

## Quick Start Guide

Thank you for purchasing the dAISy HAT AIS Receiver for Raspberry Pi.

**Disclaimer:** dAISy HAT is a reliable, dual-channel AIS Receiver. However, under no circumstances it should be solely relied on for collision avoidance or navigation. It's the user's responsibility to use the product prudently. Neither Wegmatt LLC nor its dealers accept responsibility or liability to the product user or their estate for any accident, loss, injury or damage whatsoever arising out of the use of this product.

### Installation

The dAISy HAT communicates with the Raspberry Pi through the serial port pins (8, 10) on the Raspberry Pi's expansion header. By default, the serial port of the Raspberry Pi is used for other purposes and needs to be reconfigured.

If you are running a recent version of Raspian, the [uart\\_control](#) shell script by Ilker Temir is the easiest way to configure the serial port. Open a terminal window on your Raspberry Pi and execute the following commands:

```
wget https://github.com/itemir/rpi\_boat\_utils/raw/master/uart\_control/uart\_control
chmod +x ./uart_control
sudo ./uart_control gpio
sudo reboot now
```

After completing the reboot, AIS data is available using the following parameters:

|                     |              |
|---------------------|--------------|
| <b>Serial port</b>  | /dev/serial0 |
| <b>Baud rate</b>    | 38400        |
| <b>Data bits</b>    | 8            |
| <b>Parity</b>       | None         |
| <b>Stop bits</b>    | 1            |
| <b>Flow control</b> | None         |

Use this information to configure OpenCPN or other programs. Keep in mind, that only one application at a time can consume serial data. dAISy immediately starts receiving AIS messages when powered up.

When connecting to dAISy with a serial terminal (e.g. screen), you can press ESC to enter a debug and configuration menu. In this menu you can control the function of the 2<sup>nd</sup> serial port.

For older versions of Raspian (pre-2016), follow this tutorial by Adafruit to configure the serial port: <https://learn.adafruit.com/adafruit-ultimate-gps-hat-for-raspberry-pi/pi-setup>

Please refer to the manual on our website: <http://www.wegmatt.com> for more detailed instructions.

## LED status indicator

dAISy HAT features two red/green LEDs to indicate its status of each AIS channel.

| Indicator                                       | Description                          |
|-------------------------------------------------|--------------------------------------|
| Green, short flash every 5 seconds              | Channel is in reception mode         |
| Green, ¼ second flash                           | Channel received a valid AIS message |
| Red, ¼ second flash                             | Channel received an invalid message  |
| Red, permanently on or fast continuous blinking | Device error                         |
| No LED activity                                 | Device is not in reception mode      |

## Troubleshooting

| Problem                                                                                                     | Solution                                                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No activity of the status LEDs                                                                              | Verify that the device is not in the configuration menu.                                                                                                                                              |
| Device in reception mode, but not valid AIS messages received (no ¼ second green flashes)                   | Verify the antenna connection and location. Good AIS reception requires line-of-sight, verify your setup from a location that is certain to have traffic, e.g. near a harbor.                         |
| Device indicates valid AIS messages (¼ second green flashes), but no messages received on the Raspberry Pi. | Verify that the serial port shows up, if not verify the hardware configuration. Verify the serial configuration of your software. Verify the serial communication with a program like <i>screen</i> . |
| Software receives positions, but fewer than expected and/or with worse range than expected.                 | Verify the antenna connection and location. Good AIS reception requires line-of-sight. Move the antenna away from sources of RF noise.                                                                |
| After some time, dAISy indicates a device error (fast blinking red LED)                                     | This should not occur with the dAISy HAT. Power cycle the Raspberry Pi to resolve the issue.                                                                                                          |

If a problem persists or frequently reoccurs, please contact Wegmatt LLC at [daisy@wegmatt.com](mailto:daisy@wegmatt.com).

## Contact

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