



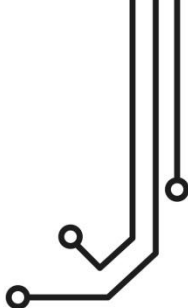
SAIL BOAT



SPORT FISHING



MOTOR BOAT



NAVALERT NMEA 2000 ALERT SYSTEM

Installation and instruction Manual



1. Introduction

Congratulations on the purchase of your NAVAlert Wireless NMEA 2000 Alert System. In addition to this quick start guide, we recommend watching our NAVAlert video, simply scan the QR code to be taken to our YouTube video....



This product is designed for use by Dealers and End Users with knowledge/experience of NMEA 2000, Digital Yacht cannot provide technical support or training on NMEA 2000 networking.

2. Before you start

To use your NAVAlert you will need:

- A wireless device with web browser i.e. Smart Phone, Tablet or Laptop
- A spare “T-Piece” connection on a working/powered NMEA 2000 network.

3. Installation

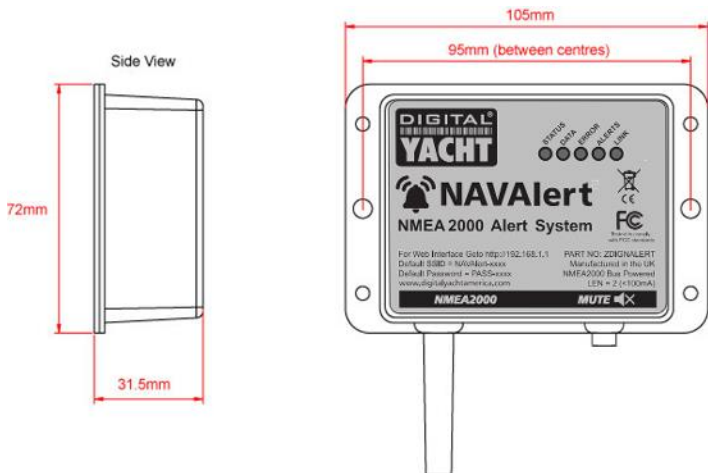
The NAVAlert is IP54 rated (water resistant) and care should be taken when installing it, to ensure it is never submerged in water.

3.1 – Connecting to NMEA 2000 Network

- Connect the NAVAlert cable, to a spare connector on the NMEA2000 network.
- NAVAlert takes its power (LEN=2) from the NMEA2000 network so no additional connections are necessary.
- If you are connecting NAVAlert to a non-standard NMEA2000 network, then a suitable adaptor cable will need to be sourced from the relevant manufacturer;
 - > SeaTalkNG (Raymarine P/No A06045)
 - > Simnet (Simrad P/No 24006199)

3.2 – Mounting

NAVAlert is primarily designed to be permanently installed to a flat bulkhead using suitable fixings. NAVAlert can be installed in any orientation.



3.3 – Powering NAVALert

- Apply power to the NMEA 2000 network and the NAVALert will sound three beeps and the LEDs will briefly flash once and then after a few seconds the Status and Data LEDs should be illuminated, as per Table 1...

Condition	STATUS LED (Green)	DATA IN LED (Yellow)	ERROR LED (Red)	ALERT LED (Yellow)	LINK LED (Green)
ON (Solid)	Wi-Fi STA Mode Connected		System Error	Active Alert	Web Connection
Flashing	Wi-Fi AP-Mode Active	Data	Data Error	Active Alert Silent/Ack'ed	
OFF	Wi-Fi STA Mode Not Connected	No Data From N2K	All OK	No Active Alert	No Web Connection

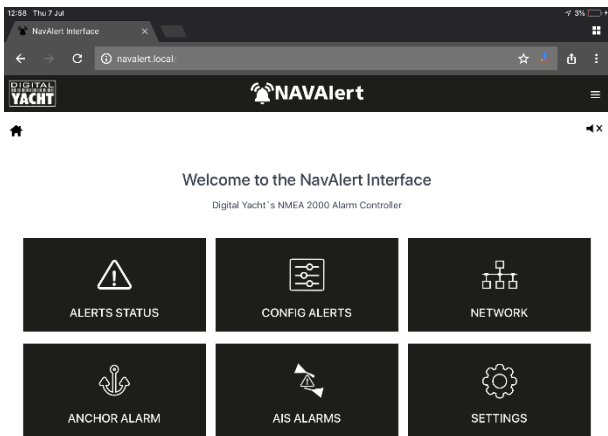
Table 1

3.4 – Setting up the Wireless Network

- By default, NAVAlert’ creates a wireless network (Access Point), with Name (SSID) = “**NAVALert-xxxx**” and Password = “**PASS-xxxx**”, where xxxx is a four digit code, unique to your device.
- To connect to NAVAlert you need to scan for wireless networks, find it, select it and then enter the default password when prompted.
- **IMPORTANT NOTE** - Multiple devices can wirelessly connect to the NAVAlert but it can only be controlled by one web browser session. So always close an inactive browser session, before opening a new session.

3.5 – Accessing the Web Interface

- The NAVAlert has a built-in web interface, consisting of a series of pages that allow you to enable alerts/alarms and monitor their status.
- A wireless device, connected to NAVAlert, can access its web interface in a browser at <http://192.168.1.1> or <http://navalert> which should bring up the NAVAlert home page as shown in Figure 1.
- When there is an active web browser session in progress, the Green LINK LED on the NAVAlert unit will be ON.



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Figure 1

4. Operation

The NAVAAlert can be configured to create an Alert/Alarm for pretty much any data condition that occurs on the NMEA 2000 network. You simply select the PGN message that you want to Alert on, then select the data field that will trigger the alert and then chose the type of alert you want to generate.

You can create and store up to 10 different custom alerts, which is done in the Config Alerts page.

4.1 – Config Alerts Page

- From the Home page, click on the CONFIG ALERTS button and the following page will be displayed (Figure 2).

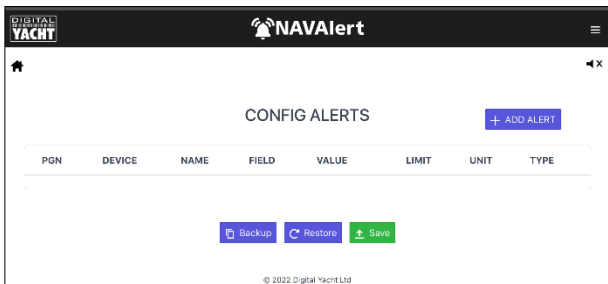


Figure 2

- To create a new custom Alert, click the +ADD ALERT button and the window shown in Figure 3 will appear.
- A number of common Alerts have been pre-defined, sorted by category, which you can select and modify or you can create your own custom alert from scratch.
- To create a custom Alert click the **ADD CUSTOM ALERT** button and you will be asked to select a PGN from a list of all the current PGNs on the NMEA 2000 network (see Figure 4) and then the data field (see Figure 5).

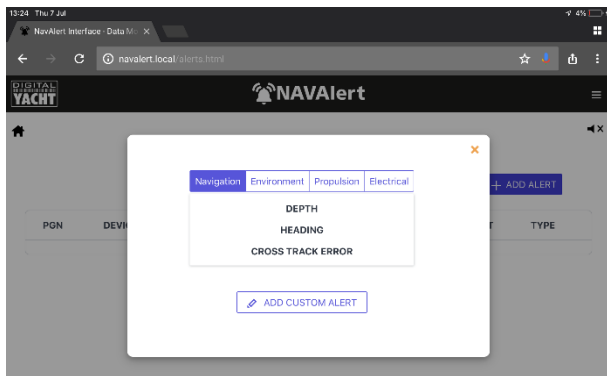


Figure 3

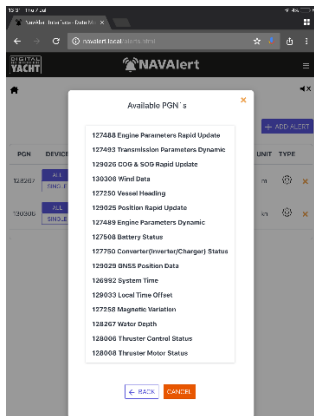


Figure 4

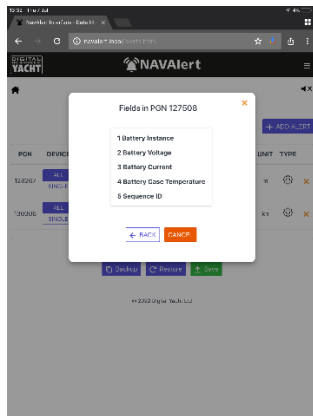


Figure 5

- After selecting the PGN and data field to be monitored, a window will be displayed to select the type of Alert you want to generate (see Figure 6).

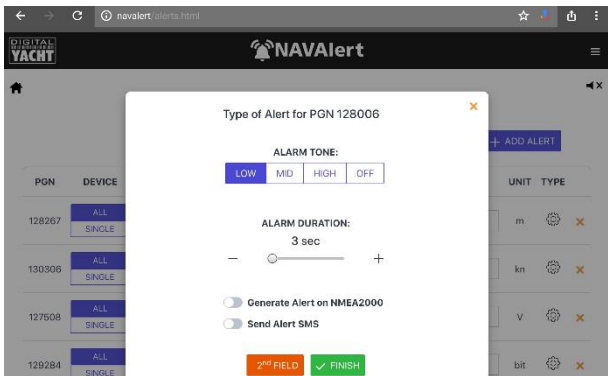


Figure 6

- You can now select the action NAVALert will take when the Alert occurs, such as the internal alarm's tone and duration that will be sounded.
- You can also tell NAVALert to generate an NMEA 2000 Alert PGN, which will cause a compatible Multi-Function Display (MFD) to sound an alarm.
- Finally, if NAVALert is connected to one of our 4GConnects or 4GXtreams and you have entered your mobile number in the Settings page (see Section 5.2) you can tell NAVALert to send an SMS message to your mobile phone.
- If the Alert you want to create has just one condition, i.e. if the Battery Voltage <12v then click the FINISH button
- If you wish to add a second condition i.e. if the Voltage of Battery 2 is <12v then click the 2nd FIELD button and you can add a second condition that must also be met for the Alert to be generated.

Once you have created your new alert, it will appear in the Config Alerts List, as shown in Figure 7. Here you can select whether the Alert will trigger from the PGN sent by any device or a specific device. This is useful when you have multiple devices providing the same PGN data but about different engines, batteries, etc.

Finally, in the list, the current value of the conditional field you have selected is displayed and you can change the alarm value and condition $>$, $=$ or $<$.

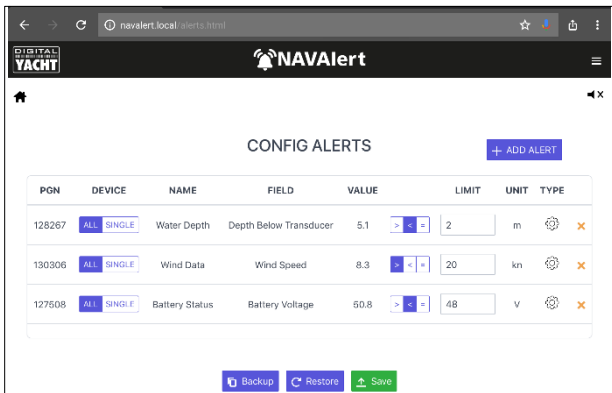


Figure 7

As soon as you change any settings on the Config Alerts List, you will be reminded to save your changes, just click the SAVE button to store them.

4.2 – Alerts Status Page

NAVALert is constantly monitoring all configured alerts and will take the relevant action should one or more of the alert conditions occur. To check the status of the alerts, from the Home page, click on the ALERT STATUS button. The page in Figure 8 will be displayed, that lists all of the configured Alerts and their status.

- If everything is OK, then an Alert will have a Green line, with STATE = Normal
- If an alert condition occurs, then NAVAlert will sound an alarm, generate an NMEA 2000 PGN or send out an SMS, depending upon what action you set for that Alert. In this situation the Alert is said to be “Active”.
- To Silence the audible alarm, either press the physical MUTE push button on the unit or, via the web interface, click on the Mute icon in the top right of any NAVAlert web page
- You will now see the state of any ACTIVE alerts change to SILENCED as shown for the AIS Alarm in Figure 8

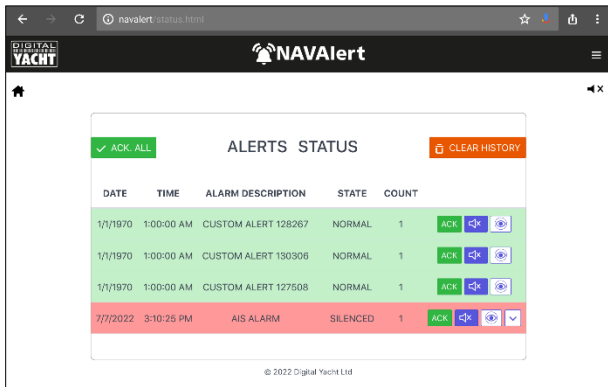


Figure 8

- If the NAVALert sends out an NMEA 2000 Alert PGN, then any compatible MFDs on the network will sound an alarm. When the alarm is “Acknowledged” on an MFD, it will show as Acknowledged in the ALERT STATUS list, as shown in the Anchor Alarm in Figure 9.
- All Alerts will stay in the Silenced State, awaiting to be “Acknowledged” to ensure that they are not missed. To acknowledge alerts, either singularly or all together, go to the ALERTS STATUS page and click the ACK ALL button or the individual ACK buttons.

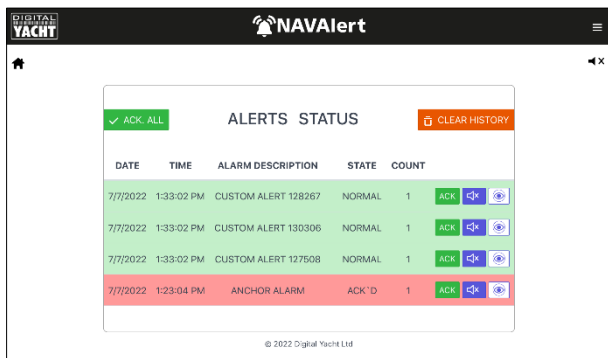


Figure 9

- If you wish to clear the Alert history (counts and AIS alarms) click the **CLEAR HISTORY** button. All alerts except Active ones will be cleared.

4.3 – Anchor Alarm Page

NAVALert has a powerful, built-in Anchor Alarm that can monitor for anchor drag and sound an Alarm, generate an NMEA 2000 Alert or send an SMS, should the anchor alarm be triggered. To access the Anchor Alarm, from the NAVALert home page, click the ANCHOR ALARM button and the following page will be displayed.

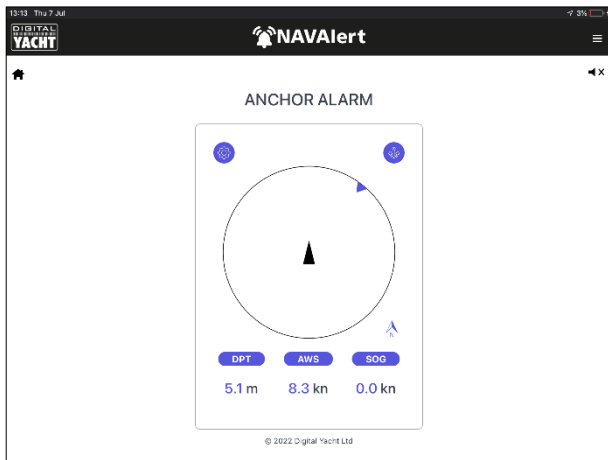


Figure 10

If the data is available on the NMEA 2000 network, then the Depth, Wind, Position and SOG will be displayed.

When you click the top right “Enable Anchor Alarm” button, NAVALert will take the current depth value and multiple it by the Rope/Chain Factor to set the radius of the drag limit. By default the Chain/Rope factor is 3, so if the depth was 5m, the anchor alarm radius would be set to 15m, but this can be changed in the Anchor Alarm settings, just click the top left Settings button.

Another important Anchor Alarm setting is the distance (along center line) between the anchor point and the GPS antenna, default is 0m but it is important to set this offset correctly for your boat.

Once enabled, NAVALert calculates and displays the anchor alarm radius and plots the boat's current position and track, on the screen (see Fig 11). If you leave the web page and return the track line, showing the boats past movement around the anchor will be lost.

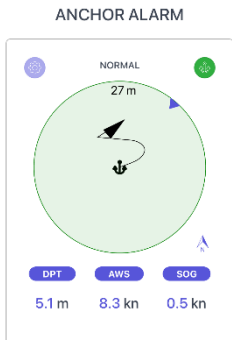


Figure 11

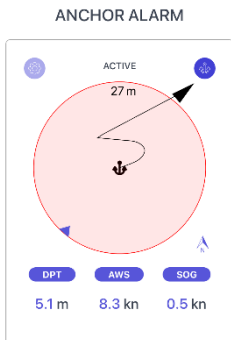


Figure 12

As soon as the vessel is outside the Anchor circle, the Alarm will trigger (see Fig 12) and whatever alarm and action you configured, will initiate.

If you click the top left Settings button (only enabled when the alarm is not active) you can configure the sound and duration of the Anchor Alarm and if you want to generate an NMEA 2000 Alert or an SMS message.

4.4 – AIS Alarm Page

If there is AIS data on the NMEA 2000 network, then NAVALert can provide powerful Closest Point of Approach (CPA) and Time to Closest Point of Approach (TCPA) alarms. In addition, NAVALert will also trigger an alarm if a real AIS Man Over Board (MOB) message or test message is received from a personal AIS MOB device, AIS SART and AIS EPIRB. To access the AIS Alarm, from the NAVALert home page, click the AIS ALARM button and the following page will be displayed.

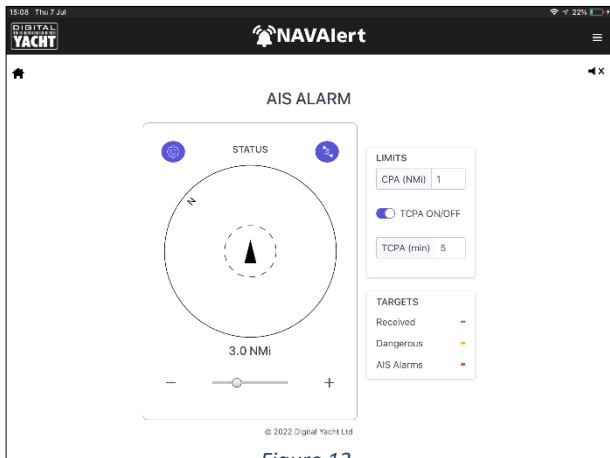
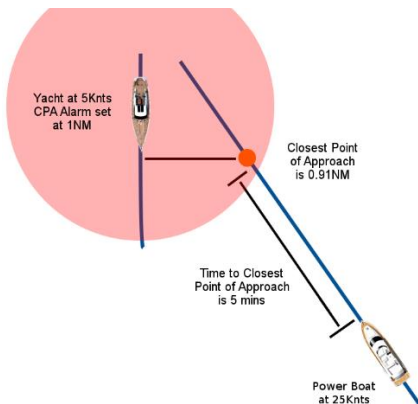


Figure 13

Here you can enter the CPA and TCPA limits that you wish to use. Set the CPA to the closest distance you feel safe passing a large vessel and the TCPA, to the amount of time (in minutes) that you need to take any necessary avoiding action.



With the required CPA and TCPA alarm values set, click the top right “Enable AIS Alarm” button and the AIS Alarm will become active and an AIS “plotter” type screen will show your vessel in the center, a dotted circle to show the CPA distance and a large green circle if none of the dangerous targets that NAVALert is tracking are triggering the CPA or TCPA alarms (see Fig 14).

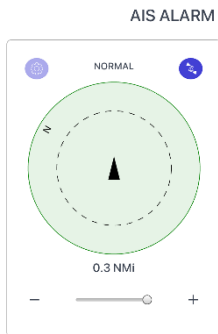


Figure 14

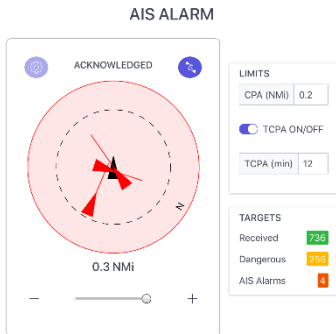


Figure 15

A count of the number of AIS target position reports received, plus the number of dangerous targets being monitored (vessels that are moving towards you) and vessels that have triggered an AIS Alarm (CPA or TCPA).

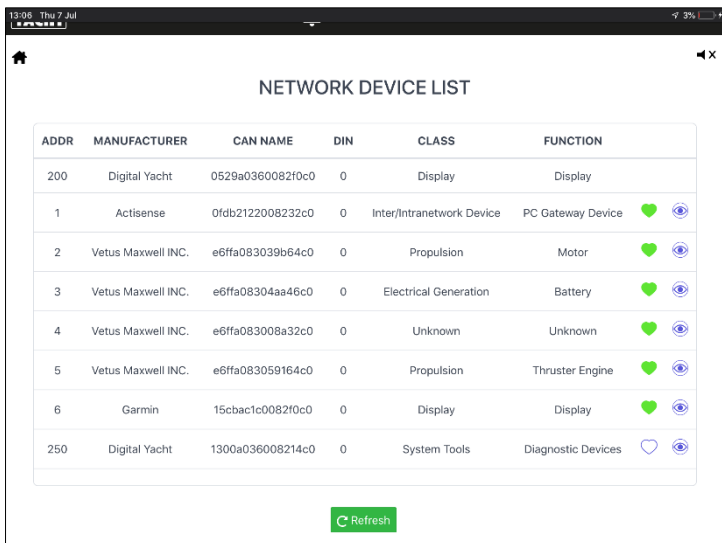
As soon as an AIS Alarm is triggered, the green circle will turn red and the vessel of vessels that triggered the AIS Alarms will be displayed in the circle (see Fig15). The AIS Alarms will also be listed in the Alert Status List and whatever alarm and action you configured, will initiate.

If you click the top left Settings button (only enabled when the alarm is not active) you can configure the sound and duration of the AIS Alarm and if you want to generate an NMEA 2000 Alert or an SMS message.

4.5 – Network Page

It is often very useful to be able to see what NMEA 2000 devices are on the network, check their CAN Address or NMEA Name, display their Product Info and check what PGNs they are transmitting.

NAVALert provides a simple Network page that lists all of the NMEA 2000 devices on the network (see Fig 16).



ADDR	MANUFACTURER	CAN NAME	DIN	CLASS	FUNCTION		
200	Digital Yacht	0529a0360082f0c0	0	Display	Display		
1	Actisense	0fdb2122008232c0	0	Inter/Intranetwork Device	PC Gateway Device	♥	👁
2	Vetus Maxwell INC.	e6ffa083039b64c0	0	Propulsion	Motor	♥	👁
3	Vetus Maxwell INC.	e6ffa08304aa46c0	0	Electrical Generation	Battery	♥	👁
4	Vetus Maxwell INC.	e6ffa083008a32c0	0	Unknown	Unknown	♥	👁
5	Vetus Maxwell INC.	e6ffa083059164c0	0	Propulsion	Thruster Engine	♥	👁
6	Garmin	15cbac1c0082f0c0	0	Display	Display	♥	👁
250	Digital Yacht	1300a036008214c0	0	System Tools	Diagnostic Devices	💜	👁

[Refresh](#)

Figure 16

The green hearts show if the device is active i.e. transmitting PGNs and if you want to know more about the PGNs it is transmitting, click the green heart icon. If you want to display the device's Product Information click on the "eye" icon.

5. Settings

NAVALert has a number of configurable settings that are accessed from the Home page, by clicking the Settings icon/button.

5.1 – Network Settings

By default, NAVALert creates its own wireless network (Access Point Mode) but on vessels that have existing wireless networks, you can configure NAVALert to join that network when it powers up (Station Mode). In the right hand **Station** panel,

click the **Scan** button to scan for available wireless networks, select the network you want to join from the drop-down list and enter the wireless password.

You can click the “Eye” icon to display the password you have typed and once you are happy that everything is correct, click the **Update Settings** button.

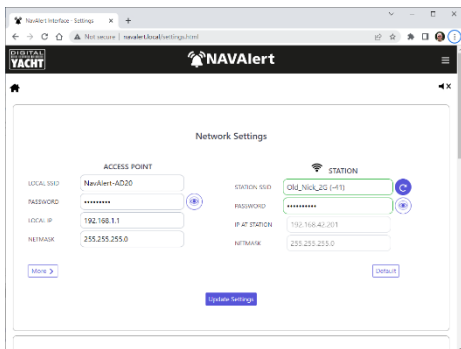


Figure 17

NAVALert will now display a window saying that the Wi-Fi settings have been changed and the unit will now reboot. On rebooting it will try to join the selected wireless network and if successful the Status LED will stop flashing a few seconds after booting up and stay permanently ON.

If you have any problems connecting to another network, press and hold the Reset button on the bottom edge of the unit for >10 seconds and NAVAlert will reset to factory defaults.

There are a number of additional network settings, that can be accessed by clicking the **MORE** button, but we recommend that only customers who are experienced in wireless networks, change these settings.

5.2 – Alert Settings

In the Alert Settings section, you can configure some of NAVAlert’s more advanced features – see Fig 18.

If you are using the NAVAlert with one of our 4GConnect or 4GXtream products, you can tell NAVAlert to send an SMS message to your mobile phone. Simply enter

your mobile number in the box pre-fixing, it with 00 plus your two digit country code and then the mobile number with the leading 0 removed. Then select 4GConnect or 4GXstream, depending upon the product you have.

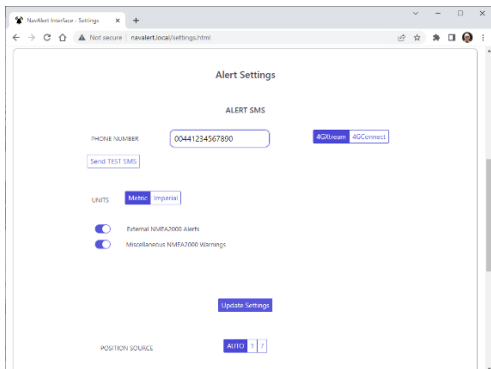


Figure 18

Click the **Update Settings** button to store the settings and then you can click the **Send TEST SMS** button and NAVALert will try and send your mobile phone an SMS message to test the connection.

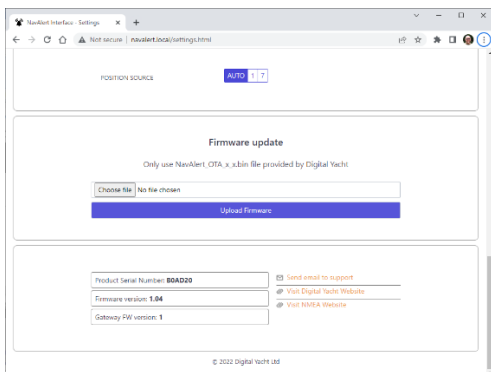
Also in this section, you can:-

- 1) Set the Units that NAVALert displays either; Metric or Imperial
- 2) Enable/Disable NAVALert to alarm if it receives Alerts other NMEA 2000 devices
- 3) Enable/Disable NAVALert to alarm if it receives other Alarms in miscellaneous NMEA 2000 PGNS; i.e. Engine Alarms, MOB Alarm, etc.
- 4) Configure NAVALert to use a particular GNSS position source on the NMEA 2000 network. By default, it will select the GNSS source with the lowest CAN address, but you can manually select another source if there is a problem with the automatically selected position source.

5.3 – Firmware Version and Updating

At the bottom of the Settings page, are details of the Firmware version of the NAVAlert and its internal Gateway chip. We try to avoid having firmware updates but sometimes it is necessary to fix a bug or add an important new feature. You can refer to the version numbers here to see what firmware your unit is running and then check on Digital Yacht's support website to see if there are any updates.

The NAVAlert firmware (web interface) can be updated very easily from the web interface. Simply download the latest update (BIN file), click the **Choose File** button and browse to your download location. Select the update file and click the **Update Firmware** button. The update takes about 10-20 seconds and at the end you should see an Update Successful pop-up window appear.



This Quick Start Manual just covers the very basic operation of NAVAlert. A more detailed description is provided in our training video. Simply scan this QR code to be taken straight to our YouTube video.

