

## Markfish Field Testing

Without test equipment, it is usually quite difficult to test if electronic equipment is working properly.

The Markfish was designed with in-built diagnostics, to test the various functions of the unit in the field without any test equipment.

The Markfish has an indicator LED which allows the user to see whether it is working correctly or not.

In normal operation, the LED works in the following manner:

**Power on:** When powered on the LED indicator will flash a few times in a RED/GREEN alternating sequence, and then stay RED constantly.

**Power on with NMEA0183 data flowing:** When powered on the LED indicator will flash a few times in a RED/GREEN alternating sequence, and then will flicker RED (The LED turns on and off very quickly).

**Waypoint transmission to GPS:** The LED will stay GREEN for 1 second, then continue to flicker RED.

Here is a list of diagnostics in order of functional importance:

**(These tests are run without any other equipment connected to the Markfish)**

**If the Markfish passes all three tests, then the unit is working correctly.**

1. Power on, and CPU working:

Connect the Red wire to the positive (+) connector of a 12 volt power supply, such as a car or boat battery.  
Connect the Black wire to the negative (-) connector of the 12 volt power supply.

**Result:** The LED indicator will flash a few times in a RED/GREEN alternating sequence, and then stay RED constantly.

This indicates that there is power going to the unit, and that the internal computer (CPU) is working.

2. Transmitter and Receiver component operation:

Disconnect power to the Markfish.

Connect the White and Orange wires to each other. - wrap a little tape around the connection to keep it insulated.

Connect the **Blue** and **Green** wires to each other. - wrap a little tape around the connection to keep it insulated.

Now connect the Markfish to power (Same in test 1).

**Result:** The LED indicator will flash a few times in a **RED/GREEN** sequence, and then will flicker **RED** (The LED turns on and off very quickly).

This indicates that the transmitter and receiver components of the Markfish are working correctly.

### 3. Waypoint wire operation:

Disconnect power to the Markfish.

Connect the **White** and **Orange** wires to each other. - wrap a little tape around the connection to keep it insulated. (Same as in Test 2)

Connect the **Blue** and **Green** wires to each other. - wrap a little tape around the connection to keep it insulated. (Same as in Test 2)

Now connect the Markfish to power (Same as in test 1 & 2).

After a few seconds of operation, touch the **Grey** wire to the negative (-) connector of the 12 volt power supply – this will trigger a test waypoint.

**Result:** The LED indicator will flash a few times in a **RED/GREEN** sequence, and then will flicker **RED** (The LED turns on and off very quickly).

- When the **Grey** wire is touched to the negative (-), the LED will turn **GREEN** for 1 second, and then will continue to flicker **RED**.

This indicates that the **Grey** waypoint trigger wire is working correctly (in addition to the transmitter and receiver components).

After a few seconds, you can touch the **Grey** wire to the negative (-) connector again (just in case you missed it the first time) – there is a built-in delay for the **Grey** waypoint trigger wire, so that multiple waypoints are not transmitted accidentally.

