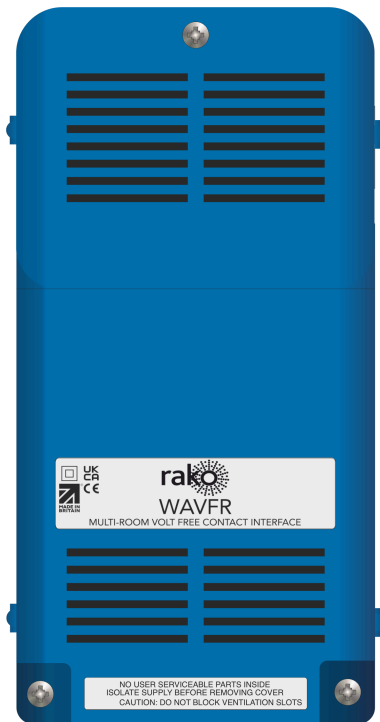# Instruction Manual

WAVFR

Wired 10-Way Volt-Free Interface

2024
Version 2.0.0

For programming system programming information: Wired system setup guide.

For a general overview: Wired RAK application sheet.

Contents

1 What is the WAVFR?

The WAVFR is a 10-way volt free interface which is programmable via Rasoft Pro using a WK-HUB.

Each input can be programmed to its own Room and Channel, and each input has two states, 'on make' and 'on break' which can be configured to trigger a command for each state that the switch is in.
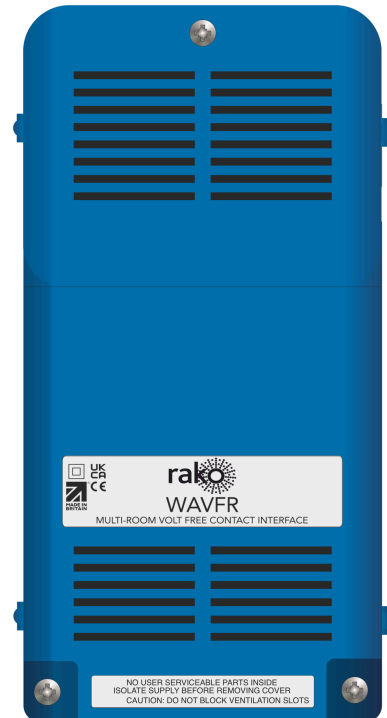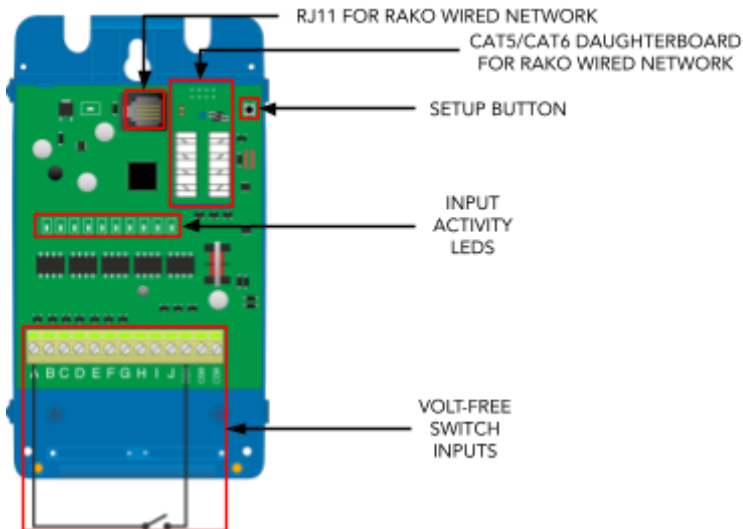
Example:
On Make = Scene 1
On Break = Off

2 Inputs

The Rako Wired network has two connection options, either the RJ11 socket can be used with the supplied RJ11 cable, or a CAT5/CAT6 cable can be used on the daughterboard.

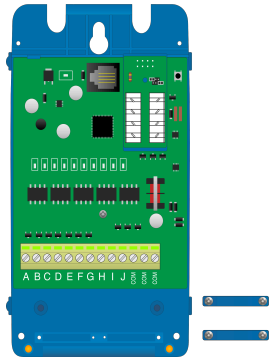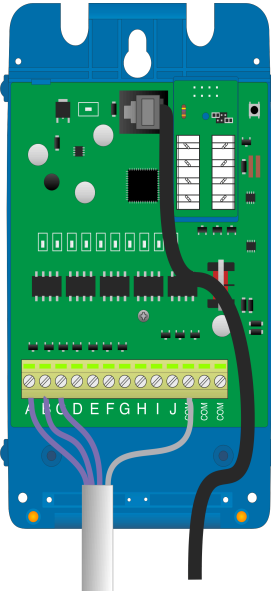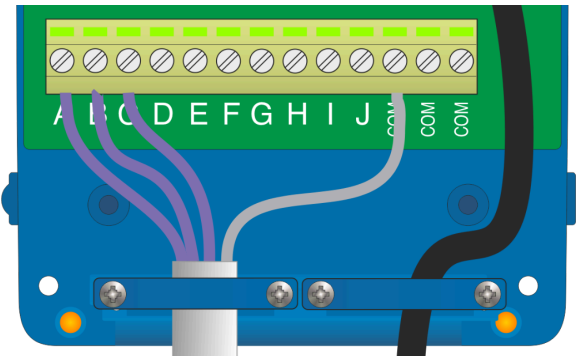Up to 10 volt-free inputs can be connected to the WAVFR.

RJ11 FOR RAKO WIRED NETWORK
CAT5/CAT6 DAUGHTERBOARD FOR RAKO WIRED NETWORK
SETUP BUTTON
INPUT ACTIVITY LEDS
VOLT-FREE SWITCH INPUTS

3 Installation

⚠ WARNING

Installation should only be carried out by a competent electrician.

STEP 1		Remove the cover by removing the two screws at the bottom of the unit, pulling the bottom of the cover away from the bottom, and lifting it. Set the two cable clamps aside.
STEP 2		Make a connection to the Rako Wired network via the RJ11 port using the supplied RJ11 cable, or by CAT5/CAT6 on the daughterboard on the top section of the WAVFR Connect the volt-free inputs to A-J, common wires can be connected to any of the three common input terminals. <u>NB</u> It is essential to set the correct termination on the daughterboard if it is used, for

|		
		more information, see Terminations.
STEP 3		Fit the supplied cable clamps and ensure the cable is unable to move.
STEP 4		Replace the cover and replace the screws.

4 Adding the WAVFR as a device
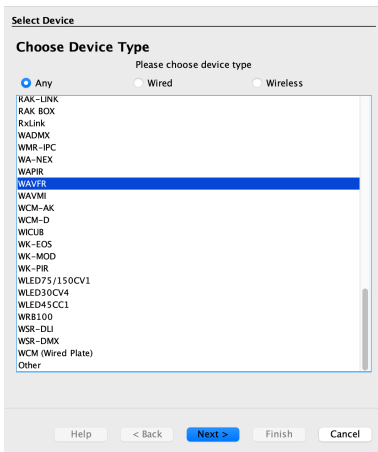
The following steps assume:

- A Project File has been created
- Rooms have been added
- Channels have been added
- A HUB or a RAMPI has been set up as a communications device

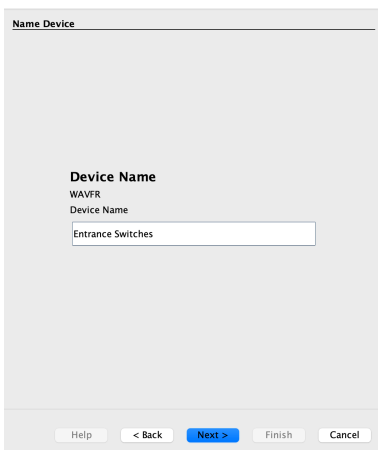If any of the above are still required, see the Wired system setup guide.
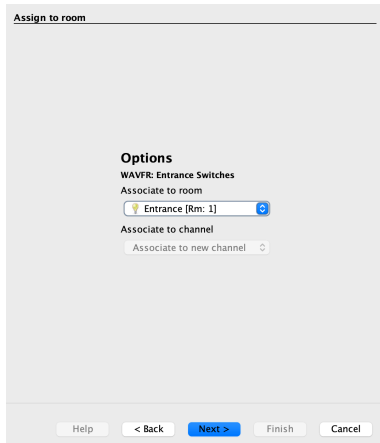
- In Rasoft Pro, go to File > New Device
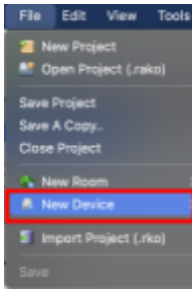
- A Device menu will pop up, select the WAVFR and select 'Next'
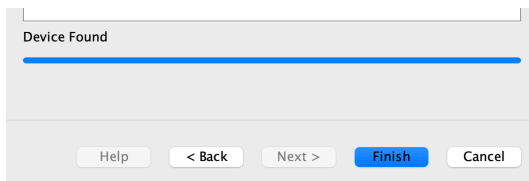

- Give the WAVFR device a name and select 'Next'

- Assign a Room and Channel and select 'Next'

- To put the device into setup mode, press and hold the button on the top right of the WAVFR, and the LED will begin to flash. Release the button; the LED should continue to flash, and the setup wizard will show 'Device Found'

- Select 'Finish', the device is now paired and in the project file.

5 Configuring the WAVFR

A WAVFR has a maximum of 24 maps that can be set. Each is programmable by selecting it in the mappings list and then editing the three sections: "Inputs", "Mapping Options" and "Output Action".
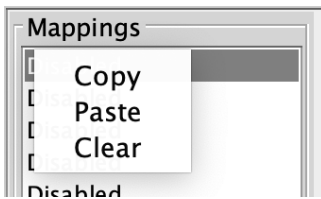
5.1 The Mapping Section

All programmed inputs for the Device must first have a mapping. The purpose of a mapping is to program an input to perform a specific command. Each input has its own letter to represent its input; the WAVFR has up to 10 inputs.

New mappings can be created by selecting a disabled field and selecting the corresponding input letter in the next column.
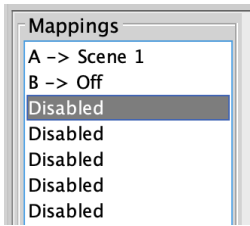
Active mappings can be copied or pasted into disabled mappings; this is typically used when re-using similar functions of an existing mapping to save time such as a toggle function.

5.2 Inputs

The inputs for the mappings are configured in the Inputs section.

When an input is highlighted blue, it will set the corresponding input letter active in the mapping, selecting the input multiple times will cycle through the input options which are "Normal", "Ignore" and "Invert", an example can be seen below:
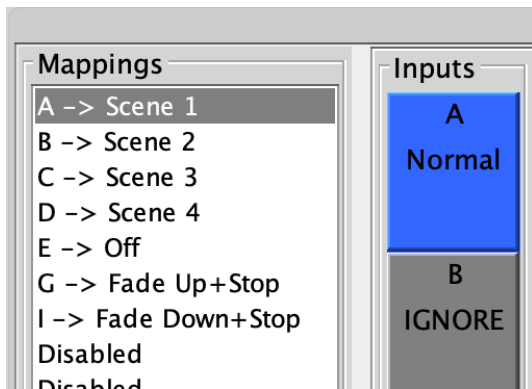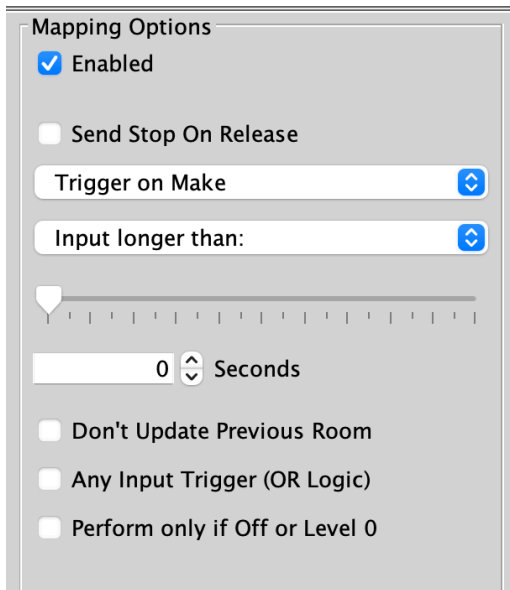

'A - Normal' creates a mapping for input A, ensuring that only one input is highlighted blue for each mapping.

If A is set as 'Invert', the 'On Make' and 'On Break' commands will reverse.

5.3 Mapping Options

Once the input has been selected and configured, the behaviour of the input is set up in the Mapping Options.

Trigger on Make
When the switch input makes contact, trigger the output command.

Trigger on Break
When a switch breaks its contact, trigger the output command.

Send Stop On Release
When the made contact is released, a 'Stop' command will be triggered

Trigger on Press
Trigger the output command when the momentary switching makes contact between its input and common.

Trigger on Release
Trigger the output command when the momentary switch breaks contact between its input and common

Don't update previous room
If this box is ticked this map will not update the "last used" flag for both Room and Channel. When a "last used" is sent from this Device the most recent room and Channel sent which doesn't have "don't update previous Room" selected will be sent.

Set Scenes only if lights are OFF:
The command sent in the "output action" section is a scene that will only take effect if the lights are currently off. This is often used when the device interfacing with the WAVFR is a presence sensor.
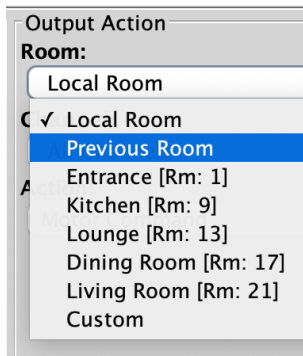
Any input Trigger (OR Logic):
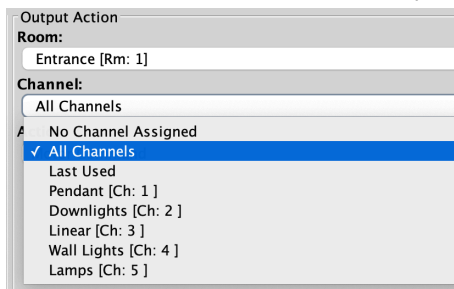Use only when combined inputs are required.

5.4 Input Action

Room
The Room number of the output command.

Channel
The Channel number of the output command can be All Channels or a single Channel.

Disable map
When enabled, the button input will have no output command.

Scene
If a Scene is being triggered, select a Scene between 1-16.

Fade-Up/Fade-Down
Commonly used to manually dim lighting up and down, as well as the Opening/Closing of Blinds.

NB
'Send Stop on Release' should also be checked when using this option.

Motor Stop
Used to stop 3rd party motors that are configured within the HUB.

Ident

This option is not recommended, as the command will make a load flash momentarily and provides no practical function for daily use.

Toggle

The Toggle function will alternate between two commands, either a Level command and Off, or a Scene command and Off.

NB

Do not map more than one Toggle to a single button on the inputs; this will result in sporadic switching due to toggles getting out of sync.

Level

Sets the lighting Level to a percentage of brightness between 0-100%.