RELEASE NOTES for SOB v11

New Features, Changes and Fixes : Amends Edition 5 of SOB User Manual

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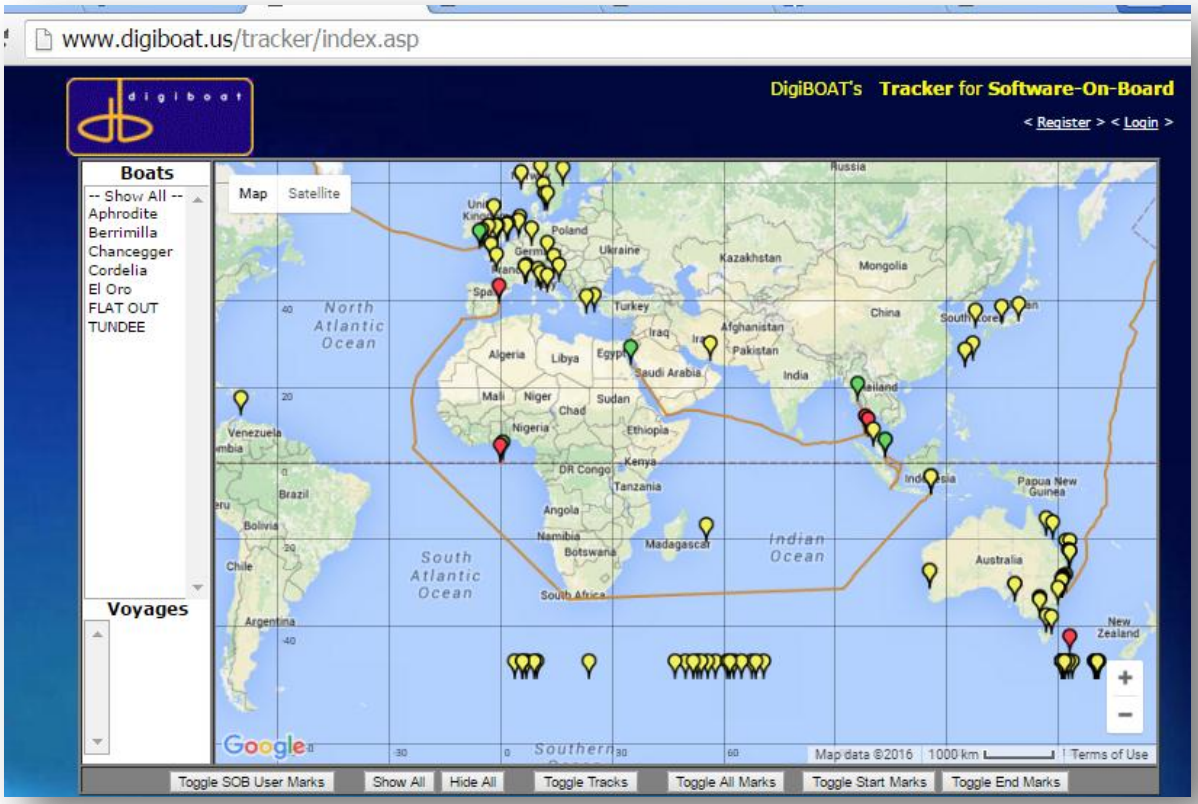
NEW FEATURE: WEB TRACKER & BLOG

Built-in automatic Tracking which uploads your position (and all other NMEA data that is input to SOB) to the Internet on a pre-defined schedule, or on demand.

View your track on the Web with Google Maps on our dedicated webpage.

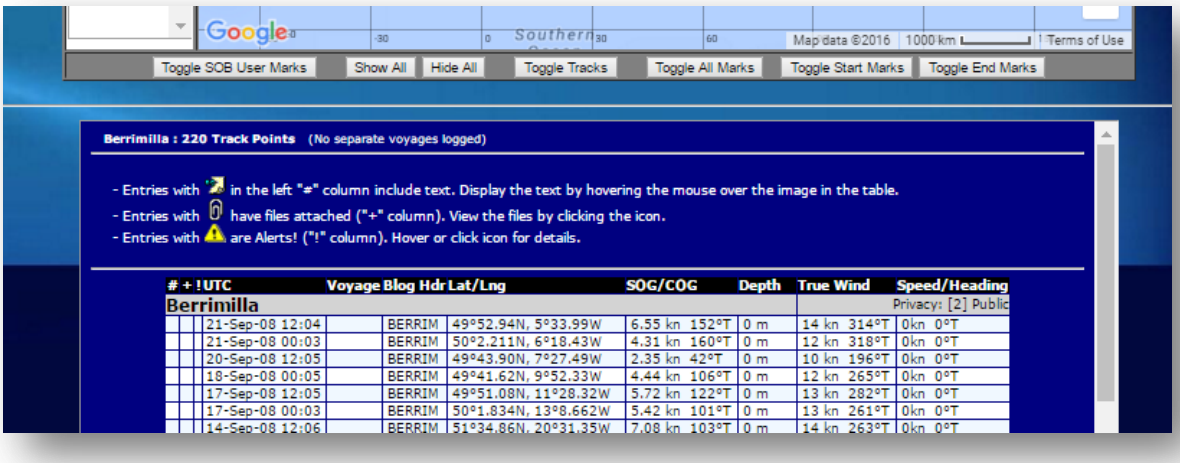
Once uploaded, your Position, Track and Voyage can be viewed by anyone, anywhere on a Google-map simply by browsing to our DigiBOAT WEB Tracker page:
www.digiboat.us/tracker



The Tracker Internet page at *www.digiboat.us/Tracker* where you can view your, or others, boat locations and voyage tracks

Each uploaded track point includes most of the data input to SOB – subject to what NMEA devices you have connected* - and any blog text and files or pictures that you've added to the upload. These track details are displayed as a list which can be examined on the web page or exported to play with in Excel etc.

* As shown in the table below, speed and course, depth and wind data is uploaded. No AIS data is uploaded and some NMEA messages of lesser interest are not uploaded, such as altitude, rudder angle etc



Sample listing of position reports uploaded, any included blog text or attached files are accessible from this list.

Control who can see your boat/track

You can nominate yourself (your boat) as Public, Private or Restricted. Where Public is viewable by anyone, Private is only viewable by you (you must login to the Web Page) and Restricted is viewable only by those you have given a special access password to.

Turn your Track into a Blog

Your Tracked position (and other data) can also include a short text blog (up to 500 characters) and even attached files ie photos, PDF documents etc.

Ideal for slow expensive Internet Connections (eg Iridium, INMARSAT)

Of course, you must have your navigation computer connected to the Internet for the Tracker to function. But this has been specially engineered to allow for slow, and irregular, Internet connections such as you may have when on a long passage. The system used by SOB to upload your information is extremely band-width efficient and is more than suitable for use with a Satellite Phone Internet connection. In fact uploading your position and daily blog entry with SOB uses around 10 times LESS Internet bandwidth than an email-style equivalent (which is the method used by most on-line blogs use to upload your daily thoughts).

Note for SailMail subscribers: SOB requires a standard bi-directional Internet connection for uploading - which is not possible via PACTOR and SSB radio.

OPERATION OF THE TRACKER IN BRIEF

Simple steps to setup, then basic tracking operation is automatic.

1. Click a box in SOB to enable tracking, select the upload Schedule from a drop-down list, and your Privacy setting.
2. (Optional) Enter or Update your Voyage name (this helps to organise your tracks on the Web Browser display)
3. (Optional) Click another box to enable Alerts! – enter an email address (or several) to receive the alert notification, set the alert type and value (eg, Shallow Water less than 10 mtrs)

4. Use any Web Browser on any computer and go to www.digiboat.us/tracker
   Find your boat in the list to see its track and latest uploaded position

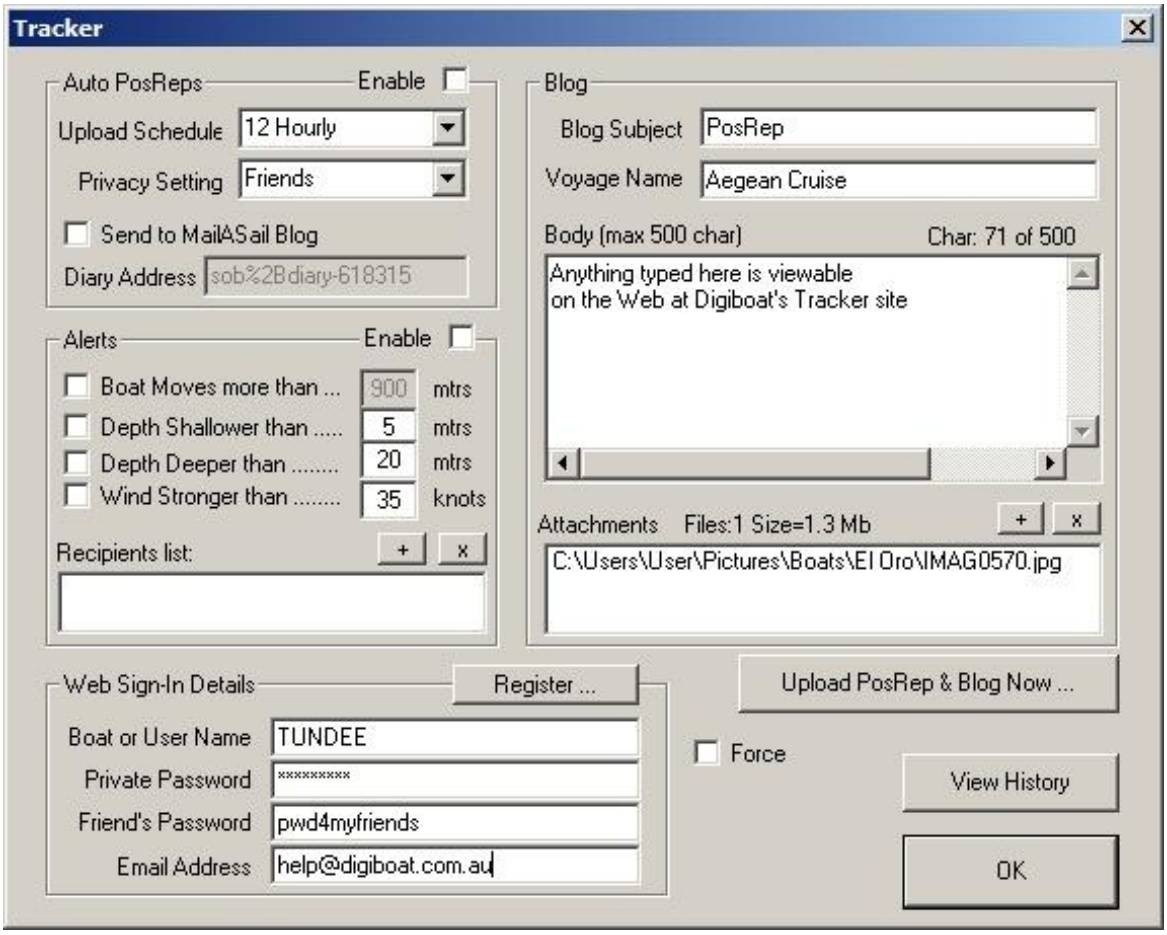
Using the Tracker as a Blog

The steps above will automatically send your Position Report (PosRep) at the specified intervals. To add text and files to any Tracker upload, open the Tracker form, type a Subject Line in the box provided, then up to 500 characters of text for your blog. Attach files by clicking the [+] button for Attachments, or simply Drag and Drop a file onto this **Tracker** form.

When ready, press the [Upload PosRep Now…] button. Follow the progress messages on the StatusBar (lower-left of chart screen)

THE SOB TRACKER FORM

Use this SOB Toolbar button to open the Tracker form pictured below. Here you schedule your tracker uploads, configure your email Alerts! and setup your registration details for the Tracker system.



Enable Auto PosRep tick-box

Turn auto-upload of your Position on or off.

If ticked, your PosRep's will be uploaded at the specified frequency that is chosen (next point).

If you do not have an Internet connection at the time of the next scheduled upload, or there is some type of other connection issue, then this PosRep will be Queued for later upload.

If the upload is successful, and "Log History" is enabled, then this PosRep will be stored in a History file on your local disk.

See Tracker History and Queues in next section.

Schedule Upload of Track Data

Choose how often to automatically upload your Position Report. Standard time periods are selected from the drop-down list.

Note that all uploads will occur on the hour, ie when minutes are zero.

If you choose to upload hourly, the first of these scheduled uploads will occur on the subsequent whole hour, ie if you make this setting at 16:45, then first upload will occur at 18:00, then each hour thereafter.

Privacy and Visibility

Your Boat position and tracks will only be visible on the WEB Tracker map according to this selection.

Private Only you will be able to see your boat track on the Google Map and the list of logged positions on the DigiBoat WEB Tracker. You will need to login to the WEB Tracker page to see your boat position.

Friends Only those people that you give the Friend's Password to (as entered onto this form) will be able to view your Boat Track and Position List on the WEB Tracker site. They will need to enter this password into the Webpage to expose your boat's details.

Public Anyone can visit our WEB Tracker site and view your boat track and position listing.

BLOGGING

Blogging is ideal for keeping your friends and family informed of your movement and adventures, both for peace of mind and also to feel a part of your boating experiences.

Uploading a daily blog is also a great way to create a lasting memory of a trip or cruise.

And can also serve as a valuable Ship's Log if you include details about your problems or successes with Ship's systems, whether that be sailing situations or engineering issues.

Eg the following few offhand comments in a blog could prove to be very useful at a later date: *"Wind strengthened to 15kn, still on shy-reach with kite up and handling well with the light wind spinnaker sheets, put 1 reef in the mizzen and weather helm reduced considerably. Generator still stalling at random, found a fine mesh filter in fuel lift pump that had a film on it – now cleaned and so far working well."*

For automatic (scheduled) track uploads the Blog subject will be included, however the blog text and any attached files (next points) are not sent with scheduled uploads.

Blog Subject

Enter a Title for your log, or blog, position upload.

The Subject defaults to PosRep for 'Position Report', however you can enter anything you desire here, eg Start of Voyage, Day 3 Perfect Weather, Half Way and Good Fish, Storms! etc Trying to capture the memorable event(s) of the day in the Subject Line is a good idea as it helps you to "find" a blog entry months or years later..

Blog Text

Enter text to attach to your Position Report upload.

Note: maximum 500 characters - if more are entered, only the first 500 will be sent.

For example, this could be blog-style waffle, or Ships-log information, or points/facts of interest etc.

This text is not included in your scheduled Tracker uploads, to send this text with a Position Report, use the [Upload Now] button on this form.

Your blogged information can be viewed and exported in a variety of formats from the WEB Tracker site.

Attachments

Any file from your hard disk can be "attached" to your Tracker Upload and will be viewable from our WEB Tracker page. These files could be photos (jpg, png, tif etc) or PDF documents or text, Word, Excel files, videos etc.

Simply Drag and Drop any file onto the form to add it to the attachment list, or press the [+] Add button to browse for the file.

Use the [x] button to clear all attachments from the list (this does not delete the files from your hard disk).

To delete an individual file from the attachment list, double-click the item and confirm the pop-up message.

You should be careful about file sizes of any attached pictures or documents, particularly if you have a slow or expensive internet connection.

For the most part it is not practical, and indeed often not possible, to send files via a satellite connection. Certainly document files (.doc .xls .pdf and the like) are not possible. If you must send a picture, then resize it to literally postage stamp size and 60% compression (if a jpg). For satellite connection it is strongly recommended to keep the total size of all attachments less than around 50Kb.

SOB will show the total size of attachments on the form, but it is your responsibility to monitor the appropriateness of the amount of data sent as attached files. However SOB will pop-up a warning box prior to uploading if the combined file size of all attachments exceeds 100Kb.

Mail-A-Sail Blog

Mail-A-Sail is a website for boaties based in the UK and mostly specialising in on-board communication. As part of their service they offer email addresses for boats with very good compression designed for low speed internet connections. They also host a popular blog site. Refer to www.mailasail.com for further information of their products and services.

This option on the SOB Tracker form is for the convenience of users/subscribers to the MailASail blog system. http://blog.mailasail.com

To also send your SOB Blog Upload to MailASail, simply tick the box and ensure your correct MailASail user ID is entered. The MailASail User Name is in the format:

{mailasail email name}+diary-{usernumber}@mailasail.com

Note: you do not need to enter the "@mailasail.com" part. SOB's Tracker will automatically add this. You also do not enter the curly braces "{}". The user ID part of your MailASail blog address includes a "+" (plus symbol). If you have trouble with these emails not sent correctly, replace the "+" with these 3 characters: %2B. (This is an internet code for a plus sign).

Usually to upload your blog to MailASail, you construct an email and ensure your lat and lng are correctly formatted in the first line, then type your blog, embed photos etc, then send through your normal email client.

SOB's WEB Tracker will do all this automatically for you, and for best efficiency this is all done at the Internet side of the connection. So you do not need to use any more bandwidth (or cost, if on a Satellite Phone connection) to have your Blog sent to MailASail.

Once your normal SOB Tracker blog is uploaded, a small program at our Server processes your upload and formats for our WEB Tracker site and will also correctly format your blog and forward it to your MailASail account.

See this sample Blog page created by our SOB Developer:
http://blog.mailasail.com/sob/288

Any photos that you attach will be displayed on your MailASail blog page as a link. Unfortunately, MailASail strips out externally linked images so your pictures can't display embedded into the MailASail webpage (this is common practice on such sites to avoid offensive images from appearing), so our Tracker will include a link to your images in

your MailASail blog page and the actual image file will be stored on our web server. Your blog readers can view your images by simply clicking on them and they'll open in a separate window.

Any non-photo files you have attached will be included as links at the end of your blog text.

Upload Now Button

Send a position upload immediately, include any blog data and attachments that you've entered.

To upload your blog, you must press this button whilst the blog information is visible on this form. Once you close this form, the blog header, body and attachment list are cleared.

For uploading a position report, this button is useful, for example, if you don't have full time Internet connection so while you have your connection for daily emails etc, click this button to also upload your position/blog.

TRACKER ACCOUNT DETAILS

Typically the following information is entered once with the first use of the Tracker, it is rare that it needs to be changed after initial setup and after the "Check" has completed successfully (details follow).

Your WEB page login details are the Login User/Boat Name and Password entered onto this form.

Boat or User Name

Enter your User Name, or Boat Name.

This is your *User Login ID* for the WEB Tracker. Although this name can technically be anything, it is common practice, and makes sense in most circumstances, to use your boat name. You might use your own name, or made-up name, for example if you have an involvement with several boats, or are a professional sailor.

The Login ID must be unique in our database. The first time you try to register this name with our Tracker (either from within SOB, or on our Tracker website) it will be checked for uniqueness in our list of current members. If it is a duplicate a suggested change to the name will be suggested, or you can continue to try names, or name variations, of your choice.

Private Password

Enter your Login Password.

This will default to your SOB User License Password, and is a recommended password to use if practical (ie, if you need a password that you can easily remember to login on the website frequently then choose your own here)

This password is used with your Login User ID, to upload the Tracker data and is also used to login to the Tracker on the website.

Note: this is a private password and should not be revealed to others

Friends' Password

This is required if you set your Visibility (above) to 'Friends'

Enter a password to give to your friends so they can see your boat track on the WEB Tracker site.

Your Email Address

Enter your Login Email Address.

This is used to confirm your identity on the WEB Tracker site and to email you if you forget your Login Password etc

All Tracker Uploads and Alerts are also emailed to this address as a notification and personal record/backup.

Login Check Button

Check your Login Name/Password details are correct.

Note that this check is performed automatically on first use, and if you change the Boat/User Name or Login Password.

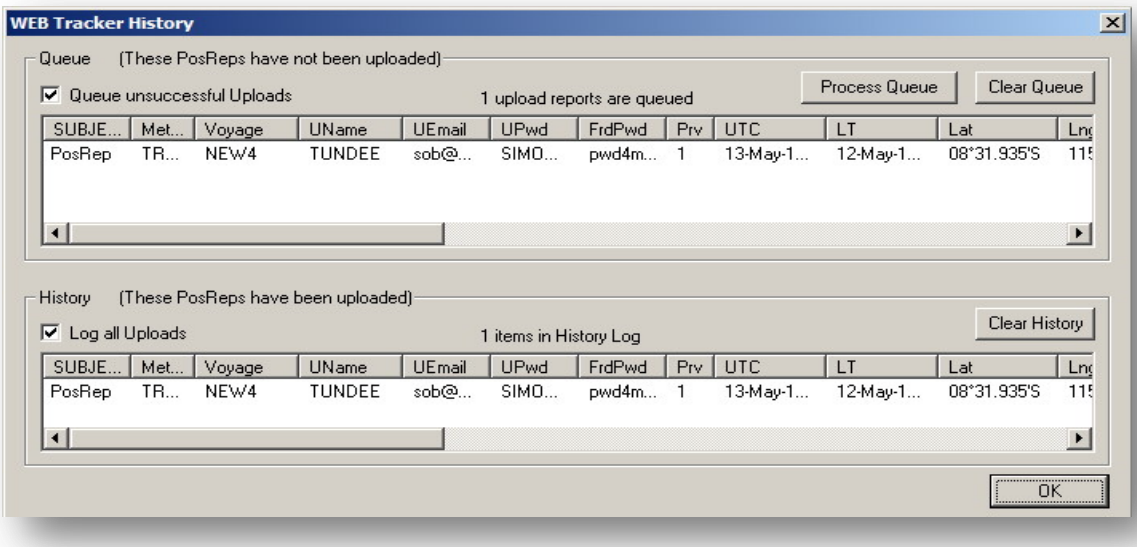
After pressing this button, SOB makes a connection to our online database to ensure your details are OK and thus any Position Reports and/or Alerts can be uploaded.

No Uploads or Alerts will be uploaded until this check has finished successfully.

UPLOAD HISTORY & QUEUED

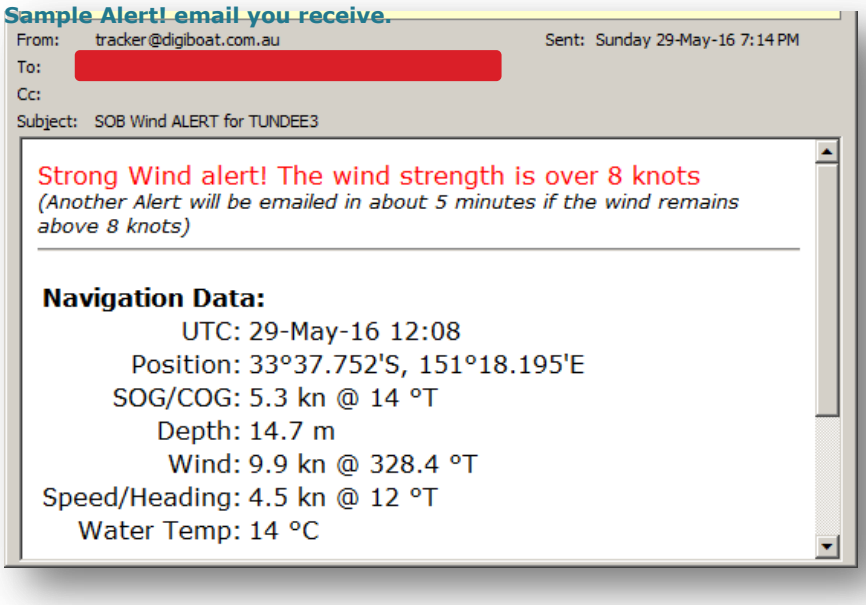
Press the History Button to show a list of all Auto Tracker Uploads, including any that have failed, and any that are queued for upload later.

This form should be self-explanatory. Remember you must have an Internet connection if you choose to Empty the Queue.



NEW FEATURE: EMAIL ALERTS!

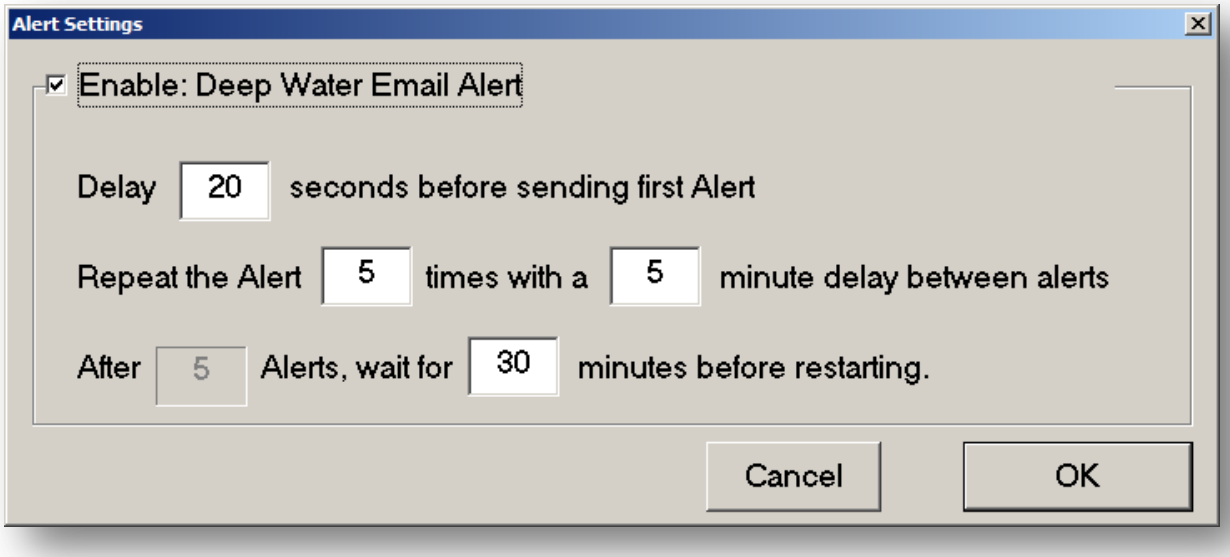
These are ideal for remote monitoring of your boat – theft, dragged anchor, storms etc - whether you are half a World away, or simply enjoying dinner ashore while your boat's at anchor.



Set various Alert! conditions : boat has moved (eg dragged anchor or stolen), shallow or deep water, strong winds, and show these Alerts! on the Google map from any Internet Browser and automatically receive an email informing you of the Alert! condition including your boat's location and any other NMEA data you have connected to the onboard computer (ie water depth, wind strength).

Fine control over frequency of Alert! emails

Using this plain-English setup form, set the various parameters to control the number and frequency of Alert emails you receive:



In this example, The Alert Emails are **enabled** for **Deep Water**, so once your boat enters water deeper than your set value (entered on parent form), the boat will have to remain in deep water for **20 seconds** before the first Alert is emailed. (If the boat enters water shallower than the set depth then the Alert will be cancelled).

After the first email is sent and if the boat remains in deeper water, then **5 more** Alert! emails will be sent with a **5 minute** delay between each email.

Once the sequence of 5 emails are sent, there will be a delay of **30 minutes** before the sequence is repeated.

Of course if your boat returns to shallower water then the Alert! emails will cease and be reset.

The Alert! email you receive will contain all navigation data (as shown in the email sample previously), but the **Boat Moves** (or Anchor Zone) Alert! will also show your distance from the Set Waypoint at the top of the Email Body.

Note: the only way Alert! emails can be manually cancelled is by turning off (disabling) the particular Alert! on the SOB Alarms Settings forms. (IE, you can not cancel alerts remotely)

ALERTS!

Enable Alerts! Tick-box

Use this to turn ALERT mode on or off. When ON, if any of the Alert conditions (below) become true an email will be sent to your registered email address and optionally additional recipients entered in the list (see next)

Email Addresses for Recipients

Enter additional email addresses to receive the Alert emails. When an Alert condition is true, SOB will send a single upload to the Digiboat Web Server. The multiple emails will be forwarded from the server, not from your computer, this minimises the amount of data transferred from SOB to the Web due to an Alert! condition.

Multiple email addresses can be entered by pressing the [+] Add button to pop-up a form where you type the email address, press OK when done will add this to the list.

Use the [x] button to clear all email recipients from the list .

To delete an individual email address from the list, double-click the item and confirm the pop-up message.

ALERT CONDITIONS

Alerts can be controlled on the **Tracker** form or the **Alarms** form. More control over the Alert functions is possible from the **Alarms** form. The **Alert Settings** form, shown above, is only accessible from the **Alarms** form.

Use the **Tracker** form for settings to do with email addresses and quickly enable or disable the Alert conditions. Use the **Alarms** form for finer control.

Enable **Boat Moves** Alert!

Send an Alert email if your boat moves a specified distance.

This could be used, for example, as an Anchor/Mooring drag alarm, or Boat has been stolen/borrowed, or the journey has started, etc

The Alert! distance that the boat must move before triggering this Alert is set by placing a Waypoint on the chart, then entering the waypoint properties and marking it as an **Anchor Alarm**, and entering the value for the Anchor Zone radius. If your boat moves outside this circle the Alert! email is sent according to your Alert! settings.

Enable **Shallow Water** Alert!

Send an Alert email if water depth is shallower than the value entered
(A depth instrument must be connected to SOB)

Enter the depth, in metres, that will trigger this Alert!

Note: the Alert will be triggered almost immediately if the water is shallower than this depth. Although to prevent the chance of a false alert, for instance if debris floats under the transducer, SOB will need to receive a few consecutive NMEA depth messages below this value before the alert condition is met.

The Alert will re-trigger according to your settings.

Enable **Deep Water** Alert!

Send an Alert email if water depth exceeds the value entered
(A depth instrument must be connected to SOB)

Enter the depth, in metres, that will trigger the Alert. The Alert will re-trigger according to your settings.

Enable **Strong Wind** Alert!

Send an Alert email if wind strength exceeds the value entered
(A wind instrument must be connected to SOB)

Enter the wind strength, in knots, that will trigger the Alert.

Notes: the wind strength must remain above this value for the duration of the "Delay" setting to trigger the Alert. The wind value used for the Alert condition is the Apparent Wind Speed as measured by your anemometer. However, the wind speed and angle sent to you in the notification email is True Wind data. In real life use you would mostly use this Alert when at anchor etc and the apparent and true winds should be the same.

The Alert will re-trigger according to your settings.

NEW FEATURE : ANDROID COMPANION APP

*Note: SOB **Pro** or **Network License** is required for Android App connectivity.*

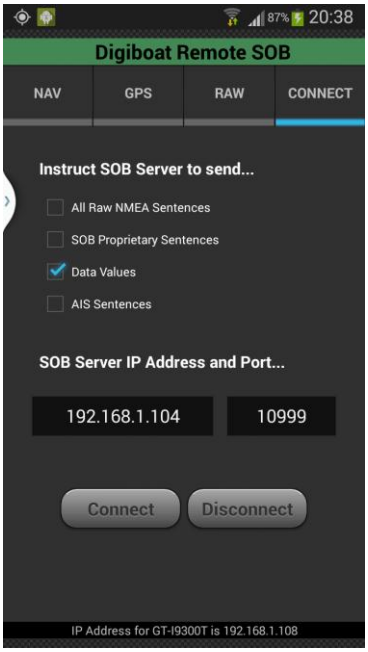
SOBv11 includes an early (BETA) version of **SOB Remote** for Android devices. This is a free App, however the SOB Networking features must be enabled to send and receive data between your SOB computer and the Android device.

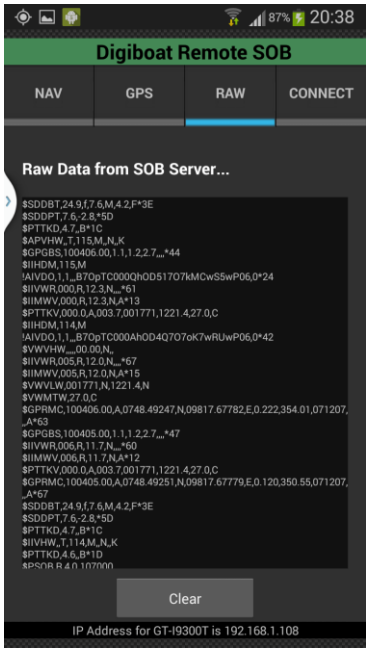
Connecting your Nav PC and Android Device

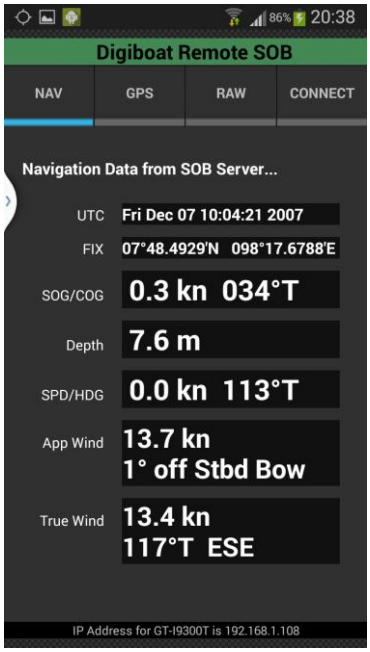
The connection between your PC and Android device is via TCP/IP. This is the "language" of the Internet and networks. There are three basic ways these can be connected:

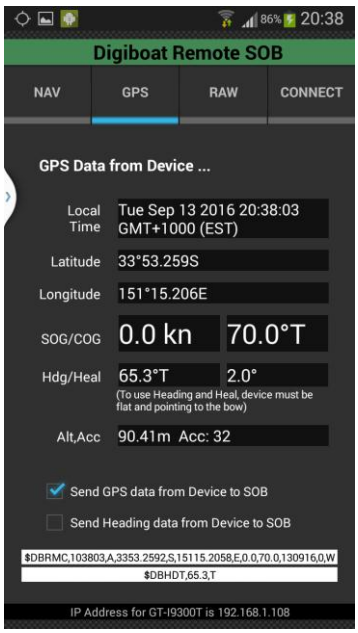
1. **Over the Internet**: Making these connections are somewhere between quite easy and exceptionally difficult depending on various factors to do with routers, static IP addresses, VPN's etc and assistance with this type of connection is beyond the scope of this document. Refer to the Network Chapter of the SOB User Manual for further assistance. Beyond that you will need to exploit the services of a networking professional.
2. **Over a local network**: If your device and PC are connected to the same hub (or WiFi router) then the connection is easy. From the SOB NMEA Network form, turn on the **Server Mode**. The IP address, and port number for your computer is displayed. Type these 2 values into the **SOB Remote** CONNECT page on your device and press the "Connect" button.
3. **Ad-Hoc, or Peer to Peer, or Direct Connect**: how to direct connect your PC and Android device differs depending on your device and your computer's Windows version, it is however usually a fairly easy process. Due to the different ways this can be performed we can't offer too much advice. Search your Windows help system for "Ad Hoc" connections for step by step instructions.

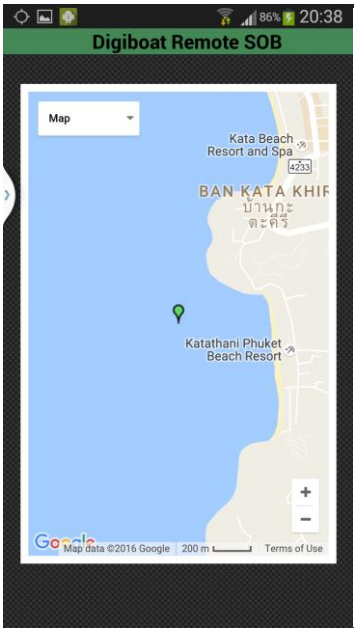
When the connection is successful, the heading bar in **SOB Remote** will turn from red to green, and NMEA data will flow on the RAW page.











Swipe to change the display pages in **SOB Remote**.

All compatible data from your NMEA devices connected to your SOB computer is sent to your Android device and displayed on these pages.

The device's built-in GPS and heading sensor data are also available for display if SOB's NMEA data is unavailable.

Note: the Google Map position display page IS NOT DESIGNED FOR NAVIGATION. This is a simple visual report of your boat's current location. However, we do have plans to integrate C-Map Navigation Charts in future releases.

SOB Remote operates in two main modes:

1. Receive NMEA data from SOB and display on your device
2. Send GPS and Heading and Healing data from the device to SOB

SOB Remote as a data repeater

The first mode uses your device as a remote data display, receiving the data from the NMEA devices connected to you PC running SOB. The received information is displayed on the Android device as text, or a variety of gauges and graphs for speed, heading, wind, depth etc data, and a Google Map display for your position.

Swipe to other pages to see your data in a variety of different ways.

Android Device as Nav GPS

The second mode allows you to send your device's built-in GPS data to SOB. This can be used as your active GPS connection for navigating with SOB. In addition, if your device is resting in a suitable position – flat, level and facing the bow – SOB can also use the device's heading sensor as an electronic compass (in place of a NMEA fluxgate or gyro compass).

To set this up, tick the boxes on the **SOB Remote** GPS page. SOB receives this data in the same way as for any remote client data (refer to the Network Chapter in the SOB User Manual).

Installing SOB Remote to your device

SOB Remote is not currently available in the Google Play Store (as @ Oct 2016). It is included as an "APK" file with the SOB Setup program or can be downloaded from our website. This file can be found in your **C:\SOBv360\Android** folder. Connect your device to your computer via WiFi or USB and transfer the APK file to your device. Refer to your device's instructions (or Google your device model/type) for further instructions for installing an APK file.

Future Android Version

Please note this version of **SOB Remote** for Android is a BETA version and should be used as a convenient data repeater and display app. It is not designed to be used for any form of real-time navigation.

Future development of this application will incorporate C-MAP Navigation charts and suitable tools for use while navigating.

NEW FEATURE : NMEA 2000 COMPATIBLE

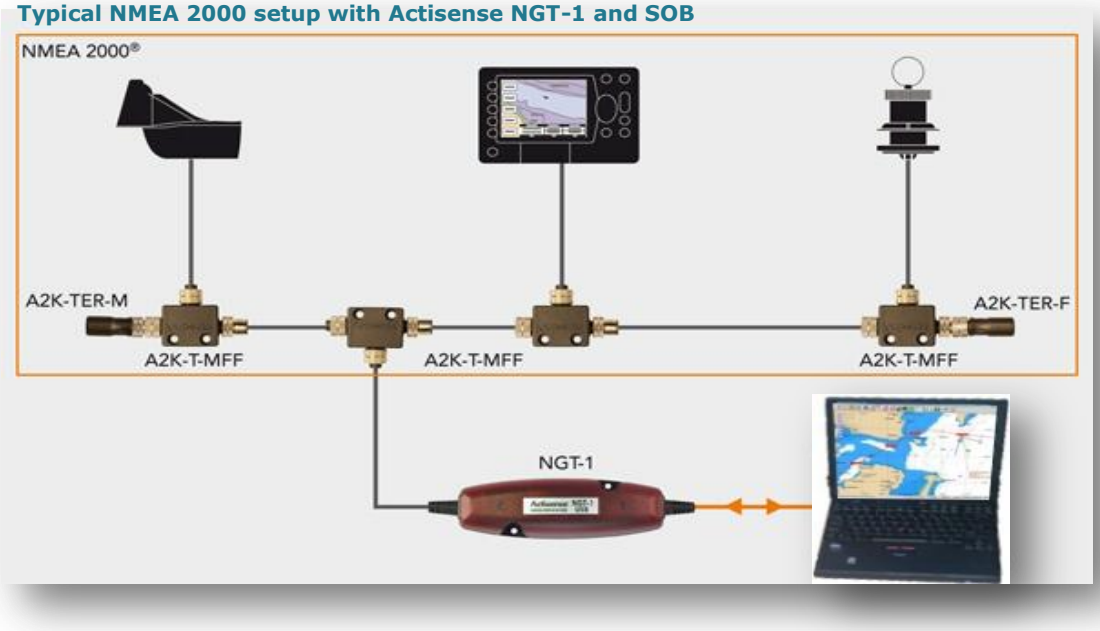
Using the **Actisense NGT-1** to provide a bridge between NMEA 2000 networks and your PC's USB port, SOB can read most navigational data from your NMEA 2000 backbone.

With the first release of SOB v11, compatible data includes UTC, Lat, Lng, SOG, COG, Compass Heading (from fluxgate etc), Boat Speed through water (from paddle wheel sensor etc), Wind, Depth and Rate-Of-Turn, and AIS Class A and B messages.

Actisense NGT-1
NMEA 2000-USB Adaptor
See www.actisense.com

Notes:
SOB does not process any DSC data from NMEA 2000 (any sample DSC data will be happily received by Digiboat for testing!).
No NMEA 2000 data is output by SOB.

Typical NMEA 2000 setup with Actisense NGT-1 and SOB



Open/close/diagnose the Actisense NGT-1 port in a similar manner used for any of SOB's NMEA0183 ports.

If SOB receives similar data from both NMEA 2000 and NMEA 0183 sources, then by default SOB will process both sets of data. Use the **Connections and NMEA Data** form to finely control if the NMEA0183 data is processed. It is not currently possible to finely control what NMEA 2000 data is processed, all NMEA2000 data received will be processed (if the PGN's are supported in SOB). Check our website for a list of compatible PGN's.

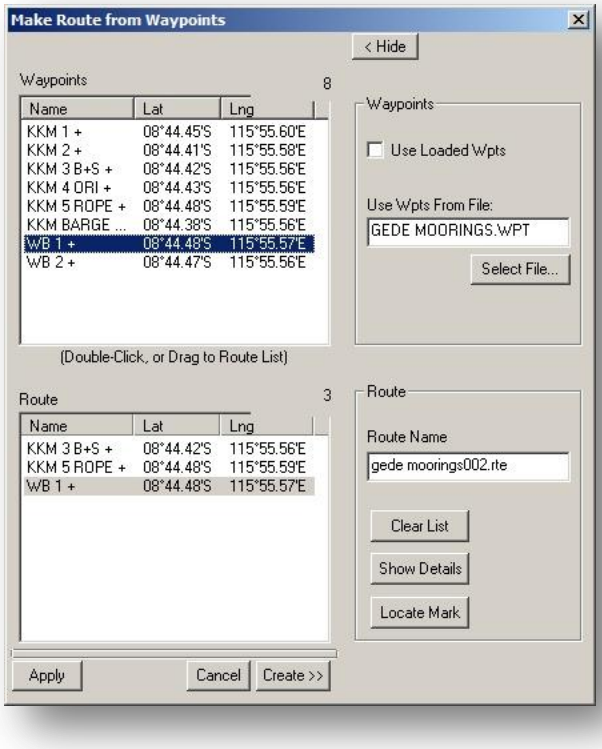
Using SOB as a NMEA 2000 to NMEA 0183 converter

If SOB receives NMEA 2000 data via the Actisense NGT-1, then using SOB's **Multiplex** feature, SOB will create NMEA 0183 equivalent sentences and send them out the configured COM or LAN port.

ROUTES

CREATE A ROUTE FROM WAYPOINTS LIST

Using the **AllWaypoints** form, select a waypoint file in the blue list then press the **Export to Routes** button below the blue list to open this **Make Route from Waypoints** form:



The Waypoint file selected is used as the starting list of waypoints, however open the options section with the **More>** button where you can choose a different waypoints file, or choose to use the loaded waypoints.

The route marks can be a combination of any waypoints from any waypoint file and/or the loaded waypoints.

Double-click any waypoint in the top list to add to the end of the route marks in the lower list. You can also drag and drop waypoints from the top list to the desired position in the route marks list.

Reposition the marks in the lower list by dragging to the desired order. Quickly remove any unwanted mark in the route list by double-clicking on it.

To rename a turnmark in the Route list, single-click it and you can edit the name in-place. Note: avoid hitting the Enter key after changing the name because that will close the form. Just [Tab] out from the name editing, or click elsewhere on the form.

With the options part of the form displayed, you can rename the Route file (which defaults to a variation of the original selected waypoint file name). Also delete the current list of marks if you need to restart your route creation; use the **Show Details** button to display the **Route Data** form with detailed information for the route and turnmarks.

The **Locate Mark** button will centre the selected turnmark on the chart for your assistance with identifying this mark if needed. Note there is no equivalent for the list of waypoints, however just add the waypoint to the route (double-click it in the top list), use the "Locate" button to check if it's the required mark, if so drag it to position it correctly in the route list, or double-click it from the route list to remove it.

Use the **Apply** button to redraw the route so-far for you to check your route creation progress.

When ready, use the **Create >>** button to close the form and create the route. Now use SOB's normal route editing tools to adjust as necessary.

NEW PAGE FOR DESTINATION PANEL

This abbreviated data page for the N2D panel adds to the existing Detailed Leg page and the Route Totals page.

This page is better suited for quick assessment of your leg "equation" with Direction to Steer, Distance, Bearing and Time to Go. The fonts are larger making it easier viewing from a distance.

Press the lower-left button to cycle through the three pages.

ROUTE EDITING

Inserting Turn Marks

Amends sections 7.1.1, 7.1.5, 7.1.4

While drawing the route:

- To add an existing waypoint to the route, SHIFT-click on waypoint.
- CTRL-click will place a turnmark where clicked, even if clicked on another turnmark. Previously this would select a new route if clicking a turnmark on a different route; or would double-click the turnmark and pop-up the quick Route Mark menu bar.

For example, if making a race route and the same mark is rounded twice, then there would be 2 turnmarks at the same place. CTRL-click allows you to place another turnmark "on top" of an existing one.

Additionally, still using the previous example, if you had an existing waypoint for the race mark, then while drawing the route, the first time you round this mark, SHIFT-click on the waypoint to include it. The second time you round the mark (while drawing the route) SHIFT+CTRL-Click to (A) avoid transferring to selecting the mark already there, and (B) to use the waypoint details for this turn mark.

Note: there is currently no way to "drill down" to turnmarks that're on top of one another. The first in the route will be selected so move it, then select the lower one, etc

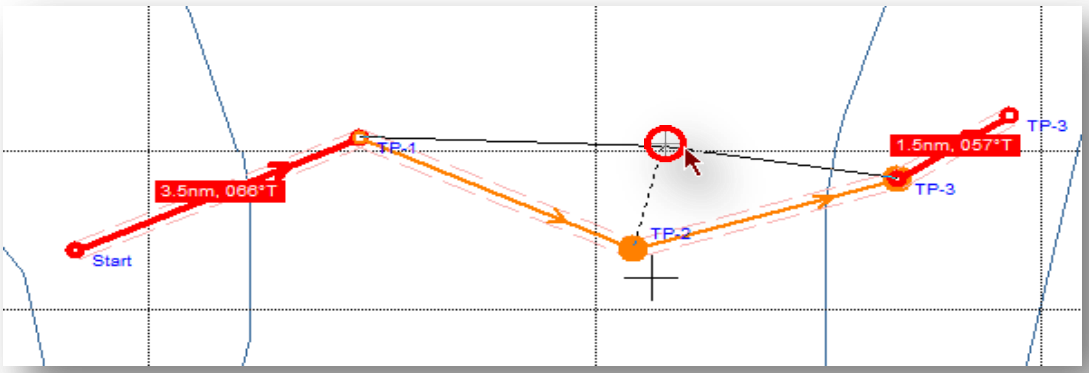
Route Leg Labels

Added new option for Route Leg Labels which doesn't show the Magnetic course heading as a minimal option to help reduce chart clutter.

Added sample leg label display as a caption on the "colour" button face for the **AllRoutes** and **RouteData** forms.

Moving Turn Marks

To make it easier to see the turnmark you are moving, and the preceding and following legs, these adjoining legs are drawn narrower and orange coloured and a dashed joining line is drawn from original turnmark position to the new position and the leg labels are not drawn.

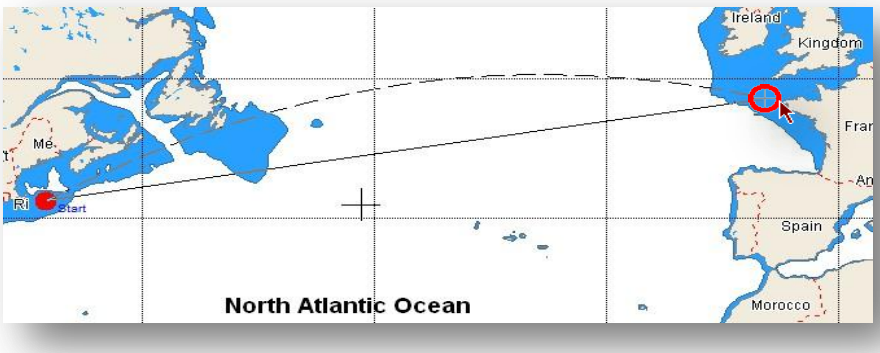


Route Drawing Guide Lines

When drawing a route, or moving turn marks on an existing route, SOB draws guide lines to assist the drawing actions. Prior to SOBv11 these guide lines where always Rumblines.

With SOBv11, in latitudes higher than 20 degrees, and distances over 600 nautical miles, SOB will also draw a Great Circle dashed guide line.

Turn this ON/OFF on the Ship's Form.



Route drawing guide example
The dashed line is the Great Circle leg if travelling from NY to France

Bug Fixes

Fixed bug: Using multiple delete function to delete the last turnmark in a route was crashing on occasion

Fixed display of RouteMenuBar pop-up when on second monitor - If double-clicking a route turn mark at bottom of chart then pop-up could be off screen.

ADDENDUM TO AUTO CENTRE FEATURE

Affects Section 2.1.1 and Section 2.2.1.7 of Edition 5 of SOB User Manual

The Ships Form labels for Auto-Centre feature have changed from Edge Limit and Centre Position to Ready & Return.

Once your ship crosses the Ready boundary, it will be repositioned to the Return location such that your ship will always be aiming towards the centre of the screen.

The Ready and Return values are a percentage of distance between the screen centre and the nearest edge (based on your heading). 0% is at the chart centre and 100% is at the edge closest to your position.

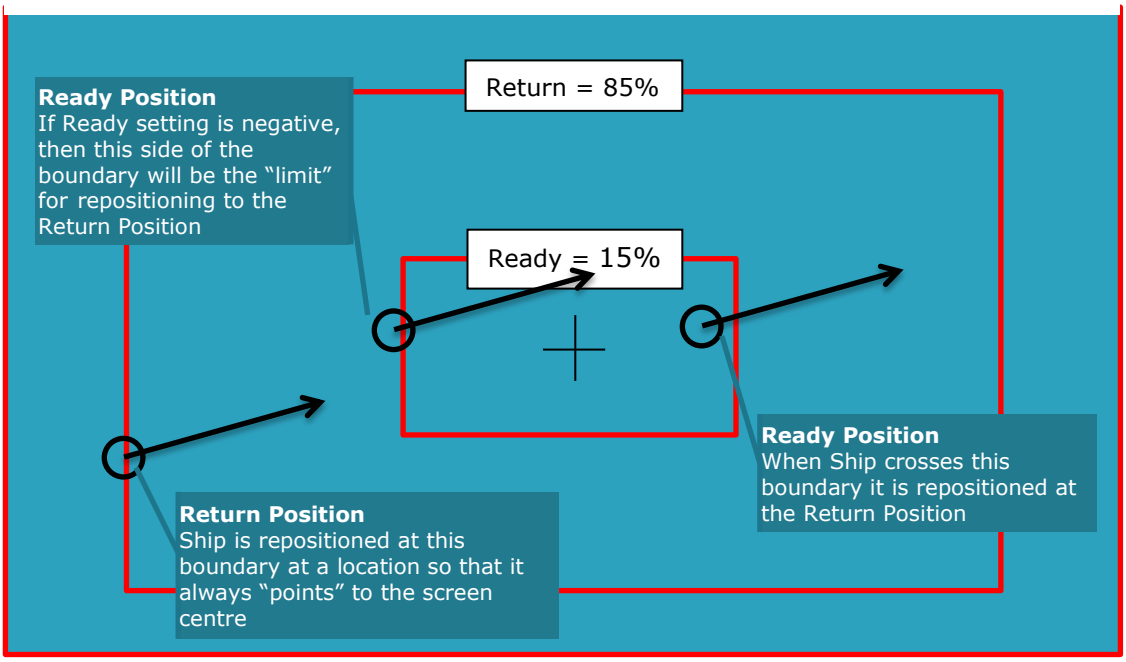
Ready is the distance from the centre of the chart that you do not wish your ship to cross, if this value is negative it is the distance before you get to the centre, if it is positive value then it is the distance after you pass the centre.

Return is the position away from the centre, and heading towards the centre, that the ship is returned to.

Examples

Result	**Ready Setting**	**Return Setting**
Always half a screen fwd of you:	5	90
Always maximum screen fwd of you:	-70	80
Always in centre of screen:	5	5

This sample shows Ready settings of plus and minus 15, with a Return setting of 85

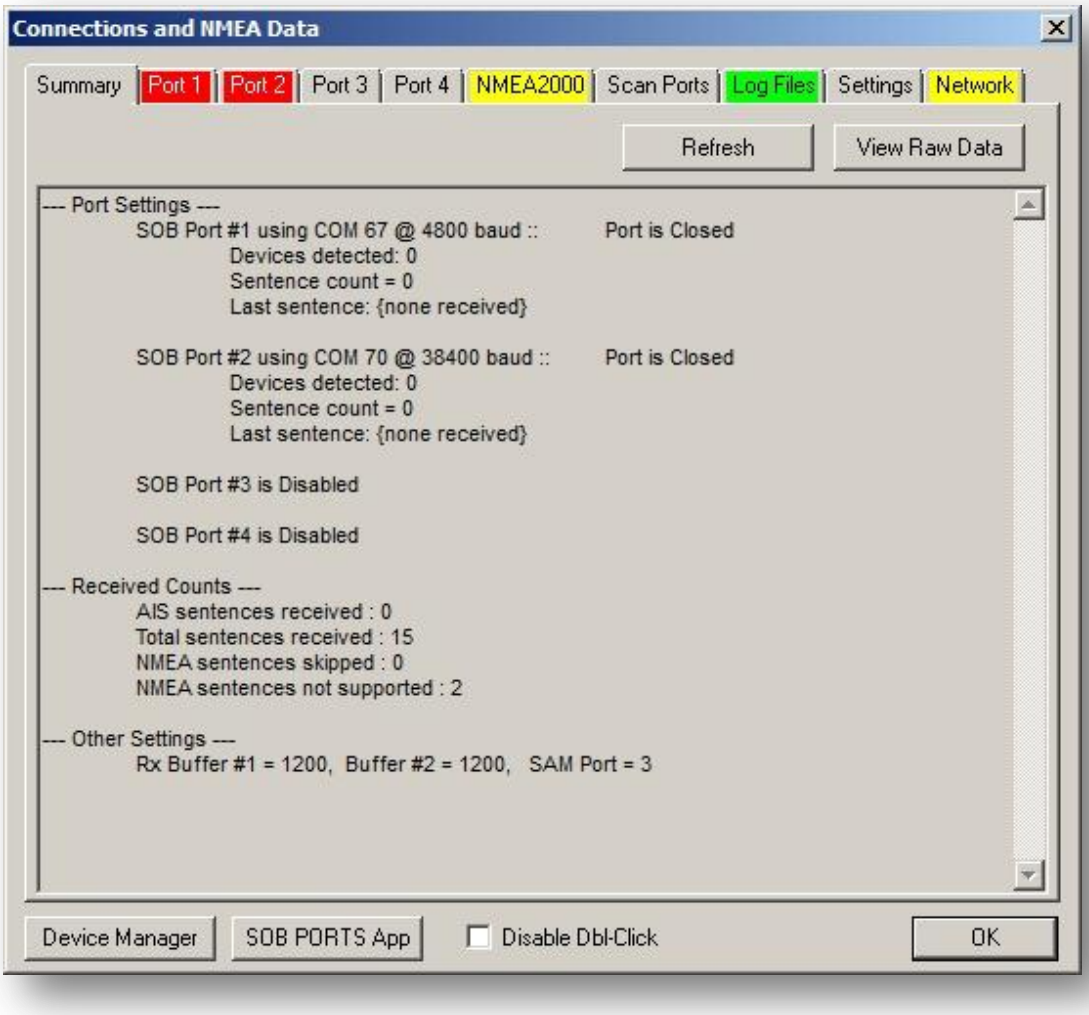


NEW NMEA FORM AND INTERFACE

Amends Chapter 13 of the SOB User Manual

SOBv11 has a completely re-built NMEA interface. Display this form in the usual way by Double-Clicking anywhere on the chart, or press the 'N' key.

Note: the previous **Raw NMEA Data** form is still available by Double-Clicking the chart while holding down the Shift key. Plus there is a button on the Panel Menu ('V' key or Paper-Clip button).



Page Descriptions

Page Tab Colours: in brief, Green is connected, Yellow is ready to connect, Red is not connected and Grey is not configured, or not appropriate for connecting. See each pages' individual descriptions following this section for more detail…

Summary page: shows a summary of the configured SOB serial ports. Press the [Refresh] button to update the values and show most recent data and settings. The [View Raw data] button will show the received NMEA sentences in real time. Note: only the NMEA 0183 sentences are displayed here. Each raw sentence displayed will be prefixed with either: COMx, NET or REPLAY depending on their originating source.

Ports pages: each of SOB's serial ports is displayed on its own page. See below for more details.

NMEA 2000 page: Control the Actisense NGT-1 and view received NMEA2000 PGN messages on this page.

Scan Ports page: Find, display and configure Serial, COM, USB and Actisense ports on this page. This page replaces the previous separate **SOB PORTS** companion app.

Log Files page: Control settings for logging of NMEA data, and find and play any existing NMEA log file. Both NMEA0183 and NMEA2000 log files can be replayed.

Settings page: Fine control over NMEA sentences sent and received for each port. Setup for Autopilot control, Multiplexing etc. NMEA0183 sentences only are controlled with these settings.

Network page: Sending and receiving of NMEA data over a network is controlled form this page. See below for details.

NMEA2000 to NMEA0183 Converter

If SOB receives NMEA 2000 data via the Actisense NGT-1, then using SOB's **Multiplex** feature, SOB will create NMEA 0183 equivalent sentences and send them out the configured COM or LAN port. The Multiplex COM port is set on the **Settings** page, and SOB is set to **Server** mode for outputting data over a network on the **Network** page.

Using SOB as a network Server allows you to send NMEA2000 data, via WiFi or LAN connection and converted to NMEA0183 data to any compatible TCP/IP connected device, including another computer running SOB.

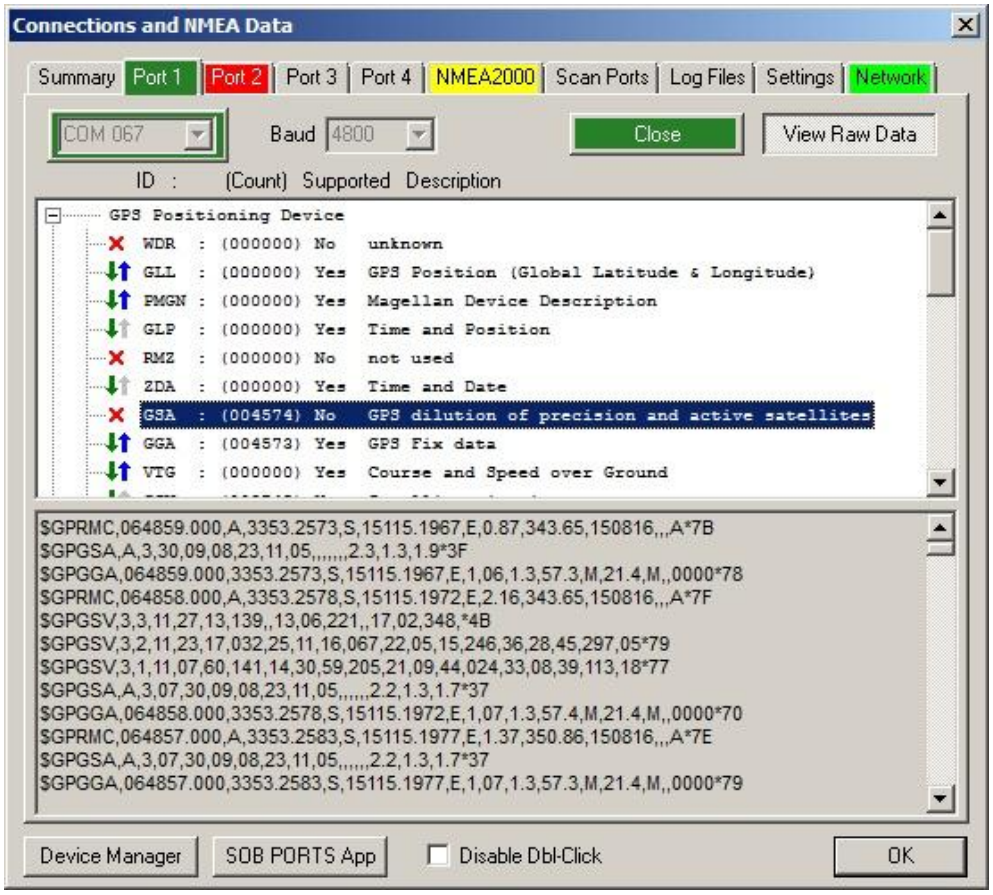
Refer to the Network chapter of the SOB User Manual for more information about network connecting SOB computers.

NMEA FORM PAGES

Ports Pages

These four pages are functionally equivalent. Each page is configured for one of the 4 serial ports that SOB can use.

This example page for Port 1 reveals much information:



- The green colouring for the 'Tab' indicates the Port is open (as is a Network connection – light Green for a Server connection and Dark Green for a Client connection – see Network page below)
- The green coloured surround to the left indicates that COM67 is valid, the Baud rate is 4800, and the green [Close] button indicates the COM67 (SOB Port #1) is currently open – press this button to close it and the button will turn red. If the Port is closed (by pressing the [Close] button, any valid COM port and baud rate can be manually selected)
- The [View Raw Data] button is selected which splits the screen and the received NMEA sentences on this port are displayed in the lower half.
- The comprehensive list of all NMEA sentences in the top list has the GPS section opened. The highlighted example shows that the GSA sentence is not decoded by SOB as shown by the "No" in the "Supported" column. The red cross image shows this sentence is not enabled (but, as it is a non-supported sentence it would never

be enabled). Finally, you will see that over 4,574 of these sentences have been received in the current session on this Port connection.

- The sentence below the highlighted example, the GGA sentence, is enabled for Receiving and Transmitting, and currently 4,573 sentences have been received.

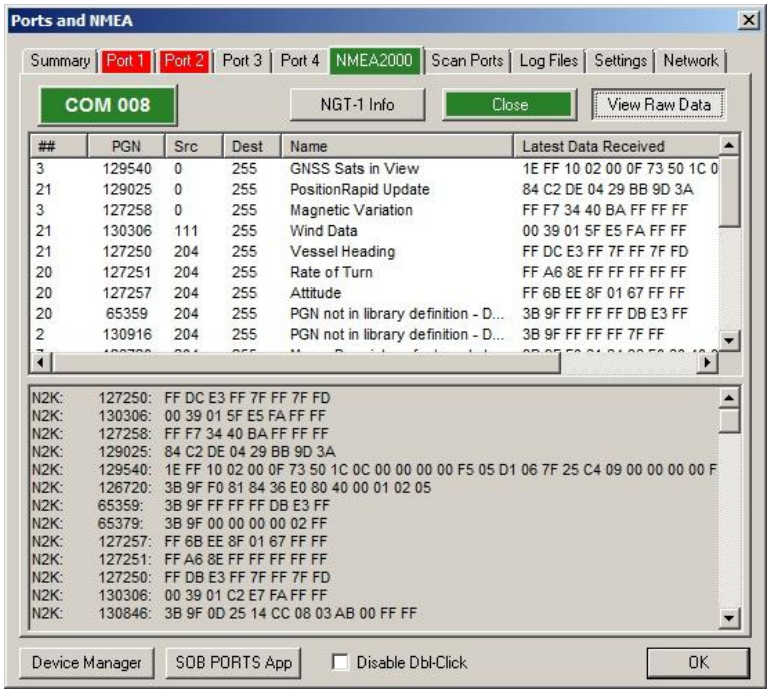
The **Settings** page (see below) provides fine control over each NMEA sentence for each port.

NMEA 2000 Page

NMEA 2000 sentences, known as PGN's, are handled somewhat differently by SOB to the NMEA 0183 data.

Currently, SOB can only receive NMEA2000 messages via an Actisense NGT-1 device which connects a NMEA2000 backbone to a computer's USB port.

Due to the nature of NMEA 2000, it is possible to receive a vast number of messages, far more than NMEA0183. SOB maintains a list of each PGN which holds the most recent message received for each PGN. In a timely manner, SOB processes the list, parsing each message to the current navigation data. So it is possible (but unlikely) that some messages could be skipped, particularly if they are extremely frequent (ie, many received each second). If, and how many, messages may be skipped will depend on many factors, including your computer speed, memory size etc, and the number and frequency of messages on your NMEA2000 backbone. Note that no AIS messages are skipped, every AIS message received is processed immediately.



Every PGN message type received will be added to this list on the NMEA2000 page, however SOB will not necessarily process all the received PGN's. For a list of the PGN's that SOB will process, review this webpage:

http://www.digiboat.us/features2.asp#nmeasentences

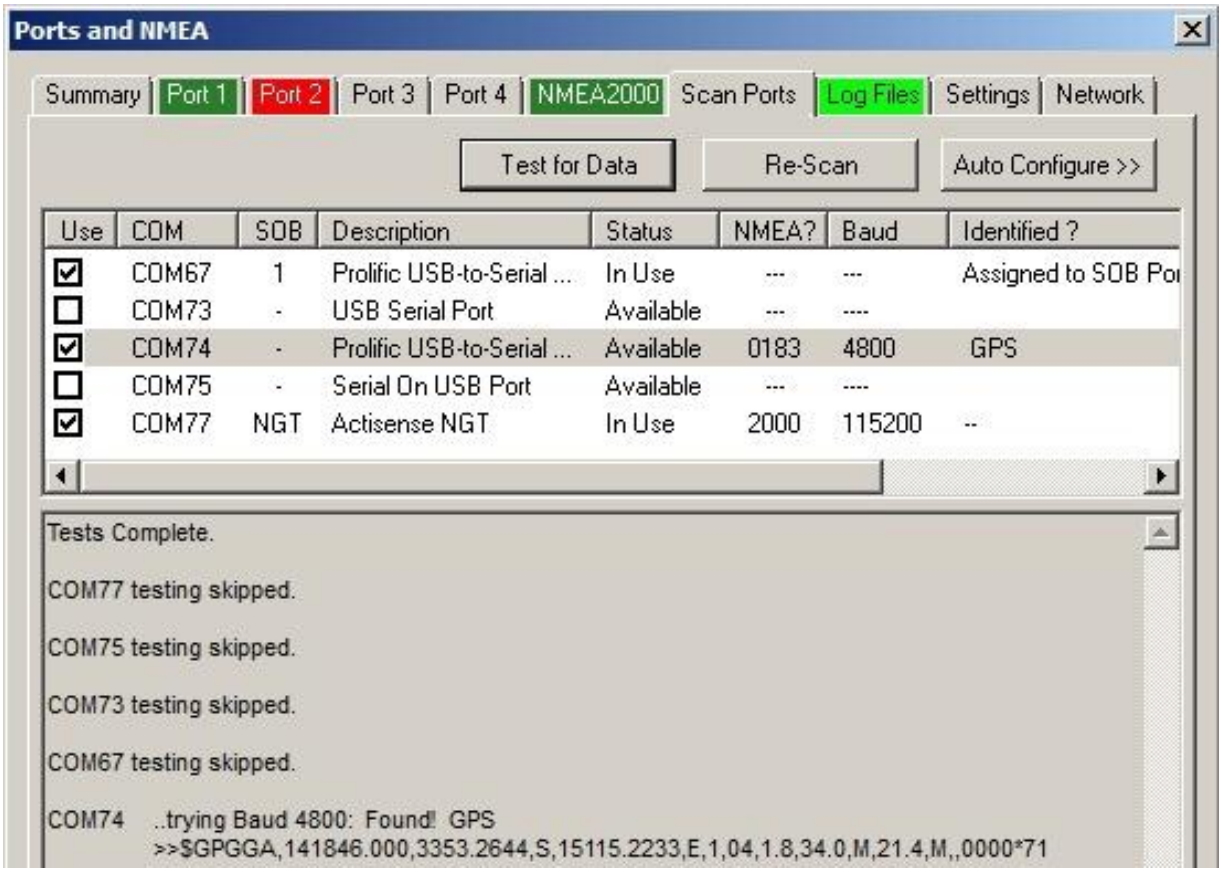
The stream of raw data received is displayed in the lower part of the window if the [View Raw Data] button is depressed.

Whenever the NGT-1 is Opened, or if the [NGT-1 Info] button is pressed then details about the NGT-1 hardware, and its status as a NMEA2000 device is displayed in the Raw Data Window.

Note that the COM port assigned to the NGT-1 can't be changed. SOB will automatically assign this if the NGT-1 is identified during a Port Scan. This COM number could change

though if the NGT-1 is connected to a different USB port, in which case a new Port Scan will need to be run.

Scan Ports Page



This functionality of this form is a replacement for the **SOB PORTS** application. Use the [Scan] or [Re-Scan] button to do an initial search for valid COM ports. These are serial/COM ports and include Virtual Ports which are created by installed drivers for some USB devices. The initial port scan does not check for any connected devices, use the [Test for Data] button and SOB will do a quick check for received NMEA data on each found COM port for each standard baud rate. Any identified NMEA data or device will be shown in the message section and in the list if relevant.

Once the ports have been scanned, you can manually configure each of the four SOB ports on their own page, or use the [Auto Configure>>] option.

Notes: The test for data for each port lasts for only a few seconds, so it is quite possible that a device can be connected but doesn't send any data during the test period, examples would be AIS or DSC devices. SOB can also detect some non-NMEA devices such as INMARSAT and PACTOR.

Due to the nature of Serial communications and USB device drivers, it is possible that certain device drivers or ports can freeze SOB during the scan or data test. First, try disconnecting any devices and wait a few minutes (for device time-outs to be tripped), if control is not returned to SOB you may have to use Task Manager to quit SOB and restart. SOB should have remembered the "problem device" and will skip testing it, however it is possible that the COM port was reassigned so it wouldn't be skipped. Re-test

while connecting one device at a time to determine the problem. If the issues persist, then you may have to use the SOB PORTS application to configure your devices.

Log Files Page

Refer to equivalent controls and settings from the old Raw NMEA Data form in the SOB User Manual: Sections 13.3.2 and 13.5.

The SOBv11 data logging options include separate items for logging bad (or rejected) NMEA0183 data, and a further options for logging NMEA2000 data.

The names of the files used to log the NMEA data have changed, the new names are shown beside the relevant setting.

NMEA 2000 Log files

When you open a file for replay, SOB will do a simple check to try to determine if the data is NMEA2000 or NMEA0183.

NMEA0183 files contain a stream of regular NMEA sentences with no additional data.

NMEA2000 log files must be in the following format:

#Time	PGN	Src	Dest	Bytes	Data	Descr
10454846	129025	0	255	[8]	83 C2 DE 04 22 BB 9D 3A	Position, Rapid Update
10454846	127258	0	255	[8]	FF F7 34 40 BA FF FF FF	Magnetic Variation
10454880	130306	111	255	[8]	00 20 01 EB DF FA FF FF	Wind Data
10454895	127250	204	255	[8]	FF EB E3 FF 7F FF 7F FD	Vessel Heading
10454895	127251	204	255	[8]	FF C1 43 FF FF FF FF FF	Rate of Turn
10455025	129029	0	255	[43]	E0 3B 42 50 24 … etc	GNSS Position Data

Although all columns, except for the "Desc" column must be present, SOB only uses the "Bytes" and "Data" columns for decoding. Each column must be separated by a "tab" character.

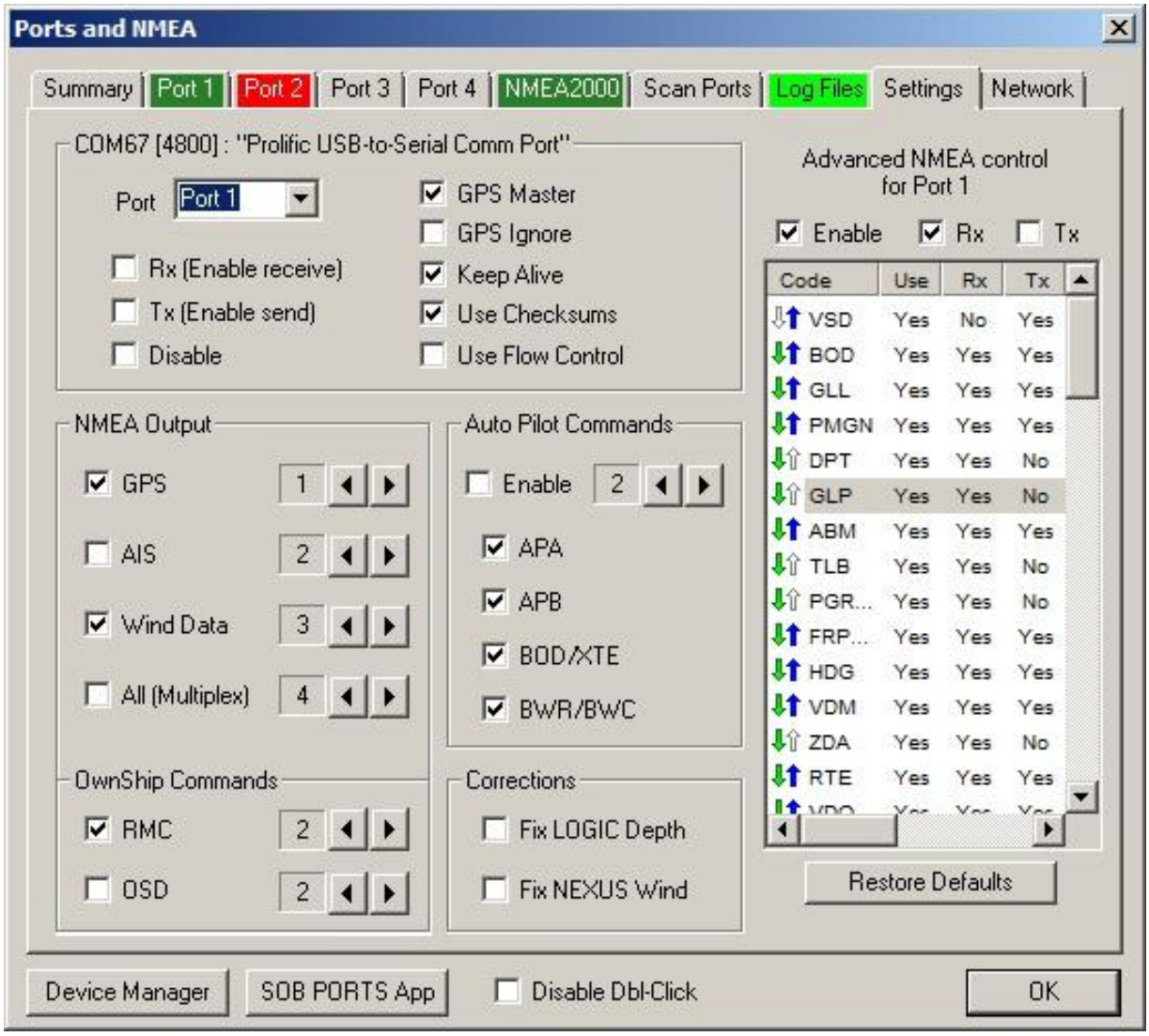
Note this data file format is identical to the default log file format used by newer Raymarine instruments. Refer to your Raymarine Chartplotter User Manual for instructions how to capture your Raymarine data to an SD card for transferring to SOB to replay as desired.

Settings Page

Refer also to equivalent controls and settings from the old Raw NMEA Data form in the SOB User Manual: Sections 13.4 and 13.1.5 and 13.1.6

Use the settings on this page for fine control over input and output of NMEA sentences for your COM ports:

- If you have more than one GPS connected, choose which port to use as the Master GPS, and choose to ignore GPS data from any other port
- Select whether to use CheckSums and Flow control for each port
- The **Keep Alive** setting will try to re-open any port that closes itself (ie, a USB plug is unplugged by accident or switched off and on)
- Select which port is connected to the Autopilot for auto route and waypoint control
- Choose other ports as required for outputting GPS, Wind and other data
- Use the advanced control list to choose individual NMEA sentences to enable or disable for each port

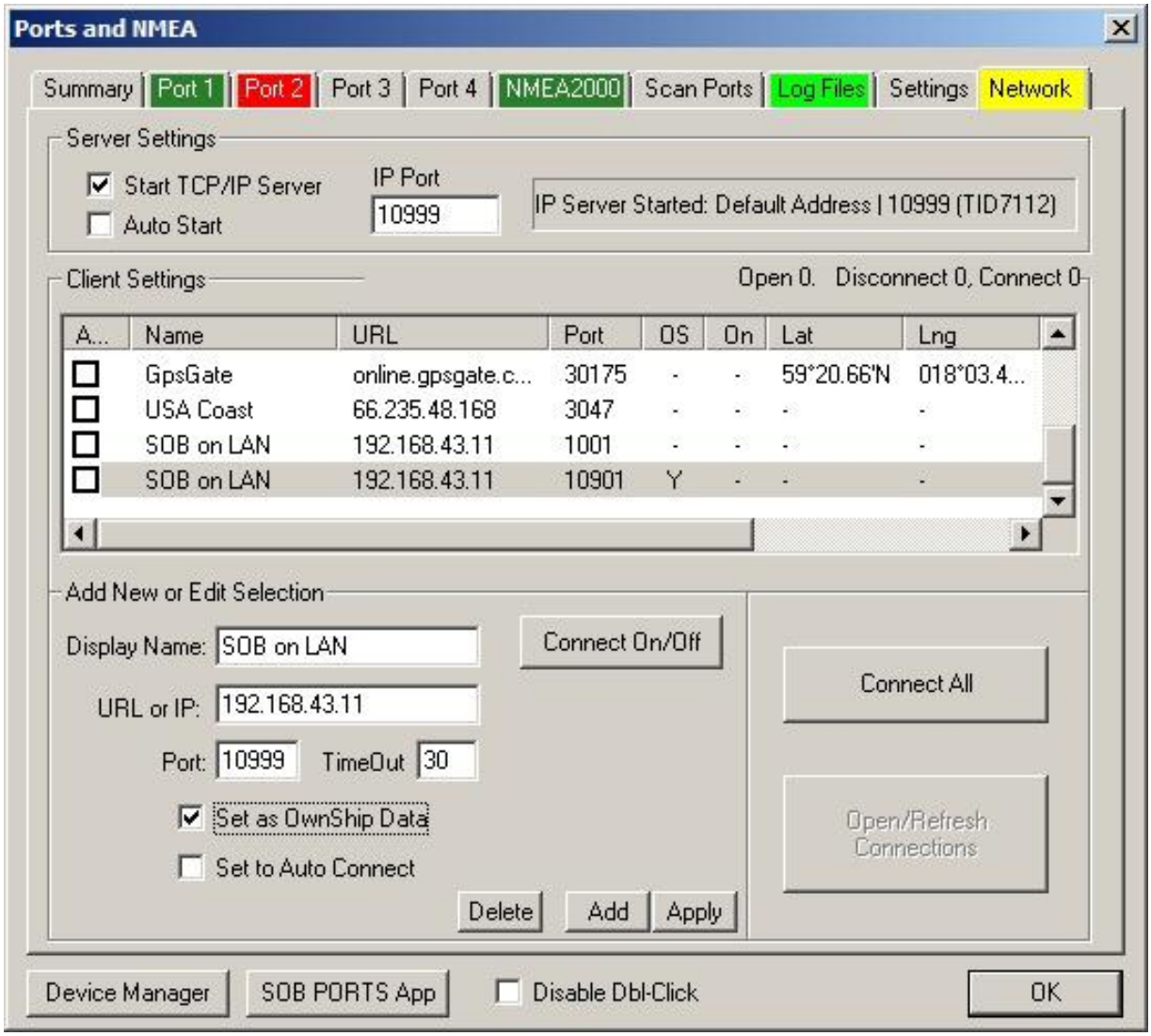


Network Page

Refer to the Networking chapter in the SOB User Manual

Setup and enable SOB's networking abilities on this form.

Both Server and Client connections are enabled and configured here. A SOB Pro License (AL4) is required to use these features.



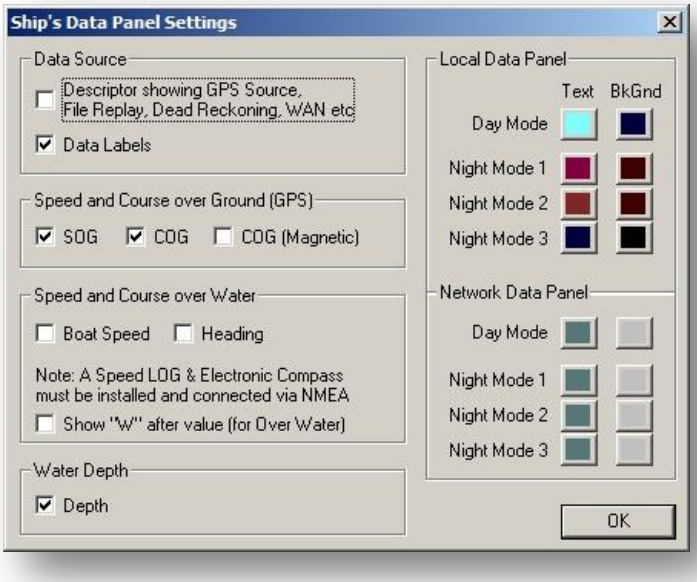
OTHER CHANGES AND FIXES

SHIP'S DATA PANEL

Amends Section 4.2 of the SOB User Manual (5th Edition)

User configurable colours added for the 2 live displays – GPS and Network Ownship Data.

Open the **Settings** form with the lower-right button on the **Ship's Data** panel. Note that this button is usually hidden, but still active even when hidden.



Press the coloured buttons to pop-up the standard Windows™ colour-picker dialog.

After each colour change, the **Ships Data** form will update within a second or two.

Use the **Defaults** button to return all colours to the SOB defaults.

The left-side column is the text colour, and the right hand column selects the background colouring.

The three Night Mode options coincide with the Grey, Red and Black Night Mode settings from the **Night Mode** form - [F7] key.

The **Local Data Panel** section at the top is displayed for GPS data that is acquired by a direct connected device, such as a USB GPS, or a serial connected GPS or GPS data from a NMEA2000 backbone via the Actisense NGT-1.

Find easy to read colour schemes with good contrast

The Network Data Panel section shows when GPS data is received over a network connected device. This could be via WiFi or LAN from a local computer with serial devices, or from SOB Server or a public NMEA data stream received over the Internet.

NMEA data received over a network is possibly from an unknown source, and possibly not directly related to a ship being actively navigated. This is why it is prudent to colour the display of such data differently, so it can't be mistaken for actual live data used for navigating.

The other three **Ship's Data** display modes (Invalid GPS, Dead Reckoning and File Replay) are not configurable.

ABOUT SOB FORM AND SOB REGISTRATION/LICENSING

Problems and Changes with About SOB form

Due to possible issues with retrieving all the diagnostic detail for showing on the **About SOB** form, the following have been added to help resolve such problems…

Holding down the CTRL key when opening the About SOB form will include additional diagnostic details, and display each step in a pop-up. In the event that there is a freeze or crash while gathering the information, SOB will remember the failure and skip the particular step in future.

Licensing

Re-licensing SOBv11

SOBv11 requires a new Product Key which differs slightly from previous versions. Thus all new SOBv11 installations will have to be re-licensed via the Unlock Webform, or the built-in licensing form in SOB (for navigation computers with Internet connections).

Note, any SOB User Licenses purchased within the 12 months prior to the release of SOBv11 will qualify for free upgrade. Older licenses qualify for upgrade pricing through our Webshop.

Passwords from Resellers

SOB v10 could not accept a first-use License Password if purchased from a DigiBOAT Reseller. (An error "Password not found" was mistakenly returned to the user).

This now works with SOB v11 and a form will pop-up for gathering required User License info (Name, Email, Country).

This is the minimal information we require to establish your License details in our database so we can uniquely identify you for future support issues and for validating your license details for unlocking and upgrading.

Range & Bearing Lines

In the same manner as Route drawing (described previously) the RBL guide lines will show a Great Circle as a dashed line if distance is greater than 600 nautical miles and the origin or destination latitude is higher than 20 degrees.

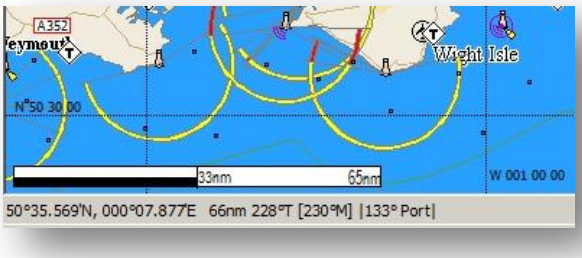
Note only the guide line is drawn as a Great Circle, once the RBL segment is clicked, the Great Circle guide will only remain visible until the next chart refresh.

Turn this ON/OFF on the Ship's Form.

CHART SCALE INDICATOR

Display or hide a chart scale indicator with the tick box on the **Ships Form**.

If the scale is concealing a part of the chart you want visible, or to move the scale to a different location, double-click it. Each move will shift the indicator to the next corner.



Notes: The position each time you restart SOB will always be the lower-left corner. The scale is always sized to one-quarter of the horizontal screen width, so it is unlikely to show "whole numbers" for the scale dimensions. Units used for the dimensions will match those set on the Settings page of the **Ships Form**.

MISCELLANEOUS BUG FIXES AND TWEAKS

On first run, SOB will check the chart(s) folders (C-Map Selector folder and SOBvMAX folder) and ask to automatically copy any chart files found to **SOBv360\Charts**. This is only asked once and is an aid to help migrate from earlier SOB versions to version 10+ and also serves to keep your chart files and chart license backup files in one location which is easy to maintain and backup and move.

Bug fixed: Some problems with port configurations when outputting NMEA, to GPS etc

Bug fixed: If Port 3 set to disabled, then Raw NMEA form was not opening/closing any COM ports

Bug fixed: Ship-shape scale setting on Ship Form page not always retaining its value between SOB sessions.

Fix: India and Oscar removed from Bravo Time as shown on the Navigation Panel

Fix: Waypoint Form was not allowing multiple lines to be typed into the Notes box

Targets

Added: Target's SOG and COG columns have been added to the Target Listing.

CPA Changes: Previously, any converging targets, even if the convergence is hours, days or even weeks into the future, were still considered by SOB as a collision threat. (Actually, the reasoning behind this originally was so that you could converge with a friend a large distance away, even across an ocean, and SOB would provide convergence details – ETA etc for you).

Now, SOB considers TCPA (Time-to-CPA) over 2 hours as a ZERO collision threat. However the CPA latitude and longitude is still shown for those that may need it (ie for crashing into your friend on the other side of the ocean).

Bug Fix: When a target message with Static data is received for an existing target, the Destination and ETA - may not have always been live updating. This is now fixed.

Selectable Magnetic Variation Source

Use the new options on the **Ships Form>>Customise** page to choose between embedded magnetic variation values from the C-MAP chart data; or the magnetic variation value received from connected NMEA instruments; or use your own custom value.

PastTracks

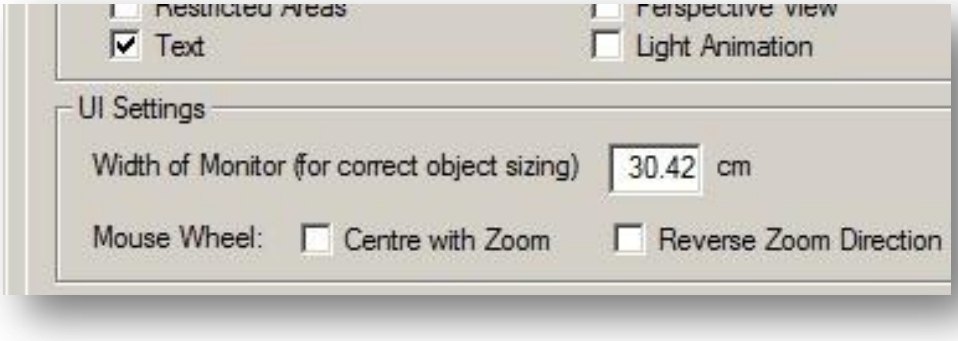
Added a third option for size of the past track display, choices are now small, medium and large.

An additional option now included is the ability to draw a thin line between track points.

Speed of loading and re-drawing of track points has been dramatically increased to provide a much enhanced user-experience refreshing the chart if a large pasttrack is visible.

Bug Fixed: Large size was not showing correctly for past tracks

Mouse Wheel



Reverse Zoom Direction

SOBv11 allows you to reverse the zoom direction of the mouse wheel. There is no apparent standard amongst software designers. So if you have become used to a particular motion from other software (like Google Maps) that differs from SOB's, then you can now reverse the direction of SOB's zooming with a tickbox on the **Custom Settings** page of the **Ships Form**.

Note that SOB's default wheel zooming is :

"wheel back (or up) >> zoom out"
"wheel forward (or down) >> zoom in"

Centre with Zooming

Pan while zooming: use the tickbox on the **Ships Form** to enable this option. When zooming in with the mouse wheel, if you hover the cursor over an area of interest, as you zoom-in the cursor position will be panned slightly towards the chart centre. This helps to zoom-in quickly on a particular location without "loosing track" of the position of interest.

Note: although this is becoming a more normal method of mouse zooming with newer software, we are sceptical as to whether this is a more intuitive option.

COMPATIBILITY WITH **GPS2IP** IPHONE APP

GPS2IP is an IPhone App from "Capsicum Dreams" that sends the phone's internal GPS data as NMEA data over a WiFi connection.

This has been successfully tested with SOB and is a terrific solution for feeding GPS data to your SOB computer without any directly connected USB or Serial GPS device.

Note that a SOB Networking License is required for SOB to receive data via a Network connection.

To create the connection to your IPhone running GPS2IP from SOB is easy:

- In SOB, select the Network page of the NMEA form, create a new Client connection using the IP Address and Port number determined by following the GPS2IP guides, then enable (start) this Client connection!

For more information, refer to the Networking chapter in the SOB User Manual and to the GPS2IP website: http://www.capsicumdreams.com/

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