

## 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 Jesse, 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.

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

A preliminary version of the instruction manual is available on our website: <http://www.wegmatt.com>

## Antenna connection

dAISy is fitted with an MMCX RF connector and comes with a pigtail cable to connect your antenna. To connect the pigtail, firmly press down the MMCX connector until it clicks into place. Avoid disconnecting the pigtail once installed. If you must remove the pigtail, use a pair of pliers to grab the rectangular MMCX connector and pull it upwards in a straight line away from the board.

## 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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