

For Windows 8 or 10

The chart data is from Admiralty charts; tidal data for 800 standard and secondary ports. Updated charts can be purchased, the new release of charts is available on an annual basis.

## Use of this product is upon the agreement of:

This product has been derived in part from material obtained from the UK Hydrographic Office with the permission of the UK Hydrographic Office, Her Majesty's Stationery Office.

© British Crown Copyright, 2009. All rights reservedNOTICE: The UK Hydrographic Office (UKHO) and its licensors make no warranties or representations, express or implied, with respect to this product. The UKHO and its licensors have not verified the information within this product or quality assured it.

This product is an aid to navigation and does not in any way substitute the necessary conventional navigational method required for safe passage. Its accuracy can be affected by many factors, including equipment failure or defects, environmental conditions and improper use or handling. It is the user's responsibility to exercise common prudence and judgments. This product does not substitute in any way such judgments or prudence.

This program and the charts contained in it do not excuse the user from carrying the required official charts and navigational documents. Belfield Software Ltd does not warrant that this product is error free

All bearings in this product are shown as degrees True (°T)
Times on the charts are UTC

Times on tide graphs and tide tables can be set to a times zone of your choice



_						_	
r	^	n	٠	Δ	n	ts	•

Problem Solving Connect Android phone GPS	15 17	
Marking a chart area		14
Waypoints		13
Logbook		12
Bearing and distance lines		11
Routes	!	9
Boat's instruments connection		8
AIS connection		8
GPS		8
Tides		7
AIS	(	6
Charts	;	5
Controls		4
Features	;	3
Overview	;	3
Contact information:	:	2
Installation	;	2
Systems requirement:	;	2

#### Systems requirement:

Windows 8 or 10 11 GB free disk space for installation For GPS interface, NMEA 0183 input baud rate 4800 or 9600 or 38400 to com port via serial or USB port

For AIS interface, NMEA 0183 input baud rate 38400 to com port via serial or USB port

Don't forget right clicking and double clicking the mouse accesses many features.

Belfield Software Chart Plotter also requires the installation on Microsoft.net framework on your computer. If this is not already installed the installation process will install .net on your computer.

#### Installation

Belfield Chart Plotter is supplied on a USB flash stick for a small supplement. Please allow plenty of time for the installation, with the large number of charts and the necessity to install Microsoft.net (if not already on your computer) installation can take a long time. **There can be a long period of time when nothing appears on the screen** whilst files are extracted. Do not interrupt the process once the DVD is inserted or setup commenced.

After installation the program will be located in the computer's program list, accessed by clicking: <u>start</u>, <u>all programs</u> and <u>Belfield Software</u>, <u>Belfield Software Chart Plotter</u>. If you require an icon on your desktop right click on <u>Belfield Software Chart Plotter</u> then select <u>send to</u>, <u>desktop</u>

The program is resident on your PC no further insertion of the memory stick is required. You can run the program five times without registering the code. To register for unlimited use, enter the code supplied. **Note you must have internet access to register the activation code**. The program is then registered giving permanent access to the Belfield Chart Plotter on that computer. You can register the program on one other computer as a backup.

The program can be supplied on two different formats:

- Download from the internet
- On a USB memory stick, for a small additional charge



#### **Activation code:**

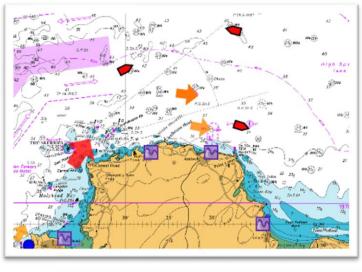
Please distinguish between O and O (alpha O and zero) I and 1 (alpha I and one)

#### **Contact information:**

Tel: +44(0) 78 11199567

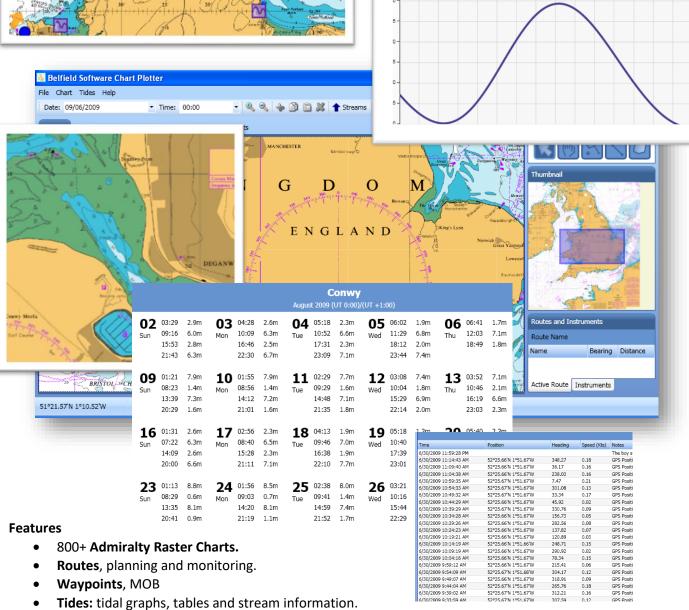
Email: <a href="mailto:enquiries@belfieldsoftware.co.uk">enquiries@belfieldsoftware.co.uk</a>
Inernet: <a href="mailto:www.chartsandtides.co.uk">www.chartsandtides.co.uk</a>

3



#### Overview

Belfield Software Chart Plotter contains 800+ Admiralty charts, a complete set of the UK, Ireland and Channel. All available Admiralty charts from small to large scale are included. Comprehensive chart plotting software is include:

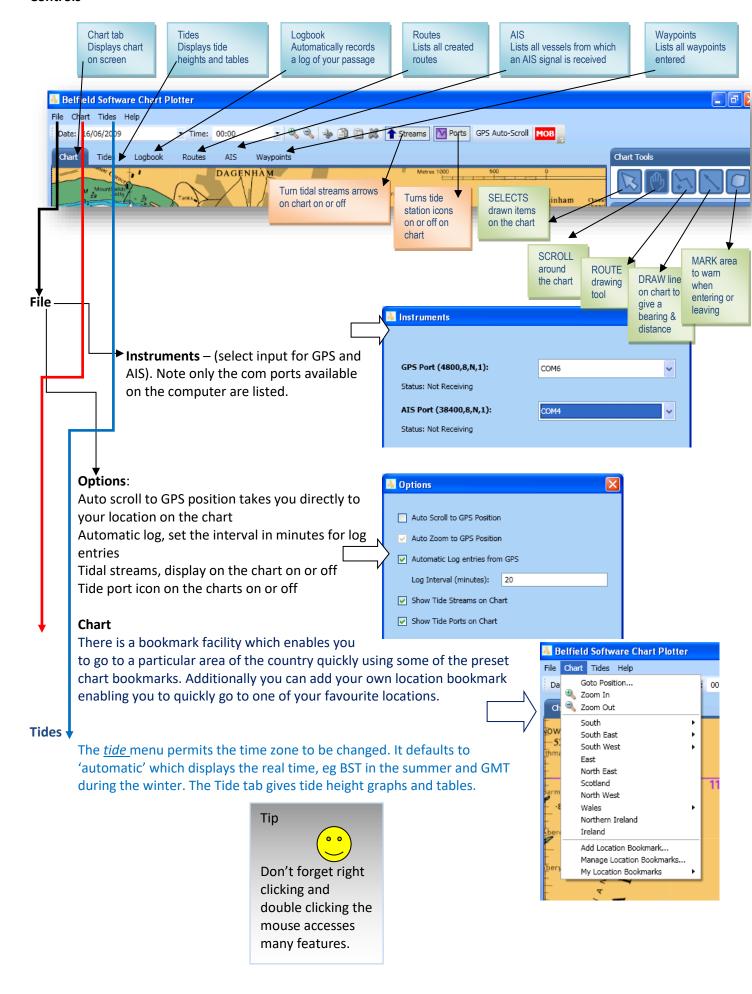


- **GPS** and boat instrument input to display: position, heading, COG, SOG, XTE, depth, wind, water temp.
- AIS: ships position, bearing, distance to, details. This requires input from an AIS receiver.
- Logbook, entries can be made automatically and by user input.

Quick and easy scrolling and zooming to charts.

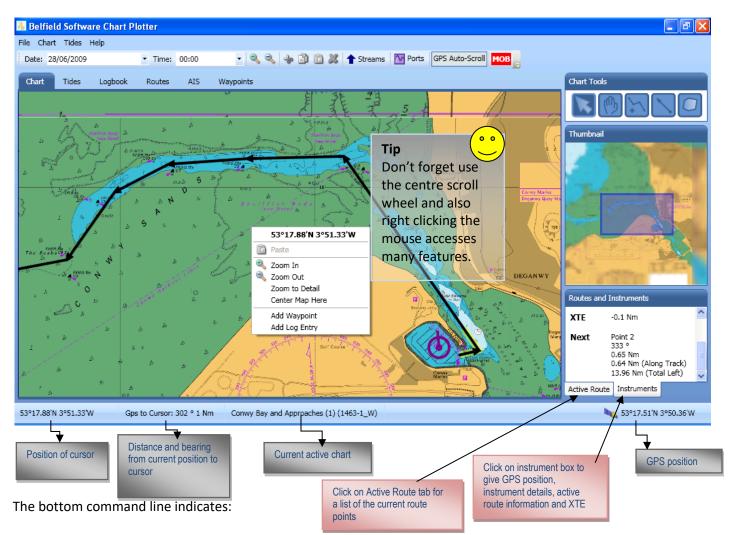
- Tracking of path.
- Marking chart areas, warning either entering or leaving user designated area, useful for anchor watch and passage planning
- Bearing and direction lines, draw as you would on a paper chart to assist with navigational planning

#### **Controls**



#### **Charts**

All of the Admiralty charts (800+) for the UK, Ireland and Channel are contained in the Belfield Chart Plotter. Accessing an individual chart or area is extremely easy, no loading of charts is necessary. As you zoom in and scroll around the charts are automatically loaded and displayed on the screen. If a chart is zoomed in, or out, far beyond its scale then it will not display and a white area will replace it. A thumbnail display is also provided on the right of the screen to aid the process of moving and scrolling. Use of the centre scroll tool on the mouse is also a very convenient method of scrolling in and out.



- The position at the cursor: this is convenient for almost instantly finding a latitude and longitude position by hovering the cursor over any position of your choice. To permanently mark this position right click and add waypoint.
- **GPS** to cursor: indicates the distance and bearing from the current position to the cursor.
- Current chart on display: these are Admiralty WSG84 datum digital charts
- Current position: GPS latitude and longitude position

#### The chart tools enables:



Selection and editing of routes and waypoints on the chart: click on an item and then right click to edit



Scrolling: click and hold the mouse button down and then move chart



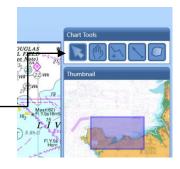
Creating a route: double click on chart to create route points, right click to finish route



Drawing bearing and distance lines: click and hold mouse down and



Marking an area: double click to create a point, move cursor to next point and double click, continue to complete area by double clicking on first point. Right click on area to select alarm options.



#### The instrument box (bottom right)

Provides: GPS position, COG, SOG, cross track error if a route is active, distance and bearing to next route point. If connection has been made to the boat's instruments then wind instruments, depth, heading and water temperature are also displayed.

The active route tab provides route information

#### **Bookmark charts**

Click on the *chart* menu at the very top of the screen to give access to:

- go to a position that requires the lat. long position to be entered
- zoom in or zoom out
- preset bookmarks
- add your own location bookmark, when set this will take you to the chart currently showing on the screen
- manage location bookmark, enables editing of your own location bookmarks
- my own location bookmarks, gives access to your own bookmarks

#### Right click on chart to access:

- Current latitude longitude position
- Paste, anything that has been copied onto the clipboard
- Zoom in or, Zoom out
- Zoom to detail, this takes you to the appropriate zoom level at the cursor position
- Centre, will centre the chart at the cursor position
- Add Waypoint, marks the position on the chart where the cursor is. This waypoint is also listed in the waypoint list (accessed from the waypoint tab)
- Add log entry, gives a log entry at the latitude and longitude position of the cursor.
   You will then access a box to enter comments for that position
- Lock Display to chart, this shows current charts on screen and allows you to lock onto one of them.



Routes and Instruments

Active Route Instruments

-0.1 Nm

0.65 Nm 0.64 Nm (Along Track)

13.96 Nm (Total Left)

**№** 53°17.51'N 3°50.36'W

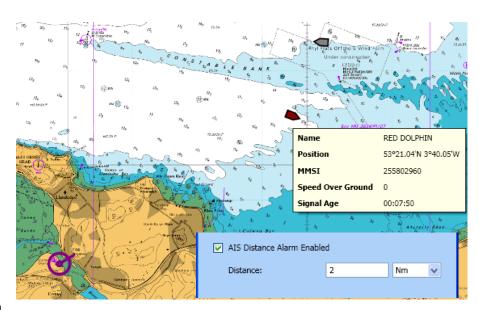
XTF

## AIS

AIS requires input from an AIS receiver in the NMEA format. Connect the AIS receiver to the computer USB or COM port. A serial COM port number will be allocated.

Click on the <u>file</u> menu, select <u>instruments</u> and select the COM port. The baud rate of 38,000 is automatically allocated.

To set a warning when AIS signal is in range. Click on <u>file</u>, <u>options</u> and set the distance in either metres or nautical miles. If a vessel comes within



that distance to your GPS position a warning will appear on the screen, also when selecting the AIS tab to list all the AIS messages, the ships within the alarm area are highlighted.

When a AIS signal is transmitted by a vessel its position is shown on the chart screen. With the cursor hovered over the vessel a box appears giving further information.

Clicking on the AIS tab a screen shows details of all ships from which an AIS signal is received. This information includes: MMSI number, vessel's name, lat. long. position, heading, COG, SOG, call sign, type, destination, distance to, bearing to, signal age. This list can be sorted by clicking on the top of the list heading that you wish to sort. Right clicking on a line of information gives the option to *go to* that ship on the chart.

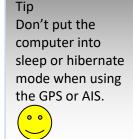
Please note that the ship transmits information at intervals and not all information at the same time. The ship transmits the information containing its name and destination at less frequent intervals. If the signal age of a ship exceeds 15 minutes then it will be removed from the list and chart screen.

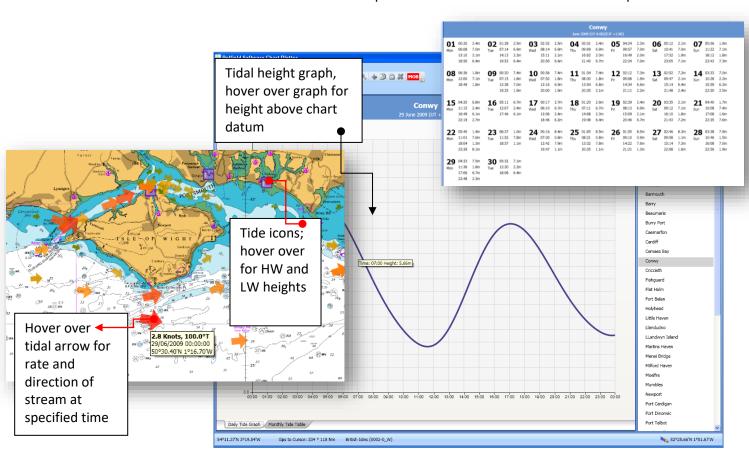
## **Tides**

The following features are available:

- Tide heights with detailed graph, hover over the graph for times and heights at any time of the day
- Tide information for 600+ standard and secondary ports for UK, Ireland, and France
- Tide tables in a similar format to almanacs
- On charts Tide icons to give instant indication of HW and LW
- Tidal stream information indicated by an arrow giving all the detail and calculations from the chart diamonds

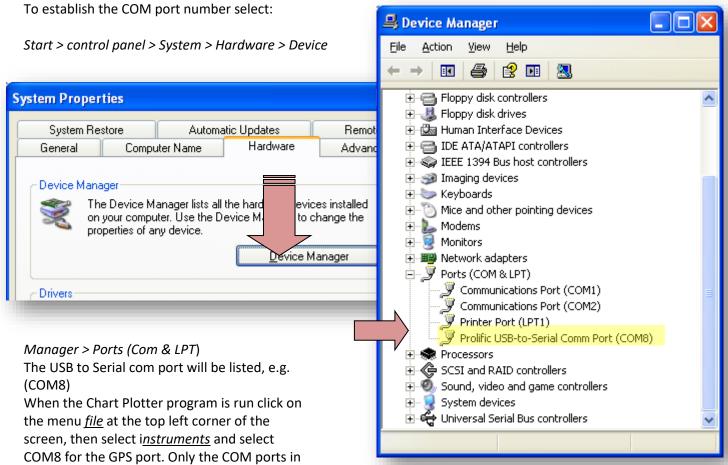
Note the date and time for tide information is specified in the date and time box at the top left of the screen





#### **GPS**

A GPS receiver can be connected to the computer either by the COM port or USB port. Note many laptops only have a USB port. When the USB port is used a GPS driver needs to be installed in order that the USB port becomes a virtual COM port. A COM port number is allocated.



GPS Port:

Status: Not Receiving

AIS Port:

Status: Not Receiving

Note on GPS Baud Rates:

The vast majority of GPS work at 4800 baud. A few new USB GPS only work at 38400 baud. We provide the ability to change the baud to support these newer GPS. If you are unsure of the baud rate your GPS works at we recomend trying 4800 in the first instance.

use on your computer will be listed in the COM port options. The baud rate can be set to either 4800, 9600 or, 38400. Most GPS use 4800 but some of the more recent models use 38400. Do not unplug or change devices whilst the program is running. If you are changing to a different GPS uninstall the GPS by setting the com port to blank, come out of the program plug in the new GPS and restart, then re set the new GPS com port.

#### **AIS** connection

Exactly the same process for connecting the GPS applies to the AIS. Connect via the COM or USB port. Identify the COM port number as above. Select the appropriate COM port number in the drop down box. The baud rate for AIS is automatically set to 38,400.

#### **Boat's instruments connection**

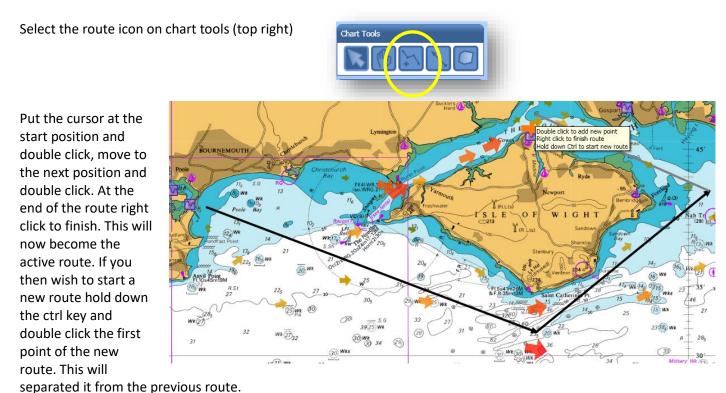
A serial or RS232 output lead is required from the boat's instruments; this output must be in a NMEA 0183 format and include a GPS signal. Connect this lead to the USB or serial COM port on the computer. Install and connect exactly as described for the GPS above. Connect via the GPS port option. Chart Plotter will then display additional instrument information from the boat. E.g. wind, true and apparent, depth, heading, water temperature. This is in addition to the SOG and COG. **Note – the COM port numbers for GPS and AIS must be different.** 

#### **Routes**

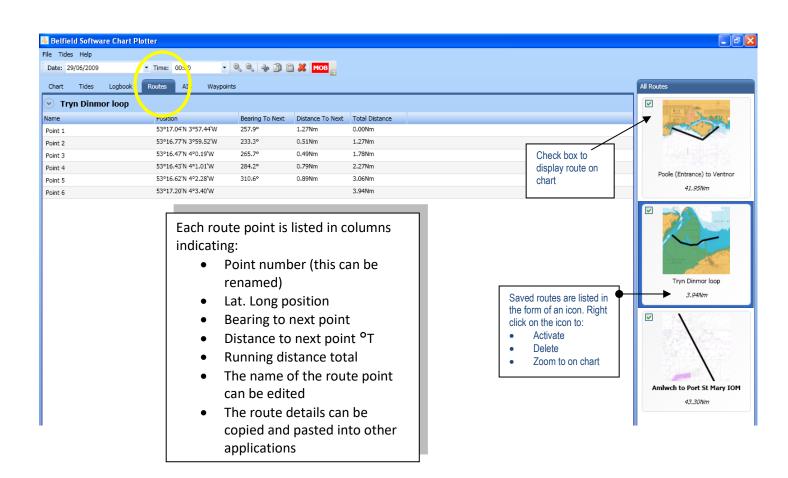
Routes can be created, edited, followed and stored.

#### Create a route:

Select the chart tab and zoom to area where the route is to be created

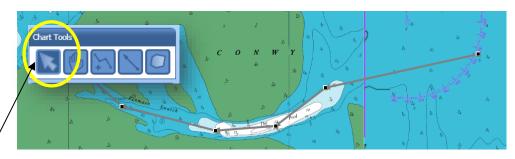


Click on the Routes tab to view saved routes and detail of individual routes. The route points are numbered but can be named by right clicking on a point and renaming.



## **Editing a route**

Go to a route on the chart, note if it is not the active route it will be grey. Click on the select tool from the chart tools.



Click on the route line and small squares will appear at the route points.

## Add route point

Right click on route line where you wish to place an additional point. Select add point

## Finish drawing a route

At end of route right click. Note to restart another route hold down the ctrl key and double click to enter start point

## Delete a route point

Right click over the square on the route point you wish to delete. Select <u>delete</u>

#### Move a route point

Click and hold on route point and move

#### **Reverse direction of route**

Right click on route line and select reverse



#### Activate a route



- Click on the Routes tab
- Select the route icon on the right hand side of the screen
- Ensure the check box is ticked for screen display
- Right click on the icon
- Select activate
- Zoom to will take you to the route on the appropriate chart

You can also activate a route shown in the chart view, (remember if the route is black it is active, if it is grey it is non active) on this example the route is grey and non active, to change it to the active route right click on the grey line and select <u>activate</u>.



#### Note



Remember to select the arrow on the chart tools when selecting the route editing features. The active route details are shown on the chart screen (bottom right.) The instrument panel indicates cross track error (XTE), bearing, distance and time to next and end point of route.

# Tip ••

If you have already created a route and want to start a completely new route - hold down the ctrl key when entering the first point

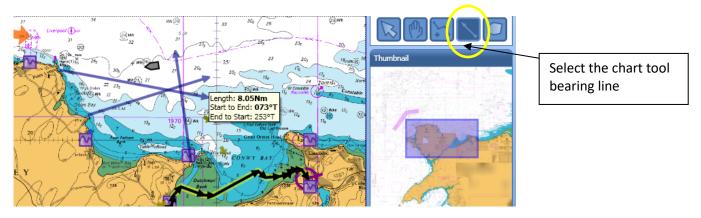
Delete

reverse

#### Following a route

- 1. On the routes tab select the route icon to follow, check box to display on screen
- 2. Activate the route you wish to follow by right clicking on the route icon
- 3. Go to the charts screen
- 4. The route will be shown on the screen as a black line, (grey line if not activated).
- 5. The instrument panel bottom right of the screen shows:
  - The XTE (cross track error), this is the distance the GPS position is off the route
  - Next route point, bearing to <sup>o</sup>T, distance to next route point, distance to end of route
  - ETE (endured time estimate) to next rout point and ETE to end of route
- 6. The active route box, bottom right shows:
  - Each route point
  - Bearing and distance from one route point to another

## Bearing and distance lines



Lines can be drawn on the chart to determine bearings and distances. As the line is drawn the distance and bearing

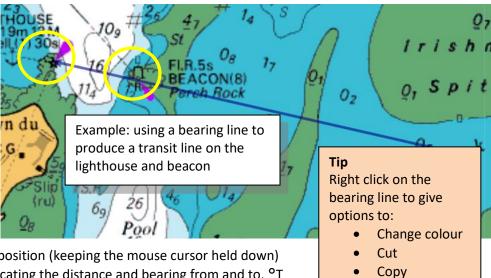
from start to end of line is shown in a box, additionally the reciprocal bearing from end to start is also given. This feature is particularly useful for:

- Plotting fixes
- Marking clearing lines
- Indicating transits

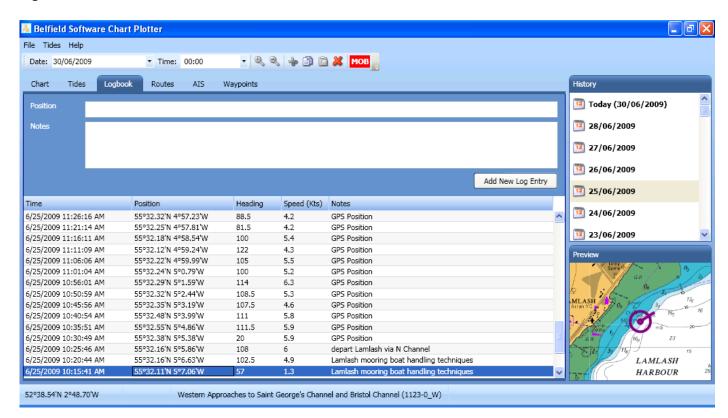
## How to produce a bearing and distance line on the chart

Select the chart tool, bearing line Click and hold down the right mouse key on the chart at the start point of the line

Move the mouse cursor to the end position (keeping the mouse cursor held down) A box will appear on the screen indicating the distance and bearing from and to, <sup>o</sup>T When the mouse cursor is released the information box disappears from the screen The information box can be shown by hovering the mouse cursor over the line



#### Logbook



The logbook keeps a record of your passage. A log entry is automatically saved at time intervals between 2 minutes and 59 minutes (this can be changed by clicking the <u>file</u> menu and <u>options</u>). When a log entry is selected a small image of the chart and position is shown at the bottom right corner. The log only records passage when the GPS is determining position. The 'GPS position' in the notes column can be overwritten to enter your own narrative. The log is saved and can be re accessed by selecting the date on the right hand side.

## Making your own entry

On the chart screen right click at the position where you want to make the entry, select <u>add log entry</u>, go to the log book via the logbook tab. The latitude and longitude position is shown, provision is made to add your own comment, click the button <u>add new log entry</u>

#### Copying the log to another application

Select the log entries to copy by selecting the first line, and then select the last line whilst holding down the shift key. Click on the copy icon at the top of the screen; the selected lines are then added to the clipboard. This data can then be pasted into another application, for example an email, spreadsheet or word processor.

## Saving the log

The log is automatically saved when you exit the program and reinstated when re loaded.

## Setting the interval for log entries

Click on file at the top left of the screen, options and enter an interval in minutes from 2 to 59

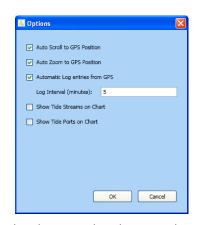
## **Deleting a log entry**

Select the log entry, press the delete icon at the top of the screen

#### **Exporting log entries**

Select first log entry, hold down the shift key and select the last log entry, this

highlights all the entries to be copied. Click on the copy icon at the top of the screen, this data can then be pasted into a word processor, email, spreadsheet etc.



## Waypoints

A waypoint can be added by right clicking on the chart and select <u>'add</u> waypoint'

This waypoint is given the default name, *new waypoint*, this can be overwritten to a name of your choice.

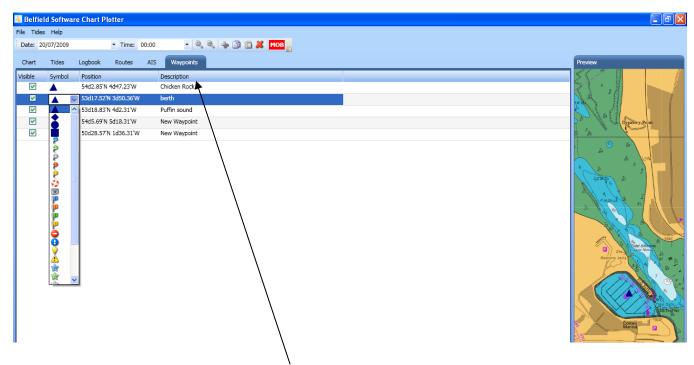
By clicking on this waypoint it can be moved by clicking and holding the mouse over it.

Hovering over the waypoint gives the name and latitude, longitude position

Right clicking on the waypoint gives the options to: cut, copy, delete, rename, change the style or colour



## Waypoint tab



This can be found at the top of the screen. Select to give a list of all your waypoints on the chart.

## The waypoint list has column headings:

- *Visible* (on chart)
- Symbol (double click to change)
- *Position* (lat long)
- Description (double click to change)

Right click on any selected waypoint line to go to that waypoint on the chart, or optionally delete the waypoint

#### Note

If you click on the column heading the column list is sorted into alphabetical order.

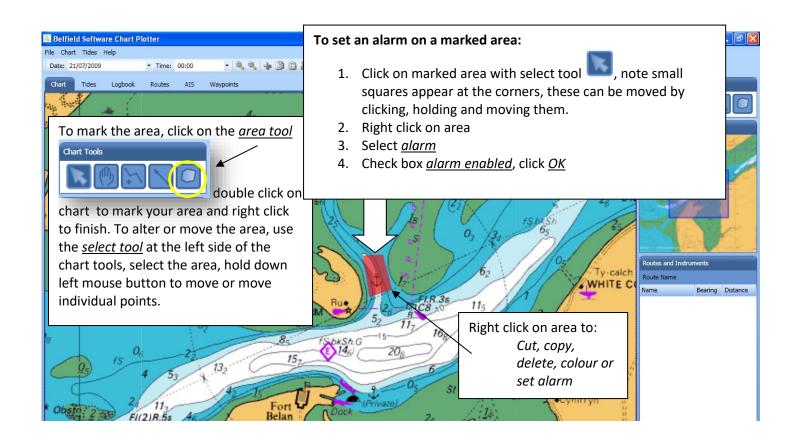
A chart icon is displayed showing the waypoint position on the right hand side of the table.

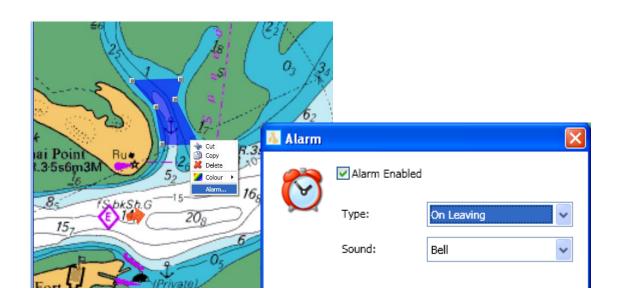
## Marking a chart area

An area can be marked on the chart. This area can also be selected to warn if you enter that area or conversely if you leave that area, it can also be used to mark areas of the chart that you wish to highlight. Examples of use could be:

- Planning a route and want a warning if you move away from that route into a marked area
- at anchor and want to be warned if your anchor drags and you swing out of the area
- a Wind Farm area to be avoided

When the alarm is activated a warning box appears on the chart and a sound is made. To dismiss click on the dismiss button. You will then need to re activate the alarm if you wish to have further warnings



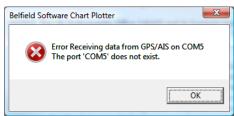


## Problem solving

## "I receive the error box ' Error Receiving data' on loading the program"



When loading Chart Plotter it looks for the previous connection to the GPS/AIS, this prevents having to reset your data connection every



time you run the program. If that connection is not there it indicates as such with the dialogue box.

Note, if you change the connection to a different USB port then the computer will allocated a different com port number, causing the warning box to appear. To resolve this click on 'file' and 'instruments' and re allocate the com ports as appropriate.

"When I start a new route it connects with the previous route."

This can be useful if having created a route you then wish to append additional points. This feature can be switched off by holding down the ctrl key at the first point of the new route.



"My GPS will not register on the chart but is connected to a com port and the baud rate is set."

Check that no other program is running that is accessing NMEA data from the GPS. Make sure only Chart Plotter is connected to the GPS. It might also help to reboot your computer first.

"My program will not activate when I enter the activation code"

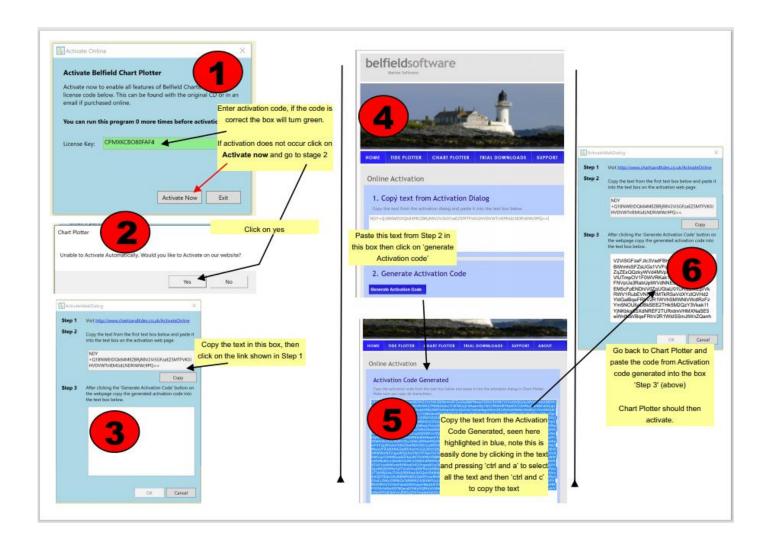
Make the following checks:

Ensure you are connected to the internet

Check the activation code is correct. Remember the alpha numeric differences between I and 1 and 0 and 0 You are only allowed to activate on two different computers.

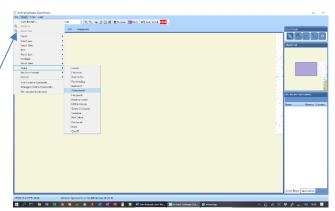
If you have already activated on two computers and then change computers and wish to activate again, please contact us by emailing your activation code to: admin@belfieldsoftware.co.uk. We will then facilitate an extra activation on a different computer.

If you enter the activation code with the correct code and it will still not activate then follow these steps:



When I load Chart Plotter the chart area is blank with no chart appearing.

Click on the chart menu at the top of the screen, select any area and chart and you will be back in business.



## **Connecting your Android phone GPS to Chart Plotter**

How to output the GPS signal from your Android phone to Chart Plotter.

First you will need to install an app that enables the GPS signal to be sent from your phone via Bluetooth to the computer running Chart Plotter. These notes demonstrate how this can be done using an Android app, entitled, 'Bluetooth GPS output,' by Meowsbox, available for free on Google Store. Note, there are several applications available, the following is one of many available which we find to be effective.

Your phone does need the facility for GPS.

- Install from Google Playstore 'Bluetooth GPS output,' onto your Android phone.
- 2. Open the app and Enable Bluetooth Services Controls. The default settings should work.
- 3. On your Windows 10 computer go to Settings and Bluetooth & Other Devices. Click on <u>Add Bluetooth or</u> Other Devices and Pair your phone.
- 4. On the right hand side of the screen click on *More Bluetooth options*
- On the options tab select <u>Allow</u> <u>Bluetooth devices to find this PC.</u> Click OK
- 6. Click on the com ports tab,
- 7. In the next box select <u>Outgoing</u> (your PC intiates the connection)
- 8. There is now a dropdown box entitled <a href="Device that will use the comport">Device that will use the comport</a>, click on it, your mobile phone should appear here, select it and click on OK
- A box will appear giving you a com port number (remember that number) and adding the word slave against your phone name. Click on OK
- Run Chart Plotter, click on the <u>file</u> menu at the top of the screen, select <u>instruments</u>, set the GPS box to com3



