button to store DALI network information. Failure to do so will mean in the event of lamp failure the entire DALI network will need to re-programmed.

This button will store the current state of the DALI network within the WSR-DALI. This means that if a single ballast is removed and replaced the new ballast will have the same short address automatically uploaded to it. If more than one DALI ballast needs to be replaced the entire network must be re-addressed using the "Force Readdress" button.

Advanced features of WSR-DALI

Swap Channels

The Swap Channels tile in the DALI setup tab allows for custom readdressing of the DALI short addresses themselves. Individual short addresses can be moved on to or swapped with each other by

using this interface.

This will readdress the DALI ballast to the short address as set in each box, "Perform Swap" will directly switch the position of the two ballast. "Perform Move" will result in both ballasts having a the short address of "DALI Short Address 2".

Visible Channels

Sometimes not all 15 channels in the room will be required by the WSR-DALI (less than 15 separately controllable sets of DALI ballasts required). When this is the case then the "Visible Channels" tab can be used to reduce the number of channels the WSR-DALI occupies in the software.

Channels used:

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |

Note: This does not affect the device and is only a visible is a visual indicator inside Rasoft Pro. Scenes will still include time for non visible channels to change level.
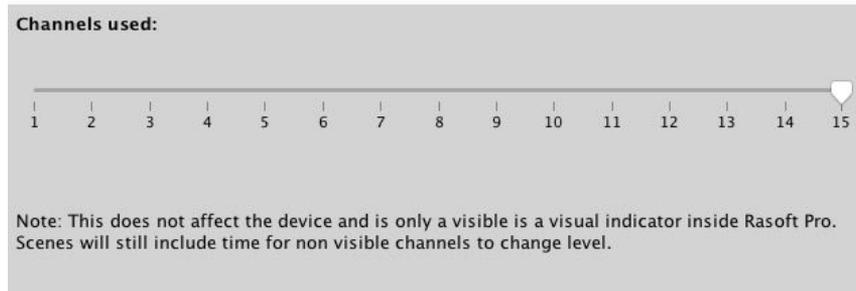
Slide the "channels used" slider to match the number of Channels required by the WSR-DALI and the remaining channels are freed up to be used by other devices.