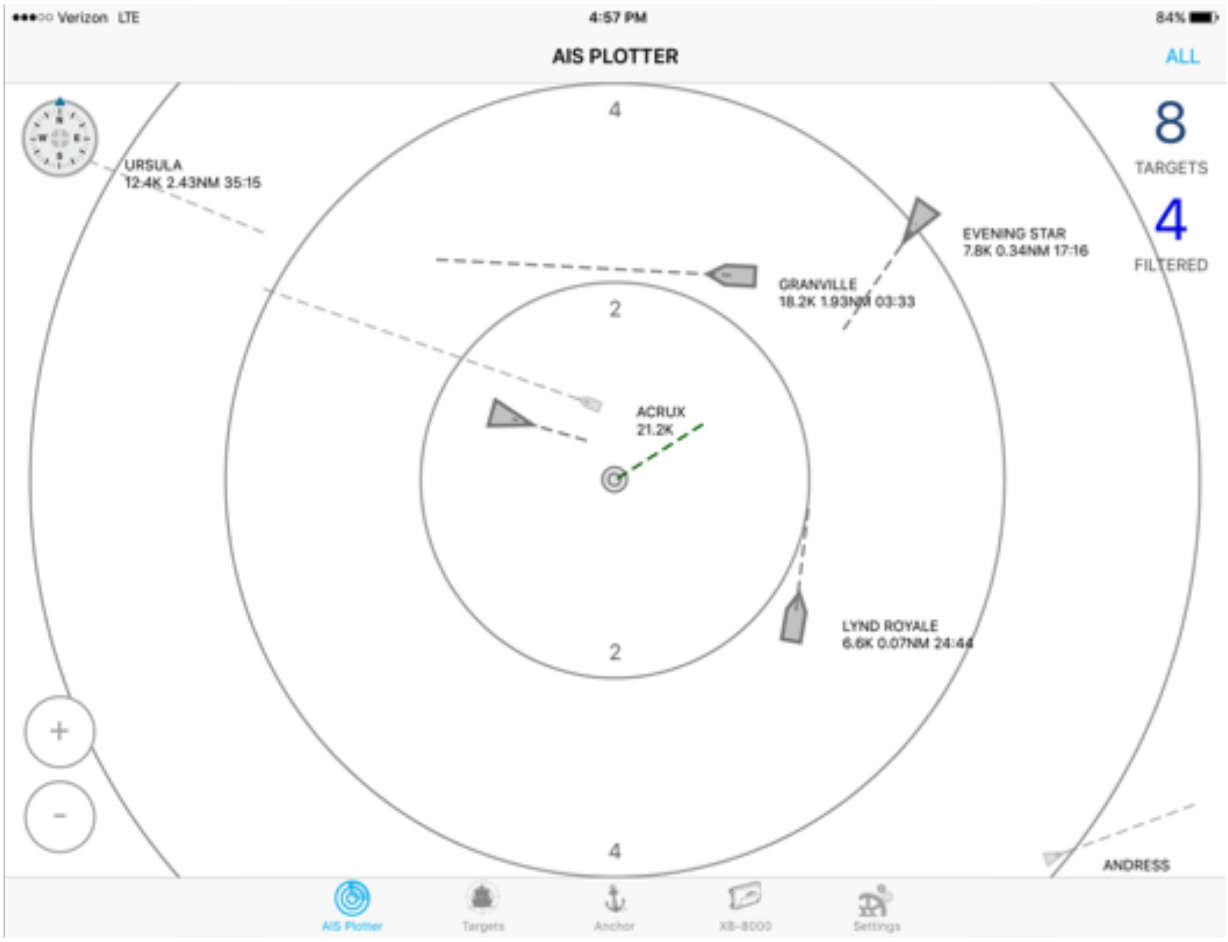
WatchMate iOS Guide

AIS Plotter

The AIS plotter page gives us an uncluttered view of AIS targets, with our SmartAIS filtering of targets that meet all of the following parameters:
TCPA (time to closest point of approach): <30 minutes
CPA (closest point of approach): <2 NM
Range: <48NM
SOG (speed over ground): > 1 KT

Filtered targets will appear large, where other targets will appear small.
To toggle filters off press 'ALL' in the top right hand corner.
Targets that meet our alarm profile conditions will appear in red (*see alarm profiles)*



Filtered (dangerous) targets: Evening Star, Granville, Acrux, Lynd Royale.

We can pinch to zoom, or use in the range in and out buttons in the bottom left corner. The display can be viewed in North up or Head up mode. Where heading isn't connected, COG (course over ground from our GPS antenna) will be used for Head up mode.

If we click on any target we get detailed information - CPA,TCPA, Callsign etc. If there are multiple targets where we click, we will be presented with a list so we can select the target we're interested in without ranging in, to separate targets.

Target Icons


AIS Class A vessel (generally >300GT)


AIS Class B vessel (generally smaller than Class A)


AIS MOB (Man overboard, generated by an AIS Personal locator beacon)


Default AToN (Aid to Navigation)


Radar Beacon


Emergency Wreck Mark


Cardinal North Beacon


Cardinal East Beacon


Cardinal South Beacon


Cardinal West Beacon


Beacon, Port Hand or Preferred Channel Port hand


Beacon, Starboard Hand or Preferred Channel Starboard hand

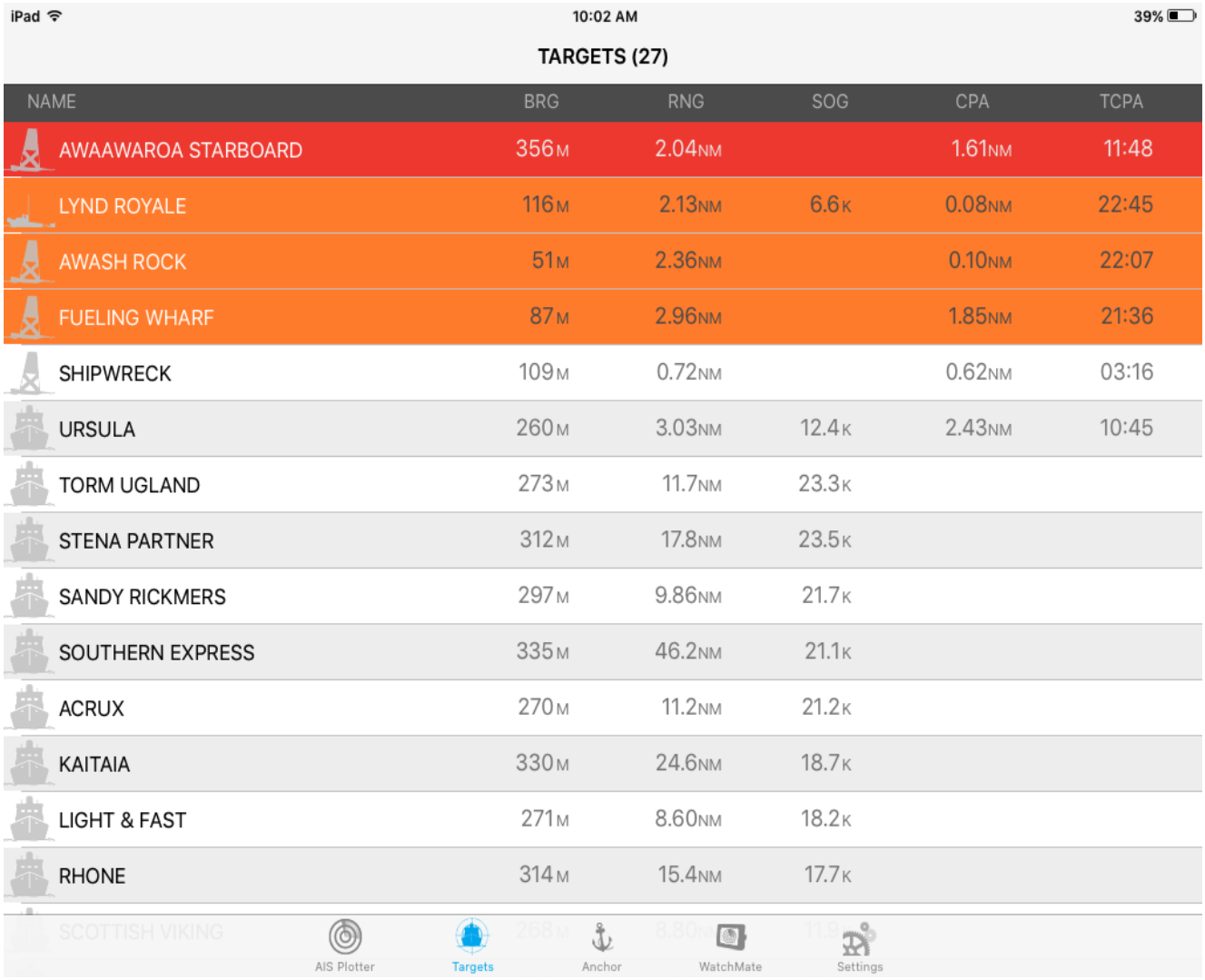

Isolated Danger Beacon


Safe Water Beacon


Beacon, Special Mark

Target List

This offers an alternative view of targets, ranked based on SmartAIS' determination of risk. If we click a target it will show us the target's position in the AIS plotter page, with detailed information. Red targets meet our alarm conditions based on the selected alarm profile.



Four targets are generating alarm conditions, the greatest risk being Awaawaroa Starboard.

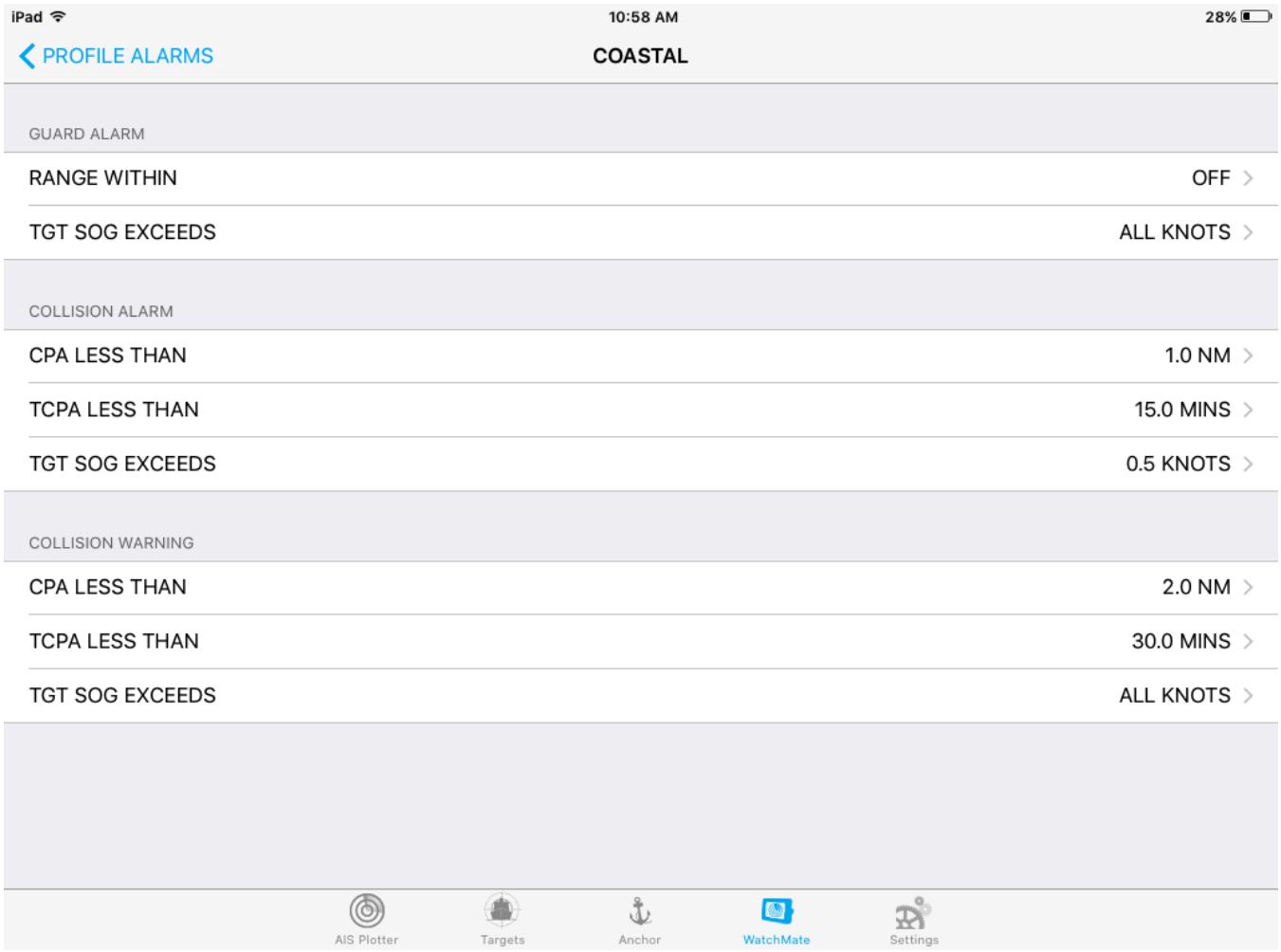
Alarm Profiles

SmartAIS transponders can drive an external alarm, as well as alarms on the iOS device.

Under XB8000/WatchMate on the bottom menu, **Profile Alarms** we have four preconfigured profiles which can be customized. The idea is to configure each profile to our liking, and then select the most relevant for our current scenario, for instance 'Anchor' profile is configured for a peaceful sleep with no TCPA, CPA or range alarms, whereas 'Offshore' is very sensitive for maximum warning.

When SmartAIS generates an alarm, it is based on the conditions at that moment. If we use the external switch on the XB8000 or the app to acknowledge an alarm, we acknowledge that specific alarm rather than a blanket muting of all future alarms. If for instance a vessel changes course and generates a new condition, SmartAIS will generate another alarm.

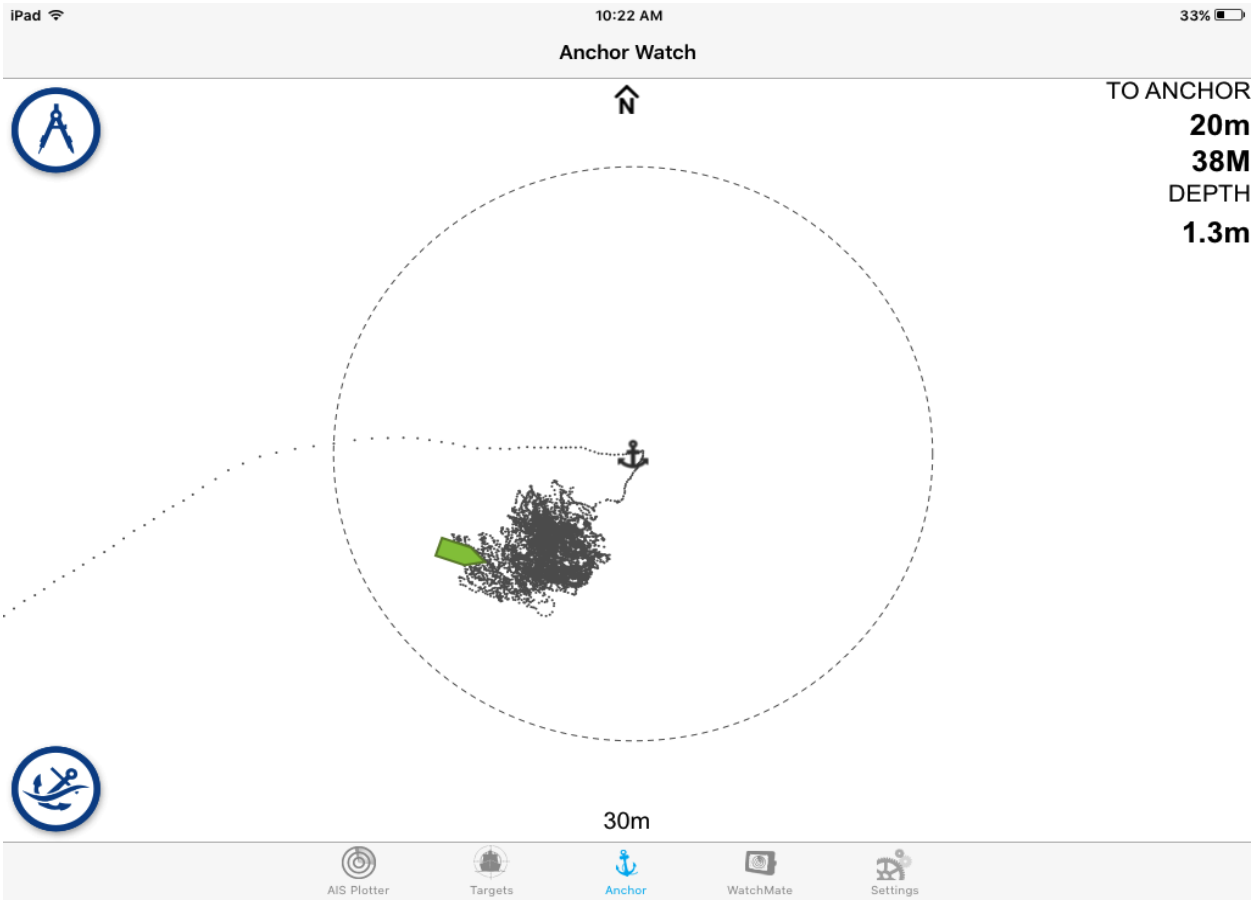
To select our preferred profile for our current scenario, this is under XB8000/WatchMate in the bottom menu, **Select Profile.**



Default alarm conditions for the Coastal Profile, customisable at any time

Anchor Watch

We can set the anchor position when we deploy the anchor, or retrospectively using the breadcrumb trail of where we've been. Breadcrumbs are similar to a track on an MFD, but the spacing between crumbs gives us an indication of our SOG. The device stores breadcrumbs for the 30 minutes prior to dropping the anchor, and all crumbs since, up to a 24 hour period where they will automatically replace the older crumbs.



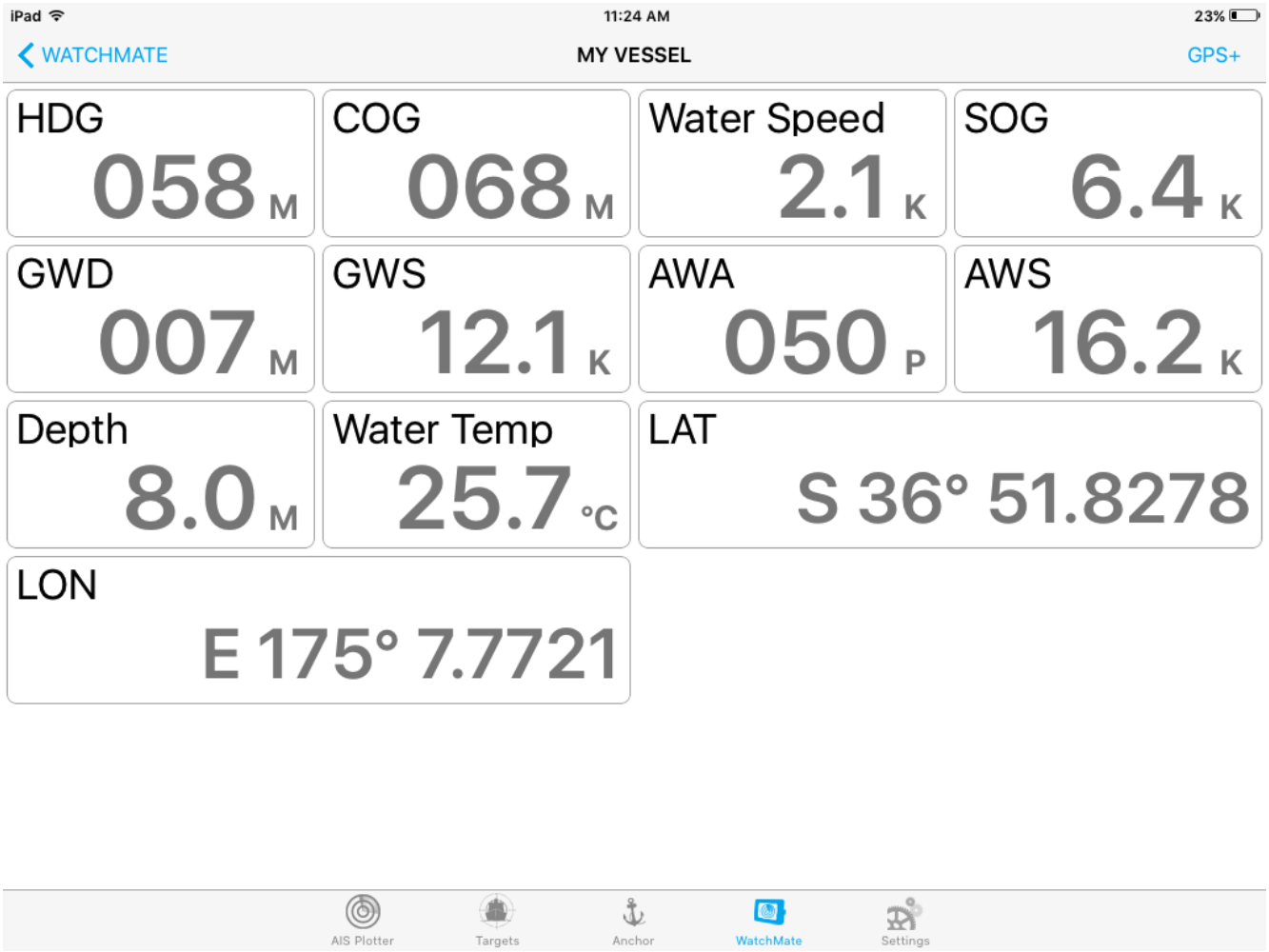
From this screenshot we can see we came in from SW, increased speed and turned East, slowed and dropped the anchor. After deploying the anchor we drifted South very slowly. From this kink in the breadcrumb trail we can easily retrospectively place the anchor position.

To set the anchor position press the anchor key (bottom left corner), and swipe the display to move the anchor to the actual position if necessary. We can set the alarm radius (30m in the above screenshot) using the divider key (top left hand corner). If we drag and breach the alarm radius, the external alarm will sound (where connected) and the iOS device will generate an alarm *(see app permissions)*.
Once we weigh anchor we can press the anchor key again to cancel our anchor watch.

Where we have heading information connected, a round nib will appear on the bow and the vessel will point in the correct direction.
To move the anchor position after it has been set, swipe the display until the anchor position appears correct.

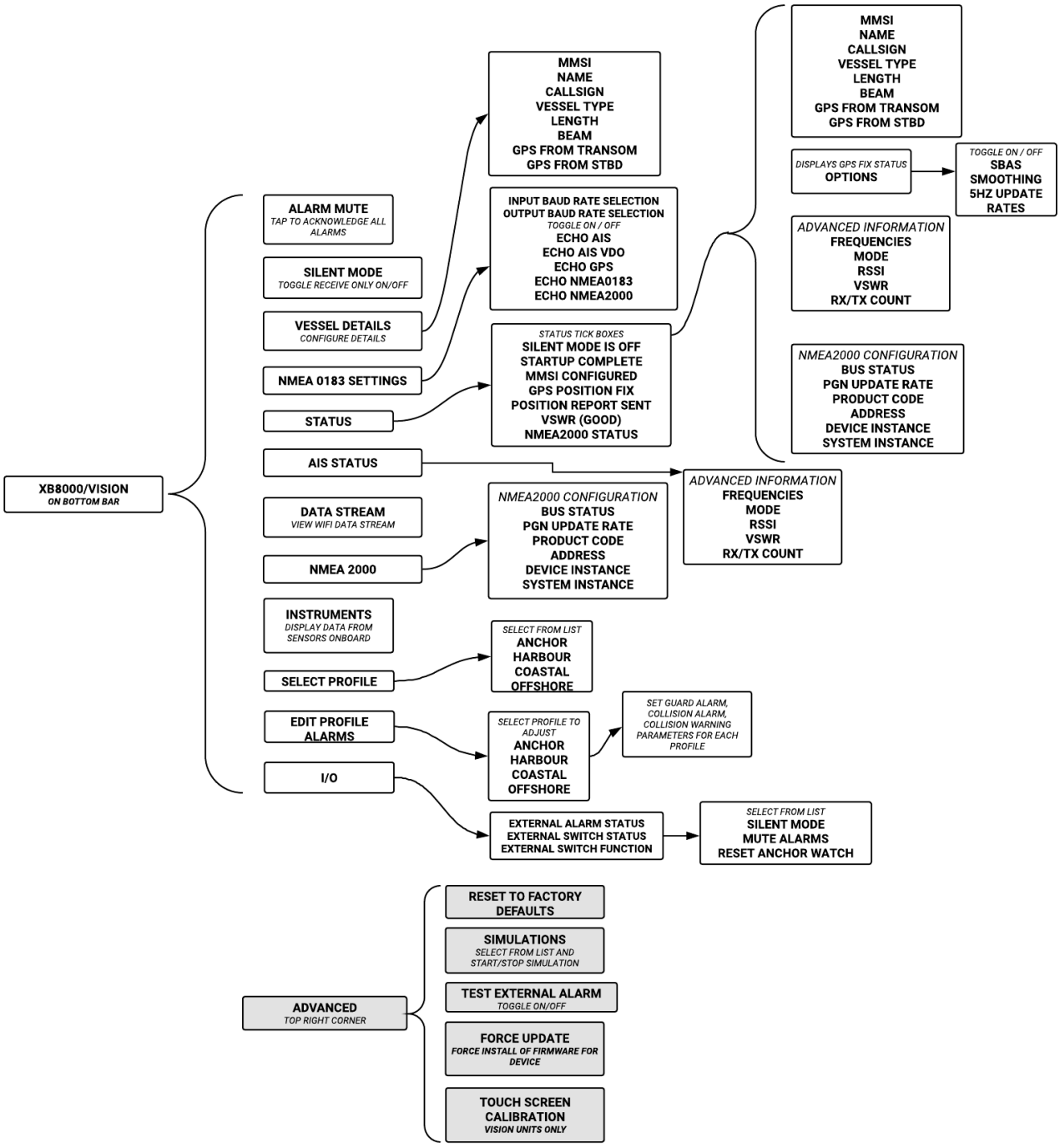
Instruments Page

We can display data from sensors connected to the SmartAIS device, under XB8000/WatchMate on the bottom menu, Instruments. Wind, Speed, Depth, Heading data connected to the device is automatically displayed where available on the NMEA2000 network or received over NMEA0183.

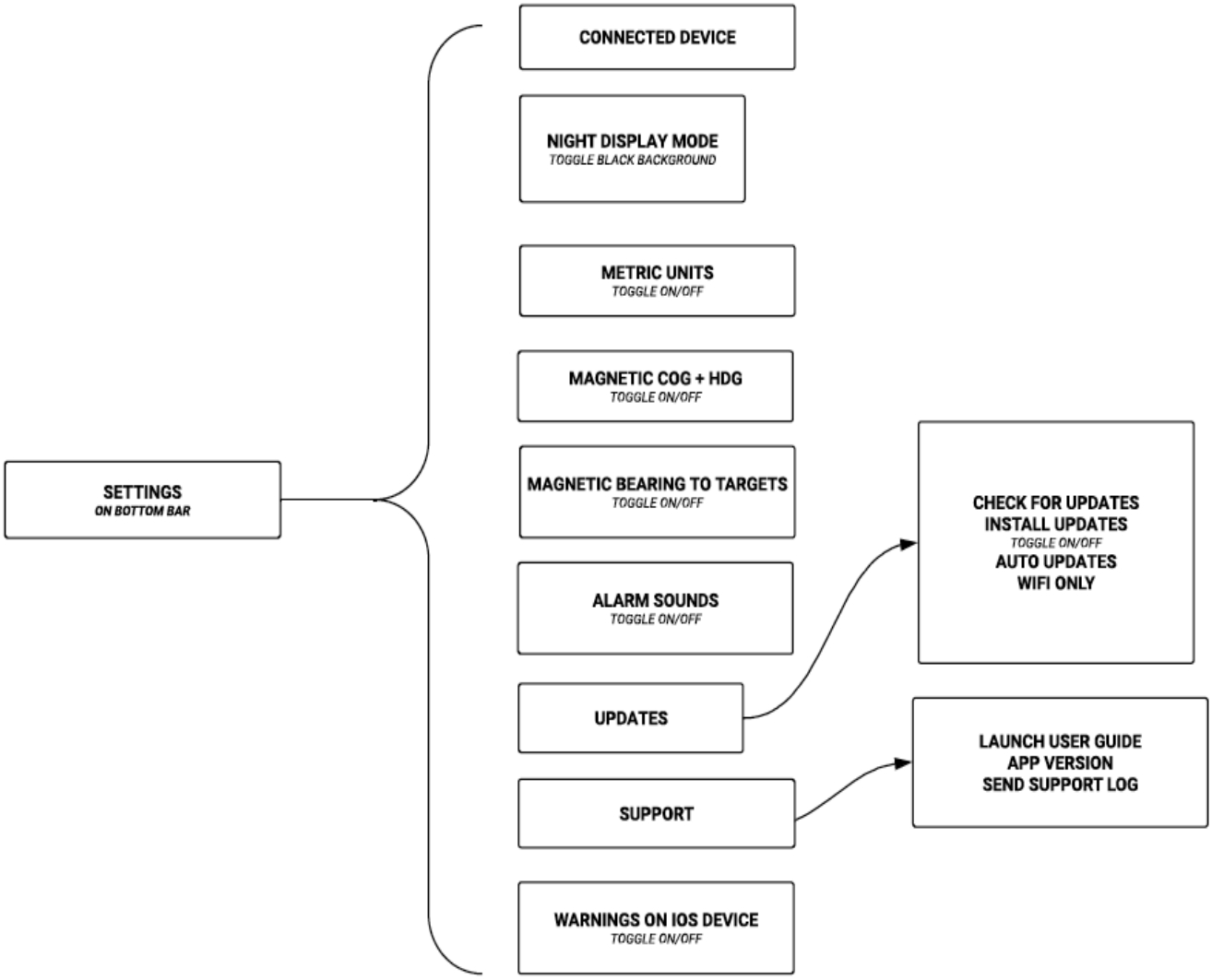


Heading, Course over ground, Speed over ground, Ground wind direction, Ground wind speed, Apparent wind angle, Apparent wind speed are displayed from this vessel's sensors. We also can view the GPS status by clicking on the GPS+ in the top right hand corner.

XB8000/WatchMate menu



Settings menu



Connecting to your device

SmartAIS devices generate a default WiFi network called 'VesperXB_AB12345' where AB12345 is the serial number of your device. The default password is '**WatchMate**' noting the capital W and M. A handy prompt for this: it is the same as the name of the app on the homescreen of your iOS device.

On an XB8000 if you wish to change the password, SSID (network name), or set the device as a client of an existing network onboard, this can be done via our configuration utility for Mac, PC and linux called 'vmAIS'. This is available free from www.vespermarine.com/downloads. When we're connected to vmAIS via a USB cable (the connector on our devices is called a USB Mini B, commonly found on digital cameras) we can view and change these settings under the WiFi tab.

App Permissions

In order to show notifications from WatchMate while it is open, under the iOS device's settings, WatchMate, please allow notifications (sounds, badge app icons, show on lock screen to on) and select 'prevent app from sleeping'.

Troubleshooting iOS connection issues

iOS devices can be obsessive about finding a path to the internet, and will sometimes ping other networks in the background. This isn't always clear on the WiFi settings menu where it may appear we are still on the VesperXB network despite the interruption to our connection. A symptom of this is where a blue notification banner is repeatedly displayed, and 'No GPS' is displayed on the anchor watch page.

1 - Forget all WiFi connections on your iOS device with the exception of your smartAIS device
Having a single WiFi available puts a stop to iOS trying to search for the internet, and then attempt to utilize what it thinks might be a better Wi-Fi connection.
The following steps are required in order to forget a WiFi connection:

- Open the 'Settings' app and select 'Wi-Fi'.
- Select the information icon to the right on the WiFi connection for which you wish to forget.
- Press the 'Forget This Network' button.
- When the confirmation dialog appears press the 'Forget' button to the right.

Repeat the forget process for all WiFi connections with the exception of the Wi-Fi connection associated with your smartAIS device.
As a last step:

- 'Ask to Join Networks' - turn this to ON
- Restart the WatchMate application on your iOS device.

2 - Adjust the priority of your WiFi connections

The order (listed in descending priority) in which WiFi connections are present within the Network settings can also have an effect on WiFi stability. By making sure that the WiFi connection associated with the smartAIS device is moved to the top the list ensures that your unit's WiFi connection is given a higher priority than others.
This step needs to be performed on a Mac that has the same iCloud account as your iOS device. WiFi settings are synced across to iOS devices with the same iCloud account.
The following steps need to be followed:

- Open the 'Systems Preferences' application on your Mac
- Choose 'Network'.
- Select 'WiFi' in the left hand panel
- Press the 'Advanced…' button.
- Move your smartAIS device to the top of the list with other WiFi connections below.

For more information on this topic please read the following article:
https://pxlnv.com/blog/prioritize-wifi-ios/