

MaxSea Operator Manual version 12.6

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WELCOME

Running the cutting-edge of applied information technology, MaxSea software for all boaters who have been looking for a user friendly interface and a more comprehensive navigation tool.

Intuitive operation of MaxSea is achieved by its user-friendly interface and graphical toolbar.

MaxSea is an Electronic Chart System (ECS) based on the International Maritime Organization's (IMO) **ECDIS** standards. It integrates electronic charts, GPS, AIS and provides complete voyage planning and vessel-monitoring functions..

Here are some features of MaxSea Professional Recreational and AIS :

1. MapMedia mm2 raster charts
2. BSB compatible (install NOAA raster charts or Install Maptech raster charts)
3. C-Map compatible (Install Electronic Charts)
4. Unlimited [Waypoints](#) and [Routes](#)
5. [Route plan](#) information
6. Follow [Active Route](#)
7. Unlimited [Waypoints layers](#) (to keep your screen un-cluttered)
8. Print Chart and route plan
9. MaxSea provides an overview of vessels transmitting AIS signals.
10. [GPS Transfer of waypoints and routes](#) (compatible with Furuno GPS, Magellan...)

Please be sure that your computer fits the System Requirements

You will find accurate explanations of all MaxSea features, including the external modules(*) like :

- MaxSea **2D / 3D import and PBG**
- MaxSea [Seabed Analysis](#)
- MaxSea [Dredge function](#)
- **Weather forecast** module
- **Automatic Identification System (AIS)** module. Two New Functions are used to send **AIS TX Message** and to setup static data in AIS with the **MaxSea's AIS MKD.**

www.maxsea.com

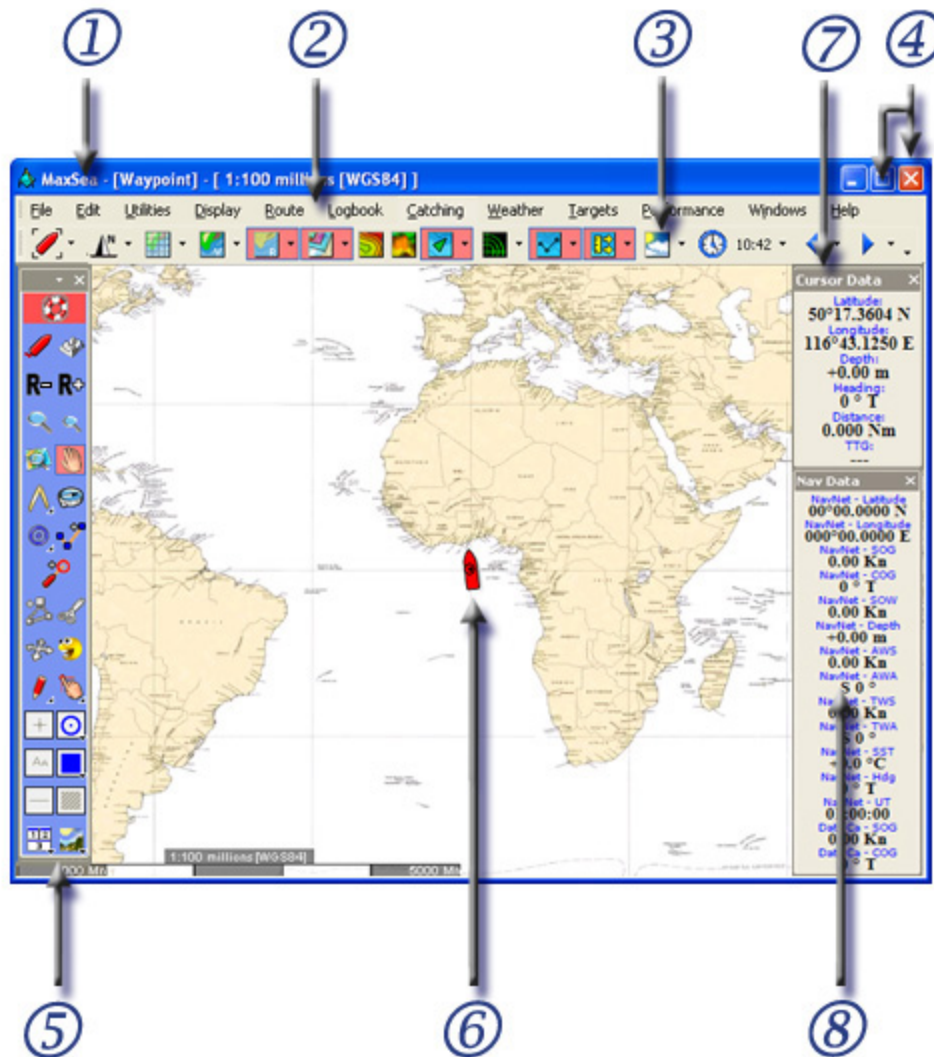
info@maxsea.fr

Note that the presence of each module depends to your software configuration. To order or to obtain more information, please contact your dealer.

User Interface

Looking at the Chart Desktop

MaxSea opens into a familiar charting environment (Figure below). MaxSea will display many different types of charts simultaneously. The charts are ordered according to their geographical position and their **scale** of representation. Let's take a brief tour around the MaxSea **Chart Desktop**:



The Chart Desktop (1) is the open window and consists of six parts:

- The **Chart Window** is docked to the top of the open window, as above, by default. The datum, type of chart and scale are displayed in the MaxSea/Chart title bar WGS84, [Raster 1:25 million]. Several chart windows can be opened at the same time. The **GPS/vessel symbol** (6) is drawn in each open chart window that contains the vessel's position. It indicates the boat position displayed on the chart at the point currently indicated by the GPS system connected to the PC.

- The **Menu bar (2)** organizes a number of drop-down menus which configure and manage MaxSea data, setups, and presentation.
- The **Chart Toolbar (3)** contains a series of buttons which toggle on/off or select different functions in the software. If a button is "grayed out," the function is present but currently disabled, if a button is not present, the corresponding module has not been purchased.
- The **Toolbar (5)** is the tools control center. Each tool does a specific job and can be chosen with a left click of the mouse. The plot tool is configured here, screen palette chosen, and Full Screen Mode toggled on/off.
- The **Cursor Data Palette (7)** displays, regardless of active tool, data relative to the vessel's position. By default this palette is displayed on the right or docked to the edge of the software window. Data information is **latitude**, **longitude**, Depth (if sounder is enabled), Route (course, vessel to cursor) and Distance between the cursor, the vessel, and the Time to Go (TTG) at the present speed.
- The **Nav Data Palette (8)** displays GPS data and any instrument input you have chosen to show. This palette is displayed on the right by default or docked to the edge of the software window.
- Tool tips are temporarily shown when the cursor is placed on a Tool Palette item or button for a few seconds. Use these tool tips when you want to see a brief description of Tools and Buttons.



Notes:

- (1) - All the palettes in the chart desktop window can be displayed in two different modes, "Floating Palette" or "Docked". Refer to "Setting your work area" paragraph.
- (2) - If raster chart data is not available for a selected scale, MaxSea will enlarge or "over-zoom" the available raster data of the larger scale chart. In this case, the text [Over Zoom] appears in the Chart window title bar.

Toolbar



MaxSea uses tools and buttons to make operation simple and easy. The "Tools Bar" displayed on the left side of the screen will be used most often.

The toolbar is displayed by default vertically on the left-hand side of the screen. It includes both tools and buttons and allows working on an electronic chart as you would do on a paper chart with a pencil and navigational protractor.

Select any tool or activate any button on the palette by simply clicking on it.

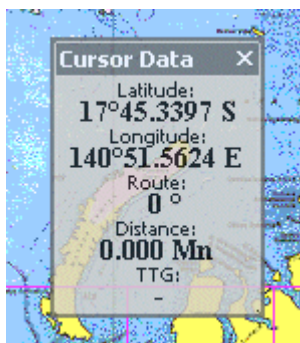
The Toolbar consists in six parts:

1. [Title Bar with accessing the display configuration parameters.](#)
2. [Activation Buttons](#) (some more Activation buttons will appear in the Toolbar according to the software configuration),
3. [Navigation Tools](#)
4. [Capture and Modification tools](#)
5. [Plotting Set Up objects](#)
6. [Additional Display options](#)

TIPS – Understanding the difference between a tool and a button will make using MaxSea much easier. When selecting a tool from the tools palette, the mouse cursor will change accordingly and its function will change. For example, when the chart panning tool is selected, (hand) the cursor changes to an open hand. Left mouse click (and hold) on the chart with the panning tool to drag the chart around. To enter a waypoint on the charts, change to the Waypoint tool by clicking on the Pencil. Then when the mouse is left clicked on the chart, a waypoint will be recorded. Some icons on the tools palette are buttons (Zoom in and Zoom out). When a button is clicked, MaxSea responds immediately. For example, click on the Zoom In button, MaxSea will magnify the chart immediately. Whichever tool has been selected (such as the panning or waypoint tool) will stay enabled and the function will not change when clicking on a button

Cursor Data

The **Cursor Data** (mouse pointer) is displayed at the upper right-hand corner of the Chart window. It contains data pertaining to cursor location and shows real-time information as the cursor moves over the screen.



Default layout Cursor Data

- To move the Cursor Data palette, left-click on its title bar, hold the mouse button down, drag to the new position and release the mouse button.
- Left-clicking on the cross in the upper right hand corner will close the cursor palette.
- To reopen the closed Cursor Data palette, go to **[Display]** on the menu bar and choose **[Cursor Data]**.

The default layout Cursor Data window is shown in the right upper corner of the screen. Cursor Data shows the **Latitude** and **Longitude**, bearing/course and distance between the cursor and the vessel, and the time to go (**TTG**) at the present boat speed.

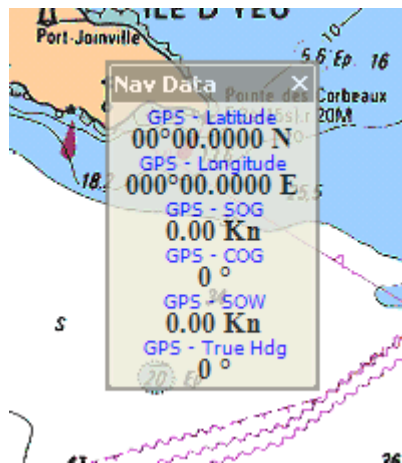
Configure the Cursor Data window layout by right clicking in its title bar:

1. Change its transparency,
2. Choose a specific font size
3. Choose between a full display mode (all data are shown) or reduced display mode (only data position are shown)

For more information see related topic under the HELP: "Customizing the Cursor Data display" to find out more about Cursor Data display.

Nav Data

The Instrument Data Display palette (Nav Data) allows viewing information sent by electronic equipment connected to the input/output ports of the computer (**GPS**, central navigation equipment).



- To move the **Nav Data** palette, left-click on its title bar, hold the mouse button down, drag it to the new position and release the mouse button.
- Left-clicking on the cross in the upper right hand corner will close the **Nav Data** palette.
- To reopen closed the **Nav Data** palette go to **[Display]** on the menu bar and choose **[Nav data]**.

For more information see related topic under the HELP: "**Equipment Connection**" to obtain more information regarding instrument displays.

Notes:

(1) - there is a display for each peripheral (GPS, etc...) connected to the input/output ports.

(2) - it is possible to select the data which you want to display in the instrument palette. Just right-click on the panel and choose "Choose displayed data..."

(3) - you can replace the name GPS to the name of the Communication port on which the GPS is connected.

For more information see related topic under the Help: Selecting data for the display

Chart Toolbar


The standard **Chart Toolbar** contains buttons which toggle display data on/off, according to the installed modules. The presence of a button indicates that the specific module is installed.

By default the Chart palette appears along the top of the MaxSea screen. Use the customizing bar to move it, then click and drag to detach from the menu.

There are two types of buttons in the Chart Toolbar:

- **Simple Buttons** which allow direct access to a specific function.
- **Pull-down Menu Buttons** allow choice between items according to the selected function.

If a button is shaded red, it means that the button is active and its corresponding layer will be shown on the chart.

 the presence of more buttons depends on your software configuration. The omission of a button means that the corresponding module is not available in the software. To get more information, please contact your dealer.

Use the corresponding button from the charts palette to turn on/off different functions:



- **Auto Center** activation button toggles on/off chart auto-centering, placing the vessel in the center of the chart screen (related topic: [center mode](#)).



- **Chart orientation** button chooses the display orientation (three modes are available, "North Up," "Head Up," and "Course Up." The North up mode is selected by default).



- **Grid information** toggles grid display over the chart ON/OFF.



- **Vector Charts Information** opens vector charts and displays a drop-down list of opened vector chart types.



- **Raster Charts Information** displays a drop-down list of active chart types (the Planisphere.wld is displayed by default).



- **Layer Information**, shows a drop-down list of available user data layers (PTF File) and shows / hides user data on the chart..



- **2D Activation Button** activates the 2D control palette for setting and displaying 2D data on the chart (shading).



- **3D Activation Button** toggles the 3D window on/off.



- **Target Information** shows a drop-down list of available Target data layers and shows /hides targets on the chart.



- **Radar Overlay Information** toggles radar display on/off. The down arrow to its right is a drop down list of available Radar display control such as the Radar rings, etc...



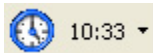
- **Waypoints and Routes Information** is a drop-down list of available Waypoint and Route Layers.



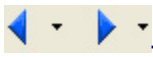
- The **Tides and Tidal Currents Button** toggles on/off [tides](#) for main ports of the world and allows you to turn on/off Tidal Currents vectors from choosing under available Tidal Current layers list.



- **Weather Information**, once a weather file is loaded, click on this button to display it on the chart. Clicking on the arrow to the right of the weather button shows which weather types can be displayed.



- **Time Information** when displaying weather or tides/currents information, time controls allow viewing data for a period other than the current time. The clock turns red when the selected date/time is different from the current time.



- **Time Period Information** allows viewing Weather and Tides/Currents data on times period earlier or later. Click on the arrow to the right to setup time step.



- **Chart Toolbar Options**, click on the arrow to access the toolbar's properties menu. From the properties menu, you can add or remove tools, display labels or not with standard buttons or large buttons and change the transparency of the palette, note that this option is only available when the palette is displayed in a palette configuration layout.

Tools

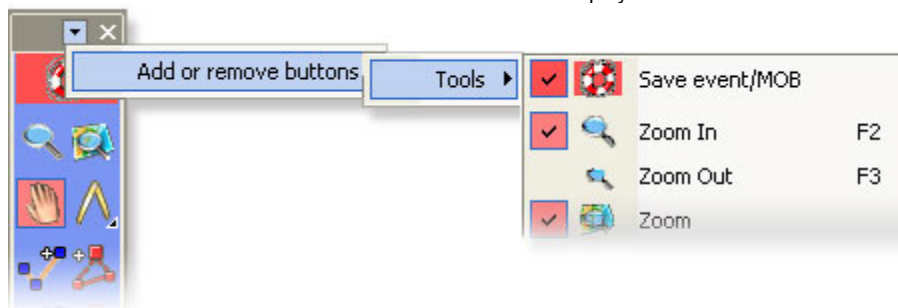
Accessing Display Configuration Parameters


The title bar allows you to access edit toolbar properties :



1. Left-clicking on the arrow in the upper right-hand corner will display a configuration checklist. Check the tools that you want to appear in the Toolbar.

2. To return to the default display choose **Reset Toolbar**.



3. Left-clicking on the cross  in the upper right hand corner will close the Toolbar. To re-open the Toolbar go to **[Display]** on the menu bar and choose **[Toolbar]**.
4. **Right-click** on the title bar calls up the contextual menu which allows changing the appearance of the Toolbar (buttons small/large, six levels of transparency).

Activation Buttons



Man Over Board function

Single click on **MOB** button to drop a waypoint. Double click to activate the "Man Over Board" function.

(For more information, see related topic under the Help: [Man over board function](#).)



Track On/Off function

Click on the **Track** button to activate and stop tracking.

(For more information, see related topic under the Help: [Tracking function](#).)



Zoom in or out functions

The zoom function magnifies and reduces the view of the chart.



PBG On/Off function

Click on the **PBG** button to activate and stop the Personal Bathymetry Generator

(For more information, see related topic under the Help: [Import & PBG](#))

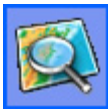


Range plus and Range minus functions

The **[R-]** button expands the chart range; the **[R+]** shrinks it. When the Range function is operated in MaxSea, the Range key is simultaneously applied in NavNet.

Note: the omission of a button means that the corresponding module is not available in the software. Those buttons will appear if your software is configured with corresponding modules such as PBG module or Radar Overlay module.

Navigation Tools



Magnifying tool

Click the Magnifying tool to change chart scale. Simply drag an area on the chart with this tool to zoom into it. Make a simple click on the chart to zoom out, see related topic under the Help: [Scale choice](#)



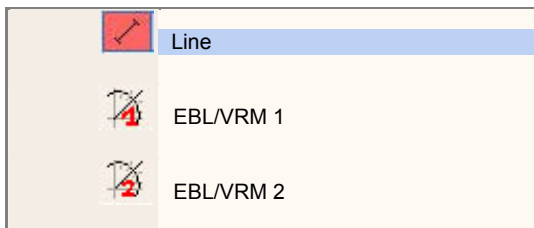
Hand tool

Click the Hand tool to pan charts and access chart data. Single click and press the left mouse button to grab the chart and to pull it to expose a new area. Double click the left mouse button to access the Chart Properties box.

(For more information, see related topic under the Help: [Moving Chart](#))



Divider tool (Compass)



Draw bearings and ranges in two different modes:

If the "Line" option is chosen, you can measure distances and true headings to and from any point to another on the chart in two dimensional modes. To measure distance between your boat and a point, simply double click on the chart.

If the "**EBL/VRM**" option is chosen, measure distance and bearing using two targets. Choose EBL / VRM 1 for the first target and EBL / VRM 2 for a second target.

To **erase** the divider line, **double-click** on the Divider Tool

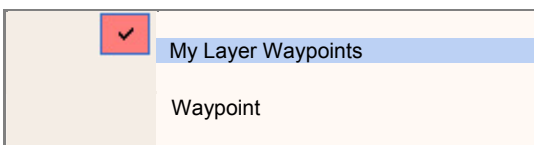
(For more information, see related topic under the Help: [Using EBL and VRM calculations.](#))

**Bearing tool**

The **Bearing** tool is a powerful navigational tool, useful in confirming position, checking a location on the chart.

To **erase** the bearing line, **double-click** on the Bearing Tool

(For more information see related topic under the Help: Bearings)

**Waypoint Tool**

This tool allows you to create Waypoints, which are stored and displayed in "layers." When you keep your mouse down on this Tool, you will be able to choose the active layer. This allows you to keep and organize your waypoints separate. First time running MaxSea the "Waypoint" layer is selected and activate by default.

(For more information, see related topic under the Help: [Create Waypoints Layers](#)).

**GOTO tool**

This tool provides a simple method to simultaneously place a QuickWaypoint at the cursor position and activate the route to go to this QuickWaypoint.

(For more information, see related topic under the Help: [Go To Waypoint](#))

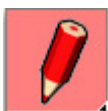
**Route tool**

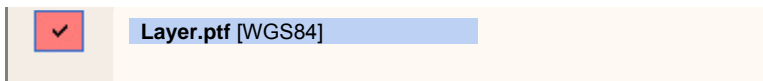
Plot a route on which you will plan your route.

This tool provides a simple method for laying down series of connected QuickWaypoints. When completed, this is a called a route. Make sure to Double-click on this tool before creating a new route to ensure that there are no routes that are currently "selected".

(For more information, see related topic under the Help: [How to create your Route](#))

Capture and modification tools

**Plotting tool (Pencil symbol)**



This tool allows you to create marks, lines and areas. These items are stored and displayed in "layers" on your MaxSea display. When you click and hold your mouse down on this tool, you will be able to choose an active layer

PTF layer file: using the pencil tool while this layer is active will allow you to draw marks, circles, lines or areas (according to user preferences) to a file. Although these marks will appear on Maxsea, they can not be set as destinations or used in a route.

Marks may be saved, named and categorized, which will allow you to save and call up different display scenarios and show only the marks you want to see. For example, you might want to only show marks and lines related to fishing a particular area by saving and creating marks and lines in a layer file named "fishing." To make a new layer, click on the "File" menu of MaxSea, select "New" and choose the type of layer you want to create.

(For more information, see related topic under the Help: Adding your personal marks)



Insertion tool

Used to insert a waypoint or a point in a route leg or line.

(For more information, see related topics under the Help: [Modifying marks](#) and Modifying a route)



Position Modification tool

Click the tool, then select and move any object, point, or waypoint.

(For more information, see related topics under the Help: [Modifying Marks](#) & Modifying a Route & Dead Reckoning function)



Split tool

The split tool is used to cut a line or track into two parts.

(For more information, see related topics under the Help: Cutting a line in two parts or [Cutting a track in a half](#))



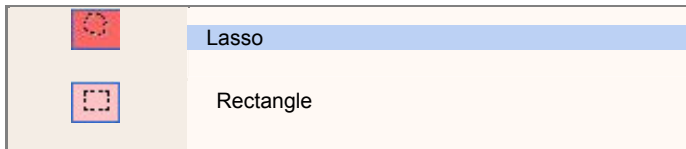
Delete tool (Pacman symbol)

Used to remove unwanted objects. Select the tool, and then click on the object you want to delete.

(For more information, see related topics under the Help: [Modifying Marks](#) & Modifying a Route)



Select tool (Finger symbol)



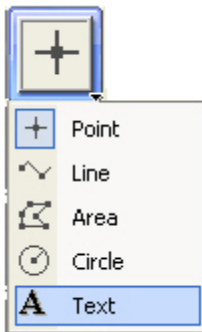
Two ways of selecting objects:

1. Draw a "Rectangle" around objects,
2. Using the "Lasso" you can draw freehand selections.

Get information by double clicking on any points drawn on the chart (like Waypoint or Tide icon).

(For more information, see related topics under the Help: How to select Marks & How to get Information on a Mark)

Plotting Set up Objects



Plotting Object type

Before plotting marks, click on this button to pull down the plotting object type menu. This provides an easy to choose plotting object (point, line, area, circle, text and drift buoy). This item is only available when a PTF layer file (Mark Layer) is selected with the Pencil Tool.

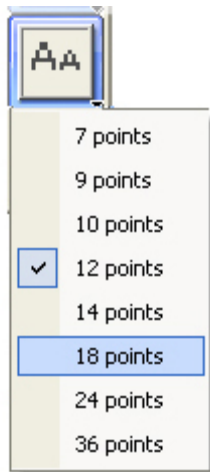
(For more information, see related topic under the Help: Adding personal marks)



Plotting Icons

To choose plotting symbols for Waypoints and Marks.

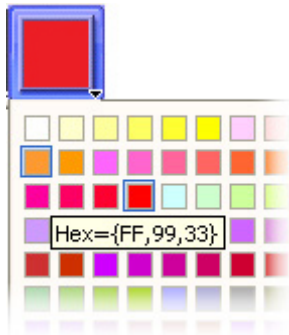
(For more information, see related topic under the Help: Adding personal marks)



Plotting Font Size

To choose plotting font size. This item is only available when a PTF layer file (Mark Layer) is selected with the Pencil Tool.

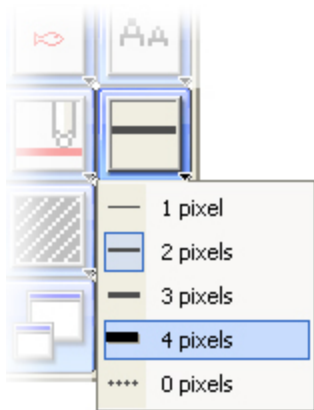
(For more information, see related topic under the Help: Adding personal marks)



Plotting Color

To choose plotting color for your Marks and Waypoints.

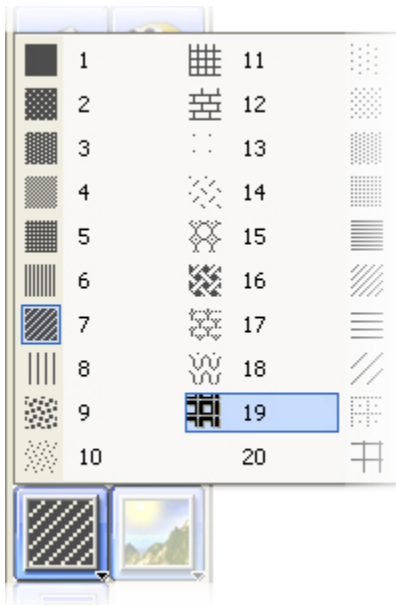
(For more information, see related topics under the Help: [Modifying Marks](#) & Modifying a Route)



Plotting Line Width

To choose a line width. This item is only available when a PTF layer file (Mark Layer) is selected with the Pencil Tool.

(For more information, see related topic under the Help: [Adding personal marks](#))

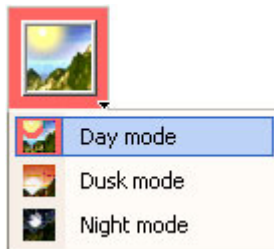


Plotting Drawing Type

To select the type of drawing fill. This item is only available when a PTF layer file (Mark Layer) is selected with the Pencil Tool.

(For more information, see related topic under the Help: [Adding personal marks](#))

Additional Display Options



Lighting Level display options

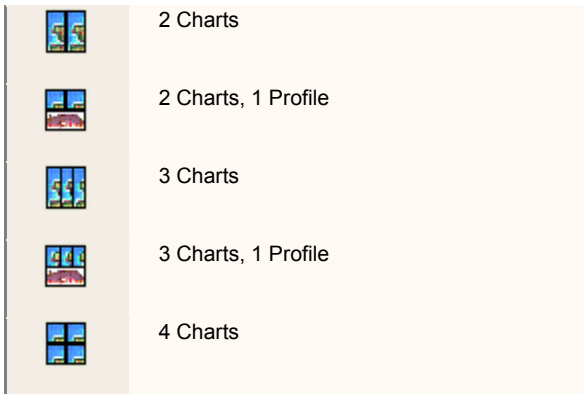
Choose screen lighting level. Day brightens, Dusk grays and Night darkens the desktop for most effective illumination.

(For more information, see related topic under the Help: Customize the display)




Chart Desktop Mode

	1 Chart
	1 Chart, 1 Profile
	1 Chart, 1 Profile



To open multiple Chart window. Toggle between show one or several windows together and with or without the Depth Profile window.

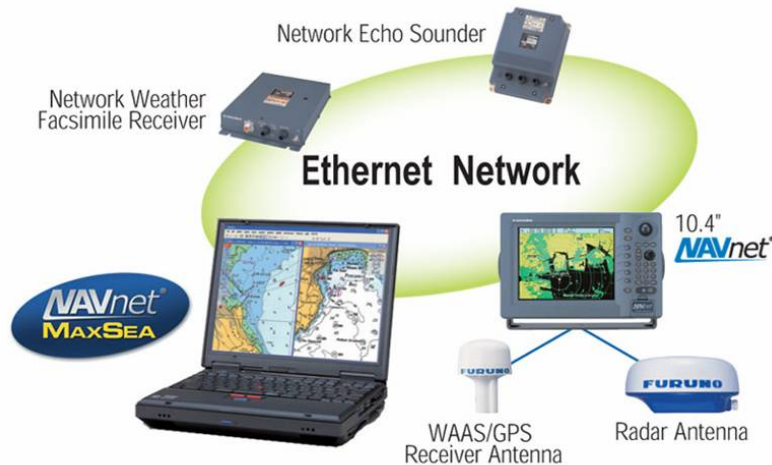
 Chart and Profile Modes depend on your software configuration. The omission of Profile Modes means that the software has not the Profile module.

(For more information, see related topic under the Help:"Customizing the Workspace")

NavNet system

MaxSea-NavNet Overview

The MaxSea-NavNet is capable of combining and analysing data from multiple sources in real-time. Fully integrated into the NavNet system through a Ethernet network, MaxSea-NavNet facilitates the complete integration between the PC and the NavNet network, sharing information from the radar, GPS, echo sounder and other nav data within the NavNet system.



Full controllability of the NavNet.

The MaxSea-NavNet takes full control of the NavNet display, such as radar range, gain/STC control, Echo sounder range, etc., in addition to handing the navigation data to display in a diverse range of formats.

MaxSea-NavNet Radar Overlay

MaxSea-NavNet provides the highest quality electronic charts available as the basis for its radar overlay. The range of color and transparency of the overlay guarantees that the chart is not hidden.

MaxSea-NavNet overlays the full radar image at the same scale and create an improvement in accuracy and clarity. This allows for the confirmation of precise positioning relative to the chart and clearly reveals any inconsistencies.

See related topic: MaxSea-NavNet Radar Overlay

MaxSea-NavNet Depth Profile Windows

MaxSea-NavNet provides a fully integration of Echosounder display. With connection of the optional Network Sounder you can show video sounder High Frequency or Low Frequency echogram in various display modes from which to choose. Furthermore graphs can be overlayed in this windows such as Echogram, Temperature Graph, Forward Looking Depth Profile and a Depth Profile Outline.

See Also Related Topic: MaxSea-NavNet and Depth Profile Window

MaxSea-NavNet C-Map Chart reading.

C-Map Charts inserted in a NavNet display unit chart drive are read in real time as long as the card are actually inserted in the host display...

See Also Related Topic: [C-Map NT via NavNet \(ethernet\)](#)

MaxSea-NavNet GPS Upload/Download

This function allows you to manage the data transfer from your computer to the NavNet equipment (Upload) or from the NavNet equipment to your MaxSea-NavNet.(Download)...

See Also Related Topic: [NavNet protocol](#)

MaxSea-NavNet Setup

This stage can be considered as the most important, indeed a good installation of the set MaxSea-NavNet on the NavNet network will guarantee you the optimal utilisation of your software.

See Also Related Topic: [Navnet Installation Overview](#)

MaxSea-NavNet Hardware and System requirement

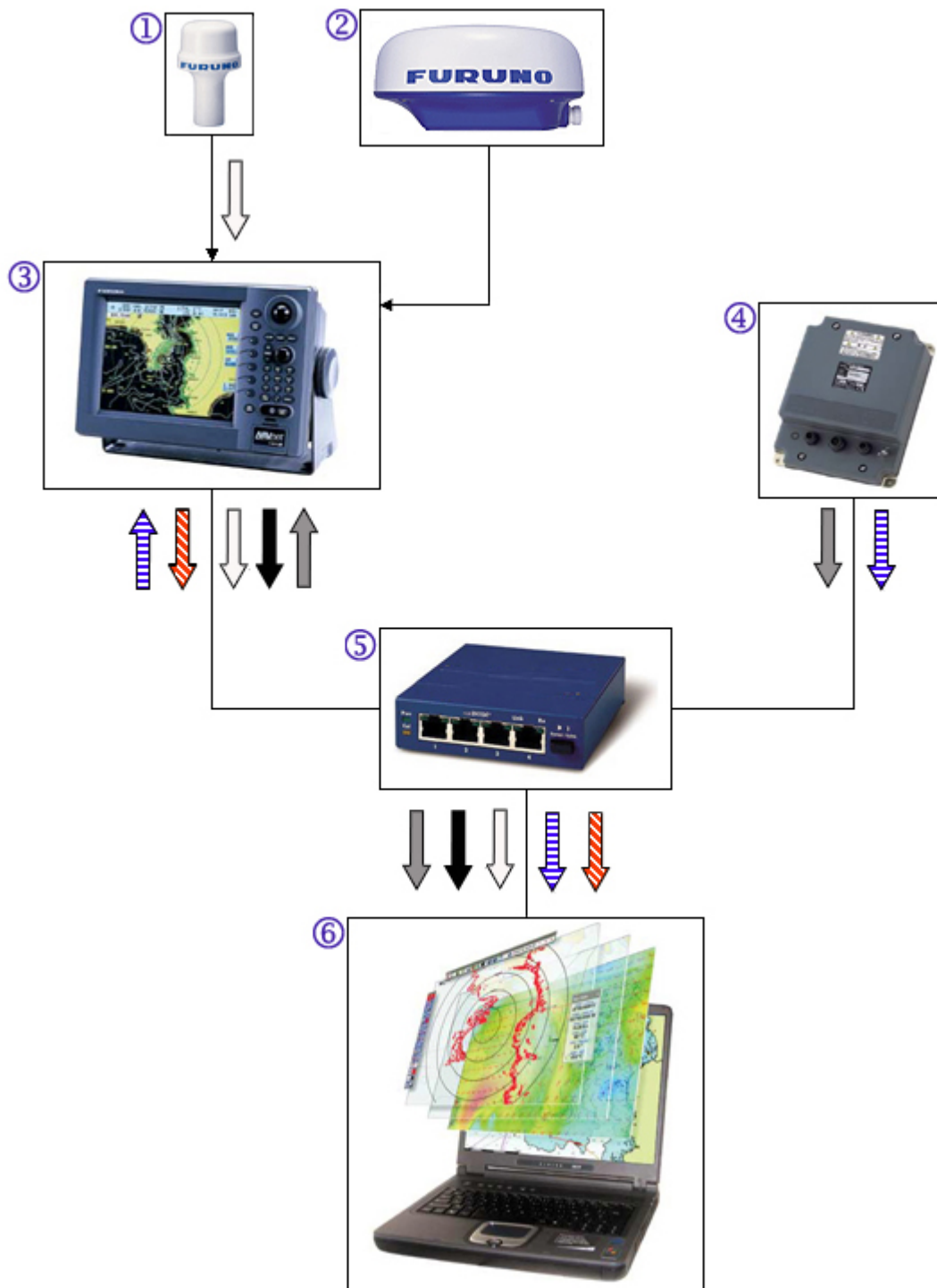
Your PC must respect the Hardware and system requirements in order to work with MaxSea-NavNet.. Please verify these requirements before installing. MaxSea-NavNet is an advanced software which makes better use of faster computers with more memory.

See Also Related Topic: [Hardware and system requirements](#)

MaxSea-NavNet Data flow

Picture show you the DATA flow in a Single Unit MaxSea-Navnet installation.

MaxSea NavNet Data flow

**Legend**

- (1) - GPS Antenna
- (2) - Radar Antenna
- (3) - NavNet Display Unit
- (4) - Network Echo Sounder

(5) - [HUB](#)

(6) - [PC + MaxSea NavNet](#)

Data Description

NMEA DATA



GPS NMEA sentences : position in lat/lon, speed, course,...



ARPA NMEA sentences : Target position, cursor,



Sounder NMEA sentences : Depth

Echo DATA



Echo : Sounder echo



Echo : Radar echo

Note : All radars require a heading alignment upon installation of the radar antenna.

MaxSea NavNet Data Transfer

Data such as Routes and Waypoints can be transferred to and from the Navnet.

1. [Configuring MaxSea GPS Upload/Download](#)
2. [Upload to NavNet](#)
3. [Download from NavNet](#)
4. [Quick Route](#)

Configuring MaxSea GPS Upload/Download

1. Select **[GPS Upload / Download]** from the **[Route]** menu
2. Choose **[Configuration...]** to call up the dialog box which lets you to choose GPS protocols.
3. Select **NavNet**
4. Click **Next** to continue.
5. Enter the source name from which you will transfer data. (for example PLOTTER etc...)
6. Click **Next**
7. Parameters report is displayed confirming settings.
8. Click on **Finish**, Either if parameters are correct or **Back** to modify them and **Cancel** to quit.

Upload to NavNet

You have to do twice the manipulation. You will be warned when the software is ready for data transmitting , at this moment precisely you can configure your NavNet in the receiving mode but you can also cancel depending to your choice.

WARNING :

All the data existing in the NavNet memory will be deleted !

On MaxSea-NavNet

After configuring your GPS data transfer you can access to this function by :

1. Choosing **[Upload to GPS]** from the **[GPS Upload/Download]** of the **[Route]** menu.
2. Check the data that you wish upload. A dialog box is displayed and proposes a check boxes list

☒ Waypoints

☒ Routes

☐ Marks

3. Click **OK** to validate
4. MaxSea will propose you to validate GPS ID

5. An animation is displayed on screen when the software is ready for data transmitting



Note: Before transmitting MaxSea will ask you to verify the DATA Format for each new or never transmitted Waypoints or Routes.

FID	Name	GPS ID
Software ID#1	Object User Name#1	Navnet identifier#1
Software ID#2	Object User Name#2	Navnet identifier#2

You can then validate or modify the GPS ID according to the [NavNet Protocol](#)

On NavNet

Configure your system to Receive Data Via Network Equipment: ([RECEIVE DATA VIA NETWORK](#))

1. Select your MaxSea-NavNet HOST NAME, example MAXSEA
2. Check the data that you wish to download, MARKS & LINES and/or WAYPOINTS & ROUTES by switching ON or OFF as appropriate.

HOST NAME	MAXSEA
MARKS & LINES	OFF

WAYPOINTS & ROUTES	ON
--------------------	----

3. Press the receive button (RCV soft key followed by the [ENTER] knob).

Download from NavNet

After configuring your GPS data transfer you can access to this function by:

1. choosing [\[Download from GPS\]](#) from the [\[Route\]](#) menu.
2. Check the data that you wish upload. A dialog box is displayed and proposes a check boxes list

☒ Waypoints

☒ Routes

☐ Marks

1. Click **OK** to valid
2. An animation is displayed on screen during the transfer action.
3. When the transfer is completed a second dialog of [Warning and Message error report](#) appears which lists all eventual errors.

Note that NavNet gives more details such as waypoint color and symbol, this information is added in your database and waypoints are displayed on chart using corresponding colors.

Quick Route

After configuring your GPS data transfer Quick route are directly exchanged between MaxSea and the NavNet system.

IMPORTANT:

The last quick route will delete automatically the previous one, on both equipments.

Related topic : [Go to a specific Waypoint](#)

Related topic: [Warning and Message error report](#)

Related topic: [Data transfer protocol for NavNet](#)

GPS on the chart

Your GPS on the chart

The **GPS/vessel symbol** is drawn in each open chart window that contains the vessel's position. It indicates the boat position displayed on the chart at the point currently indicated by the GPS system connected to the PC. Your GPS on the chart has properties and they must be properly configured. Following paragraphs provide information on adjustments to your boat properties as needed:

1. [Drift and surface speed vector](#)
2. [Vector direction display](#)
3. [Security Circle & HDOP](#)
4. [Waypoint Auto-Scale function](#)
5. ["Out of limits" positioned](#)
6. [Man overboard function](#)
7. [Use the Dead Reckoning Function to Make a Test Route](#)

Ground speed, Surface speed and Drift vectors

If you have a GPS connected, MaxSea can display the **Ground heading** vector on the chart. If you have additional equipment (heading, Speed through water, ...) MaxSea will display **Surface speed** vector and **Drift** vector in addition to the **Ground Speed** vector.

To display and modify vectors, select **[Option: GPS/Track...]** from the **[Utilities]** menu.

Select the **"Misc"** to call up the window zone in which you choose the "Vector direction display" option

- Select **"Vector direction display"** option
- Select corresponding Heading and Speed in the **"Data Input/Output Settings Configuration"**.

How to define vectors

Select Data Input/Output Settings choice:	To display:
GROUND SPEED and GROUND HEADING	Ground speed vector
SURFACE SPEED and MAGNETIC HEADING	Surface speed vector

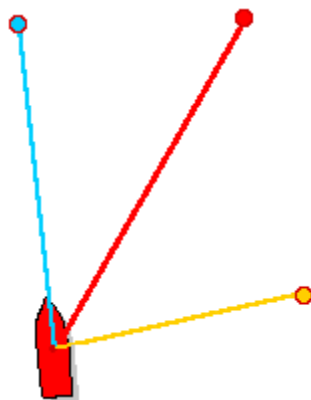
SURFACE SPEED and GEOGRAPHIC HEADING	Surface speed vector
DRIFT SPEED and DRIFT DIRECTION	Drift vector

Note: If you do not receive this data from your instruments, you have to select the **"MaxSea"** Sentence in **Data settings windows**. MaxSea will calculate missing value (see the following example for drift Speed and direction).

Vectors display

Go to the **[Utilities]** menu and select **[Option: GPS/Track]** to choose which drawing vector you want to display on the chart.

Then check on or one of each corresponding boxes.



- **Blue vector :**

A Surface speed vector is displayed on top of the chart

- **Yellow vector :**

A Drift vector is displayed on top of the chart

- **Red vector :**

A Ground speed vector

Related topic :

- Input-Output Configuration
- Option: GPS/Track

Vector direction display

To modify and display the vector direction:

1. Select **[Option: GPS/Track...]** from the **[Utilities]** menu.

2. Click the **Misc** tab for calling up the appropriate window zone.
3. At any time, you can check or uncheck a Direction depending on your choice (displaying The Ground Heading and/or Surface heading and/or Drift vector)

Then choose its display mode, depending on speed variation or not:

1. Choose Fixed Length and enter on keyboard a fixed value.
2. Or choose Speed % variable and enter a limit value.

Security Circle & HDOP

The GPS Centering circle "**Radius**" and "**HDOP**" displays are accessed under the "**GPS/Track**" window.

To define the parameters go to the **[Utilities]** menu and choose **[Options: GPS/Track...]**.

Security circle option

Select the "**Misc**" tab

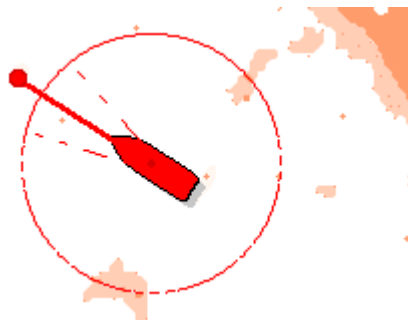
Then check the **Security circle** box to validate the display, and enter a radius circle value.

The display includes 3 parts:

- The distance circle.
- A cone of 15°.
- A segment at **GPS** position, Segment length is equal to **HDOP**.

Note: if HDOP is smaller than the boat length, then the segment is equal to the boat length.

HDOP display on the chart shows you the estimated precision of the GPS.



Notes :

- (1) - Cone base width depends on HDOP (Horizontal Dilution Of Position) if it is acquired from GPS.
- (2) - Cone base width depends on the Mobile width if it is not acquired from the GPS.

Changing when switching waypoints

When you arrive to a waypoint on a route, you can switch to the next waypoint by one of the three methods below.

PERPENDICULAR and DISTANCE:

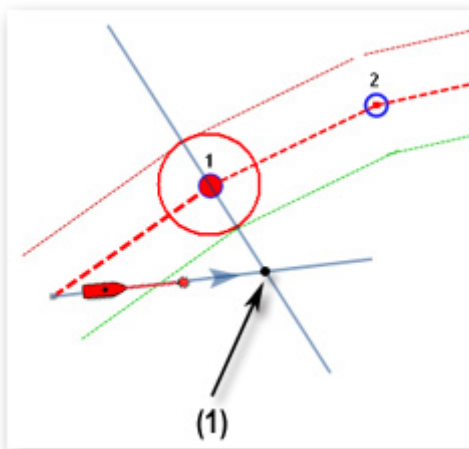
Automatically switches the destination waypoint when the boat comes passes an imaginary perpendicular line passing through the center of the destination waypoint and when the boat comes within the arrival alarm range together.

PERPENDICULAR:

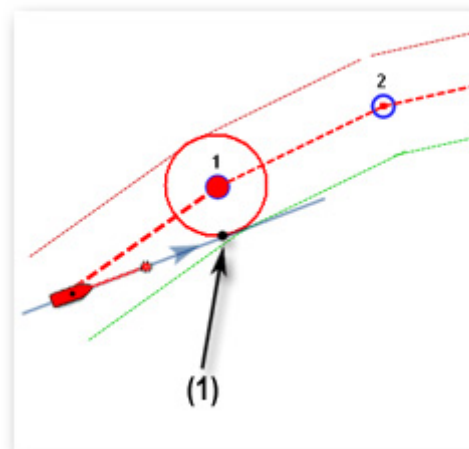
Automatically switches the destination waypoint when the boat comes passes an imaginary perpendicular line passing through the center of the destination waypoint.

DISTANCE:

Destination waypoint is automatically switched when the boat comes within the arrival alarm range. For how to set the arrival alarm, see related topic: [Security Circle & HDOP](#).



Waypoint switched at a point (1) of an imaginary perpendicular line.



Waypoint switched at the Arrival alarm circle point (1).

Automatic waypoint switching methods

Activating the automatic waypoint switching method:

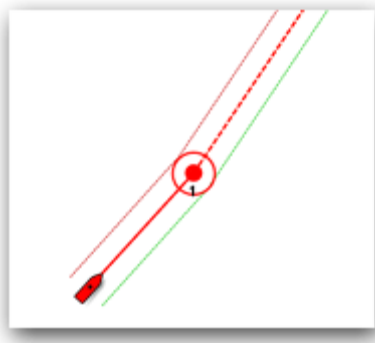
Select the [Option:Route] option from the [Route] menu to call the dialog which allows you to activate the Automatic Waypoint Switching method. Distance and Perpendicular are selected ON by default.

Choosing and modifying a switching method for each waypoint.

1. Right click a leg in the planning route and choose "Properties" for displaying its Properties dialog.
2. Click in the empty field according to the "Passage Mode" cell,
3. Choose a mode between Perpendicular or Distance or Perpendicular +Distance.

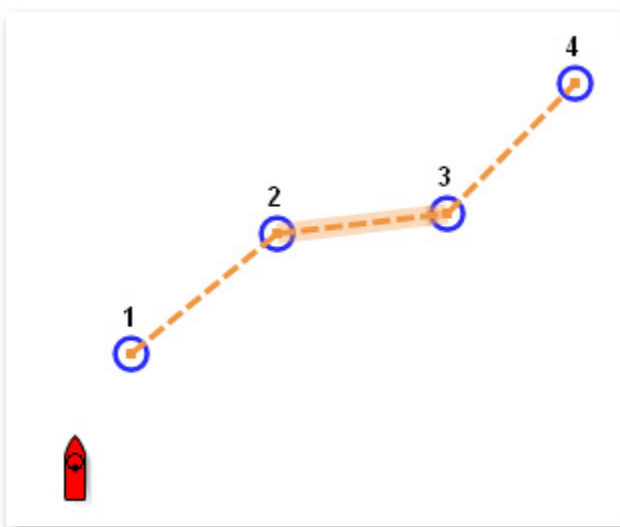
Waypoint Auto-Scale function

The **Waypoint Auto Scale** function allows the software to automatically change the chart scale. Change of scale occurs when the boat gets into the Waypoint arrival circle.



Note that on the large Scale charts (precise) you can see the distances realized thanks to the red circle traced all around the waypoint to be reached.

How to enable the Auto-Scale function



Choose **[Options...]** from the **[Route]** menu to call up the Route options dialog, which enables you to modify following parameters such as :

1. The Label waypoint format (by default it is the waypoint name)
2. The Label Leg format by clicking on the button bar.
3. Check the box depending on your choice to assign each leg (The Label name format is selected by default).
4. Note that if the Name label is empty it is replaced by a number which is the FID number as it is shown in the picture next to by numbers: 1,2,3,3,4. The dots line in black shows you the selected leg and the arrow shows its direction.
5. Choose the **Set Leg Scale** as true to enable this function.

Get more information on Route options in related topic: Option: Route

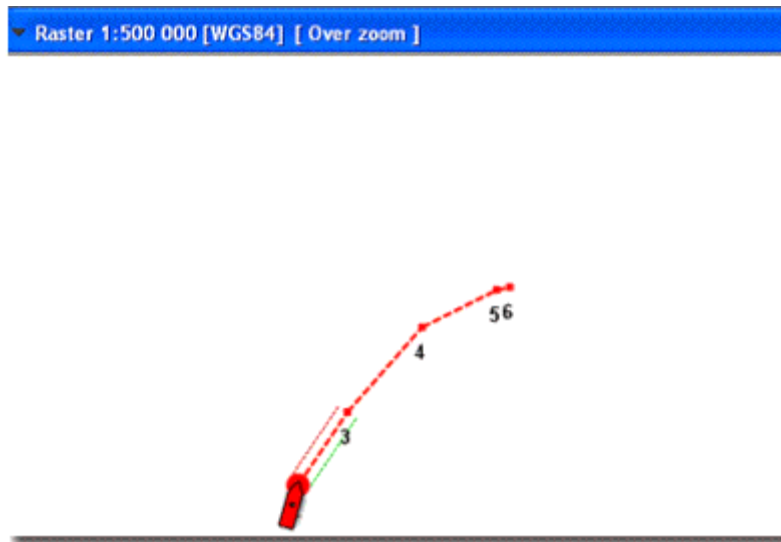
How to assign a new scale to a chosen leg route:

Following modify can be done only when the present route is selected on plan route and not active route. You can assign a scale for each route leg directly in the Planning Route center. To do so click in each scale cell and choose a value under the pull down menu. Repeat as many time as you wish for assigning a scale to route leg line in the center.

Note that the software keeps the current scale if the field is **"Empty"**.

Now the software will automatically detect the moment when GPS position is close enough to the waypoint and will change the chart scale.

Following animation shows you for example when the position is close enough to the "waypoint route number 3", the scale changes automatically from a scale 500 000 to 100 000.



"Out of limits" positioned

When the GPS position moves off-course, a visual and audio alarm is activated. The "Out of limits" function can be adjusted only when your route is selected on Planning route and not on active route.

Two methods are proposed for configuring this alarm:

	<p>1 - By choosing X.T.E. value by default:</p> <ul style="list-style-type: none"> • Select [Options...] from the [Route] menu. • Choose Display XTE as true for activating XTE alarm. • Choose the Default Leg XTE range by clicking in the corresponding field. • Enter a distance value directly or using the virtual numeric keyboard. <p>Note that the default value is equal to 0,500Nm.</p>
--	--

2 - By choosing a specific X.T.E. value applied on each leg of a route.

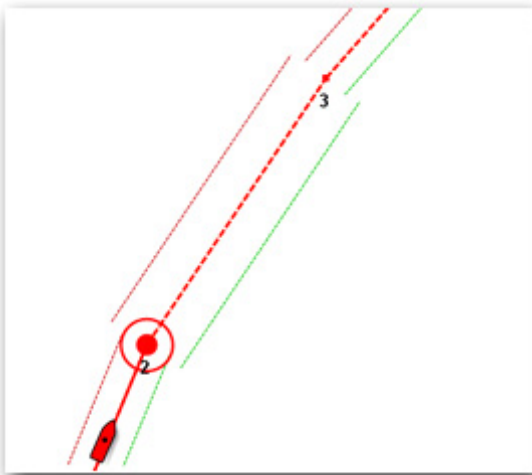
- Select a Leg by clicking it on the chart displayed and choose the "Properties" option in the contextual menu list.
- or by select a waypoint line in the Planning Route Center and click the "Properties" button on the center header toolbar.
- The Waypoint properties window appears on the screen

- Enter directly (or using the virtual keyboard), a distance value in the XTE zone area (by default this value is equal to 0,5Nm)

When you will activate the route the XTE limits are drawn on the chart as it is shown in following example. note that the XTE limits are not drawn when the route is a planning route.

When you activate the **Display XTE**, the **Security XTE** area is delimited with two dotted lines, green and red, on each side of the **active route**.

For example following picture shows a XTE value equal to 0,8Nm chosen for the Leg between route points number 2 and 3.



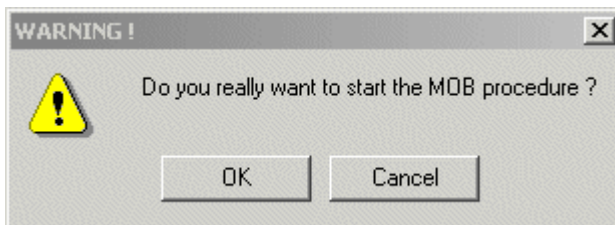
Man Overboard

The "**Man Overboard**" function (**MOB**) is a necessity. It can be a useful tool when placing luminous buoys on the water, monitoring floating objects in the water, etc.).

Select the **buoy** icon from the Toolbar..



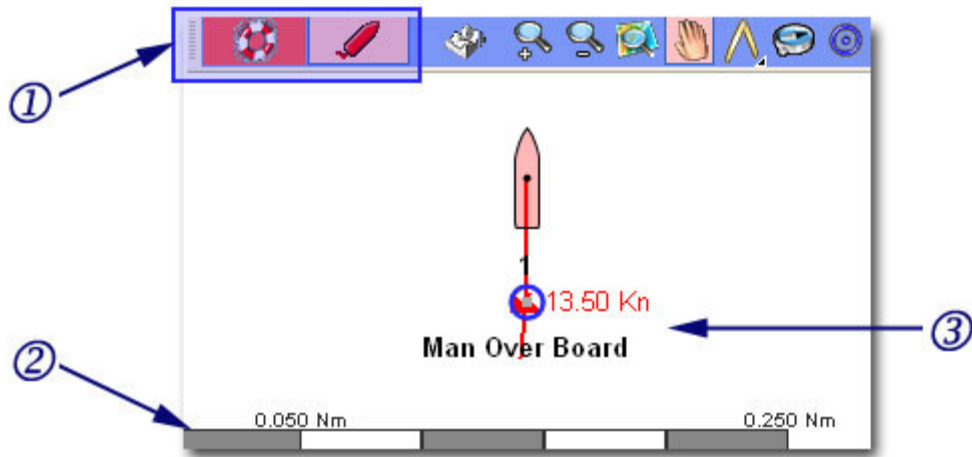
The following warning applies:



Once this warning is acknowledged, the software passes immediately into **Man Overboard** mode:

- The MOB and the Track ON/OFF buttons are both activated in the Toolbar as it is shown with number (1) in the following picture.
- The chart is displayed in **Centered ship** mode at a detailed **scale** (1/2 500) as it is shown in following picture number (2).

- The active course is removed and a **Waypoint** is placed where the ship was when the **Buoy** icon was clicked (Man Overboard point).
- A Waypoint is created at the boat position and it appears as a graphical representation and continually shows the heading and distance to return to the MOB point. At the same time an active route is created named **Man Over Board** (see number 3 in following picture).
- The **Track** and a point are drawn on the chart and the boat's speed is written in the active layer when MOB function is activated.



IMPORTANT - The overboard position depends on the precision of the GPS at the moment when the function is activated.

The person/object overboard may drift due to winds and currents.

Returning to Normal Mode

You may cancel the MOB active route by choosing **[Cancel Active Route]** from the **[Route]** menu. A waypoint Man Over Board is automatically created and added in the Waypoints Center.

You may change the chart scale, select the previous route and restart it again.

You can erase the MOB waypoint using the **Delete** tool, or by selecting it with the finger tool and hitting backspace or under the Waypoint Center list.

Modify the Boat Position to Make a Test Route

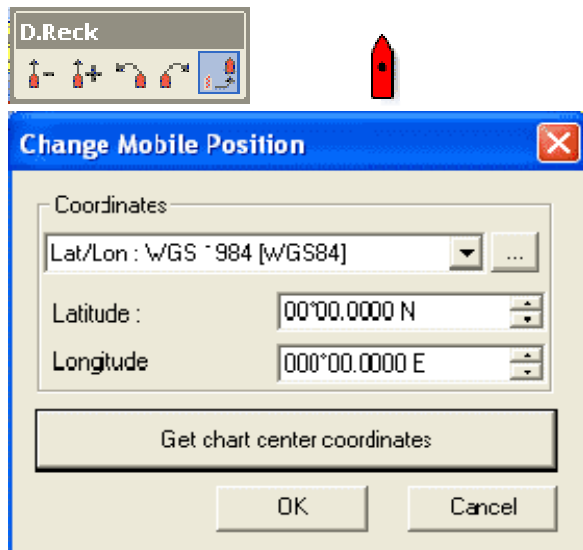
The **Dead Reckoning** function is used for testing, planning, or should the vessel's GPS system fail. It is a convenient and versatile function since it is so crucial to the day's work in ocean navigation.

Use the **[Dead Reckoning]** function to modify the boat position, this is accessed through **[Utilities]** on the Menu bar.

Click **"OK"**, and you are now in Dead Reckoning mode.

Modify the position using the Dead reckoning palette

1 - Click on the **Modifying boat position** symbol in the Dead Reckoning palette. The "**Change Mobile Position**" window appears and now you can choose the boat position.



3 - Choose latitude and longitude values using the pull down menu and then, click **OK**.

4 - Or center it around middle of the screen by clicking on the "**Get chart center coordinates**".

Modify the position using the Position modification tool

You can modify the ship position using the **Position modification** tool, click one of the plotted Ship icon, then, holding the mouse button down, drag and release the button when the cursor is located on the new desired position.



During the move a screen tip indicates the new direction and distance calculate from the boat position actual.

Adjusting Dead Reckoning Speed and Heading using the Dead Reckoning palette

To fix the ship **COG**, or speed

- Click on one of each symbol or to adjust the speed. At this moment the speed data is updated in the DataNav palette.
- Click on each symbol or to adjust heading (clockwise or counter clockwise). The modified heading appears above in the DataNav palette.

To turn off the Dead Reckoning function go to the **[Utilities]** menu and choose **[Dead Reckoning]** again.

Charts centering

Chart centering overview

Each time you need you can center the screen either on the GPS position or specific location or radar overlay position:

1. [Automatic Screen centering](#)
2. [Center on specific geographic locations](#)
3. Creating & displaying centering points
4. [Centering on Radar overlay location](#)

Automatic Screen Centering

This function puts the chart in centered mode (or Auto Center mode). If the chart was not previously centered on GPS position, it is redrawn.

In **Auto Center** mode, the chart will automatically be moved when GPS position moves out of the centering zone of the screen. This zone is by default located in the middle of the screen and has a width and height equal to half of the size of the screen.

Modification of the centering zone (dimension and position) according to the chosen Chart orientation are explained in the related topics:

1. [Choosing the chart orientation](#)
2. [Customizing the Auto Center mode display](#)

You can activate and deactivate this mode by clicking the **Auto Center** button located in the Chart palette of each chart window.

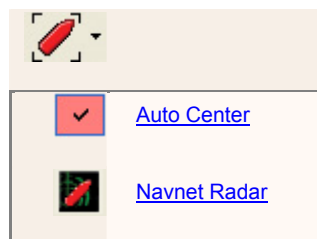



Fig. 1 shows you that the Auto Center mode is chosen but not activate.

1. Click the **"Auto Center "** button to activate **Automatic Centering** mode (or press **F4** key board) and the activated button will become as it is shown here: 
2. Click this button again to deactivate the **Automatic Centering** mode

Note:

The **Auto Center** button is present in each open chart window. You can activate this mode on only the windows you choose.

Customizing the Auto Center mode display

Defining the automatic boat centering zone

The boat centering zone corresponds to that part of the screen that the boat symbol will not cross in **Auto mode**. The chart is moved under the boat icon so the boat symbol is re-centered.

The automatic auto center settings will correspond with the direction layout of the chart display.

1. Customizing the auto center mode according to North Up layout orientation
2. Customizing the auto center mode according to Course Up layout orientation
3. Customizing the auto center mode according to Head Up layout orientation

Centering on specific geographic locations

You can quickly move the chart to frequently visited locations by defining centering points.

To define centering points which permit you to directly center the chart on the recorded points:

1. Choose **[Center On]** from the **[Display]** menu .
2. A list is displayed in left zone area of the dialog (by default the zone is empty, see the related topic "Creating centering points").
3. Select a location in the list
4. Click the **"Center On"** button to automatically center the chart on the chosen location.

Centering on Radar overlay location

As you do for the automatic screen centering you can automatically centered on the Radar Overlay zone if your radar is turned on.



Click the **"Navnet Radar"** button in the chart toolbar and this function puts the chart in centered mode. If the chart was not previously centered on GPS position, it is redrawn and centered on the chart in the radar operating zone.

When the Radar Auto Centering function is toggled On and the Radar Range is modified in MaxSea (under MaxSea or NavNet), the Chart's scale will change.

Headings & Distances & Bearings

Calculate Headings, Distances & Bearings

In this chapter, you will learn how to calculate distances, headings and bearings. You will put into practice the navigational rule and the Compass , which you use traditionally on a paper chart.

You will discover how **the software** offers you functions which are both simple and yet much more powerful than the traditional navigational tools.



You will use the **Compass** tool to access these functions by clicking the icon in the Toolbar. The Compass drop-down menu appears, choose the Line item to calculate headings and distances or one of the EBL/VRM items for the VRM/EBL calculation determining the range and bearing of objects detected by the radar.



You will use the **Bearing** tool to obtain a fix on the chart once you have taken the necessary seamark bearings using a compass and radar. This tool can also be used to record the position of another ship by entering its bearing a horizontal angle, measured from 0 to 90 degrees, fixing the direction of a line or direction of travel with respect to either a north or south direction. and range (measured using radar for example).

See Also Related Topics:

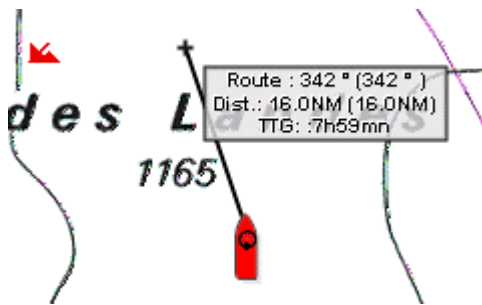
- [Measure Headings and distances between two points on the chart](#)
- [Measure Headings and distances from the ship position with one or several points](#)
- [Calculate bearings by EBL/VRM](#)
- [Calculate fix by two bearings](#)
- [Calculate fix by three bearings](#)
- [Calculate fix by a bearing and range](#)

Heading & Distance between two points

Click on the **Compass** tool and choose the Line option before calculating headings and distances. Then to calculate the heading and the distance between two points on the chart, place the cursor on the first point, click then drag the mouse until over the second point (and release the mouse button).

Note that when you drag the mouse, the heading and distance between the first point and present position of the cursor on the chart are displayed beside the cursor and are continually updated.

After releasing the mouse button, the heading, distance and Time To Go (**TTG** .) to cover this distance are displayed. The duration is calculated depending on the present speed of the ship.



Double click the **Compass** tool in the **Toolbar** to erase the **track** created.

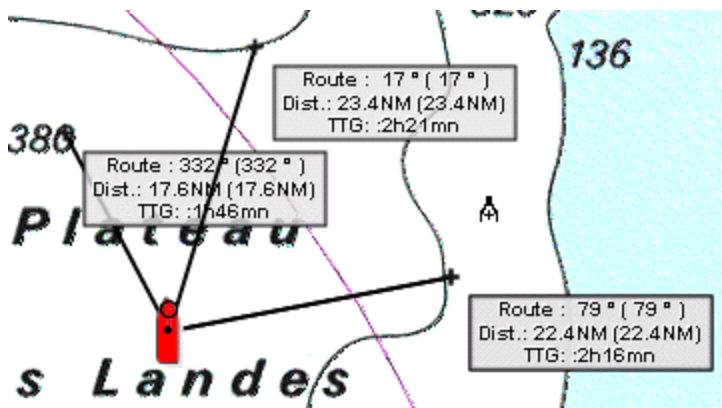
Heading & Distance from the ship position

Double click one or several points on the chart to obtain the same calculation as above, but for between the ship and the double clicked point (s).



Double click the **Compass** tool selected on **Line option** in the **Toolbar** to erase calculation displayed on the chart.

You can repeat these operations several times as it is shown in following picture.



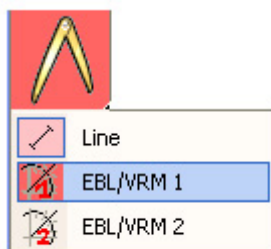
Note: you can double click on any point on the chart, even if the ship icon is not visible on the screen. Check however, when moving the chart, that the course indicated does not cut dry land or cross hazards!

Calculate bearings by EBL/VRM

A variable range marker (**VRM**) and its associated electronic bearing line (**EBL**) is used to determine the range and bearing (respectively) of objects detected by the radar.

A standard VRM is displayed as a circle with its center on your GPS position, and its EBL is displayed as a line from the origin, to the edge of the radar screen. Both are shown as lines. If you range in or out, or offset the center of the display, the original setting of the EBL/VRM remains unchanged.

The software allows two EBL/VRMs to be displayed at the same time such as it is shown in the Toolbar under the Compass tool:

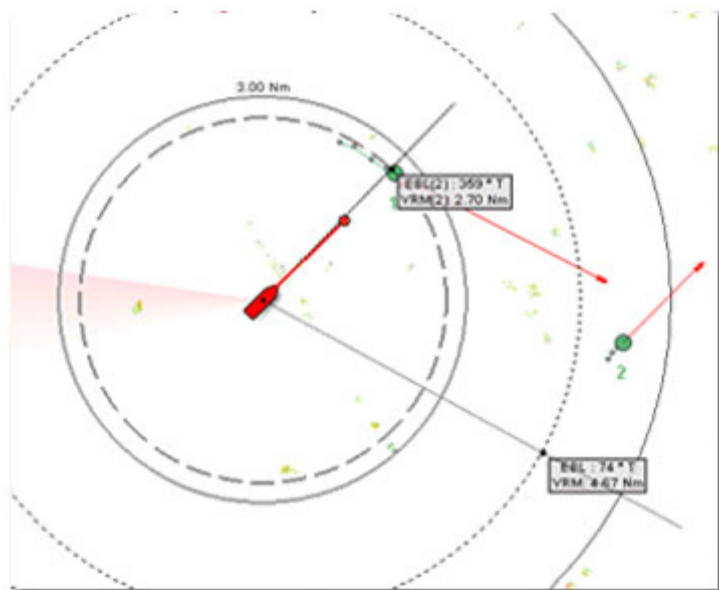


When using the EBL / VRM

To measure the range and/or bearing of a target or a point from your GPS position as you will do on a Radar overlay display. This function can be useful and essential in measuring the width of river mouth, narrow channel as well as navigable navigation lanes.

This is displayed by clicking the EBL/VRM 1 in the Toolbar and drawing on the chart. Repeat with the EBL / VRM 2. If your GPS is not connected you can simulated a GPS position with using the Dead reckoning function.

Then you can draw the EBL /VRM (1 and 2) as it is shown in following picture:



Tool tips are displayed on screen which informed at any time about the EBL (Line representation in the picture) and VRM (ring representation in the picture) range. This can be useful to follow up a point on screen when turning off Radar.


To adjust the EBL/VRM simply click on it and drag it to the desired angle directly on the chart. The angle and distance are displayed in each corresponding tool tip.

Erasing EBL/VRM from the chart display:

1. To erase EBL/VRM 1 double click the compass tool selected on EBL/VRM 1 option.
2. Do the same with EBL/VRM 2 the compass must be selected on EBL/VRM 2 before.

Get more information on this function in the Radar overlay chapter

Calculate fix by two bearings

Using the **Bearing Tool**  or right-click any where on the chart and select the "**Bearing tool**" in the "**Select tool**" sub-menu.

If you have used a compass to take the **bearing** of two seamarks, drag the bearing line from the first seamark (click, drag and release) and then do the same to set the bearing line of the second seamark.


Select **[Calculate fix]** from the **[Route]** menu to obtain as before, the point of the bearing which is recorded in the active layer.

Note:

- (1) - it is not necessary to lengthen bearing lines to make the intersection, MaxSea will perform this function.
- (2) - instead of sliding the cursor over the chart you can click the seamark and then use the keyboard to enter the bearing in the dialog box which opens.

To erase the trace of the bearing taken go to the **[Route]** menu and select **[Delete Bearing]** or double-click on the Bearing tool.

Calculate fix by three bearings

Using the Bearing Tool  or right-click any where on the chart and select the "**Bearing tool**" in the "**Select tool**" sub-menu.

Proceed exactly as explained in the above paragraph to [Calculate fix by two bearings](#) , but trace three **bearing** lines instead of two.

After selecting **[Calculate fix]** from the **[Route]** menu, the software displays the point of theoretical calculation as well as the triangle of accuracy.



These elements (point and triangle) are recorded in the active user's data layer.

Note: instead of sliding the cursor over the chart, you can click the seamark taken, then use the keyboard to enter the bearing in the dialog box available.

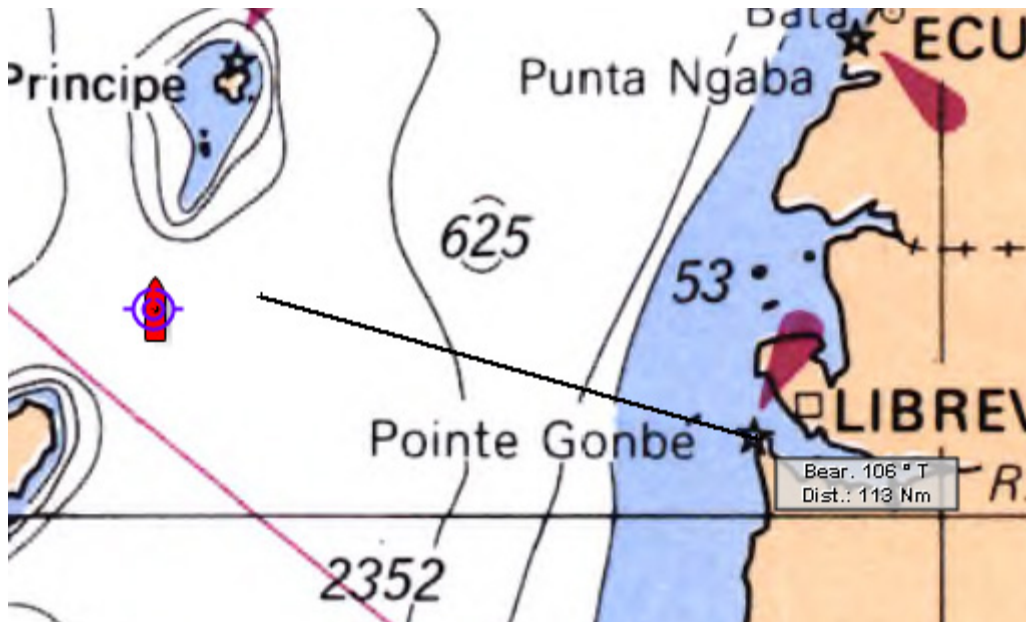
Go to the **[Route]** menu and select **[Delete Bearing]** to erase the trace of the bearing taken or double-click on the Bearing tool.

Calculate fix by a bearing and a range

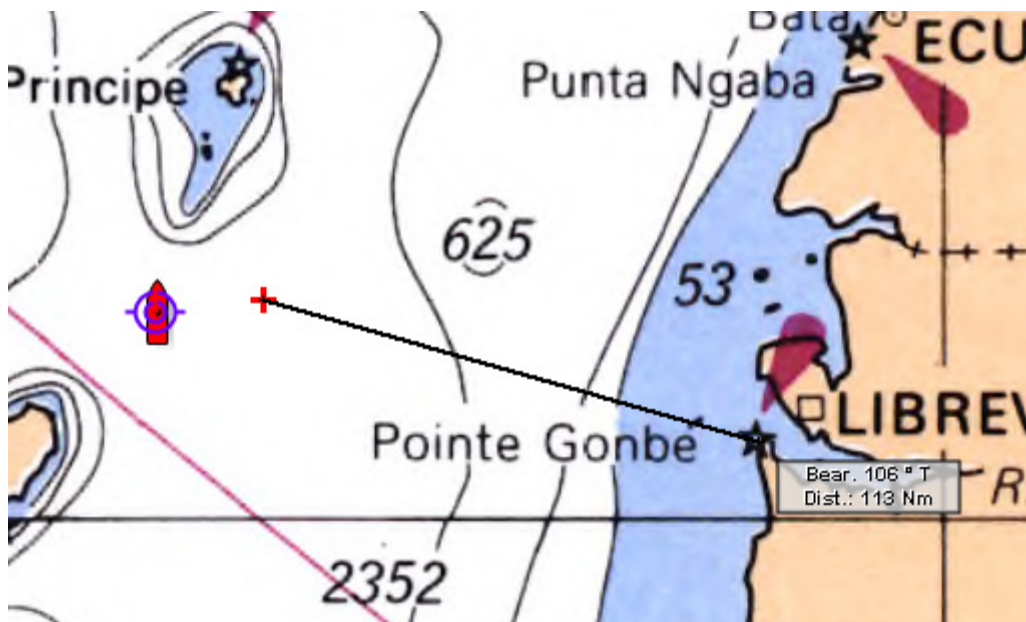


Right-click any where on the chart and select the **"Bearing tool"** in the **"Select tool"** sub-menu.

If you have taken the **bearing** of a seamark (fixed object such as a point of land) using a compass or a radar and if you know the range separating you from the seamark, click this seamark on the chart and then drag the cursor over to the point where the bearing and range correspond to the values taken.



Select **[Calculate fix]** from the **[Route]** menu.



A mark (red cross) is displayed on the chart and recorded in the active layer. The trace line of the bearing remains displayed on the chart.

Note: instead of sliding the cursor over the chart, you can click the seamark taken, then use the keyboard to enter the bearing in the dialog box available.

Go to the **[Route]** menu and select **[Delete Bearing]** to erase the trace of the bearing taken or double-click on the Bearing tool.

Note that the point from the calculation remains displayed on the char (red cross)! It has been recorded onto the active layer. Use the delete tool on the palette if you want to delete it.

Routes

Routes overview

A Route is a travel from a location (1) to another location (2), and is composed of series of waypoints.

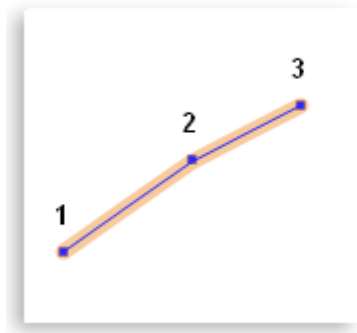


Fig.1

The **Selected Route** is your draft. You can easily plot and edit a route on the chart using the Route tool to simulate your navigation. The Planning Route is drawn on the chart with series of **QuickWaypoints** (or Waypoints) linked with orange dotted lines. When you make a route with the Route Tool, if you don't click on existing Waypoints, QuickWaypoints are automatically created. These QuickWaypoints are not added to the Waypoint database and are automatically deleted when the route is erased.

(Fig.1 : Route using QuickWaypoints)

Each Leg along the Route are listed in a table called the [Selected Route Center](#).

All routes you have created are listed in the [Routes Center](#).

In this section you will learn :

1. [How to create a Route](#).
2. [How to display and select existing route for working on it](#) (using the **Routes Center**)
3. [How to display the Route Plan that gives you information about the Selected Route](#) (**Selected Route Center**)

You will also learn in this section how to edit and customize a planning Route to simulate your navigation:

1. [How to Modify a Route](#) (insert, delete and move waypoint in a route)
2. [How to Duplicate a Route](#)
3. [How to Reverse a Route](#)
4. [How to Import Routes](#)
5. [How to Export Routes](#)
6. [How to Archive Routes and Waypoints Database](#)
7. [How to Restore Routes and Waypoints Database](#)
8. [How to Delete Routes](#)

Create a Route

MaxSea enables you to create a Planning Route by placing and linking together several Waypoints on the chart. Each part along the route corresponds to a Leg.

To create a Route, you can :

Draw directly the route on the chart (creating QuickWaypoints):

1. Select the Route Tool and move the cursor to the starting point
2. Click directly on the chart. A blue square (QuickWaypoint) is displayed at the point clicked and is named number (1).
3. Create additional QuickWaypoints by clicking points further along the route. These QuickWaypoints will be successively numbered (2), (3), etc...

Note : All the QuickWaypoints created are not listed in the Waypoints Database. They are only temporary Waypoints linked to a specific route (if you delete the route, all the QuickWaypoints will be erased)

Place Waypoints on the chart and build the Planning Route:

1. Select the Plotting Tool (Pencil)
2. Choose a shape (icon) and color for your Waypoints
3. Move the Plotting Tool on the chart and click to record Waypoints (each Waypoint will be automatically saved in the Waypoints Database)
4. When you have plotted enough Waypoints, you may change the tool and select the Route tool to create the Route by selecting and connecting any combination of these waypoints, or new **QuickWaypoints**. *Take care that no Route is selected at this moment because the Waypoints will be added to this one. To unselect a route, simply double-click on the Route Tool.*
5. Click on each Waypoint in the desired order to build the Route.

Note : if you erase a route created with existing Waypoints, the waypoints will not be deleted.

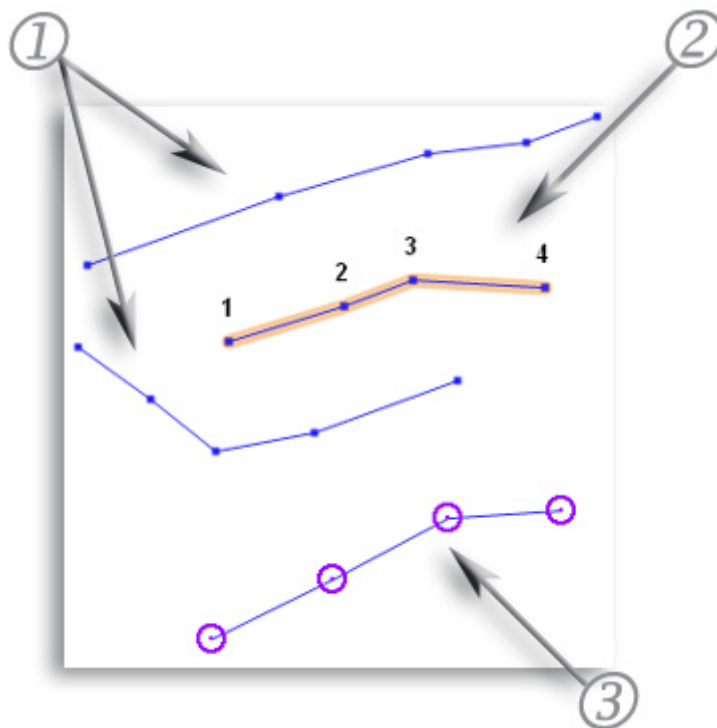


Fig.1

- (1) Route using QuickWaypoints,
- (2) Selected Route using QuickWaypoints
- (3) Route using Waypoints (previously created with the Plotting Tool)

When a Route is chosen or created

1. The Route is drawn in orange on the chart.
2. The line which corresponds to the Selected Route is colored in orange in the [Routes Center](#).
3. The [Selected Route Center](#) lists each Leg and gives you various information such as length, time to go and ETA of the Route.

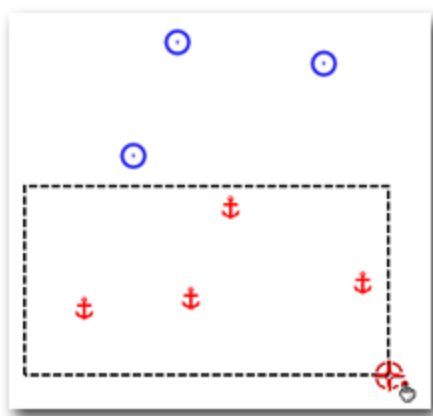
TIPS - To make a new Route, you have first to double click on the Route Tool to un-select any route previously created. If you don't do so, you will add leg to the Selected Route.

Making Route from selected objects (series of marks, tracks and lines)

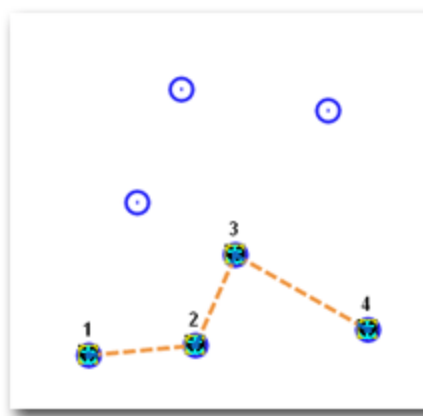
Creating a route from a track is a convenient way to re-navigate a previous trip. This is useful for navigating a path on specific positions which you know to be safe because you have used it before.

Import selected marks to Route

1. Left-Click with the **Select tool**, in the required order, each mark on the chart while holding down the **Ctrl** key or a group of mark selected together with the Rectangle (or Lasso) tool.
2. When the selection is closed enough, choose the **[Import Selection to Route]** option from the **[Route]** menu.
3. The new route will be created at the same time the waypoints are added in the Waypoints Center list.



Group of marks selected with the Rectangle option under the Select Tool.

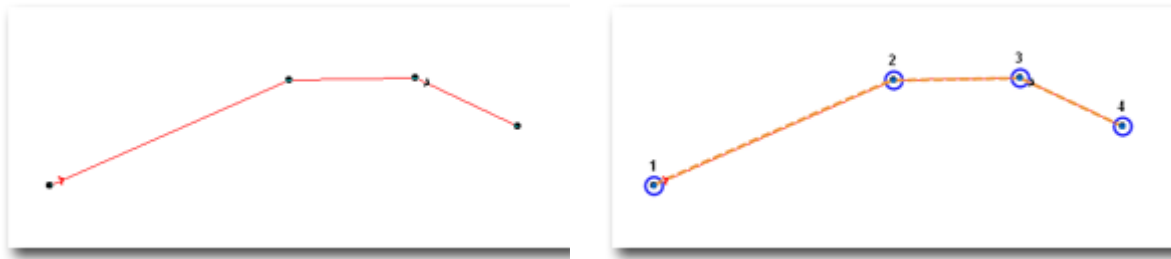


A Planning Route is automatically created when the Import Selection to Route is chosen.

Create a Route from a line, track ...

1. Left-Click with the **Select Tool** select, in the required order, select a complete line or a track for example (see chapter **Data Layers/ Marks / Modifying marks** , and the paragraph [Selecting objects](#)).

2. Choose the **[Import Selection to Route]** option from the **[Route]** menu.
3. Then the selection is automatically converted to waypoints and a planning route (see following picture)



Making a Route from selected lines

Note:

- (1) - if a route was drawn before on the chart the previous planning route will be closed.
- (2) - The line will NOT be erased. The Route will be superimposed to the line or the track.

Cancelling the selected Route

This feature does not delete the route from MaxSea. It allows you to cancel the Planning Route on the chart. Even if the route is made invisible, the route still exists and can be made visible on the chart at any time. To show it again you may display the [Routes Center](#) and select it in the list by clicking a Route line.

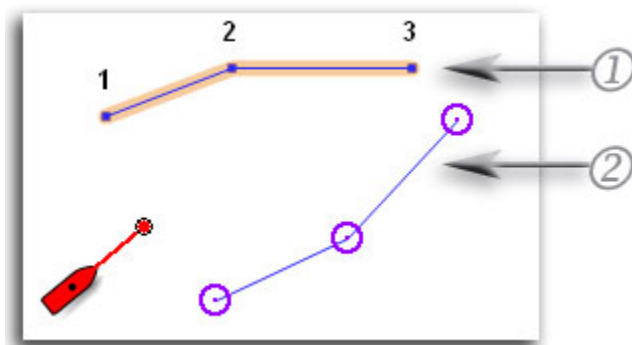


Fig.1

- (1) Selected Route
- (2) Unselected Route

Two ways for cancelling the Planning Route:

1. Select **[Unselect Route]** from the **[Route]** menu.
2. Or double click the **Route** tool in the Toolbar.

This function will be used each time for creating a new planning Route.

Routes Center

All your Routes are displayed in the Routes Center, and they are automatically saved in a database. The first time you launch the software, the Routes Center is empty. You can create or import as many routes as you wish.



To call up the Routes Center select [Centers] from the [Route] menu and choose [Routes]

The Routes Center window appears at the bottom of the screen and lists all previously created routes. Click on the box to the left of any route to select the route you want to work with. Once a route is selected, the box to the left of that route will turn blue. Simultaneously the route is selected and colored in orange in the Center and on the Chart. When a Route is selected, all details about the trip are reported in the [Selected Route Center](#).

TIP - You can also select the Route directly on the chart by clicking on it with the Finger Tool

The Routes Center has a Toolbar that allows you to do specific tasks :



Use this button to un-select the route



Use this button to center the chart on the selected route



Use this button to access and modify the properties of the Center



Use this button to display the Route Properties dialog box



Use this button to search for a route that contains specific key-words or terms in the Center

- Use the **Sort Menu** to sort routes according to specific parameters. Note that you can also double click directly on the Column Title
- Use the **Action Menu** to perform specific actions like reverse, delete or export the selected route

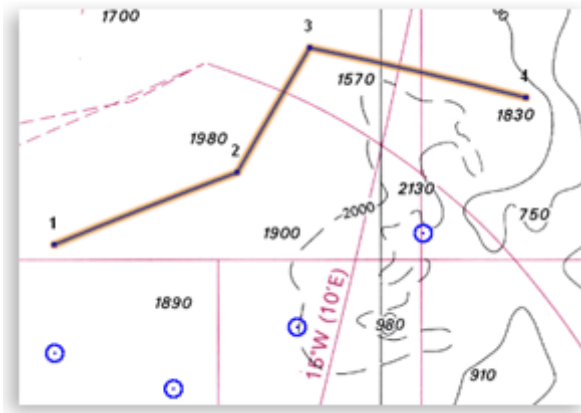


Fig.1

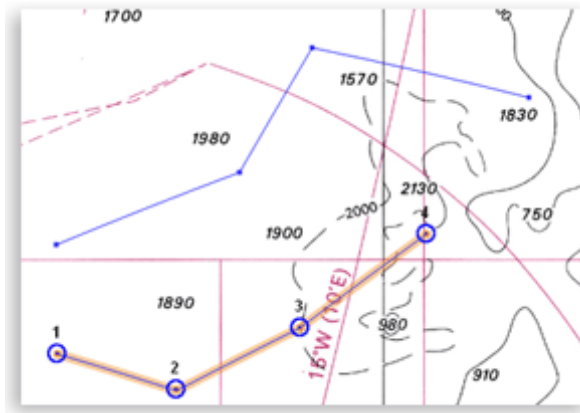


Fig.2

Route created using QuickWaypoints	Route created using existing Waypoints (made with the Pen Tool)
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! Only one route can be selected at a time.

TIPS - Double-click on a line to display the appropriate Center (Planning or Active Route Center.)

Use the Right-click on a line for displaying the Contextual menu.

Routes Properties



How to Display Each Route Properties dialog :

Under the Routes Center, select a route and click the Properties button on the Center toolbar or use the right-click menu on a chosen line.

Then the "Routes Properties" dialog appears on screen and gives you the possibility to enter:

1. A route's name to easily and quickly retrieve it in the Routes Center list.
2. A started point location's name and destination location's name.

Routes attributes	Description	Default value
FID*	This number is the route identifier in the software and it is automatically attributed when you create a new route. It is unique and stored in your Routes database.	Software attribute

Name	To assign a own name of a route.	User's attribute Empty by default
From	To enter a name for the started point route.	User's attribute Empty by default
To	To enter a name for the point route destination.	User's attribute Empty by default
Comments	It is Where you can apply an own annotation concerning a route.	User's attribute Empty by default
GPS / NN Name *	If the route is a downloaded route from a GPS, MaxSea will create a FID number and keep the GPS identifier (GPS ID).	GPS identifier
GPS / NN Comments *	As line above, this information provided from the GPS can not be modified.	GPS comments

(*)all data information in a cell colored in grey are defined by default and can't be modified.

Selected Route Center

If you have just drawn or selected a Route, the Selected Route Center allows you to view details (like leg distance, time to go, total distance) and enter some information about the Route (like estimated speed and date.) The Selected Route will appear graphically on the chart colored in orange.

To open the Selected Route Center, select **[Centers]** and choose **[Selected Route]** from the **[Route]** menu.

Note that the Selected Route Center is empty if no Route is selected. See also related topics for getting information on ["How to create a Route"](#) and ["How to select a Route"](#).

The Planning Route Center consists in a route plan report. Each line gives information about :

- A Waypoint and its associated leg.
- Distance and bearing information such as Total Distance, Leg Distance and COG
- Constraint values (**ETA** and **SOW**) that can be set by the user
- Not modifiable values (gray) such as **TTG** and Total **TTG** that depend on constraint values

TIPS - A leg in the selected route center colored light blue indicates that a constraint value has been entered. This means that information such as estimated speed or ETA have been set by the operator. MaxSea will then use these parameters to calculate the other leg / route parameters. To free a constraints and set to default, right click on the line (leg) and choose "Free Constraints."

How to print Route Information:

- Select the Action Menu and choose "Print"
- Or right-click on the Center and choose "Print"

TIPS - You can also select the Action Menu to Copy the Center to the Clipboard and paste it in Excel. This will allow you to edit the layout and remove unwanted information.

How to move in the Planning Route Center (by using the mouse or the keyboard):

- Vertically or Horizontally navigation into the Planning Route Center, use the arrows on the keyboard.
- The selected line appears surrounded with dotted line.

To change the "Planning Route Center" table display configuration:

- Click the "Grid Option" button to configure the table:
 1. To Hide or show desired columns by checking appropriate boxes
 2. To Move columns in the Planning Route Center click on UP or Down
- Change the order of column
 1. Click on the Title of the Column to select it
 2. Drag it to the new position

IMPORTANT - After each modification, the values of the route plan are immediately updated. Please make sure to choose the DOT (not comma) when entering decimal values.

Selected Route Leg Properties



Each line along a route between two waypoints is known as a Leg. The Leg Properties dialog depends on the category of the selected Route. There are two sorts of Leg, the Planning Leg drawn in orange and the Active Leg drawn in red on the chart. The Active Leg consists of your boat traveling (see related topic on [Activating a Route](#) for more information) and the Planning Leg is your draft. You can easily edit each Leg of Selected Route after placing it on the chart. A Selected Leg can be customized as many time needed, and MaxSea enables to create as many back-up routes with the [Duplicate function](#) as you wish.

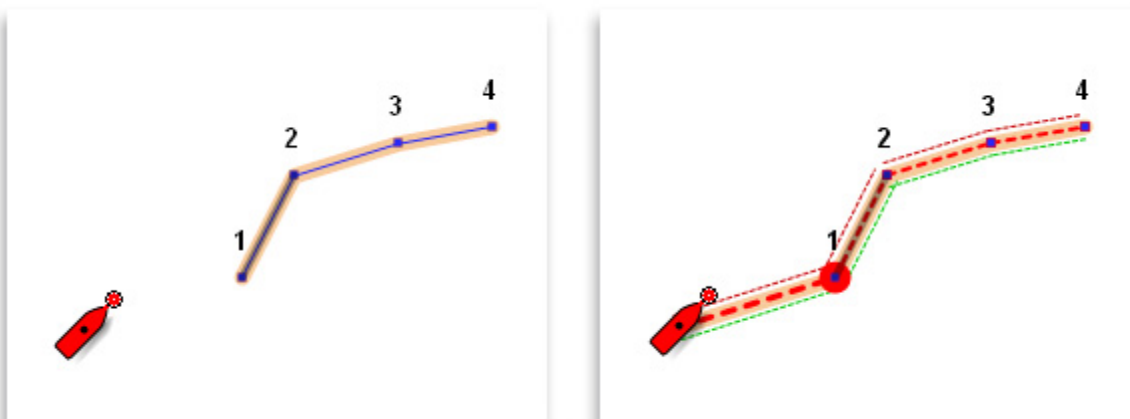


Fig. 1 shows you the selected Leg of a planning route between the Quickwaypoint (1) and (2).

Fig.2 shows you the selected Leg of the active route between the waypoints (1) and (2).

After plotting a route on a chart, you can use the Properties dialog to calculate the speed of each selected leg, to edit waypoint position and others data values, to estimate the arrival time (**ETA**) and speed over water (**SOW**) of the trip, to define the waypoint approaches such as the auto scale value, "Out of limits" positioned (**XTE**) and passage mode.

Select a Route Leg to edit and modify Properties

1. Under the chart display, double left-click with the Select tool a Leg on along the Route or apply a long click on a leg and the quick link.
2. Under the Selected Route Center list, select a line and click on the Properties button or use the right-click menu on a chosen line.

The Leg Properties dialog appears and gives following details:

Label	Definitions	Value by default	Column displayed by default
#Leg	Seq Number corresponds to the Route Leg is the segment of a route between two waypoints. identifier in MaxSea.	Software attribute	<input checked="" type="checkbox"/>
Leg. Dist	Leg Distance - distance between two waypoints.	Software attribute	<input checked="" type="checkbox"/>
Total Dist	Total Distance - additional distance between the first waypoint and the last waypoint.	Software attribute	<input checked="" type="checkbox"/>
#WP	Waypoint Identifier number in MaxSea.	Software attribute	<input checked="" type="checkbox"/>

WP Name	Name associated to waypoint. See related topic Waypoints Label glossary to modify it.	Software attribute	<input checked="" type="checkbox"/>
WP Lat/Lon	Geographical position drawn by a point on your chart. See related topic Waypoints Label glossary to modify geographic positions.	When creating waypoint	<input checked="" type="checkbox"/>
Scale at WP	Change of scale occurs when getting into the Waypoint arrival circle. For more details see related topic: Waypoint Auto-Scale function	Active Chart Scale..	<input checked="" type="checkbox"/>
ETA	Estimation Time Arrival - Software calculation with present date and speed of the vessel.	attribut logiciel	<input type="checkbox"/>
TTG	Time To Go - The amount of time estimated until the vessel reaches an active waypoint, assuming no intervening change in course or speed.	Software attribute	<input type="checkbox"/>
Tot TTG	Total Time To Go - The total amount of time estimated until the vessel reaches from the first waypoint to the last Waypoint.	Software attribute	<input type="checkbox"/>
COG	Course Over Ground - the direction, reported in true or magnetic north values, in which a GPS receiver and the person operating it are moving with respect to the earth.	Data coming from instrument	<input type="checkbox"/>
CTS	Course To Steer - is the direction to reach the COG with taking into account the currents values (waves, currents, ...).	Software attribute	<input type="checkbox"/>

SOG	Speed Over Ground - it is the actual fixed geographic speed of a vessel. It is essentially the Speed over Water (SOW), plus the cumulative effect of wind and current.	5 Nm	<input type="checkbox"/>
SOW	Speed Over Water	5 Nm	<input type="checkbox"/>
Fuel	Details of Fuel Consumption	Software attribute	<input type="checkbox"/>
Tot. Fuel	Additional Fuel Consumption	Software attribute	<input type="checkbox"/>
Current Dir	Current Direction	Data coming from instrument	<input type="checkbox"/>
Current Speed	Current Speed	Data coming from instrument	<input type="checkbox"/>
Leg Dist	Leg Distance - distance between two waypoints.	Software attribute	<input type="checkbox"/>
Tot Dist	Total Distance - additional distance between the first waypoint and the last waypoint.	Software attribute	<input type="checkbox"/>
AWS	Apparent Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (True Wind Speed, or TWS).	Data coming from instrument	<input type="checkbox"/>

TWS	True Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (TWS).	Data coming from instrument	<input type="checkbox"/>
TWA	True Wind Angle	Data coming from instrument	<input type="checkbox"/>
TWD	True Wind Direction - In order to overcome the effects of drift and wind, a vessel which is trying to reach a given waypoint may not bear straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD).	Data coming from instrument	<input type="checkbox"/>
VMG	Velocity Made Good - The speed at which the vessel is moving toward its intended destination, regardless of the vessel's direction.	Data coming from instrument	<input type="checkbox"/>
VMC Max	Maximum Velocity Made Course - equivalent to the current speed towards the waypoint in comparison to the potential speed (as protracted by the current polar).		<input type="checkbox"/>
CMG Max	Course Made Good		<input type="checkbox"/>
Opt Tack A	Optimum Tack Angle, When navigating close-hauled for example.	Software attribute	<input type="checkbox"/>
Opt Tack Hdg	Optimum Tack Heading	Software attribute	<input type="checkbox"/>
Vitesse Opt. Tgt Spd	Target Speed	Data coming from instrument	<input type="checkbox"/>
TOD	Time Of Departure	Data coming from instrument	<input type="checkbox"/>
FID_ROUTE_CATALOG	Route Identifier. see related topic: Routes Center.	When creating a route	<input type="checkbox"/>

XTE	<p>Cross Track Error - The distance of a line drawn from the vessel perpendicularly to an active route leg. This determines to what extent the vessel is straying from the course of a route.</p> <p>For more details see related topic: "Out of limits" positioned"</p>	0,000 Nm	<input type="checkbox"/>
Mode Passage	<p><u>Trois modes de passage disponibles:</u></p> <p>En Distance,</p> <p>Par la Perpendiculaire,</p> <p>En Distance + Par Perpendiculaire</p>	Distance + Par la Perpendiculaire	<input type="checkbox"/>
Color	Available when GPS requires color information.	GPS Attribute	<input type="checkbox"/>
Symbol	Available when GPS requires symbolic representation information.	GPS Attribute	<input type="checkbox"/>

Notes :

(1) - all data in gray cells can not be updated

(2) - data values in blue cells correspond to constraint values. To free a constraints and set to default, right click on the line (leg) and choose "Free Constraints."

Edit & Modify the Route

Edit and Modify a Route

Thanks to the MaxSea Toolbar, it is very easy to edit Routes and Waypoints.

These Tool are used to:

1. [Add Waypoints to a Route](#)
2. [Move Waypoints/Routes](#)

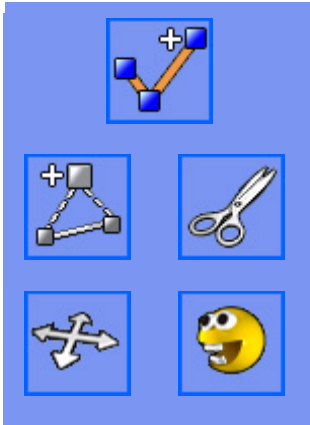



Fig.1

3. [Cut the Selected Route in Two Parts](#)
4. [Delete Waypoints](#)

 **Note:** Edition Tools apply to the Selected Route

Edit and Modify a Route

Thanks to the MaxSea Toolbar, it is very easy to edit Routes and Waypoints.

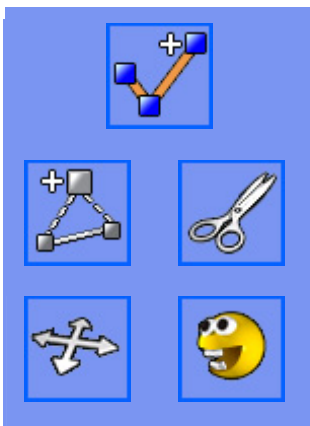



Fig.1

These Tool are used to:

1. [Add Waypoints to a Route](#)
2. [Move Waypoints/Routes](#)
3. [Cut the Selected Route in Two Parts](#)
4. [Delete Waypoints](#)

 **Note:** Edition Tools apply to the Selected Route


Add Waypoints to a Route

Additional waypoints can be added to a Selected Route. Adding Waypoints to a route is depending on which part of the route you want to modify, there are several methods for adding new waypoints.

Add Waypoints at the end of the Selected Route :

1. Select the Route tool ,
2. Click on the chart wherever you want to place successive waypoints,
3. The waypoints will be added to the end of the route.

Add Waypoints anywhere between the beginning and the end of the route:

1. Select the **Insert** tool in the Toolbar (note that the cursor is now like this ) ,
2. Click on a Leg in the Route where you want to insert a new Waypoint and drag the cursor to the new position,
3. Waypoint and legs are created when you release the mouse button.



Inserting a Waypoint in the route between Waypoint (2) and (3)




Inserted waypoint takes the place of waypoint (3)

TIPS - when you click on a leg with the **Insert Tool**, you can also drag the cursor over an existing Waypoint (made previously with the Plotting Tool).

You can also add Waypoint to the Selected Route at the end or at beginning by choosing them under the Waypoints Center list.

Use the Right-click menu on a isolated waypoint to add it to the selected route at the end or at beginning.

Delete Waypoints and Legs in a Route

To delete Waypoints of the Selected Route, simply select the Delete Tool (Pacman ) and click on the Waypoints you want to erase.

A dialog warns you that "This waypoint will be deleted from all routes".

Click the OK button when prompted to confirm the deletion. The Waypoint will be deleted.

Repeat this operation to erase other Waypoints if necessary.

TIPS - You can also delete Legs of the Selected Route by clicking on them with the Delete Tool

From the corresponding Centers select a line and press the key on the keyboard for deleting Waypoints and legs.

Cut the Selected Route in Two Parts

You can cut in two parts the selected route independently of the chosen mode (active route or planning mode)

1. Select the route that you will cut in two parts
2. Click a leg with the Split tool on where you want to cut the route
3. The route appears in two parts as shown in pictures Fig. 1 and Fig. 2

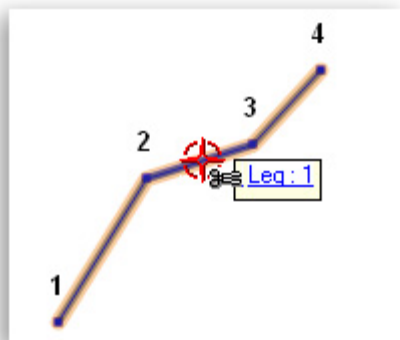


Fig.1

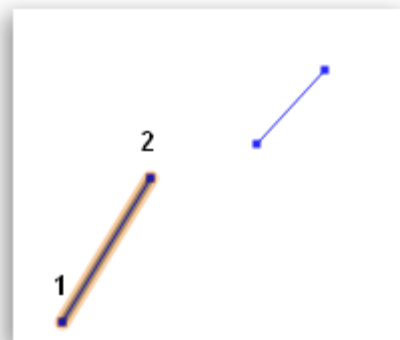


Fig.2

IMPORTANT - this command can be done only if the selected route contains at least four **QuickWaypoints** (three legs at least)

Move Waypoints and Routes

To Move Waypoints in a Route:

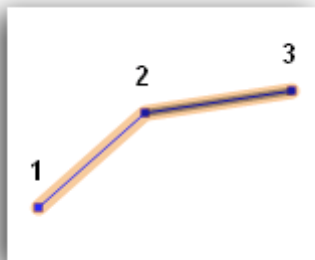
1. Select the Position Modification Tool in the Toolbar
2. Click on the Waypoint you want to move, hold the mouse button down, then drag it to the new desired position

To Move Entirely The Selected Route:

1. Use the **Select Tool (Finger)** to drag a selection rectangle entirely around the route on the chart.
2. Select the Position Modification Tool in the Toolbar
3. Click on one of the Waypoint, hold the mouse button down, then drag it to the new desired position.
4. This action will move all the selected objects

Reverse the Selected Route

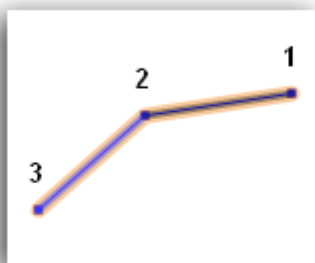
When a planning route is created, waypoints are automatically numbered in numerical order as it is shown in the following picture. In order to navigate a route in the opposite direction, you have to reverse the route. This action can only be done under the Routes Center window.



Route selected on the chart

To reverse the order of a route:

1. Open the Selected Route Center, select **[Centers]** and choose **[Route]** from the **[Route]** menu.
2. Select the Route you want to reverse (the Selected Route appears in orange)
3. Click on **"Action"** in the Route center toolbar and choose **"Reverse Route"**



The same Route on the chart after reversing

TIP - you can also use the right-click menu on a line in the Routes Center to quickly access to the reversing route function.

Duplicate Existing Routes

You can duplicate as many time as needed before setting up the Planning Route. This can be useful to plan different routes with same trip.

The easiest way is to display the Routes Center. This lists all routes stored in your database.

You can access this function directly from the Routes Center without showing graphically the route on the chart. Select **[Centers]** from the **[Route]** menu and Choose **[Routes]** for showing it.

1. Click on a line in the table according to a chosen route.

2. Click the "Action" drop down menu in the toolbar and choose **"Duplicate Route"** in the list.

TIP - you can also use the right-click menu on a line in the Routes Center to quickly access to the duplication route function.

Delete Entire Route

To delete a route:

1. Display the Routes Center and click a line for choosing the route to be deleted.
2. Press on your keyboard or click the **"Action"** button in the center toolbar and choose the **Delete** option.
3. A dialog is displayed to confirm the deletion the Route with the ID number.
4. Click the Yes button when prompted to confirm the deletion.

Tips - you can also:

Right-click on a Route and select **"Delete Route"**

Click with the Delete Tool (Pacman) on an **UNSELECTED** route (display in blue)

Import Previous Routes

You can open a Route that you have already recorded with a MaxSea previous version, or save as a GPX file (format which is compatible with various software).

Importing a .wpt file :

1. Under the **[file]** menu, select **[Open...]**
2. Search and choose the required planning route (**xxxxx.wpt** file) and then click **"Open"**.

or

1. Under the **[Route]** menu, select **[Import]** and click on **[Import .wpt file...]**
2. Choose a Route file and click **"Open"**.

Importing a .gpx file:

1. Under the **[Route]** menu, select **[Import]** and click on **[Import .gpx file...]**
2. Search and choose the required **"xxxxx.gpx"** file on your hard disk and then click **"Open"**.

The planning route is then displayed on the chart and added in the Routes Center.

Note: you can only display one route plan at a time on the chart. You can also open route file saved with previous software version.

IMPORTANT - If the active file and the chart are in known and different **datum** , you have to convert the datum. For

more information, refer to the related topic: [Horizontal datum conflict chapter](#).

Export Routes and Waypoints

All Routes and Waypoints are automatically registered and stored in a database. If you want to share Routes and Waypoints with others, you can export them as a file. The file created follows the GPX standard format which is compatible with various software.

Select Data :

1. From the Routes Center: Click on the box at the beginning of a line to select a route.
2. From the Waypoints Center : Click on the box at the beginning of a line to select a Waypoint. Note that you can make multiple selections using SHIFT or CTRL key.
3. From the chart : Use the Finger Tool to select directly on the chart the data you want

Export Data :

1. Selected in Centers : Click on **Action** in the Center Toolbar and choose **Export ...**
2. Selected on the chart : Select **[Export]** then **[Selection]** from the **[Route]** menu (GPX is the file format selected by default)

TIPS - to export all the data, simply choose [Export] then [All] in the [Route] menu.

Note: If you want to export your Routes and Waypoints to a GPS, refer to [GPS Upload/Download](#).

Archive Routes and Waypoints Database

All of your Routes and Waypoints are automatically saved in a database. It is recommended to regularly archive your database to prevent loss of this data.

TIPS - Before you archive your database, it is advised to create and organize folder in (**"My Documents"** | **"My MaxSea"**) to easily retrieve your backup

To archive your Database:

1. Select **[Archive Database...]** in the **[Route]** menu
2. The **Search Folder** window appears
3. Select the folder where you want the backup to be stored
4. Click on **OK** to confirm

To restore your database, please read : "[Restore Routes and Waypoints Database](#)"

Restore Routes and Waypoints Database

This function is used to restore the routes and waypoints database. Please refer to "[Archive Routes and Waypoints](#)" to learn how to make a backup.

To restore the Database:

1. Select **[Restore Database...]** in the **[Route]** menu
2. The search folder windows appears
3. Select **the folder** where you previously stored your backup data
4. Click on OK
5. A pop-up dialog box will appear and warn you that **ALL** your existing routes and waypoints will be **erased** and **replaced** by the archive



Tips: If you want to merge your waypoint/route database with other waypoint/route data, you will have to choose **[Import]** then **[GPX file]** in the **[Route]** menu. Note that you can only import data that have been exported using the [Export Feature](#)

For example, if you want to share your waypoints and routes with someone, Go to ROUTE then select EXPORT. The resulting file could then be IMPORTED into another PC (or the same PC) running MaxSea by selecting ROUTE - IMPORT.

Waypoints

Waypoints Overview

Waypoints are georeferenced marks that can have customized attributes (like shape, color, name...). Waypoint can be an isolated point (to mark buoy, place...) or can be used as a part of a route (seaport, arrival...). A Waypoint can be shared by multiple routes.

In this section you will learn :

1. [How to create Waypoints](#) or [Create Waypoints List](#)
2. [How to manage Waypoints](#) (Waypoints Center)
3. [How to edit and modify Waypoints attributes](#) (Waypoint Properties)
4. [How to create Layer of Waypoints](#)
5. [How to Show or hide Waypoints by Layers](#)
6. [How to delete Waypoints](#)

See Also Related Topics:

1. [How to go to a Waypoint](#)
2. [How to Archive Routes and Waypoints Database](#)
3. [How to Restore Routes and Waypoints Database](#)

Note: Waypoints used in routes are not deleted when the route is erased (as opposed of QuickWaypoints)

Create Waypoints

All waypoints can be used in planning route or active route. Waypoints can be shared between several routes at the same time.



To create Waypoints :

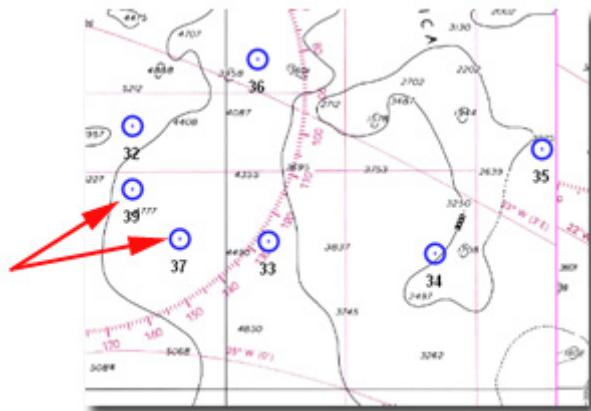
1. Select the color and icon symbol of your Waypoints in the toolbar
2. Select the Waypoint Tool and click wherever you want on the chart to add separate waypoints
3. All waypoints are automatically saved in the database.

TIP - You can also add Waypoints by **Lat/Long**. Simply double-click on the Waypoint Tool to enter coordinates.

Waypoint can also be created :

1. Saved as event at the boat's position by single-clicking on MOB.
2. When activating the MOB function, double-click on MOB and a waypoint named "[Man Over Board](#)" will appear on the chart.

When waypoints are placed they are drawn in blue color on the chart (color selected by default).



Refer to related topics:

1. [Show or hide Waypoints from the chart display](#)
2. [How to edit and modify details on a waypoint](#)

Create Waypoints List

Before creating a Waypoint list, take care on that the Plotting tool is selected on Waypoint layer, the color and the icon symbol correspond to your choice.

Create a Waypoint List:

1. Double-click on the Waypoint tool or select the **[Create Object List....]** from the **[Edit]** menu.
2. The "**Create Object list...**" dialog appears selected to add waypoints
3. Enter geographical position (L/L) using keyboard
4. After each new position click on "Add Waypoint".
5. When you finished entering all the wanted positions, click "Close" and waypoints are simultaneously added in the waypoint database.

Waypoints Center

All Waypoints created with the Plotting Tool (Pencil) are listed in the Waypoints Center. To open it, select **[Centers]** then **[Waypoints]** in the **[Route]** menu. Each line in the table corresponds to a waypoint and gives details such as its identity and its location. Some fields like Name and Comments can be changed by the user.

To select a Waypoint in the Center, click on the box at the beginning of a line. Note that you can select multiple waypoints by using SHIFT or CTRL key.

The Waypoints Center has a toolbar where you can :



access and modify the properties of the Center to add or remove a data column



select all the Waypoints



un-select all waypoints



display the Waypoint Properties box. (for more details see related topic: "[Edit Waypoint](#)".)



center selected Waypoint on the chart. Note that you can select multiple Waypoints. MaxSea will automatically setup the scale to display all the selected waypoints in the window



search for a specific waypoint that contains a key-word or text term.

Use the "Action" menu or the right-click to:

1. Go to this waypoint
2. [Delete selected waypoint](#)
3. Manually [add waypoint to a route](#)
4. Print List of Waypoint
5. Export selected waypoint

Note: Only Waypoints created with the Plotting Tool (Pencil) appear in the Waypoints Center. QuickWaypoint created with the Route Tool are not listed.

Edit Waypoints

You can easily move or delete waypoints with the Move Tool and the Delete tool (Pacman.) If you modify a waypoint that belongs to one or several routes, a warning will appear.

TIPS - When you select a Waypoint with the Finger Tool (on the chart) or in the Waypoints Center, you can change the shape (icon) and color by clicking on the appropriate icon in the Toolbar. For example, to change the appearance of a group of waypoints shown on the chart, drag a box with the finger tool around the waypoints that you want to change, then choose any color or select a different shape. The selected waypoints will change accordingly.

Waypoint Properties:

The waypoint properties dialog gives details for each selected Waypoint. You can edit and modify waypoint properties individually. To display the Waypoint properties you can either double click on the Waypoint with the Finger Tool or click on the hyperlink that appears when you leave your mouse over a Waypoint.

The Waypoint Properties appears on screen and give you the following details:

Waypoint Attributes	Description	Display By default	First time (default value)
WP Lat/Lon	The POS data gives you the actual position of the selected waypoint. To change its value at any time, left click on these values; a dialog box appears on screen and allows you to modify Geographic coordinates and its position such as its latitude and longitude.	<input checked="" type="checkbox"/>	Software attribute
WP Name	This field is empty by default. When you enter the name, a label will be displayed on the chart. For how to activate its display see related topic " Option Route"	<input checked="" type="checkbox"/>	User's attribute Empty by default
WP Comment	This field is empty by default. Enter comment if you want to track down a place in particular.	<input checked="" type="checkbox"/>	User's attribute Empty by default
Color	Click on the color label to display a window that will allow you to change the color of the Waypoint For getting more information about GPS data see related topic " GPS data transfer "	<input checked="" type="checkbox"/>	Blue color selected by default
GPS / NN WPID	Name which results from uploading waypoints from an external system. For getting more information about GPS data see related topic " GPS data transfer "	<input checked="" type="checkbox"/>	External attribute Not modifiable.
GPS / NN comment	Comments which result from uploading waypoints from an external system.	<input checked="" type="checkbox"/>	External attribute Not modifiable.
Layer	You can attribute a specific Layer to the Waypoint.. You need first to create Layer in "File : New WP Layer"	<input checked="" type="checkbox"/>	User's attribute "Waypoint" layer by default
Hyperlink	You can link object (such as picture) to Waypoints. Simply enter the path of the object	<input checked="" type="checkbox"/>	User's attribute Empty by default
Quick WP	By default the Quick WP is turned off and this means that the selected Waypoint is a temporally displayed on the chart and it is not listed in the Waypoints Database. They are Quick Waypoints linked to a specific route (if you delete the route, all the Quick Waypoints will be erased). Turn on this option if you want to add it in the database as a waypoint.	<input checked="" type="checkbox"/>	OFF by default when you plot isolated waypoint on the chart
Symbol	Only available when the selected waypoint provides from GPS transfer and the GPS needs specific symbol for	<input type="checkbox"/>	External attribute Not

	displaying waypoint.		modifiable.
FID	This number is the Waypoint identifier in the software and it is automatically attributed when you add new waypoints. It is unique and stored in your waypoints database.	<input type="checkbox"/>	Software attribute
Creation Date	Only available when the selected waypoint provides from a GPS transfer process.	<input type="checkbox"/>	External attribute Not modifiable.

Create Waypoints Layers

All Waypoints you create are automatically saved on a default layer named "Waypoint". You can create new layers in order to organize and sort your Waypoints. Thus you will be able to sort your Waypoints by category in the Center, and display on the chart only the layer you want.

To create a new Layer :

1. Select **[New]** then **[WP layer...]** in the **[File]** menu.
2. Enter the name of the Layer
3. Click **OK** to validate

Now, all the Waypoints you will create will be saved on this new layer (known as active layer). To switch layers, just click and hold down the mouse on the Plotting Tool (Pencil). This will show a drop-down menu where you can select the active layer. You can also change the Waypoint layer in the Waypoint Center or in the Waypoint Properties box.

To display on the chart only the layer you want, please refer to [Show / Hide Waypoints Layers](#)

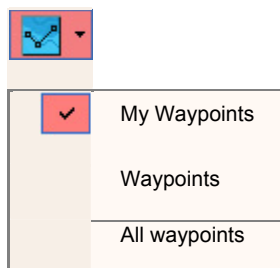
Notes:

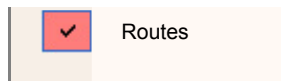
(1) - When a Layer becomes empty, it is automatically deleted.

(2) - The number of Layer is unlimited

Show/Hide Waypoints Layers

You can sort your Waypoints by Layers (see [Create Waypoints Layers](#)). If you click and hold your mouse down on the **Routes and Waypoints button** (located on the top chart toolbar) a list will appear where you will be able to select which layer you want to display. Only the layers you select (check mark) will be shown on the chart.





If you click (don't hold) on the button, all layers will be hidden (including the route). To turn them back on, click on the button again .

Notes : - All Routes are saved on the same layer called "Routes". You cannot make additional Routes Layers

- The Selected Route (orange) appears even if the layers are turned OFF.
- You can also display the Catalog to quickly show or hide all layers together

Delete Waypoints

There are several ways to delete individual waypoints. To prevent accidental data loss, a dialog will appear that asks you confirm if the waypoint is used in one or several Routes. The command of deleting waypoint is immediate and permanent.

Graphically deleting a waypoint from the chart:

1. Left-click a waypoint with the **Delete tool**.
2. Right-click on the waypoint and choose the **Delete option** in the menu list.
3. Select a waypoint by clicking it with the **Select Tool** and press the **** key on the keyboard.
4. Click the Yes button when prompted to confirm. In this case the waypoint will be deleted in all Routes.

Textually deleting waypoints from the Waypoints Center list

1. Right-click a waypoint line in the Waypoints list and choose the **Delete** option in the contextual menu list.
2. Select a waypoint line, click the Action button in the center toolbar and choose **Delete**.
3. Click the Yes button when prompted to confirm. In this case the waypoint will be deleted in all Routes.

Note: A dialog appears on screen and warns you that the selected waypoint is used in one or several routes. The selected waypoint will be deleted from all routes when the deletion is confirmed.

Active Route

Data Transfer Device Overview

Data such as **Routes** and **Waypoints** can be transferred to and from the GPS but data such as marks and tracks can only be downloaded from the GPS. There are several methods for transferring data. The method you use will depend on your GPS model characteristics.

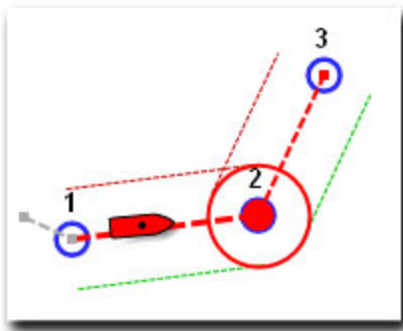
This chapter provides information for:

1. [Configuring GPS Upload/Download.](#)
2. [Downloading data from GPS.](#)
3. [Uploading data to GPS.](#)
4. [GPS Transfer Compatibility](#)

In this section an appendix gives details of:

1. [N.M.E.A. 183 Data transfer protocol](#)
2. [Data transfer protocol for NavNet](#)
3. [Data transfer protocol for FURUNO GPS](#)
4. [Data transfer protocol for MAGELLAN GPS](#)
5. [Data transfer protocol for MLR \(FX series\) GPS](#)
6. [Data transfer protocol for MLR \(SP series\) GPS](#)
7. [Data transfer protocol for MLR \(valsat series\) GPS](#)
8. [Data transfer protocol for NORTHSTAR GPS](#)
9. [Warning and Message Error reports](#)

Active Route Overview



An **Active Route** is one that MaxSea will follow. MaxSea will display the distance, bearing and time to go the next Waypoint on the route based upon data coming in from the instruments.

An active Route can only be created by activating a planning route. Only one Route can be active at a time.

In this section you will learn:

1. [Create a quick Route to follow up.](#)
2. [How to display the Steering Data and Display windows.](#)
3. [How to Display the Active Route Center.](#)
4. [How to cancel the Active Route.](#)
5. [How to restart the Active Route](#)
6. [How to use the Search and Rescue function.](#)
7. [How to connect an Auto-pilot.](#)

See Also Related Topic:

1. [How to follow your navigation on the chart](#) (GPS on the chart)
2. [How to follow your navigation in the Active Route Center](#)

Go to a chosen Waypoint (Quick Route)

There are several ways for going to a chosen waypoint, graphically under the display or textually under the Waypoints center.

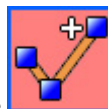
This function is used when you want to create and follow up a quick route. (related topic : "Active Route")

A quick route is temporally created and it is simultaneously displayed on the chart and in the Routes Center as an active route. This route will be lost when it is cancelled. This waypoint will be also lost if the quick route is created without an existing waypoint.

Using tools from the Toolbar :



1. Click on **GoTo Waypoint** " tool to select it
2. Click any where on the Chart you want
3. If a route is presently activated, a message appears on screen and asks to cancel the Active Route.
4. Click yes to confirm.



1. Double click a waypoint drawn on the chart with the **Route** " tool.
2. If a route is presently activated, a message will appear on screen and ask to cancel the Active Route.
3. Click yes to confirm.

Using the Right-click menu on a selected waypoint :

Any where on the chart

1. Right-click on the chart at a chosen place.
2. Click **Goto This Waypoint** under the right-click menu list.
3. If a route is presently activated, a message appears on screen and asks to cancel the Active Route.
4. Click yes to confirm.

On a selected waypoint drawn on the chart:

1. Select and Right-click a waypoint drawn on the chart.
2. The drop down contextual menu is displayed.
3. Click **Goto This Waypoint** under the right-click menu list.
4. If a route is presently activated, a message appears on screen and asks to cancel the Active Route.
5. Click yes to confirm.

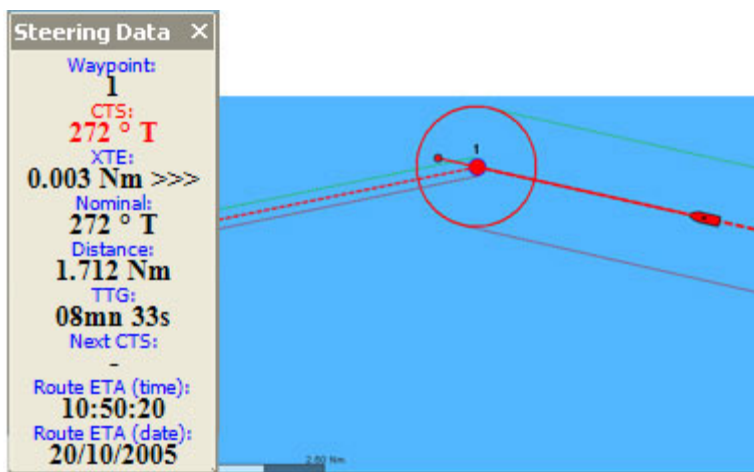
Textually from the Waypoints Center list:

1. Display the Waypoints Center dialog by selecting **[Centers]** and choosing **[Waypoints]** from the **[display]** menu.
2. Select a line from the Waypoints Center list depending on your choice.
3. Right-Click or click the **"Action"** button in the Waypoints Center toolbar
4. A drop down menu will appear on screen.
5. Choose **Goto This Waypoint** option.
6. Then if you want to display this quick Route centered on the chart, you may click on **"Center on"** in the Waypoints Center toolbar.

Note that your actual active route is closed and replace by the new quick route.

Steering Data & Steering display windows

As explained in the previous paragraph, when the first **Waypoint** is plotted, the **Steering window** is displayed in the lower left-hand corner of the screen.

**Steering data palette**


1. To move the Steering palette left-click on its title bar, hold the mouse button down, drag to the new position and release the mouse button.
2. Left-clicking on the cross in the upper right hand corner will close the Steering Data palette.
3. To reopen the closed steering data palette go to **[Display]** on the menu bar and choose **[Steering data]**.

The Steering data palette indicates and continuously updates information necessary to follow the course correctly:

- **Waypoint:** name or number to reach.

- **CTS** : means Course To Steer and it is the heading to follow to directly reach the next Waypoint from your present position,
- **XTE** : the "cross **track** error" indicates how far you are off course from the theoretical heading (initial heading),
- **Nominal**: the initial heading, the theoretical heading that you should follow from the previous Waypoint,
- **Distance**: the distance to the next Waypoint,
- **TTG** : the Time To Go to reach the next Waypoint depending on the present speed of the ship,
- **Next CTS**: the next heading to follow after passing the Waypoint.
- **Route ETA (time)** : is the Estimated Time Arrival to reach the waypoint
- **Route ETA (date)** : indicates the estimated date to reach the waypoint

Steering data layout

- To obtain the Steering data information in a form of "Menu bar" mode just double left-click on its title bar.
- To return in a form of floating palette, just left-click on the "customizing bar"  and then drag to new position on the screen.
- To resize the palette horizontally or vertically hold down the left mouse button while moving the mouse in the desired direction.

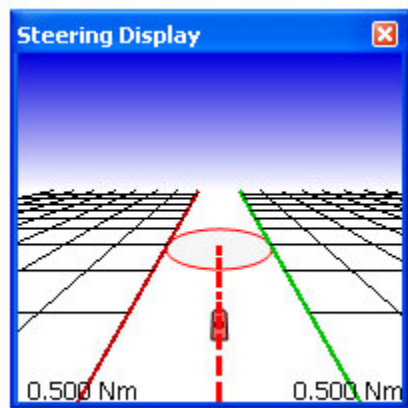
Steering data settings

right-click on its title bar to pull down display settings menu :

- To change the opacity, select **Transparency** and click a value from "Not transparent" or 10% or 20% or 30% or 40% or 50% or Text outline, then release the mouse.
- To change the font size, select **Font size** and click a value from smallest or smaller or medium or bigger and biggest, then release the mouse.
- To call up the Steering Display palette select **Show steering**.
- To change the nominal course value, select **Change course value...** , this brings up a dialog box in which you can change directly the initial heading.

Call up the Steering display window

- under the **[Display]** menu select **[Steering display]** or from the **Steering data palette** as it is described above
- close this graphical zone by clicking the cross.



Note: the software automatically detects the moment when the boat is close enough to the Waypoint. It then automatically passes to the next Waypoint in the list. A course can therefore be followed by the software without manual intervention (if the helmsman follows the instructions supplied by the software).

You can select, in **[Options...]** from the **[Route]** menu, the automatic passage distance. On the large **scale** charts (detailed) you can thus see the distance realized by a circle (of equal radius for the precision chosen) traced all around the waypoint to be reached.

IMPORTANT

Monitoring of the vessel for safety must be continually provided. The user must ensure that the course is perfectly safe.

See related topics for getting more details on:

1. Routes options
2. [Waypoint Auto-Scale function](#)
3. ["Out of limits" positioned](#)

Active Route Center

As explained in the previous chapter "**Selected Route Center**", you can obtain more information concerning the actual selected **Active Route**.

To display the Active Route Center Window select **[Centers]** and **[Selected Route]** from the **[Route]** menu.

IMPORTANT - you won't be able to modify any parameters in the Selected Route Center when the route is activated. If you need to modify parameters you may convert your active route into planning route. [Choose to cancel the Active Route.](#)

The **Selected Route center** gives you all information concerning the active route and it contains:

- A Waypoint by line.
- The line of the Active waypoint is colored in red.
- Not modifiable values are in cells full colored in gray.

Note: when the waypoint has been passed the parameters associated to this waypoint appear in gray lines

The active route window displayed indicates the total distance to cover, the Time To Go (**TTG**), the Estimated Time of Arrival (**ETA**). These same values are also specified for each waypoint of the course as well as headings and distances for each segment.

Note: the software uses the present speed of the ship and updates automatically the values of the course as speed changes.

For more details see related topic: "[Selected Route Center](#)"

Cancelling the Active Route

Each time you need to modify your trip, you will have to cancel the actual **Active Route** before.

Several ways for cancelling the Active Route :

Right-click an Active Route leg and choose "**Cancel Active Route**" in the contextual menu list.

Or select [**Cancel Active route...**] from the [**Route**] menu, this action will save and close the Active Route.

The software erases the Active Route on the chart and the Active Route Center will be empty .

Restart Active Route

At any time this function enables you to restart or go back to the started point of the Active Route.

Choose the [**Restart Active Route**] from the [**Route**] and you will restart again your Active Route.

Activate Search and Rescue Function (SAR)

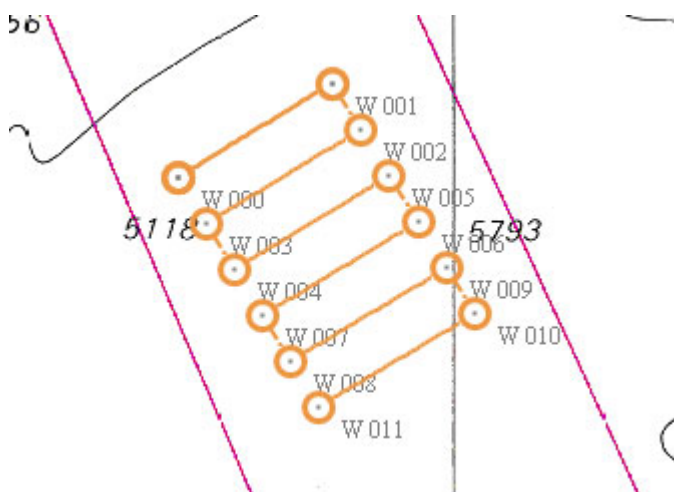
S.A.R SAR Search and rescue

First plot a line using the **Compas** tool. (Be careful: if a planning route is already opened, this function will automatically close it without warning message)

Then choose [\[New Search and Rescue Route..\]](#) from the [\[Route\]](#) menu

MaxSea then displays a dialog box which allows you to choose:

1. direction of parallel lines generation by checking the corresponding box (clockwise or counterclockwise),
2. line number that you wish generate,
3. distance between 2 lines,
4. Click **OK** and a planning route consisting of **parallel lines** is displayed on the chart.



This is an example of SAR done with direction = 90° clockwise and lines = 5 in dialog box.

If you wish, you can activate this route by selecting [\[Activate route\]](#) from the [\[Route\]](#) menu.

Automatic pilot connection

In this chapter, you have discovered how the software offers the helmsman all the assistance possible to ensure that he follows the course correctly.

If your computer is connected to an autopilot, you can control this from the software:

If you want **the software** to control the **Autopilot**, you first have to configure the Input/Output.

To do so, select [\[Data Input/Output Settings\]](#) from [\[Utilities\]](#) menu.

The dialog box is opened and allows you to configure the autopilot.

You can select NMEA183 + **Autopilot** /Repeater, or an Autopilot/Repeater Output communication port.

From now on, **Automatic Pilot** function is on by default.

IMPORTANT

This function must be installed with full understanding of the responsibility involved. The user must ensure the safety of the chosen course, and must continually monitor the boat's course safety.

Related Topic :

Connecting equipments

Data Transfer Device

Data Transfer Device Overview

Data such as **Routes** and **Waypoints** can be transferred to and from the GPS but data such as marks and tracks can only be downloaded from the GPS. There are several methods for transferring data. The method you use will depend on your GPS model characteristics.

This chapter provides information for:

1. [Configuring GPS Upload/Download.](#)
2. [Downloading data from GPS.](#)
3. [Uploading data to GPS.](#)
4. [GPS Transfer Compatibility](#)

In this section an appendix gives details of:

1. [N.M.E.A. 183 Data transfer protocol](#)
2. [Data transfer protocol for NavNet](#)
3. [Data transfer protocol for FURUNO GPS](#)
4. [Data transfer protocol for MAGELLAN GPS](#)
5. [Data transfer protocol for MLR \(FX series\) GPS](#)
6. [Data transfer protocol for MLR \(SP series\) GPS](#)
7. [Data transfer protocol for MLR \(valsat series\) GPS](#)
8. [Data transfer protocol for NORTHSTAR GPS](#)
9. [Warning and Message Error reports](#)

Configuring GPS Upload/Download

This function allows you to manage the data transfer from your computer to the GPS (Upload) or from the GPS to your computer (Download).

Note that the transferring number of waypoints and routes depends on your GPS characteristics.

1. Select **[GPS Upload / Download]** from the **[Route]** menu
2. Choose **[Configuration...]** to call up the dialog box which lets you to choose GPS protocols which are available. However if your GPS protocol doesn't appear in the list , you can choose "NMEA 183" which is supported by most of GPS in input .
3. Click **Next** to continue.

Note: The first time you use this function, only the "Configuration..." is available in the menu list, the other options are in gray.

Next step depends on the chosen data transfer protocol:

NavNet protocol

1. This system uses a network protocol and you have to enter the source name on which you will transfer data. (for example PLOTTER etc...). Get information on available source name in related topic: "Option : Navnet..." .
2. Click **Next**
3. Parameters report is displayed confirming settings.
4. Click on **Finish**, Either if parameters are correct or **Back** to modify them and **Cancel** to quit.

Related topic: [Data transfer protocol for NavNet](#)

Others Protocols

1. Choose the port COM that you wish to use in the list. In case the port COM is not listed by default choose **"More..."** for displaying all number COM and then click on **"detected.."** for adding it automatically in the list. If it doesn't appear at all, this means that there is a problem, so refer to the topic of "PROBLEM: Can not open a serial port." and read carefully all instructions described in the troubleshooting.
2. Then Select the Baud Rate under the pop up menu. (To choose the speed of transfer please refer to the characteristics of your GPS).
3. In case your GPS is not compatible with the standard NMEA 183, you have to modify parameters according to the GPS. Click on the **"Advanced"** button (see **Flow control data parameters** Chapter)
4. Click Next
5. Either click on **Finish** if parameters are correct or **Back** to modify them or **Cancel** to quit.

After configuring GPS data transfer the options of Downloading or Uploading become available in the "GPS Upload/Download" menu. According to the chosen protocol:

- [Click "Upload to GPS" for transferring data from personal computer to the GPS.](#)
- [Click "Download from GPS" for transferring data from the GPS to personal Computer.](#)

Download from GPS

Download protocol consists in transferring data such as Routes and or Waypoints and or Marks and or Tracks from your GPS to your personal computer.

After configuring your GPS data transfer you can access to this function by choosing **[Download from GPS]** from the **[Route]** menu.

A dialog box is displayed and proposes a check boxes list according to GPS possibilities.

Certain GPS only accepts of transferring Routes and others than those of Tracks. In most cases you can download one or several types of data simultaneously according to your choice :

☒ Waypoints

☐ Routes

☒ Marks

☐ Tracks

Note:

- (1) - According to the GPS protocol, the choice can be done on one or several or totality of data.
- (2) - In certain cases, you have to do twice the manipulation. You will be warned when the software is ready for receiving data, at this moment precisely you can configure your GPS in the transmitting mode but you can also cancel depending to your choice.
1. Check each boxes depending on your choice.
 2. Click **OK** to validate
 3. An animation is displayed on screen during the transfer action.
 4. When the transfer is completed a second dialog of [Warning and Message error report](#) appears which lists all eventual errors.

Note : some GPS give more details such as waypoint color and symbol. MaxSea enables to display waypoint's color on the chart but not its symbol icon.

Upload to GPS

The Upload protocol consists in transferring data such as Routes and or Waypoints from your personal computer to your GPS.

After configuring your GPS data transfer you can access to this function by :

1. Choosing **[Upload to GPS]** from the **[GPS Upload/Download]** of the **[Route]** menu.
2. According to GPS Protocol you can choose which type of data you want to transfer.

Two types of data are allowed. Check the data that you wish upload:

1. ☒ Waypoints
2. ☐ Routes

Notes:

- (1) - Upload to GPS option is only available when this function is possible with connected GPS and if you have selected waypoints or routes before.
- (2) - only one choice is possible at the same time.
- (3) - In certain cases, you have to do twice the manipulation. You will be warned when the software is ready for transferring data, at this moment precisely you can configure your GPS in the reception mode but you can also cancel depending to your choice.

How to Upload selected Data to GPS:

GPS capabilities allowed	If Routes only checked	If Waypoints only checked
Transferring Waypoints	Data Transfer Not available	Automatic transfer of all selected

		waypoints.
Transferring Routes & Waypoints	Automatic transfer of all separated waypoints which belong to the routes and then after all selected routes.	Automatic transfer of all selected waypoints.

Uploading Routes and waypoints:

They are two kinds of data in a route : routes information and waypoints.

Refer to the GPS characteristics because some of them are limited in transferring data capacity. If the selected route number exceeds this capacity, you will be warned and you will have to cancel this transfer.

The Route name consists for the GPS in its identifier . This name has to respect the GPS characteristics such as length, valid characters...AND EACH NAME MUST BE UNIQUE.

Before transferring data, a dialogue will appear on screen and ask you to verify DATA's format according to your GPS's model. You can then validate or modify the GPS ID according to its protocol.

This can be done for each new GPS protocol or when it is the first time Waypoints or Routes are transmitted.

FID	Name	GPS ID
Software ID#1	Object User Name#1	GPS identifier#1
Software ID#2	Object User Name#2	GPS identifier#2

The name must respect the name format according to characteristics of the GPS.

Note that the FID and GPS name can not be updated, the first one is the unique identify of the software and the other is the GPS identify.

IMPORTANT

Error messages will be displayed:

- If no active route is defined, the software warns you that the data transfer is impossible. Draw a route and restart the data transfer process.
- A message warns you that the active route will be deleted when the data transfer is activated.
- At last a message will warn you that the route stored in your GPS will be replaced by the present active route.

GPS Transfer Compatibility

Upload: The following table lists all Categories of GPS model which are compatible with MaxSea upload protocol

LEGEND	TEST
W: waypoints	X = Material tested by MaxSea International.
R: Routes	O = not tested

NS = Not Supported					
Trade Mark	Type	Protocol	W	R	Test
FURUNO	GP-30	FURUNO	OK	OK	X
FURUNO	GP-36	FURUNO	OK	OK	X
FURUNO	GP-31	FURUNO	OK	OK	X
FURUNO	GP-31	FURUNO	OK	OK	O
FURUNO	1722 C	----	ND ¹	ND ¹	O
FURUNO	NavNet	NavNet	OK	OK	X
MAGELLAN	ColorTrak v1.0	MAGELLAN	OK	OK	X
MAGELLAN	ColorTrak v1.1	MAGELLAN	OK	OK	X
MAGELLAN	GPS 2000 XL	MAGELLAN	OK	OK	X
MAGELLAN	GPS 315	MAGELLAN	OK	OK	X
MAGELLAN	GPS Trakker	MAGELLAN	OK	OK	X
MAGELLAN	MEridian XL	MAGELLAN	OK	OK	X
MAGELLAN	NAV 6000	MAGELLAN	OK	OK	X
MAGELLAN	Trailblazer XL	MAGELLAN	OK	OK	O
MLR	FX 312 (version prog > 2.10)	MLR (FX series)	OK	OK	X
MLR	FX 412 (version prog > 2.10)	MLR (FX series)	OK	OK	x
MLR	SP 12X	MLR (SP series)	OK	NS	x
MLR	VALSAT 2008 M2	MLR (2008 series)	OK	NS	x
MLR	VALSAT 03 (8 canaux)	MLR (2008 series)	OK	OK	x
MLR	VALSAT 03 (5 canaux)	----	NS	NS	o
GARMIN	GPS - 128	NMEA183	OK	OK	X

¹⁾ "FURUNO 1722C" is a color GPS model, in this case it is absolutely necessary to specify the color before transferring data. So This GPS model is incompatible with monochrome GPS model which does not need color parameter. Data color parameter's transfer needs a specific protocol and it is not developed at this time in MaxSea.

TIPS - if your GPS protocol doesn't appear in the list, you can choose "NMEA 183" which is supported by most of GPS.

Download: The following table lists all categories of GPS model which are compatible with MaxSea download protocol

<u>LEGEND</u>							<u>TEST</u>
W: waypoints R: Routes M: Marks T: Tracks NS = Not Supported							X = Material tested by MaxSea International, O = not tested
Trade Mark	Type	Protocol	W	R	M	T	Test
FURUNO	NavNet	NavNet	OK	OK	OK	NS	X
MAGELLAN	GPS 315	MAGELLAN	OK	OK	OK	OK	X
MAGELLAN	Meridian XL	MAGELLAN	OK	OK			X
MAGELLAN	ColorTrak v1.0	MAGELLAN	OK	OK	OK	OK	X
MAGELLAN	ColorTrak v1.1	MAGELLAN	OK	OK	OK	OK	X
MAGELLAN	GPS 2000 XL	MAGELLAN	OK	OK	OK	OK	X
MAGELLAN	NAV 6000	MAGELLAN	OK	OK	OK	OK	O
MAGELLAN	Trailblazer XL	MAGELLAN	OK	OK	OK	OK	X

Protocols Transfer

N.M.E.A. 183 data transfer protocol

```
=====
DOCUMENTATION FOR "N.M.E.A. 183 ($--WPL & $--RTE)" TRANSFER PROTOCOL
=====
```

* Available Transfer(s) :

- Upload Waypoints
- Upload Routes

* UPLOAD =>

- Rte valid name : A string - max length 16 character(s) - cannot be empty - valid char sets : [AZ], [az], [09], [], [:?]
- Rte comment : none
- Wpt valid name : A string - max length 20 character(s) - cannot be empty - valid char sets : [AZ], [az], [09], [], [:?]
- Wpt comment : none
- Treatment mode : Unknown
- Max Wpt in GPS memory : 10000
- Max Wpt in a route : 500
- Max Rte in GPS memory : 500

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 0

.XonChar : 0x11

.XoffChar : 0x13

.ErrorChar : 0x00

.EofChar : 0x00

.EvtChar : 0x00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

* GPS Commands => None

* Syntax =>

- Checksum : 8-bit XOR - Delimiter = [*]

- Start string : \$

- End string : <CR><LF>

- GPS eof marker : Not<SP>Initialized

- Can upload 2 wpt/sentence

Data transfer protocol for NavNet

=====

DOCUMENTATION FOR "NavNet" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Download Waypoints

- Download Routes

- Download Marks

- Upload Waypoints

- Upload Routes

* UPLOAD =>

- Rte valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], ['], [#], [], [&]

- Rte valid comment : A string - max length 13 character(s) - can be empty - valid char sets : [AZ], [09], ['], [#], [], [&]

- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], [], [#], [], [&]
- Wpt valid comment : A string - max length 13 character(s) - can be empty - valid char sets : [AZ], [09], [], [#], [], [&]
- Treatment mode : All memory erased
- Max Wpt in GPS memory : 2000
- Max Wpt in a route : 100
- Max Rte in GPS memory : 500

* DOWNLOAD =>

* PORTS =>

Allowed Port(s) : Software

* GPS Commands => None

* Syntax =>

- Checksum : None

- Start string : Chaîne<SP>specifique<SP>signifiant<SP>"<SP>Pas<SP>de<SP>chaîne<SP>"

- End string : Chaîne<SP>specifique<SP>signifiant<SP>"<SP>Pas<SP>de<SP>chaîne<SP>"

- GPS eof marker : Chaîne<SP>specifique<SP>signifiant<SP>"<SP>Pas<SP>de<SP>chaîne<SP>"

- Can upload 1 wpt/sentence

Data transfer protocol for FURUNO GPS

=====

DOCUMENTATION FOR "FURUNO" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Upload Waypoints

- Upload Routes

* UPLOAD =>

- Sleep after opening port : 1000(ms)

- Rte valid name : An integer between 1 and 30

- Rte comment : none

- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09]
- Wpt valid comment : A string - max length 16 character(s) - can be empty - valid char sets : [AZ], [09], [-], [], [:]
- Treatment mode : All memory erased
- Max Wpt in GPS memory : 500
- Max Wpt in a route : 20
- Max Rte in GPS memory : 30

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 0

.XonChar : 0x\11

.XoffChar : 0x\13

.ErrorChar : 0x00

.EofChar : 0x00

.EvtChar : 0x00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

* GPS Commands =>

- MxAFinEnvoyerRoute : PFEC,GPxfr,CTL,E

* Syntax =>

- Checksum : None

- Start string : \$

- End string : <CR><LF>

- GPS eof marker : Not<SP>Initialized

- Can upload 5 wpt/sentence

Data transfer protocol for MAGELLAN GPS

=====

DOCUMENTATION FOR "Magellan" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Download Waypoints

- Download Routes

- Download Marks

- Download Tracks

- Upload Waypoints

- Upload Routes

* UPLOAD =>

- Sleep after opening port : 2000(ms)

- Rte valid name : An integer between 1 and 20

- Rte comment : none
- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], []
- Wpt valid comment : A string - max length 20 character(s) - can be empty - valid char sets : [AZ], [09], []
- Treatment mode : Overwrite if same ID
- Max Wpt in GPS memory : 5000
- Max Wpt in a route : 20
- Max Rte in GPS memory : 20

* DOWNLOAD =>

- Reception Timeout : 20(sec)
-

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 0

.XonChar : 0x\11

.XoffChar : 0x\13

.ErrorChar : 0x\00

.EofChar : 0x\00

.EvtChar : 0x\00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

* GPS Commands ==>

- MxDemandeMarks : PMGNCMD,TRACKS
- MxDemandeTracks : PMGNCMD,TRACKS
- MxDemandeWaypoints : PMGNCMD,WAYPOINTS
- MxDemandeRoutes : PMGNCMD,ROUTE
- MxVaEnvoyerWaypoints : PMGNCMD,HANDOFF
- MxAFiniEnvoyerWaypoints : PMGNCMD,END
- MxVaEnvoyerRoutes : PMGNCMD,HANDOFF
- MxAFiniEnvoyerRoute : PMGNCMD,END

* Syntax ==>

- Checksum : 8-bit XOR - Delimiter = [*]
- Start string : \$
- End string : <CR><LF>
- GPS eof marker : END
- Can upload 2 wpt/sentence

Data transfer protocol for MLR (FX series) GPS

=====

DOCUMENTATION FOR "MLR (FX series)" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Upload Waypoints
- Upload Routes

* UPLOAD =>

- Sleep after opening port : 500(ms)
- Sleep between 2 string : 600(ms)
- Rte valid name : An integer between 0 and 19
- Rte comment : none
- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], [+], [-], [*], []
- Wpt valid comment : A string - max length 22 character(s) - can be empty - valid char sets : [AZ], [09], []
- Treatment mode : Overwrite if same ID
- Max Wpt in GPS memory : 1000
- Max Wpt in a route : 20
- Max Rte in GPS memory : 20

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0
 .fAbortOnError : 0
 .XonLim : 80
 .XoffLim : 200
 .ByteSize : 8
 .Parity : 0
 .StopBits : 2
 .XonChar : 0x\11
 .XoffChar : 0x\13
 .ErrorChar : 0x\00
 .EofChar : 0x\00
 .EvtChar : 0x\00

 Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

 * GPS Commands => None

* Syntax =>

- Checksum : 8-bit XOR - Delimiter = [*]
 - Start string : \$
 - End string : <CR><LF>
 - GPS eof marker : Not<SP>Initialized
 - Can upload 5 wpt/sentence
-

Data transfer protocol for MLR (SP series) GPS

=====

DOCUMENTATION FOR "MLR (SP series)" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Upload Waypoints
-

* UPLOAD =>

- Sleep after opening port : 500(ms)
- Sleep between 2 string : 600(ms)
- Rte comment : none
- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], [+], [-], [*], []
- Wpt comment : none
- Treatment mode : Overwrite if same ID
- Max Wpt in GPS memory : 1000

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 2

.XonChar : 0x11

.XoffChar : 0x13

.ErrorChar : 0x00

.EofChar : 0x00

.EvtChar : 0x00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

* GPS Commands => None

* Syntax =>

- Checksum : 8-bit XOR - Delimiter = [*]

- Start string : \$

- End string : <CR><LF>

- GPS eof marker : Not<SP>Initialized

- Can upload 1 wpt/sentence

Data transfer protocol for MLR (valsat series) GPS

=====

DOCUMENTATION FOR "MLR (Valsat series)" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Upload Waypoints

* UPLOAD =>

- Sleep after opening port : 500(ms)

- Sleep between 2 string : 600(ms)

- Rte comment : none

- Wpt valid name : An integer between 0 and 399

- Wpt comment : none

- Treatment mode : Overwrite if same ID

- Max Wpt in GPS memory : 400

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 2

.XonChar : 0x\11

.XoffChar : 0x\13

.ErrorChar : 0x\00

.EofChar : 0x\00

.EvtChar : 0x\00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

 DCB Editable : YES

* GPS Commands => None

* Syntax =>

- Checksum : None

- Start string : \$

- End string : <CR><LF>

- GPS eof marker : Not<SP>Initialized

- Can upload 1 wpt/sentence

Data transfer protocol for NORTHSTAR GPS

=====

DOCUMENTATION FOR "Northstar" TRANSFER PROTOCOL

=====

* Available Transfer(s) :

- Upload Waypoints

- Upload Routes

* UPLOAD =>

- Sleep after opening port : 10(ms)

- Rte valid name : A string - max length 16 character(s) - cannot be empty - valid char sets : [AZ], [09]

- Rte comment : none

- Wpt valid name : A string - max length 6 character(s) - cannot be empty - valid char sets : [AZ], [09], [+], [-], [*], []

- Wpt valid comment : A string - max length 16 character(s) - can be empty - valid char sets : [AZ], [09], [:], [-], []

- Treatment mode : Overwrite if same ID

- Max Wpt in GPS memory : 1000

- Max Wpt in a route : 100

- Max Rte in GPS memory : 500

* PORTS =>

Allowed Port(s) : Serial

* Serial port Properties =>

DCB :

.BaudRate : 4800

.fBinary : 1

.fParity : 0

.fOutxCtsFlow : 0

.fOutxDsrFlow : 0

.fDtrControl : 1

.fDsrSensitivity : 0

.fTXContinueOnXoff : 1

.fOutX : 0

.fInX : 0

.fErrorChar : 0

.fNull : 0

.fRtsControl : 0

.fAbortOnError : 0

.XonLim : 80

.XoffLim : 200

.ByteSize : 8

.Parity : 0

.StopBits : 0

.XonChar : 0x\11

.XoffChar : 0x\13

.ErrorChar : 0x\00

.EofChar : 0x\00

.EvtChar : 0x\00

Baud Rate Range : 1 200, 2 400, 4 800, 9 600, 14 400, 19 200, 38 400

DCB Editable : YES

* GPS Commands =>

- MxDemandeStatutGPS : PNTI,000

* Syntax =>

- Checksum : 8-bit XOR - Delimiter = [*]

- Start string : \$

- End string : <CR><LF>

- GPS eof marker : Not<SP>Initialized

- Can upload 1 wpt/sentence

Warning and Message Error report

Various messages appear reporting all what's happened during transferring data:

Error identification	Message Error	Reason
TERR_NO_ERROR	Data transfer complete	Transfer ok
TERR_TIMEOUT_READ_PORT	No GPS communication	GPS transfer no more data
TERR_NO_RESPONSE	No GPS answer	GPS wait for instruction (rte, status...)
TERR_CANCELLED	No warning	User has clicked "cancel"
TERR_NODATA	Data transfer complete. No data received	the download is correct but there is no data in your GPS memory
TERR_INVALID_POINTER	Data transfer error N° 6	Cannot do "new" for MaxSea feature or communication port manager.
TERR_UNABLE_OPEN_PORT	Unable to open port	Cannot open a port (serial, TCP, soft...)
TERR_UNABLE_RESTORE_SETTINGS	Data transfer error N° 5	If the "Input/Output" Port com is used with different parameters of those chosen for the data transfer and the Input/output data restore fails.

TERR_UNABLE_WRITE_PORT	Unable to write on port	Unable to write on the chosen Port com.
TERR_MEMORY_FULL	GPS memory full	More place in the memory of the GPS.
TERR_WRONG_GPS_DATABASE_STATUS	GPS does not accept data for unknown reason	(GPS Northsar only) DataBase refuses waypoints for unknown reason.
TERR_ERROR_INVALID_NAME	Data transfer error 123	The Routes or waypoints names do not respect the protocol after configuring them in the corresponding dialog.
TERR_NOT_SUPPORTED	GPS does not support this operation	MaxSea calls SeaDriver with Routes while the GPS accepts only waypoints transferring.
TERR_NODATA_SELECTED	No data to tranfer. Please select data to transfer.	Upload: MaxSea calls SeaDriver with nothing to transfer.
TERR_INITIALISATION_FAILED	Data transfer error 487	All internal problems others than Error n°6 such as bad object type,etc...

Type of problem	Warning	Action
Too much routes selected	Routes selection exceed GPS capacity (%1). Continue transfer according to GPS capacity ?	Click No = cancelling transfer Click Yes = some of the first routes are transferred
Too much waypoints and no routes	Waypoints per route exceed GPS capacity (%1). Continue transfer according to GPS capacity ?	Click No = cancelling transfer Click Yes = some of the first routes are transferred
Too much waypoints in most of the routes to be transferred.	Waypoints selection exceed GPS capacity (%1). Unable to continue data transfer.	Data transfer is automatically cancelled.
Too much waypoints selected	Waypoints selection exceed GPS capacity (%1). Continue transfer according to GPS capacity ?	Click No = cancelling transfer Click Yes = some of the first waypoints are transferred

When GPS upload function is activated and there is no data in the selection.	No data to transfer. Please select data before upload.	Data transfer is automatically cancelled.
--	--	---

Tracks

Tracking on / off

Tracking On



To activate the tracking function, click the **Track on/off** button in the Toolbar.



The button appears selected in the Toolbar during all the time the tracking function is activated.

You can also use the shortcut **F5** if you have selected it from the **[Route]** menu.

The track is displayed on the chart and saved .

If several positioning systems are connected, the program can save the track of the different positioning systems (see paragraph below [Several positioning systems connected](#)).

No position

The Track on/off and MOB button are not available and appear in grey color. It indicates that MaxSea is in **"0 POS"** configuration.

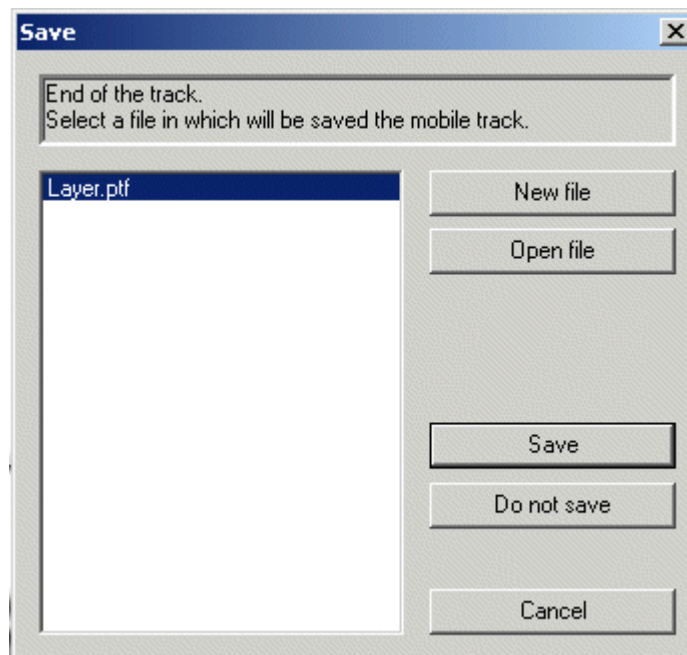


Note: if you often remain in tracking mode, the display speed of the chart can be effected due to lack of memory; particularly if the save interval is short. In this case, either the time between saves or periodically save or erase the track .

Tracking Off

Click on the **Track on/off** button again in the Toolbar to turn off the tracking function.

The program gives you the option to save the track permanently in a **"PTF"** file on the hard drive (**Layer [WGS84]** by default).



- Left-clicking on "Save" will save the track in the **layer.ptf** and clicking on "**Do not Save**" will loose the save of track.
- Left-clicking on "**New file**" will save the track in a chosen file.
- Left-clicking on "**Open file**" has two effects open an existing file and save the track in it.

Setting GPS Track

To set the GPS track's display and recording:

1. Open the GPS /Track options dialog by selecting **[Option: GPS/Track...]** from the **[Utilities]** menu.
2. From the Mobile list, select the COM port on which the GPS is connected,
3. Click the **[Track]** tab , then choose the parameters for how you want to save and display the track.

Several options can be checked before activating the Track on function:

- **"Enable track recording"** is checked, the track is automatically saved into the active layer (by default or in a specific layer when **"Single user file for mobile trails"** is checked.)
- **"Record all input data"** is checked any data selected from your wind instruments will be recorded.
- **Single user file for mobile trails** is checked, the GPS track will be recorded in a single file. Each time you will stop Tracking the track will be recorded in the same chosen file.
- **Recording accuracy**
 - Define the precision of your track (i.e. the interval between two saved points) in either time or distance.
 - We would advise a frequency of between 120 and 300 seconds (2 to 5 minutes) which is sufficiently adequate for normal navigation requirements.
- **Track line options**

There are a series of options with the track. You can have just a basic trail of a fixed color or you can have a trail which varies in color according to the input of specific information from sailing instruments.

- Line width track: Click on the pop-up menu to choose one type of line which stands out on the charts.
- color of track: Select the color of your track by clicking on the corresponding pop-up menu, click on the desired color in the box and select, for example, the color red.
- Variable color: You could choose a variable track color in accordance with one of the data sources recognised by the software (e.g. speed of the ship, wind force factor, etc.).

Note: the data sources are dependent upon the electronic equipment installed.

Firstly click on the radio button **Variable Color** and choose a data under the pop up which then on the pop-up menu of available data to show the list of available data and select the data in accordance to which the color is to be varied (for example, speed).

Using the keyboard select the delimiting speed values by successively selecting text zones (for example, speed of less than 5 knots: blue track; speed exceeding 10 knots: red track; speed between the two: variable color).

(Related topic: Option Mobile and Track)

Several positioning systems connected

Several positioning systems can be connected depending on your own software version of MaxSea.

In this case, it is possible to choose the type of display and tracking options for each one of them.

One of these connected positioning system is considered to be the master positioning system.

Choosing the master positioning system

To choose the master positioning system, select the menu **[Option: GPS/Track...]** from the **[Utilities]** menu and select the required positioning system. Then select from the list on the left-hand window the system you want to choose as the master positioning system.

Note: the name assigned to each positioning system is specified in the **Data Input/Output Settings management** (see in How to easily... Connect equipments to MaxSea).

Setting the display and tracking options for each positioning system

It is possible to choose the type of display and save the **track** for the master **positioning system** and also from all the other connected **positioning systems**.

When you activate the **Track** button in the Toolbar, all the "**positioning systems**" for which track saving is active are tracked.

To set the display type and track save options from the different positioning systems, select **[Option: GPS/Track..]** from the **[Utilities]** menu to open the dialog box.

1. Select a Positioning system in the "**Select a mobile**" list zone in the left part of the dialog box
2. Choose the positioning system that you wish to set options for.
3. Click on the **Track** tab in the right part of the dialog box.

4. Choose the track saving options, Recording accuracy and the Track line.
5. Click on the **Misc** tab.
6. Choose the options you wish to display (security circle, directional vectors,...).

Note: repeat this procedure for each one of the connected **positioning systems** (using the pop-up menu Other system located in the Positioning system in the upper part of the dialog box) in order to set up all of them.

Track Profile

With the MaxSea Professional version, measurements from different sensors (depth, water temperature, etc.) can be recorded for each point of the track .

When a sounder is connected to MaxSea, the measurement from the sounder is recorded for each point of the track.

MaxSea can thus be used to display the **bottom profile** or the **profile** of one of the connected sensors (water temperature, etc.).

Toggle the Depth Profile Window On

- Click on the **Chart Desktop Mode** on the Toolbar
- Choose to display the Depth Profile window in a chosen mode

The Depth Profile window consist in two parts, the toolbar and its graphical view.

You can display either the profile associated to a previously saved old track, or display the profile of the track which is being recorded.

You will also learn in related topics:

1. How to display the current track in the depth Profile window and follow up its profile outline. Check that no track and no object is selected, then go to the related topic to learn more on the "Depth Profile with the MaxSea Mode selected".
2. How to display a previously saved old track in the Depth Profile window.

Edit & Modify the Track

Editing a track

IMPORTANT

This function is not used when the tracking on function is in use.

To modify Edit track parameters

1. Select an old track using the **select point tool**
2. Go to the **[Edit]** menu and choose **[Edit track]**

The Edit track dialog box appears

To modify a characteristic of the track, check box according to what you want to change between:

1. The line width

2. The line color
3. The line smoothing

Note: you can change one or all of the characteristics.

If the line width option is selected, click on the pop up menu and choose a type of width.

If the line color option is selected, either choose a fixed color or a color according to a data like the depth for example.

If the line smoothing option is selected you can choose between three options (medium, light or important)

IMPORTANT

The smoothing function can modify the track and you may lost the initial saving. It is recommended to make a copy of the file before doing any modification on the track.

to validate all the modify click **OK** and **CANCEL** to quit without saving.

Edit Color Range

This function allows you to customize your track color according to selected received data.

To change the color of the track go to the **[Utilities]** menu and select **[Option: GPS/Track]**. This brings up a settings dialog box.

1 - Click the **track** tab in the upper of the window.

2 - In the bottom of the window click in the "**According to..**" radio button to assign a color to a **track** according to the parameter that you wish : for example, the track depending on the **SOG** , you can choose one color for the 0.0 to the 4.0 knots interval, and an other one for the 4.0 to 20.0 knots interval, so that you can see your track at a glance.

Note: the information depends on the electronic equipment connected.

3 - First, for example select the **SOG** interval on which color will be apply.

4 - Click on the **Apply** button to confirm.

5 - Then, choose between the 16 colors proposed to you by using the Number of colors pop-up

Note: you can customize the colors by right clicking on a color.

6 - You can also define more precisely the value intervals by right clicking any value slider:

7 - Finally, click on the **Apply** button.

Recording all data option in the GPS/Track settings dialog box

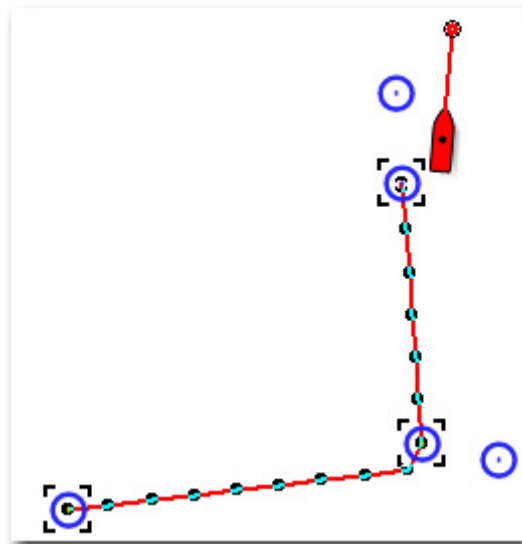
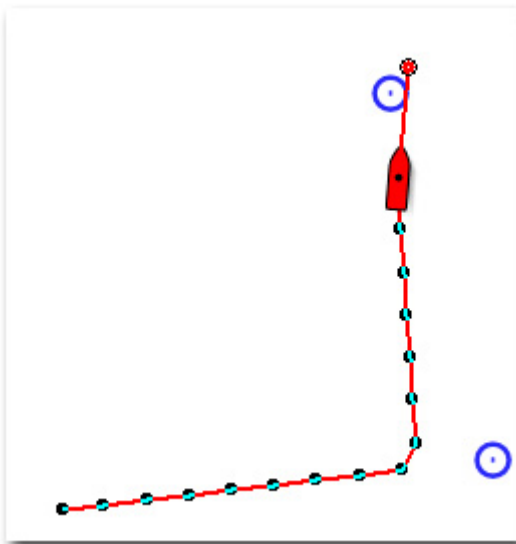
- It is possible to save all the input data (speed, course, wind, etc.) associated with any given point of the track.
- To do this activate the check-box **Record all input data** which is situated in the top right-hand corner of the dialog box.

To change Track into Route

Making a route from a track is a way to re-navigate a previous trip. This function can be used, for example, to transform an old **track** into a Planning Route and then activating it.

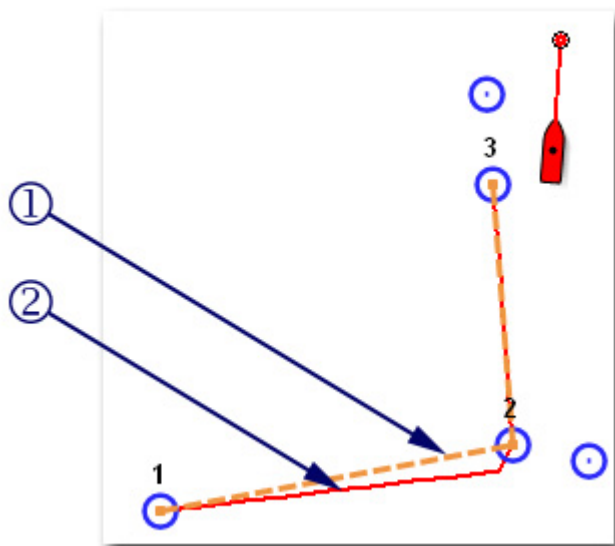
Converting a track into a Route :

1. Surround a complete track on the chart with the **Select** tool.
2. All points in the track appear selected on the chart as it is shown in pictures below.
3. To change the track into a route, choose **[Import selection to Route...]** from the **[Route]** menu.
4. Only extremities points of each straight line are converted to waypoints, the others are not converted because the software can not create more than 100 waypoints at once.



All points in the track are selected on the chart

After converted Track into Route, only waypoints are displayed on the chart. For displaying the route on the chart you may call up the Route Center and select the route named with the "PTF" file name. Then the route appears on screen and it covers up the track. The track is not erased, it is still there, click on the Layers information button to hide it.



The Planning Route (1) is created and directly added in the "Routes Center" list and its name corresponds to the file name on which the track (2) is recorded.

Removing a track

To remove a previously saved old **track**, select the **Select object** tool, then on click one of the points of the track to select it (if need be, see chapter [Modifying marks](#)).

Select **[Cut]** from the **[Edit]** menu to erase the track selected (or even press the erase button).

Note: it is not possible to erase the current track in this way. If you wish to erase the current track, first stop the tracking (see previous paragraph [Stopping the track save](#)).

Cutting a track in half

This function enables you, for example, to keep only the valid part of a **track**.

IMPORTANT!

You can not modify the track during saving.

Select the **Split tool (scissor symbol)** by clicking it in the Toolbar, then on click the point of the track after which you wish to cut the track.

You can now erase one of the parts of the track, as explained in the above paragraph, in order to keep only the valid part.

User's Data

Adding personal marks

User's data

User's data consists of geographical objects (such as points, lines and surfaces) which are displayed on the chart itself.

These objects are saved in files which can then be easily be displayed on the chart or hidden. Each file can be thought of as a transparent layer which can be superimposed on the chart or on other files which are already displayed.

Note: by default the user data which has been entered is saved on the layer called **Layer**, which is automatically created the first time MaxSea is launched. Refer to the paragraph below entitled [Saving user data layers](#) to find out how to save the layer.

From now on, you can assign [Horizontal Datum](#) to old plans and adjust them to every type of chart.

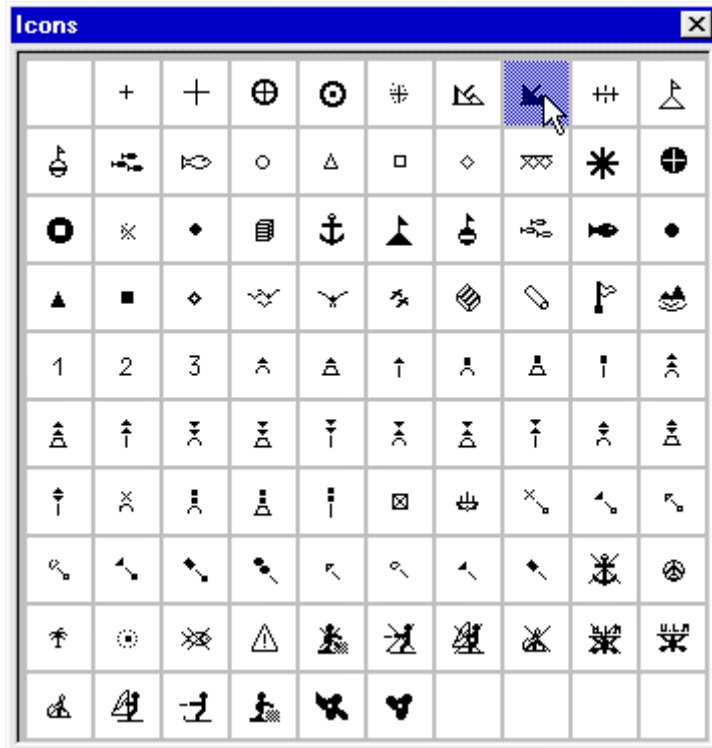
Note: Every simulation and route plan are automatically updated. However, this operation can also be done manually with the horizontal datum conversion box from Edit menu.

Before looking at this chapter, the Tool Box should be displayed in a long configuration by clicking on the key located in the upper right-hand corner of the box's title bar (see Software configuration).

Selecting plotting type and icon

First, select the type of object that you wish to plot. To do this, click the **Plotting type selection** tool located in the Toolbar to call up the pop-up menu corresponding to the different types of objects.

1. Select **Point** in the **Plotting type selection** menu.
2. Then, choose the icon you require from the icon type pop-up menu (a wreck for example).



Note: you can change the icon palette settings by selecting the item **[Option:Customize icons...]** from the **[Utilities]** menu.

Then select the color of the icon from the corresponding pop-up menu.

The selection boxes indicate the choices you have made; isolated point, red wreck.

Related topic:

Customizing Icons

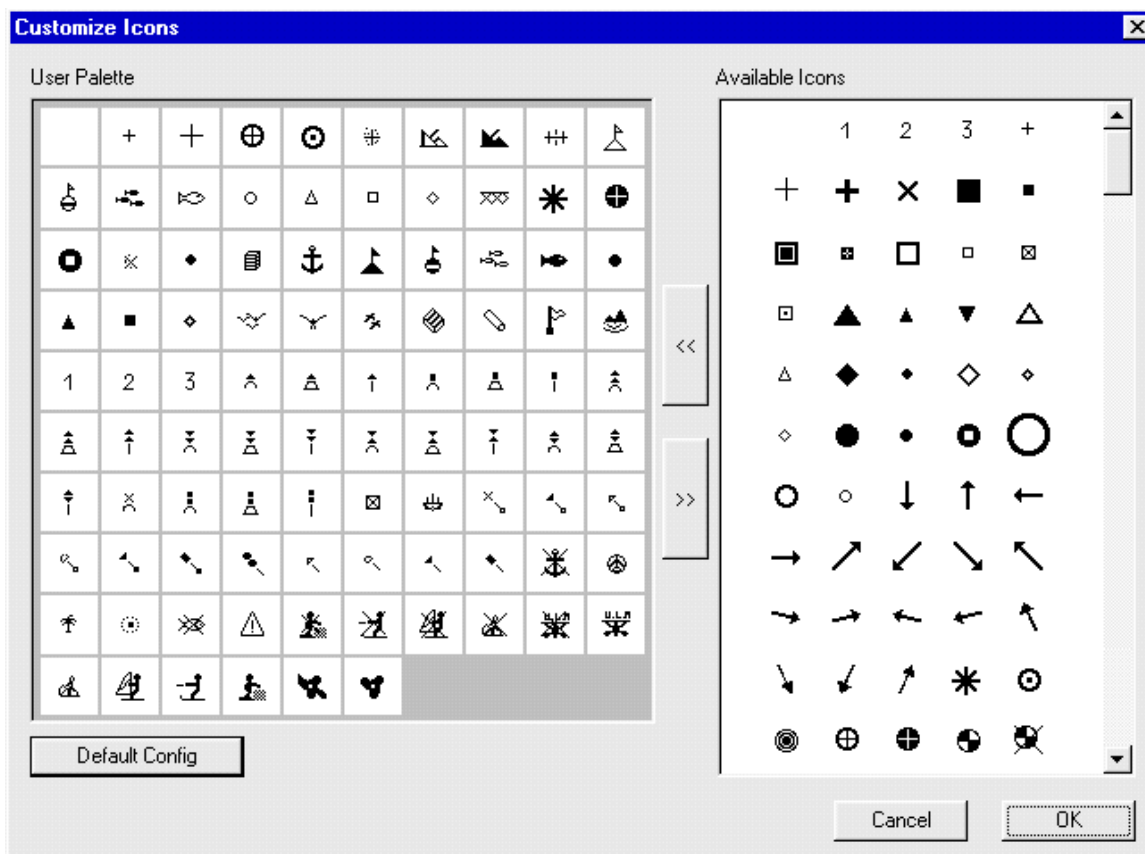
Customizing Icons

The MaxSea Icon palette offers 81 icons by default. But you have the possibility to customize this palette by selecting new icons from the several hundred at your disposal.

To add new icons or change the icon palette, select **[Option: Customize Icons]** from the **[Utilities]** menu:



Then, the following dialog box is opened:



The left part of the box displays the used icons as the right part shows the available icons. The user palette can contain up to 100 icons.

To add a new icon



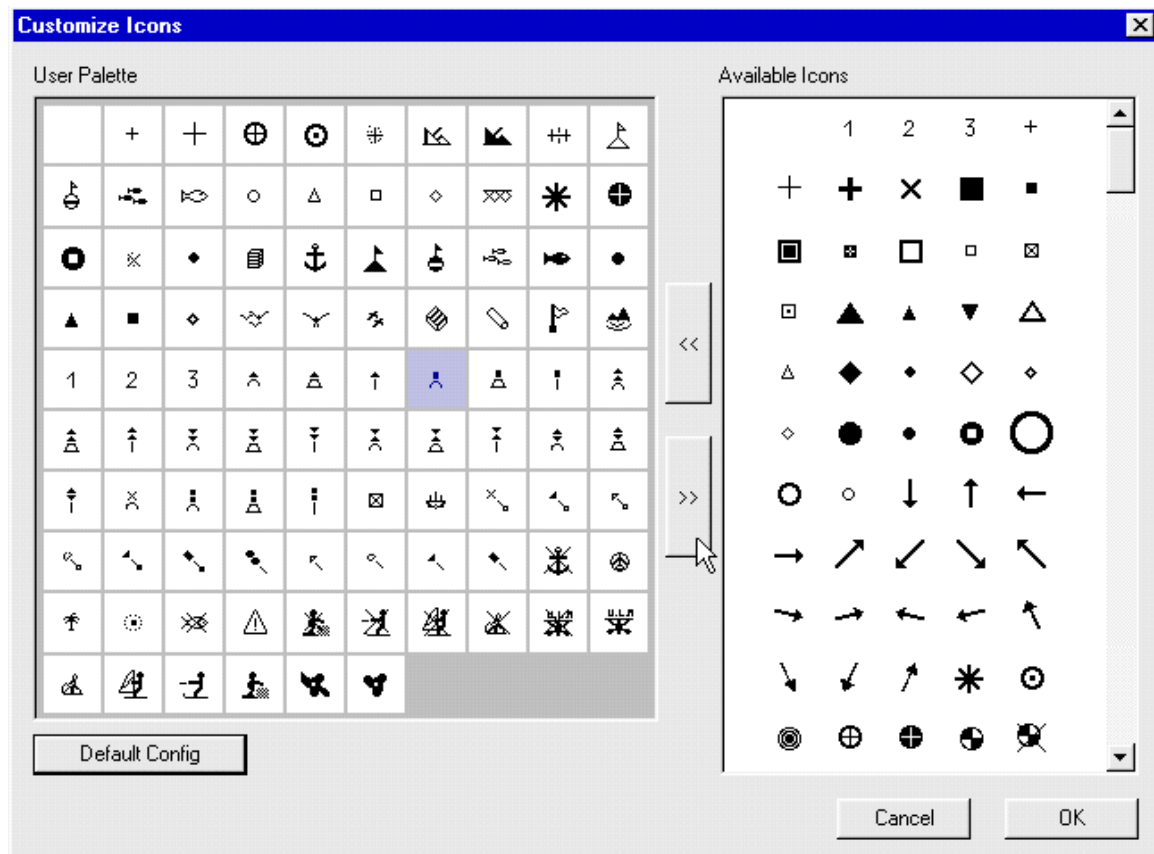
You can add up to 100 icons.

1. Click on the icon of your choice among the available icons.
2. Click on the left arrow to see the new icon positioning in the user palette
3. Repeat the same operation so much that it is possible.

To replace an icon

Click on the icon of your choice and drag it towards the one to be replaced.

To delete an icon



Click on the icon to be deleted, then click on the right arrow or on the **DEL** key of your keyboard like in the example above.

To come back to the default configuration, simply click on the **Default Config** button.

Plotting isolated points

Select the **Plotting** tool in the Toolbar and place the cursor on the chart at the required position.

A target is drawn on the chart (**1**) on following picture) to indicate the precisely clicked position.



Then click, a mark is displayed at the position and it is immediately saved onto the active layer (Layer(WGS84) by default).



Repeat the operation, changing the icon or colors if necessary, to plot several marks.

Plotting lines

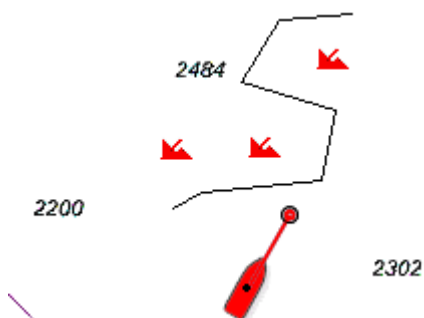
Proceed as in the above paragraph, but select **Line** (instead of **Isolated point**) from the mark-type pop-up menu. Then select the icon. Of course, you can choose another icon or no icon at all (first box in upper left-hand corner). You can modify line thickness using the corresponding pop-up menu which is now available in the lower part of the Toolbar.

Before plotting a line:

1. select the line symbol under the pop up "**Plotting object type**" menu from the Toolbar.
2. choose the width line size under the pop up "**Plotting object width line size**" menu from the Toolbar.
3. choose a color from the pop up menu "**Plotting object color**" menu from the Toolbar.

Using the **Plotting** tool, click a point on the chart to start the line and then click successive points to extend it. To finish this operation, double click the last point.

Plot other lines as required.



Note: to call up the dialog box which allows you to assign a label, left click while holding down the shift keyboard.

Plotting areas

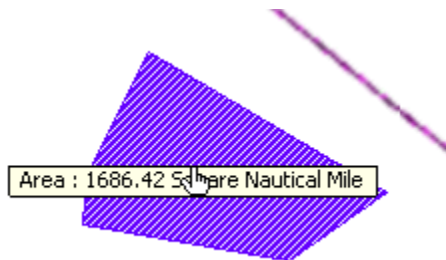
Select **Area** from the mark type selection box.

The pattern selection box in the lower left-hand corner of the selection boxes is now available (it replaces the line thickness box).

Click it to call up the pop-up menu and select the pattern that you wish to use to fill the area.



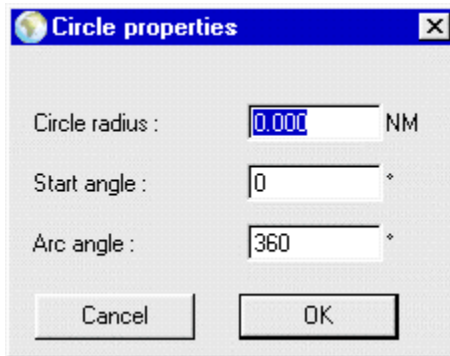
Proceed exactly as in the above paragraph for plotting a line. After double clicking to close, the area is closed and colored with the pattern selected.



In order to plot a circular area, select **Circle** (instead of **Area**) from the mark type selection box. Click the chart, then drag the mouse and release the mouse button to define the radius of the circle. Note that the circle is colored with the pattern selected.



Note: if you click the chart and do not hold the mouse button down, the software displays the dialog box where you can enter the circle radius value manually.

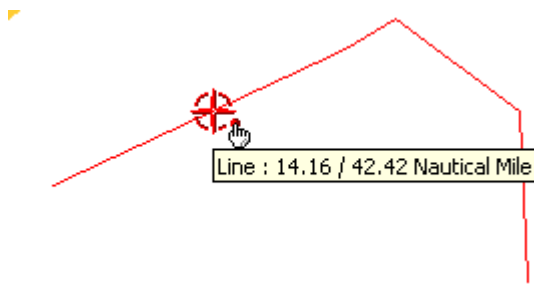


You can either display a complete circle or a sector of a circle. To display a sector enter the value of the starting angle and the value of the arc in the dialog box.

Line distance or area calculation display

You can get information about coordinate of one point situated on a line or about an area calculation.

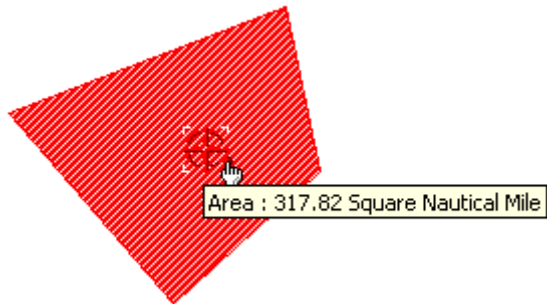
Coordinate of one point which belongs to a line



1. left-click on a line section with the Finger tool
2. hold the **mouse button down**. The software displays the selected coordinate point.

Note: if you select a point as above this information does not appeared (see Mark label paragraph).

Area calculation:

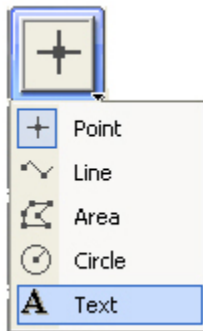


1. select the **Area** with the **Finger tool**
2. hold the mouse button down, the software displays the **area calculation**.

Note: to change units refer to Option: units chapter.

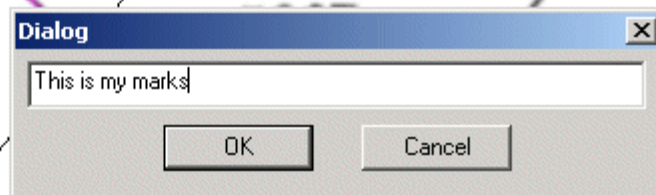
Enter a text

1. Choose **Text** option from the plotting object type selection box.



2. Using the **Plotting** tool, click the chart at the required position. A text dialog box appears.

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3. Type in your text (64 characters maximum) and click **OK**. The entered text is displayed on the chart at the position clicked.



If you want to change the font and the characteristics: Option: Text

Mark properties

Double left-click on a mark using the **Select point** tool opens the information window.

To update parameters which are associated to a point, click on any of one of these elements.

The "Mark properties" dialog box contains:

1. available datum information in upper right-hand corner.
2. the **Latitude** value (Data zone).
3. the **Longitude** value (Data zone).
4. symbol associated to a mark.
5. symbol color associated to a mark.
6. name associated to a mark.
7. created date/ hour associated to a mark..
8. mark depth value associated to a mark.
9. mark comments associated to a mark.

Several data fields are directly modified in the "Mark properties" dialog box.

1. to change the symbol color; left-click and hold down the mouse button to bring up the color palette and then choose a color among it.
2. to change the symbol left-click and hold down the mouse button to bring up the palette and then choose a new symbol among it.
3. to update a text zone (name and comments): left-click in the text field zone and enter directly the text using the keyboard.
4. to update a data zone (date/hour and latitude/longitude): left-click in the data zone at this moment a scroll appears in order to allow a seizure without the assistance of the keyboard.



5. to validate the update click on **OK**.
6. to close the information window, click the closing box located in the left-hand part of the title bar of the window or click on cancel. In these two cases the modifications are not taken in account.

Notes

1. The "**Apply Depth/Height to all points**" check box is available only when the selected point belongs to a multi-points system like a line, an area...

2. The **mark label** includes a maximum of 8 characters which are displayed beside the mark icon.



3. The number of the characters for the comment is unlimited. Click once with the finger tool on a point to display the comment associated to a point.



4. right-hand arrow near the scroll of the date/hour data field appears and click on it to bring up a calendar in which you can choose directly the date.

Using context menu on selected marks

The software makes extensive use of context menus, which let you quickly access the most useful commands related to the object you have selected.

Using context menus

1 - Right-click the object located in the chart window. The context menu for the selected object appears.

2 - Choose the corresponding command.

Common commands for each object selected:

In the upper of the context menu:

- 1 - to select a scale
- 2 - to select the Zoom in function.
- 3 - to select the Zoom out function.

In the bottom of the context menu:

- 2 - to select a tool at any time.

If the selected object is either a mark or a circle or a text, each context menu will allow you:

- 1 - to bring up the Mark properties dialog box by selecting "**Mark Properties..**". How to modify the parameters refer to related topic: [Mark properties](#).
- 2 - to move the mark to the position you want by selecting "**Move**", this brings up a dialog box in which you can enter moving values.

3 - to delete the mark.

4 - to select the mark.

5 - to add object (mark, line, area, text, planning route and active route waypoint...) or to create a list of marks. Be careful to select a symbol in the Icon palette before adding a list of marks (however, adding a list of marks refer to related topic: [Using the keyboard to enter positions](#)).

If the selected object is a line the context menu will allow you:

1 - to convert the line to planning route (available if no planning route is opened)

2 - to convert the line to active route (available if no active route is opened)

3 - to call up the point properties.

4 - to move the line to the position you want, then enter the new values in the Move dialog box.

5 - to delete the line.

6 - to split a line, this will cut the line in two parts.

7 - to select a point or all points belong to the line.

If the selected object is an area the context menu will allow you:

1 - Select "Move" under the menu to move the area to the position you want, this brings up a dialog box in which you can enter the new values in the Move dialog box.

2 - to quickly delete the area.

3 - to quickly select the area.

Using the Keyboard to Create Object List

In order to enter position of points or objects, first choose the type that you wish to record by selecting the corresponding tool in the Tools palette (be careful to select symbol icon, color, width line or drawing before adding mark or object positions).

Two ways to call up the dialog box which allows you to enter positions using the keyboard.

1 - either go to the **[Edit]** menu and select **[Create Object List...]**

2 - or right click anywhere in the chart window to call up the context menu, point to **"Add"** and left click on **"Create Object list..."**

The "Create Object List" dialog appears and allows:

1 - Choose under the pop up menu the datum according to the positions.

2 - Enter geographic positions (latitude and longitude).

3 - Choose the type of object between Mark, Line and Area you want to enter.

Creating a list of marks :

- Check the "**Mark(o)**" and click "**Add Object**".
- Change the geographic locations each time for adding next position and click "**Add Object**". Note that the number next to Mark is increased after each mark added.
- Click the "**Close**" button when you have finished.

Creating line or Area

- As you do above when adding marks, first choose a type of object by checking corresponding radio button : "Area" or "Line"
- Enter each point which belongs to the object.
- Click the "**Add Point N° 1 (2,3,4,...)**" button after each new position
- since datum, latitude and longitude are now again selected, you can immediately plot the next new point from the keyboard and thus link several points.
- Click the "Close" button when you have finished.

Modifying personal marks

Modifying marks

It is possible to modify all types of marks saved (tracks, marks, events, waypoints, etc.).

Four **tools** from the Toolbar can be used to easily modify the marks that you have plotted.

1. delete tool (pacman symbol)
2. Split tool (scissor symbol)
3. Position modification tool
4. Insertion tool

Note:

(1) - Select a modification tool and click a point to apply the modification (erase, cut, etc.). If you have previously **selected** a group of marks, as explained in the paragraphs below **Selecting objects**, when you modify one of the selection points, the modification is applied to all the marks selected.

(2) - It is not possible to modify the **track** when it is being saved (active track in use).

Modifying the position

Moving the position of a point

Using the **Position modification** tool click one of the plotted marks, then, holding the mouse button down, drag and finally release the button when the cursor is located on the new required position. Similarly, modify the position of other points, in particular, those belonging to a line and note the result.

If you double click a mark using the **Position modification** tool the modification dialog box appears in which you can enter manually the position modification precisely using geographical or hyperbolic coordinates.

If you wish to assign a new position to an existing mark (geographical or hyperbolic) you can use the keyboard to enter this position. First, click the mark using the **Position modification** tool in order to select the required mark, then select **latitude** from the cursor display (or the first hyperbolic coordinate) and enter the required value.

IMPORTANT!

This last function can only be used on isolated points.

Modifying the object position

Proceed as above using the **Position modification** tool, but hold down the **Control Key** while you move one of the points of the object.


Modifying the position of a selection

Select, as explained in the paragraph Selecting objects, all the points and objects that you wish to move.

Then click one of the points using the **Position modification** tool and drag the mouse until the new position is reached (or double click the point to open the modification dialog box as indicated above).

Inserting a point

The **Insert** tool can be used to insert a new point on an existing line (or area).

1. Select the **Insert** tool from the Toolbar (note that the cursor appears as  on the screen).
2. Click a point on the line after which a new point is to be inserted.
3. Drag the cursor (at this moment two lines are drawn in red and green colors) to the position of the new point. This is inserted on the line in place of the initially selected point.

Note:

(1) - once you have selected the Insert point on the line (the cursor then appears as a **Plotting** tool but the **Insert** tool is still selected in the Toolbar), you can use the keyboard to enter the position of the point to be inserted in the cursor display.

(2) - right click a point to bring up the context menu to quickly select this tool.

Selecting objects

The **Select** tool is used to select points and/or objects (lines, areas) in order to apply modifications such as removing or modifying the position (see paragraphs above).

Selecting points and objects



Using the **Select point** tool click a point (**Waypoint** , mark, etc.) to select it (it is highlighted).

Note:

- (1) - You can make multiple selections by holding the **Shift** key down while you click points or objects using the **Select point**.
- (2) - unselected all of the points by clicking the chart away from the points using the **Select point** or click these tools in the Toolbar.

Selecting a region

Using the **Select** tool, choose either the Rectangle or the Lasso option and click and drag around the region to be selected. When you release the mouse button, all the points located in the region that you have covered are selected (waypoints, personal marks, **track** points, etc.). They are highlighted.

[Selecting all...] under the [Edit] menu

This option can be useful when you want to copy all plotting data from the active layer to another layer.

Related topic : "[Copying Marks and tracks](#)"

Selecting a type of object

1. Go to the **[Edit]** menu, choose **[Select ...]**.
2. Choose the type of object as well as the characteristics (color, etc.) that you wish to look for, then click **OK**.

All the objects displayed which meet search criteria are selected. You can then apply a modification.

Note: To modify the drawing selection color refer to related topic "**Option: display**"

Transforming objects

You can modify display parameters or the type of object that you have already saved. For example, you may modify a certain type of icon, transform isolated points into a line, etc.

To do this, first select as explained in the above paragraph, the objects that you wish to transform. You can select either a single point or a group of point (for example a line).

Once the object has been selected, choose **[Change selection]** from the **[Edit]** menu to call up the Modifying selection dialogue box.

The dialog box consists in two parts :

1 - In the upper of the window you can change:

- the color
 - the icon symbol
 - the line width (this is possible only if the selected object is a line)
 - the pattern
1. Check the box nearest the type you wish to change
 2. Then select the new type you want to assign.
 3. Click **OK** to validate the transformation.

2 - In the bottom of the window the Object type option allows you :

- to transform all isolated points into a line or area.
 - to transform a line or area into isolated points.
1. Choose the transformation parameters from the dialog box in particular the type of new object in the lower part of the dialog (a line for example).
 2. Then click **OK**.

IMPORTANT

If you wish to transform isolated points into a line, take care to select points in the order of the required line.

If you wish to transform a line into isolated points, take care to select a type of symbol icon.

Editing a track

See paragraph Editing a track in the chapter Ship **track** .

related topic: [Editing a track](#)

Copying marks and tracks

You can copy personal marks (marks, tracks, etc.) or groups of marks.

1. To do this, first select, as explained in the above paragraph, the marks that you want to copy.

2. Select **[Copy]** from the **[Edit]** menu (or **Cut** if you do not wish to keep the points originally selected).
3. Then select **[Paste]** from the **[Edit]** menu. This brings up the open file dialog box .
4. Select the user data layers from which you wish to copy, then click **OK**.

This very powerful function enables you to duplicate or transfer marks from one plan to another. Therefore, you can, for example, copy Decca tracks or marks onto a new plan, then apply a **GPS** position modification on another plan. You will then have an original plan of Decca references and on a new plan the same marks but from GPS.

Drawing user's data layers

Drawing User's data layers overview

Drawing user's data layer are specific vector files (with an extension ".PTF") which stack there transparency on displayed chart and on which user add marks and save his data.

The Layer zone in the Chart toolbar allows to quickly Show/Hide all opened layers and to display opened layer's list.



this symbol indicates that the selected layers are displayed on chart.



this symbol indicates that the all opened layers are hidden.

Refer to chapters **Tracking, Adding your personal drawing Marks** to learn how to save personal marks onto user's data layers.

It is possible to create and display simultaneously as many layers as is required.

Each layer has a name and is associated to a computer file saved on the hard disk. If need be, you can save the layers onto diskette or other removable media (see paragraph below Saving User's data layer file(s)).

Each layer can be displayed on or removed from the chart as the user so wishes (this is of course done without losing marks recorded on the layers).

Select the layer that you want to display directly under the list (a mark appears to sign the layer display).

When you exit the software, the list of open layers is recorded (**This list can contain up to 50 opened files**) and they will be automatically re-opened when the software is next used.

When the software is first run, an empty user data layer is automatically created and named **Layer.ptf**. This file is activated and displayed on chart by default.

If you wish to save data that you have plotted on chart, create a new file or save as and rename the current layer file (**layer.ptf** by default)

You should save your tracks onto this layer or create a new file which can be named Track.ptf (see chapter **Ship track**) and your marks onto an another one named Marks.ptf (see chapter **Marks**).

In this section :

1. [Opening user's data layer file\(s\)](#)
2. [Displaying user's data layer](#)
3. [Activating a user's data layer](#)
4. [Drawing layer's catalog](#)
5. [Showing and Hiding user's data layers](#)

6. [Closing user's data layer file \(s\)](#)
7. [Saving User's data layer file\(s\)](#)
8. [Creating user's data layer file \(s\)](#)

Related topics:

1. [User's data](#)
2. [Opening PTF file copy protected](#)

Note: You can also create as many user data layers as you wish giving them different names. These files are saved in "My document " folder.

Opening user's data layer file (s)

To open a data file which you have already saved:

- 1 - select **[Open]** from the **[File]** menu.
- 2 - Next click on the pop-up menu **Format of file (*.ptf)**.
- 3 - Finally select the personal User's Data file that you want to open from the list and click on **Open**.
- 4 - The User's data layer is displayed on the chart. It contains your track and any specific data you've added to the charts.

Note:

- (1) - You can have multiple user's data layers open at one time.
- (2) - If the active file and the chart are in known and different **datum** , you have to convert the datum.
For more information, refer you to [Horizontal datum conflict chapter](#).

PTF file copy protected

All the data recorded in a layer copy protected requires permits for opening it.

When opening the data layer copy protected the password dialog box appears and allows you to enter the permits.

IMPORTANT

You won't be able to open a password-protected layer if you don't have permits.

Displaying user's data layer

You have seen in the "**Adding personal drawing Marks**" chapter that the marks you plot (marks, lines, areas, etc.) are recorded onto the **active** user's data layer. The name of this active layer is displayed in the chart's window title.

When you have created several drawing user's data layers, you may want to record some marks on one layer file, and others to a different layer.

Two ways for choosing the user's data layer on which you will save your next marks:

1 - Directly from the Toolbar

- Click the plotting tool to pull down the drawing layer's list.
- Choose a drawing layer in the list .
- Click again to valid your choice.
- At this moment the layer's name is replaced by the new one in the Window's title.

2 - From menu toolbar

- Choose **[Set Active Layer]** from the **[Edit]** menu to show the available layer's list.
- Click a drawing layer for activating it .
- Simultaneously the layer's name appears in the Window's title.

Note: when the active layer is hide and you plot marks, the layer is automatically activated and appears again on the chart.

Two ways to specify which drawing user's data layer you wish to display or hide

You can use the "Show / hide" function to improve drawing user's data display visibility and to avoid of having too many information on screen. Two ways to show or hide one or several layers you wish to display together on the chart and those you wish to hide:



1 - Directly from the chart toolbar:

- Simple click the layer zone to check or uncheck quickly the group of layers.
- At this moment all layers are displayed or not.
- Click the arrow nearest the layer zone to pull down the layer's list.
- Click the layer that you wish to display on the chart.

2 - from the catalog :

All drawing user's data layers are listed in a catalog. The catalog allows to choose the layer that you wish to show or hide on the chart. Refer to the related topic to learn more about [Layer's catalog](#).

IMPORTANT

Always be aware that each time you plot a mark or an event, it is recorded onto the active user's data layer whose name is displayed in the Chart window's title.

Drawing layer's catalog

All drawing user's data layers presently opened, are grouped in a catalog.

To display the Drawing layer's catalog:

- Choose **[Catalog]** from the **[Display]** menu to bring up the catalog's window

To choose the layer that you wish to show or hide on the chart:

- Click in each boxes nearest of each layer to specify which layer you wish to display on the chart.

To quickly show or hide all together the selected layers:

- Click the box nearest the first level Drawing layer.

Showing and Hiding user's data layers

To specify which layers you wish to display or hide.

1. Click on the Layer zone button.
2. Check or uncheck each opened layer in the drop down list to show or hide it on the chart.

Note: when the active layer is hidden and you plot marks, the layer is automatically activated and appears again on the chart.

To hide all User's data layers :

1. Click the Layer zone button, at this moment all layers are hidden

Closing user's data layer file (s)

The different user's data layer files that you have created or opened can be displayed on the chart.

To save computer memory and speed up the software, it is best to close all user data layers that are open but not being actively used.

To close one of these **open layer files** (it will be on the hard disk, but will not be immediately available in the software).

To close a data file which you have opened before and which is displayed on the chart:

1. select **[Close]** from the **[File]** menu.
2. choose the file
3. to simultaneously close several files, press the **"Ctrl"** key while selecting the files from the close dialog box.
4. click on close to validate.

IMPORTANT

Layer.ptf is the active layer by default and can never be closed.

Note:

- (1) - when you quit the software the list of files which are currently displayed is saved and the next time the software is launched these files will automatically be opened.
- (2) - if the user's data layer file(s) that you have closed has/have been modified since the last save, the software informs you that the corresponding file(s) has/have not been saved and offers you the option to do so.
- (3) - if the user data layer closed was the active layer, the following layer in the list of layers becomes the active layer (its name is displayed in the chart window).

Saving User's Data layer file(s)

IMPORTANT - Each time that you add or modify marks on a user's data layer, the modification is saved in the Layer.ptf file by default. The save is only permanent on different layer files once you have explicitly saved the corresponding user's data layer file (this avoids saving modifications which have been made mistakenly).

YOU SHOULD MAKE REGULAR SAVES ON USER'S DATA LAYER FILES ON WHICH YOU ARE WORKING. YOU SHOULD ALSO BACKUP THIS DATA IN CASE YOUR HARD DRIVE FAILS.

Saving permanently in the active user's data layer file

1. Once you have plotted marks and you wish to save them, press "**Ctrl**" + "**s**" or choose **[Save]** under the **[File]** menu, this will save automatically all plotted marks in the active layer.
- 2 - If you have plotted marks and the active file is **Layer.ptf** (the default layer). When you quit MaxSea, your marks will automatically be saved in "**Layer.ptf**" file under your "**My documents**" folder.
- 3 - when you quit the software or close a user's data layer on which information has been modified, MaxSea gives you the option to save the changes.

Saving in a chosen file

- 1 - Once you have plotted marks you wish to save them to a file:
- 2 - Choose **[Save as...]** under the **[File]** menu and select a file and folder in the location window.
- 3 - The file save dialog box which is displayed allows you to save onto disk in "**My documents**" folder user data which may be loaded at a later stage and displayed on the chart.
- 4 - After saving, the new user data layer file is automatically activated and displayed on the chart.

Note:

- (1) - a file called **Layer.ptf** exists and it is the User's data layer file by default. You can choose which layer you want to be activated and to be "shown / hidden" (related topics: [Activating a User's data layer](#) and Show and Hide user's data layers).

(2) - only the layers modified since the last backup will appear in the list and will be displayed on the chart.

Creating user's data layer file (s)

To create a new data layer file:

- 1 - select **[New...]** from the **[File]** menu.
- 2 - assign a name and specify the path where you want to save the user's data layer file.

Whatever the active layer geodesy is, a layer so created is always defined in the WGS84 geodesy

Note:

The created user's data layer is now the active file and its name is displayed in the Chart palette. At any time you can hide this layer or change the active layer you want to display on the chart.

Import user's data layer from other plotters

It is possible to read **plans** from other plotters directly into MaxSea simply by selecting the import item from the MaxSea File menu.

Data is automatically converted into **(.ptf)** files that can be modified as desired.

To import a file:

1. select **[Import to PTF]** from the MaxSea **[File]** menu:
2. Select the format type of the file you want to import:

Plotter	Version	Method before importing data:
Turbo 2000	V4.0 DOS and older (6.0.1.21)	Direct
Turbo 2000	V5.0 DOS	Direct
Furuno	GD 180 / 185	Direct or From DOS copy (More Information.)
Furuno	GD 188	Direct or From DOS copy (More Information.)
C-Plot	-	Direct
Text / ASCII	All	ASCII files
Pts / Obj	MaxSea	Exported files directly from the MaxSea software

SeaPlot / Instar	v3.0	Exported files directly from the software
QuodFish	v210. Windows	Direct (More information)
ECC	v1.8	Direct
P-Sea WinPlot	v7.76	Exported files directly from the software
Olex	v3.7	Special export (More information)
Penta	-	Direct
Shipmate RS 2500	-	From dumped file (More information)
FISH12	v1.10	Direct (More information)

3. Click on the **Next** button,
4. Choose the file source directory and click **OK**,
5. Save the file under the name you have chosen.
6. The file is converted to a (.ptf) file format and you can open it at any time in MaxSea.

Note: the software generates a "Conversion_Log.txt" file with the description of the conversion.

Advanced mode:

Choose this mode if you need to configure the type of conversion in separate files.

- Click on the View log button to see the Conversion Results.
- You will have to proceed in the same way for the other Conversion types.

File Import formats

Fishing plan from QuodFish plotter

There are 4 **QuodFish** file formats on the market. V1 and v2 are from DOS software, v3 and v4 are from Windows software. All formats have different import requirements.

The **QuodFish** import is similar to other imports:

- You can create one single PTF file from several QF files.
- Conversion_log.txt file records the work done.
- MaxSea looks for QF files in subfolders of the selected folder.

Expected files: (*.UDB) and (*.TDB)

Expected file versions: version V4.11 (other versions are not imported)

Note: in case of a bad version or any bad file format error, a message is displayed.

Shipmate RS 2500 - Dumped file

A software utility is delivered with the software which allows to create dumped file. This software is named "**ANADISK**".

This software is available on the DOS environment.

RS 2500 files is exported using the **ANADISK** software to **PTF** format.

Note: the original files can be imported one by one, imported several files into a single **PTF** file is not available.

Before importing plan from OLEX

To convert the data coming out from Plotter **Olex**, it is necessary to replace 2 files of the system **LINUX** by scripts which were developed by **MaxSea International**. When these scripts are loaded, the safeguard of the data saved on a diskette is automatically redirected in a specific files.

The files thus obtained could be transferred on a diskette.

[This show you how to convert Olex file before importing into MaxSea:](#)

Steps to be following under LINUX

Copy I&M scripts

Save the data

Copy the files on a diskette

Replace the original files

Steps to be following under Windows

Merge the files

The files must be uncompressed and renamed

Convert the data

Then import the data in MaxSea

To get the scripts and / or to obtain more information about the process contact MaxSea International

support@maxsea.fr

Before importing data files from FURUNO plotter

If the Windows system cannot read the files which are contained in the disk from **Furuno**, you have to use before a specific program to make the files available. The program that you have to use is named **Swapfuruno.bat** and it's run on Windows 98 SE system. This program will read, convert and copy all the files on the computer.

To make the User's data file from FURUNO plotter available on Windows 98 SE system :

1. Insert the **FURUNO** disk in the disk drive
2. Launch the program from **Windows [Start] menu point to [Programs] then [MaxSea Utilities] and click on [Swapfuruno]**
3. Then all the files are automatically converted and saved on your computer in "**C:Furunomx**" folder .

Now the files are ready and to continue the Imported data process in MaxSea refer you to the "[Import user's data layer from other plotters](#)" paragraph .

Importing files data from FISH12 plotter

MaxSea can convert directly fishing plans from FISH12 plotter to MaxSea PTF files. To do this you have to insert the floppy disks from the plotter into the floppy driver of your computer. Then you have to activate the import function under the File menu of MaxSea. Then, search and choose the file you wish to convert.

Marks, Tracks, MOB, Routes and waypoints are automatically saved and converted as PTF lines. As well the icons, color, date and label are also converted as attributes of MaxSea's objects.

Expected file versions: version FISH12 V1.10.0; File system v1.2.16; CMAP file system v3.0.08.

Vector Data Plan

Vector Plan (SHP and MIF)

MaxSea allows you to display your own vector plan in compatible format (SHP and MIF from MapInfo) as well the Rockeries layers showing you fishing protected zones.

These file formats are currently used in the applications like DAO / CAD and SIG.

IMPORTANT - MaxSea automatically display Rockeries plan in the good geographic system datum.

If user has created its own vector plan, he have to apply some correction to correctly open it:

- **The original values X0/Y0 must match the geographic coordinate point in the good geographic system datum.**

- The AutoCAD file has to respect the projection associated to the geographic system datum.

To open a vector plan:

1. Select the option **[Open]** from the **[File]** menu
2. Search and select the file either on your hard disk and Click **Open**

Once shown, the Vector plan is used as any type of layers and Vector plan item is added in the Layer Zone Menu as the other layers. You can show and hide them each time you need.

Each Zone Area category from Rockeries plan is displayed with the official color and pattern defined from International Oceanography Centers.

Opening the plan in the good datum system

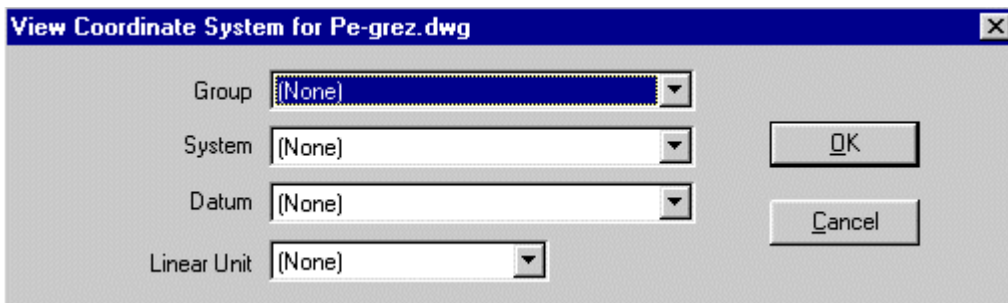
Open the file by using manual opening function.

Go to **[File]** menu, select **[Open]**

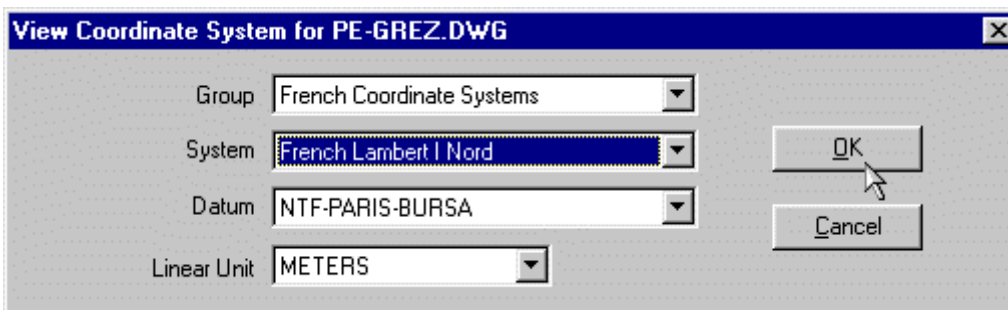
Choose "**Chart AutoCad (*.dxf ;*.dwg ;*.dgn;*.mif ;*.shp).**" file format.

Select the datum system

The following window will appear :



Select the datum system



Then click Ok.

The plan will be opened



According to the size of the file, displaying the file can take a lot of **system (RAM) memory** and can take time. It is recommended to not open other applications nor continue with operations needing system memory.

When a AutoCAD plan is already geo-referenced in MaxSea, the selected geographic coordinate system is recorded and called by default when a new file is opened: It is enough to confirm or to modify if need be.

Events

Events

Manual or automatic events are saved as in the case of the marks that were shown in the previous chapter onto the active **User Data Layer**.

When you create a manual or automatic event, a mark is saved onto the active fishing plan at the present position of the ship.

IMPORTANT

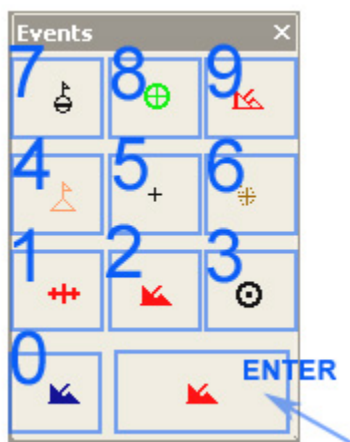
Plotting and modification of events is saved in the RAM. The save is only permanent once you have explicitly saved the corresponding fishing plan (this avoids saving modifications which have been made by mistake). You should save regularly the layer you are working on.

Related topics:

1. [Opening user's data layer file\(s\)](#)
2. [Saving User's data layer file\(s\)](#)
3. [Closing user's data layer file \(s\)](#)

Events palette

Each time you want to display the Events palette, go to the **[Display]** menu and select **[Events Display]**.



This palette allows you to create events with a simple click on an icon symbol. Each symbol is according to a number key or a number of your numeric keypad if you have.

Note : The **Events Palette** represents the exact image of the Numeric keypad as it is shown in picture above.

The "Enter"event is one that takes in account the actual symbol selected in the Toolbar

To add an event click on a number key or display the Event palette and click a symbol.

As The other palette you can move the Events palette and change its size display on the screen.

To change Symbol see related topic: "Option: Events..."

Manual event

Different manual events can be assigned to the number keys (0, 1, 2, etc.) or number keys on the numeric keypad located to the right of your keyboard.

Each key corresponds to an icon that you choose beforehand.

Related topics:

1. [Events palette](#)

2. [Configuring the numeric keypad](#)

Press one of the number keys and note that an event is saved at the present position of your boat.

Note:

- (1) - if a sounder is connected, the associate value is the one of the sounder.
- (2) - if you press Enter (on the right-hand side of your keyboard) you save an event mark as the icon presently selected in the Toolbar.

See also related topic:

[Marks for more information on icon choice](#)

Automatic events

Select **[Automatic Event On]** from the **[Route]** menu to begin automatically saving events. (**Shift + F7**)

Note:

A check mark is now displayed in front of the **[Automatic Event ON]** menu to indicate that this function is active.

If a sounder is connected, the depth associated with this mark is recorded.

Select **[Automatic Events On]** again from the **[Route]** menu to deactivate the saving function.

See related topic: "**Option:Events...**" to customize the numeric keys on keyboard or keypad (choosing the symbol according to an event) when automatic events are saved

Electronic Charts

Electronic Charts Overview

Before working with charts you may install the cartographic data which depends on various chart types, read carefully the "Installing data and cartography" chapter for more details.

The software is compatible with cartographic data from several publishers which may be in vectorial ([Vector Charts](#)) or rasterized ([Raster Charts](#)) form saved on the hard disk or CD-ROM.

(contact your dealer for more information concerning data available).

You can choose the chart to be used depending on your requirements.

In this section you will learn on :

1. [Opening several chart windows](#)
2. [Opening a chart](#)
3. [Using chart zone information](#)
4. [Changing Chart display density](#)
5. [Choosing the chart scale](#)
6. [Moving the chart](#)
7. [Choosing the chart orientation](#)
8. ["Centering on" specific locations](#)
9. [Getting information on charts](#)
10. [Using context menu](#)
11. [Closing a chart](#)

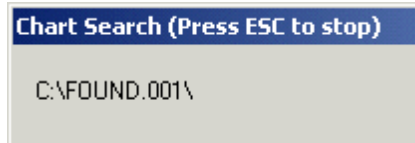
See Also Related Topics :

1. [How to adapt the layer datum to the chart you are using](#)
2. To find out about how to work either with [Raster](#) or [Vector](#) charts

Open Chart

1 - Automatic opening at first starting up the software

- At the first start, the software automatically detects the presence of all available charts (chart CD in the CD drive and on your Hard Disk).
- The automatic opening chart function looks :



- All folders inside "**My documents**" folder.
- All first level folders inside the Hard Drives or CD drive.

- The Mapmedia CD300/01 (worldwide planning charts) is automatically installed in "**My Documents**" folder.
- The first time you open the software you will be shown the "**Open Chart**" window, from which you can choose under a list the chart you wish to open.
- All of the charts you have installed will be shown to you. To simultaneously open several charts. To do so, press the **Ctrl** key while selecting each chart you want to open.

2 - Launch again the automatic opening

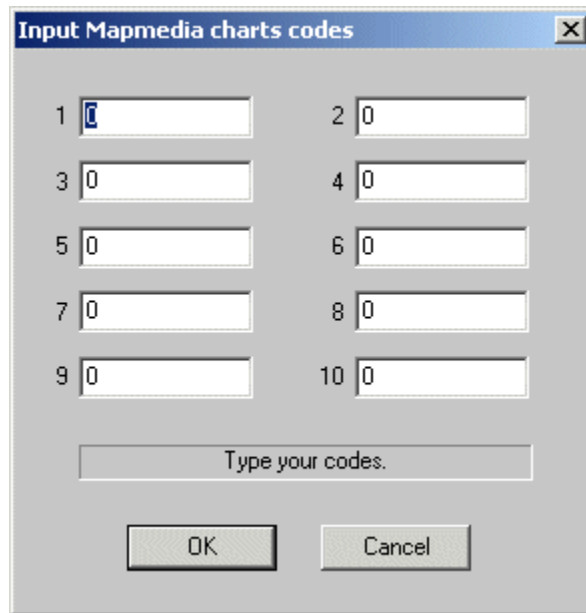
- To open a specific chart region (or series of chart regions) go to **[File]** on the menu bar, and then click on **[Open Chart]**. To stop the automatic "**Chart search**" click the ESC key.
- The "**Open chart**" window appears and shows all the charts that the software has found.
- Select a chart or several charts (to do so, press the Ctrl key while selecting the charts and click OK).
- The dialog box with the warning about the use of digitized documents appears. Click **I AGREE** to agree.

3 - Manual Opening

- However, you can also open a chart by selecting **[Open]** from the **[File]** menu, like you used to do with previous versions of software, or, for example, if you want to open charts you have already installed on your hard drive.
- The Open file window appears and allows you to specify the location where you want to locate the chart.
- Then pull down the pop-up menu **File of type** and select the type of the chart that you wish to open (**vector** or rasterized). For example, if you wish to open a **Mapmedia** CD-ROM, select **Mapmedia** from the **File of type** pop-up menu.
- Insert the **Mapmedia** CD-ROM that you wish to open. After a short while, the contents of the CD-ROM are displayed as a list in the dialog box.
- Select the chart stored on the CD-ROM by clicking its name in the list; then click **Open** (or double click the chart name in the list).
- The dialog box with the warning about the use of digitized documents appears. Click **Accept** if you agree.

After it has been loaded, the **Mapmedia** chart is displayed in the chart window.

If you forget to enter your personal codes before starting up the software, it shows automatically the "**Mapmedia user permit**" dialogue box.



The dialog box titled "Input Mapmedia charts codes" contains ten input fields arranged in two columns. The first column has fields numbered 1 through 9, and the second column has fields numbered 2 through 10. Field 1 contains a blue icon, while fields 2 through 10 contain the digit "0". Below the input fields is a text box with the placeholder "Type your codes." and two buttons labeled "OK" and "Cancel".

4 - the chart is opened and displayed in the chart window

All charts which are either Raster or Vector, are displayed in the same seamless window.

The boundaries, or outlines, of the charts you have installed are displayed on the chart to help you to find them quickly. This feature is activated by default. If you want to disable this option, select the **[option: Display...]** from the **[Display]** menu and check or un check "**Chart outlines display**" box .

The chart outline display represents a chart that is currently being used at that scale.

Note:

- (1) - The software will remember which charts were open and will display the same charts the next time the program is started.
- (2) - opening certain types of charts causes the previously used chart to close automatically.
- (3) - if you need to enter unlock codes for using Mapmedia charts go to the **[File]** menu and select **[Mapmedia User Permits...]**
- (4) - at any time you can access to the managing vector charts useful functions to update the data or to order. go to the **[File]** menu and select **[Manage 3D Database]** (**Related topic:** Vector charts installation process)

Opening several chart windows

allows you to work at the same time on several opened chart windows.

Using the "Chart Desktop" tool in the toolbar to open several window chart at same time.



	1 Chart
	1 Chart, 1 Profile
	1 Chart, 1 Profile
	2 Charts
	2 Charts, 1 Profile
	3 Charts
	3 Charts, 1 profile
	4 Charts

Then you can choose the mode of the opened windows three modes of window display are proposed :

1. Tile vertical
2. Tile horizontal
3. Cascade

Note: Only four Chart windows can be opened at the same time.

Using chart zone information

The chart zone information is the chart engine for each opened chart window. It allows you to choose which chart you want to display and to customize its display appearance when it is possible (see Vector chart). There are two categories chart zone information depending on opened chart if it is vector or raster.

Chart information on the Chart toolbar lets you control :

1. Click Chart Information button either Raster or vector, to show or hide Chart layers data in the Chart window.
2. Only one category of Chart Information button selected at the same time.
3. Chart Information arrow to open the drop-down menu list . When several Raster or Vector charts are opened together in the same window chart to choose which one you want to show or to hide.
4. When [Vector charts](#) are opened in the chart window to change the information display. The "**Chart Config**" item on zone information menu list will be simultaneously updated according to selected vector chart .
5. To change the chart "[Density](#)" depending on chart displayed in the Chart window.

IMPORTANT - Each opened chart window has its own menu chart display and it depends to the type of the chart.

Changing the display density

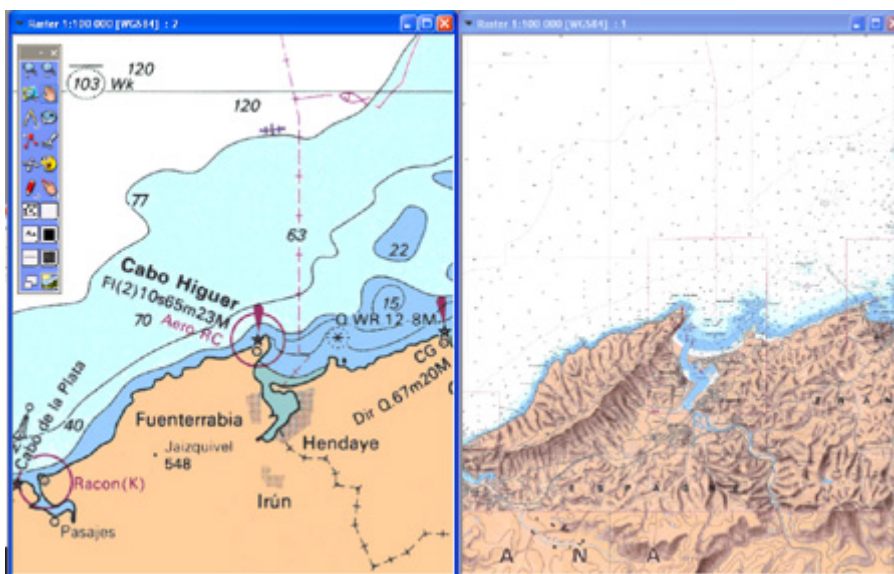
The Density function allows displaying a chart, for a given scale, more or less "under zoomed" which is a more general scale, and thus more or less rich in cartographic information.

Click the chart information zone, then select the "**Density**" option, then select a level from among the five which are proposed:

1. Low
2. Average
3. High
4. Very high
5. Maximal

If the displayed chart type is Raster:

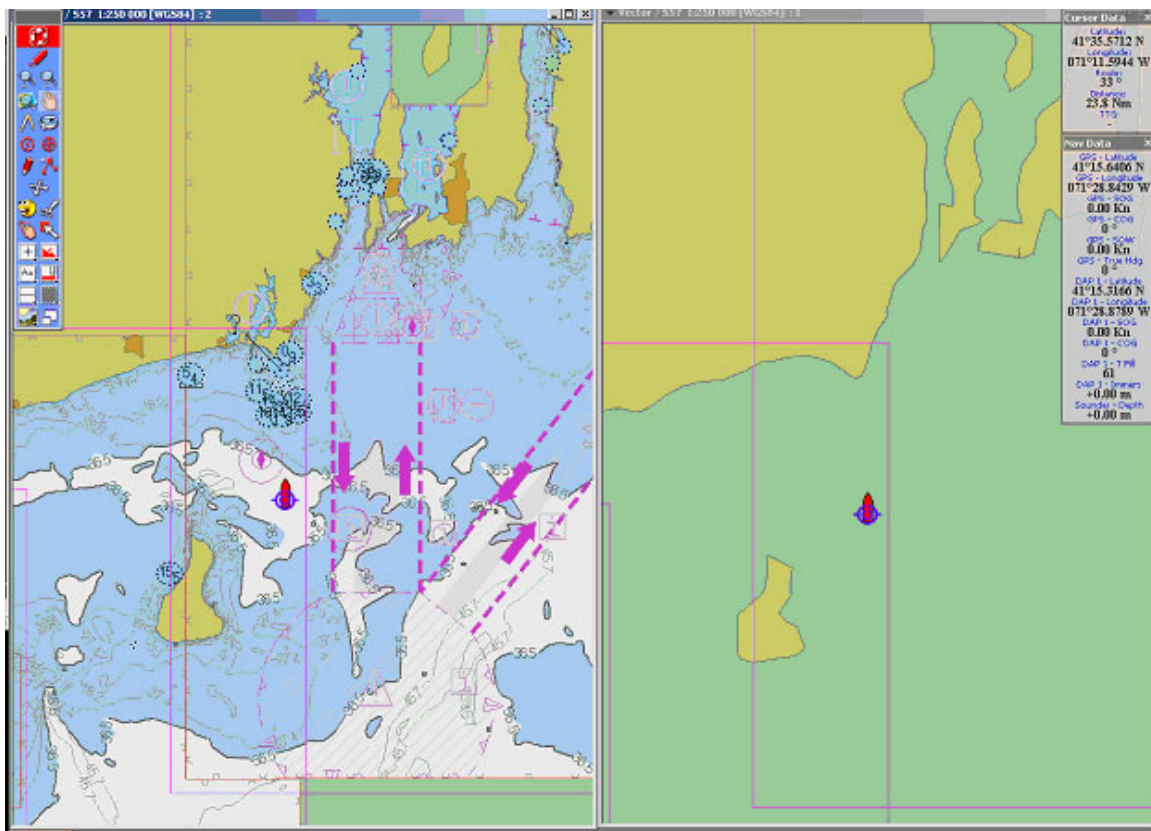
Below is a comparison example of the effect of the density on Raster charts and in particular for the mm2 Mapmedia charts.



- To the left, we have a low density: it is easy to read the probe lines.
- To the right, same scale, we can have a more detailed view around the boat.

Note: this feature favors the mm2 Mapmedia cartography which uses a powerful high density.

If the chart is Vector type



- To the left, high density
- To the right, low density, with the same scale

Note : this function is only available for Mapmedia .mm2 raster charts and vector charts.

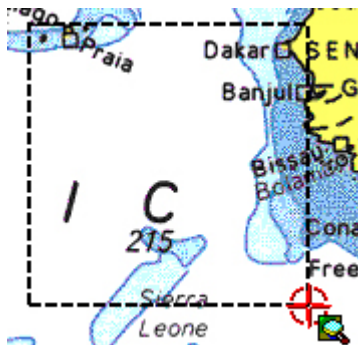
Choosing the chart scale

Generally, the software operates charts under a **seamless** mode. This is the case for **vector** charts, as well as **Mapmedia raster** charts.

You can change the scale of a chart in several ways:

1 - Using the Magnifying tool to zoom in a chosen zone

At the upper of the Toolbar is the Chart Scale Selection Tool named **Magnifying** tool . Click on once, then move the tool to the center of the area in which you want the new chart to open. Hold down the mouse button while moving the mouse to the selected area, release the button to zoom in.

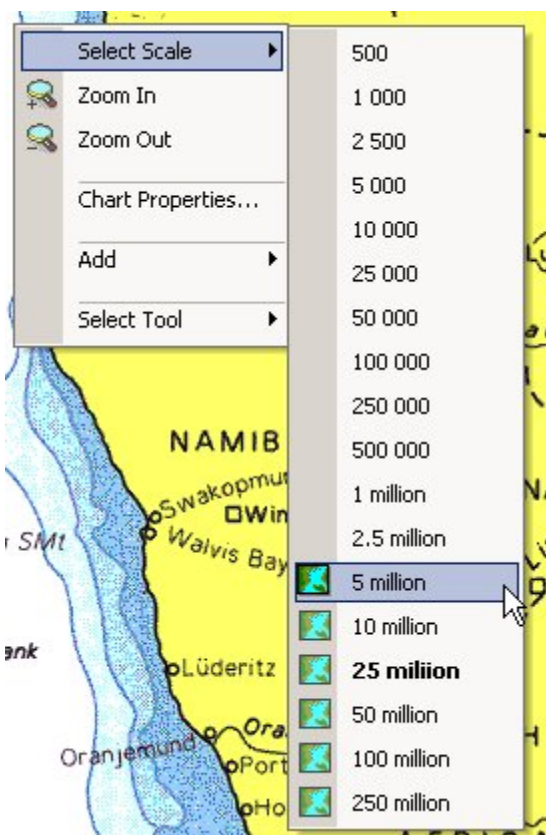


2 - Using the "Zoom in" and "Zoom out" tools

Single Left-click the "Zoom out" tool under the Toolbar zooms out the chart view. This tool is useful when you want to undo the last zoom in.

Single Left-click the "Zoom in" tool under the Toolbar zooms in the current chart view.

3 - Using the Scale pop-up palette which provides easy access to select available chart scales.



at any time with other tool selected right-click any where in the chart window to bring up the Scale pop-up palette, as mentioned below.

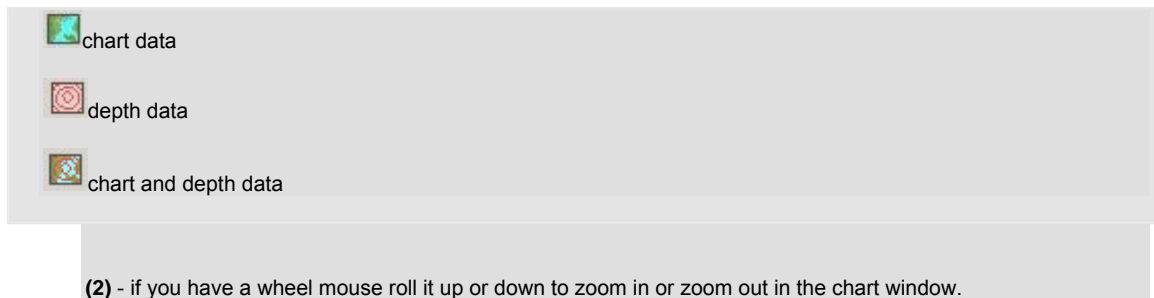
under the **[Display]** menu choose **[Select Scale]** to bring up the scale pop-up palette as mentioned below.

The available scales are indicated by a drawing symbol next to their numbers. The current activate chart scale in the "Scale Pop Up" is written in **Bold** character.

Simply choose the desired **scale**, Left-click the mouse button. The chart is drawn at the scale chosen and centered on the point clicked.

Notes:

(1) - the drawing symbol next to available scale indicates the type of data available at this scale.



Moving the chart

You can move a chart in its window in several ways.

1 - Hand tool

The **Hand** tool is what you use for panning and to access the chart data.

Left-click on once and move the cursor over the chart in the center of screen.

- single-click the left mouse button to move the chart anywhere you want it to go.
- double-click the left mouse button to access the chart data screen. Here you will find data on the chart source, its official number, the country of origin, scale, datum, and—most important—the units of depth (feet, meters, or fathoms).
- as with other tools, right-click to bring up the chart scale choices.

Note: when you release the mouse button, the software draws the part of the chart which appears following the move that you have made. Do not attempt to move a chart several times in quick succession. Wait until the software has redrawn the chart after each new move.

2 - With other tools

You can directly use the mouse buttons to move the chart in the active window.

- single-click the wheel mouse button (if you have wheel mouse) to activate the free mode panning and click again on it to release this mode.
- move the mouse near a window border and while the cursor is changed in arrow click on the left button to move the chart anywhere you want it to go.



Upper left-hand corner window chart



Upper middle-hand window chart



Upper right-hand corner window chart



Downstair left-hand corner window chart



Downstair middle-hand window chart



Downstair right-hand corner window chart

3 - Using arrow keys of the keyboard

Another way to move the chart on the screen is to use the arrow keys on the keyboard. To move the chart, just press the arrow that points in the direction that you want to see. If you want to see more of the chart to the right, press the right arrow key.

Choosing the chart orientation

The chart orientation change mode Allows adapting the display to different situations, in the case of an inland navigation the Head Up display mode allows tracking down more easily shore banks.

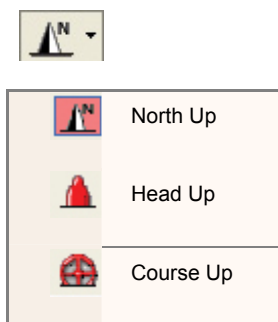


Fig.1 Chart Orientation Menu on the Chart Toolbar.

This function allows the user to orient the Charts windows in function:

1. Of the **geographic North up**: Mode the North at the top selected by default (Orientation of the chart with regard to the cartography)
2. Of its route: **Course Up** (chart orientation with regard to the active route)
3. Of its heading: **Head Up** (chart orientation with regard to the logical heading).

You can change the chart orientation simply by selecting one of the options proposed in the Orientation menu situated in the Chart palette.

To choose a chart orientation mode:

1. Click on the button " **Orientation Chart** " in the Chart Palette to enable the menu.
2. Click again in the drop-down menu a orientation mode.

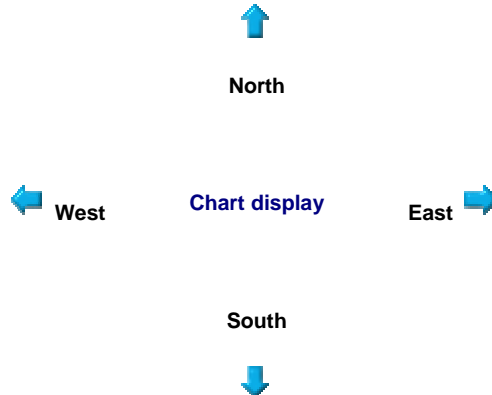
Note:

To place the North when the modes of orientation "**Course Up**" or "**Head Up**" are activated,
A compass appears in the window at the top middle of the screen.



North up mode

The chart is shown always with the North upward. This display mode is defined as default and corresponds to the orientation of the nautical charts.



Example of display mode with North at the top

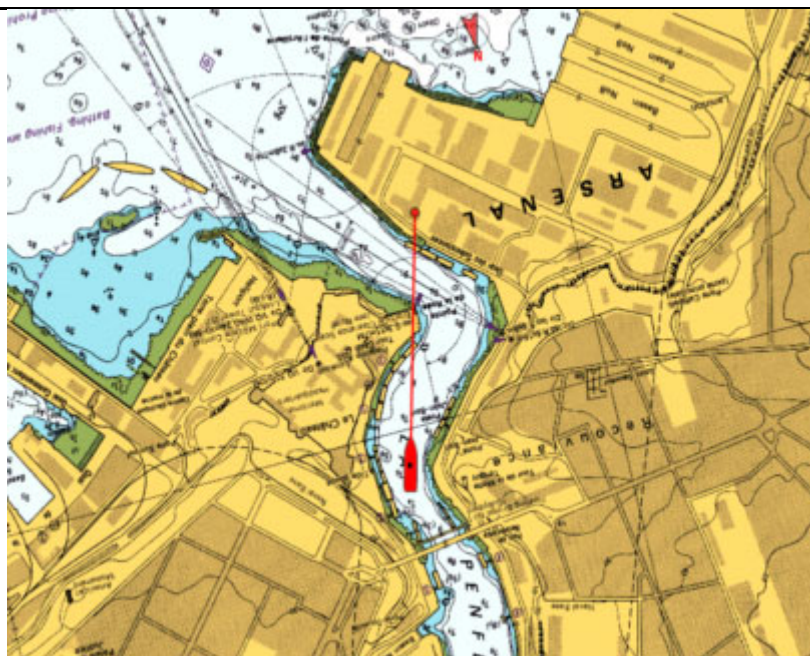


Head up mode

The chart is shown with the direction of the vessels course upward. The display orientation is constant until a new course direction is fed in.

In this mode, the information (Chart and data) is represented in the chart window with the heading directed upward. The GPS symbol will always be directed upward toward the window.

IMPORTANT -Quick modifications of the route followed by the vessel can possibly make reading the charts illegible.



Example of Head Up display mode.

(This orientation corresponds to the field of vision from the gateway in the direction of the bow of the vessel)

Note:

A rotation threshold is fixed at 10 degrees: as soon as the orientation of the window differs more than 10 degrees from the heading of the mobile, the rotation of all the data (charts / data) is started. This threshold allows avoiding a blinking screen at each refresh of the display.

The function of the Head Up orientation mode depends on the embarked material which is used:

1. This mode is always active if you use Gyro or compass, charts may turn even if the speed of the mobile is zero.
2. In the case where you use a GPS, the heading of your mobile with zero speed is not always exact. You must enter a (Fixed speed minimal value which corresponds to a release of rotation threshold). This value should be defined in the dialog box Configuration settings for the " automatic Centering "mode in Head Up mode.



Course up mode

The chart is shown with the direction of the vessel's heading always pointing upward. This orientation corresponds to the visual view from the bridge in the direction of the ship's heading.

The orientation routes at the top avoid the inconveniences of the heading representation at the top due to yaws or other changes of heading.



Note: for Course-up and Leg-up mode, North direction is indicated by the compass rose symbol.

When you are using a Raster chart, the written information will turn on the chart, making it more difficult to read.
On Vector charts written information is displayed horizontally while only the chart turns.

Related topic: [Customizing the Auto Center mode display](#)

This mode follows the management of routes. It is therefore possible that the window orientation does not follow the axis "Active Waypoint / previous Waypoint", this is the case when the function "Activate Next Waypoint" is enabled.



Orientation on target waypoint W001 for route W000 / W001



Activation of W003 as the next waypoint to reach



New orientation for target waypoint W003 for route W000 / W001

W000 / W003

IMPORTANT - Certain data is not compatible with the Head Up and Course Up modes. And work only in North Up mode:

1. The planisphere (with depths sounds),
2. The Lat / Lon grid,
3. Hyperbolas
4. The color weather report representation,
5. The 2D display / 3D.

Centering on specific geographic locations

You can quickly move the chart to frequently visited locations by defining centering points.

To define centering points which permit you to directly center the chart on the recorded points:

1. Choose **[Center On]** from the **[Display]** menu .
2. A list is displayed in left zone area of the dialog (by default the zone is empty, see the related topic "Creating centering points").
3. Select a location in the list
4. Click the **"Center On"** button to automatically center the chart on the chosen location.

Getting information on charts

To get information on each chart displayed in the window.

Using the RIGHT CLICK

1. Any where on the chart to call up the context menu.
2. Choose and click again on the **"Chart properties..."** option.

Using the Pan tool

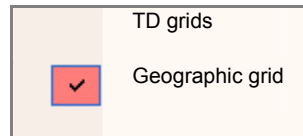
1. Click the Pan tool in the Toolbar.
2. Position the cursor any where in the Chart window.
3. Double click in the chart window to bring up an informational dialog window.

The dialog box supplies information available for the displayed chart and

Click **OK** to close the dialog information box.

Displaying the geographic grid

To display the geographic grid over the chart:



>> see note(2)

1. Click on the Grid button in the Chart Toolbar to turn ON/OFF the grid display
2. Go to the menu bar point **[Display]** and left-click **[Option: Display...]**, for changing the Grid color
 - Select a color which is blue by default
 - Click **"OK"** to confirm.

Note:

- (1) - the Show/Hide function is applied in the active Chart window, in case two windows are opened and you can decide to display the geographic grid in a window and not in the other one.
- (2) - when you are using a specific Hyperbole system, you can display it on the chart (the name of the hyp1 and/or hyp2 checked boxes are replaced to the system name that you are using. In this case the software allows you to select a display level for each hyperbole system) and the TD Grids is added in the Grid menu list. When you are not able to use Hyperbole system this part is not available.

Using contextual menus

MaxSea makes extensive use of "contextual menus", which let you access the most useful commands related to the selected chart with your right mouse button.

To display the chart contextual menu

- 1 - Position the cursor over the chart any where in the Chart window.
- 2 - Right-click to bring up the context menu.
- 3 - All the available items depend of the selected chart format.

The menu lets you access (for both raster and vector charts):

Most common commands and tools (zoom in, zoom out, select scale)

Chart Properties window which supplies information available for the displayed chart.

Most common functions to ADD (waypoint, mark, line etc....)

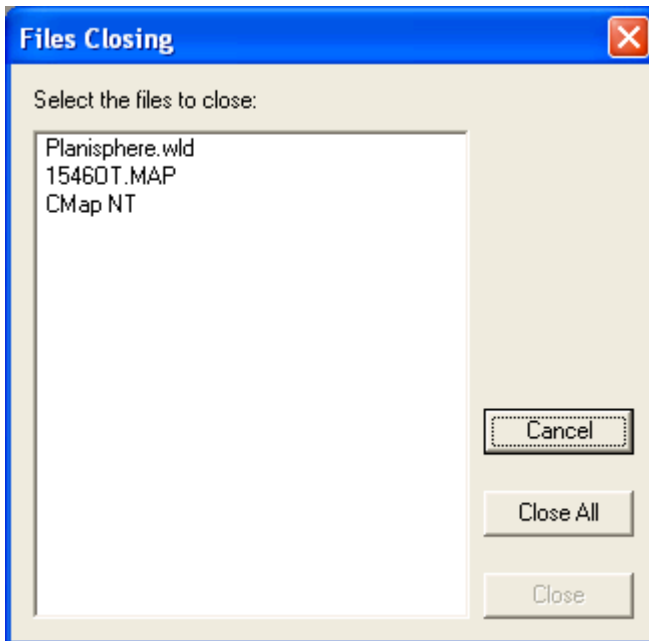
If the selected chart is a vector chart, the menu also lets you access:

Chart Object properties

Specific items according to the characteristic of the vector chart (Related topic : C-Map charts display options)

Closing a chart

Select [**Close**] from the [**File**] menu to call up the following dialog box:



Select from the list the chart (or various charts using the keyboard **Ctrl Key** under Windows) that you wish to close, then click **Close**.

Note: One chart and one layer must remain open at all times. MaxSea will not allow you to close the last remaining chart or layer.

Horizontal datum conflict

Horizontal datum conflict

Thanks to this function, you can adapt the layer **datum** to the chart's one on which it is displayed.

Manually

To convert a (***.PTF**) file or a route file to the current chart datum :

1. Go to the [**Edit**] menu and choose [**Datum Conversion**].

2. Select the Active file, its Origin and Destination from the corresponding pop-ups,
3. then click the **OK** button.

Automatic Alarm

The following alert is displayed on the screen in two cases :

1. The active file and the chart are in known and different datum.
2. The active file datum is known and there are more than one datum in the window.

If you wish to convert the layer geodesy:

1. Click on "**Convert**" button to display the datum conversion dialog,
2. Choose the layer you wish to convert,
3. Select **Origin** datum geodesy of the layer,
4. Choose the **Destination** geodesy of the layer,
5. Click on **OK** to apply the datum conversion.

Available datum list

- 001 WGS 1972 -- Global Definition
- 002 WGS 1984 -- Global Definition
- 003 Adindan -- MEAN FOR Ethiopia, Sudan
- 004 Adindan -- Burkina Faso
- 005 Adindan -- Cameroon
- 006 Adindan -- Ethiopia
- 007 Adindan -- Mali
- 008 Adindan -- Senegal
- 009 Adindan -- Sudan
- 010 Afgooye -- Somalia
- 011 Ain el Abd 1970 -- Bahrain
- 012 Ain el Abd 1970 -- Saudi Arabia
- 013 Anna 1 Astro 1965 -- Cocos Islands
- 014 Antigua Island Astro 1943 -- Antigua (Leeward Islands)
- 015 Arc 1950 -- MEAN FOR Botswana, Lesotho, Malawi, Swaziland, Zaire, Zambia, Zimbabwe
- 016 Arc 1950 -- Botswana
- 017 Arc 1950 -- Burundi
- 018 Arc 1950 -- Lesotho

- 019 Arc 1950 -- Malawi
- 020 Arc 1950 -- Swaziland
- 021 Arc 1950 -- Zaire
- 022 Arc 1950 -- Zambia
- 023 Arc 1950 -- Zimbabwe
- 024 Arc 1960 -- MEAN FOR Kenya, Tanzania
- 025 Ascension Island 1958 -- Ascension Island
- 026 Astro Beacon E 1945 -- Iwo Jima
- 027 Astro DOS 71/4 -- St Helena Island
- 028 Astro Tern Island (FRIG) 1961 -- Tern Island
- 029 Astronomical Station 1952 -- Marcus Island
- 030 Australian Geodetic 1966 -- Australia & Tasmania
- 031 Australian Geodetic 1984 -- Australia & Tasmania
- 032 Ayabelle Lighthouse -- Djibouti
- 033 Bellevue (IGN) -- Efate & Erromango Islands
- 034 Bermuda 1957 -- Bermuda
- 035 Bissau -- Guinea-Bissau
- 036 Bogota Observatory -- Colombia
- 037 Bukit Rimpah -- Indonesia (Bangka & Belitung Islands)
- 038 Camp Area Astro -- Antarctica (McMurdo Camp Area)
- 039 Campo Inchauspe -- Argentina
- 040 Canton Astro 1966 -- Phoenix Islands
- 041 Cape -- South Africa
- 042 Cape Canaveral -- Bahamas, Florida
- 043 Carthage -- Tunisia
- 044 Chatham Island Astro 1971 -- New Zealand (Chatham Island)
- 045 Chua Astro -- Paraguay
- 046 Corrego Alegre -- Brazil
- 047 Dabola -- Guinea
- 048 Djakarta (Batavia) -- Indonesia (Sumatra)
- 049 DOS 1968 -- New Georgia Islands (Gizo Island)
- 050 Easter Island 1967 -- Easter Island
- 051 European 1950 -- MEAN FOR Austria, Belgium, Denmark, Finland, France, W Germany, Gibraltar, Greece, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland

- 052 European 1950 -- MEAN FOR Austria, Denmark, France, W Germany, Netherlands, Switzerland
- 053 European 1950 -- MEAN FOR Iraq, Israel, Jordan, Lebanon, Kuwait, Saudi Arabia, Syria
- 054 European 1950 -- Cyprus
- 055 European 1950 -- Egypt
- 056 European 1950 -- England, Channel Islands, Ireland, Scotland, Shetland Islands
- 057 European 1950 -- Finland, Norway
- 058 European 1950 -- Greece
- 059 European 1950 -- Iran
- 060 European 1950 -- Italy (Sardinia)
- 061 European 1950 -- Italy (Sicily)
- 062 European 1950 -- Malta
- 063 European 1950 -- "Portugal, Spain
- 064 European 1979 -- MEAN FOR Austria, Finland, Netherlands, Norway, Spain, Sweden, Switzerland
- 065 Fort Thomas 1955 -- Nevis, St. Kitts (Leeward Islands)
- 066 Gan 1970 -- Republic of Maldives
- 067 Geodetic Datum 1949 -- New Zealand
- 068 Graciosa Base SW 1948 -- Azores (Faial, Graciosa, Pico Sao Jorge, Terceira)
- 069 Guam 1963 -- Guam
- 070 Gunung Segara -- Indonesia (Kalimantan)
- 071 GUX 1 Astro -- Guadalcanal Island
- 072 Herat North -- Afghanistan
- 073 Hjorsey 1955 -- Iceland
- 074 Hong Kong 1963 -- Hong Kong
- 075 Hu-Tzu-Shan -- Taiwan
- 076 Indian -- Bangladesh
- 077 Indian -- ndia, Nepal
- 078 Indian 1954 -- Thailand, Vietnam
- 079 Indian 1975 -- Thailand
- 080 Ireland 1965 -- Ireland
- 081 ISTS 061 Astro 1968 -- South Georgia Islands
- 082 ISTS 073 Astro 1969 -- Diego Garcia
- 083 Johnston Island 1961 -- Johnston Island
- 084 Kandawala -- Sri Lanka
- 085 Kerguelen Island 1949 -- Kerguelen Island

- 086 Kertau 1948 -- West Malaysia & Singapore
- 087 Kusaie Astro 1951 -- Caroline Islands
- 088 L. C. 5 Astro 1961 -- Cayman Brac Island
- 089 Leigon -- Ghana
- 090 Liberia 1964 -- Liberia
- 091 Luzon -- Philippines (Excluding Mindanao)
- 092 Luzon -- Philippines (Mindanao)
- 093 Mahe 1971 -- Mahe Island
- 094 Massawa -- Ethiopia (Eritrea)
- 095 Merchich -- Morocco
- 096 Midway Astro 1961 -- Midway Islands
- 097 Minna -- Cameroon
- 098 Minna -- Nigeria
- 099 Montserrat Island Astro 1958 -- Montserrat (Leeward Islands)
- 100 M'Poraloko -- Gabon
- 101 Nahrwan -- Oman (Masirah Island)
- 102 Nahrwan -- Saudi Arabia
- 103 Nahrwan -- United Arab Emirates
- 104 Naparima BWI -- Trinidad & Tobago
- 105 North American 1927 -- MEAN FOR Antigua, Barbados, Barbuda, Caicos Islands, Cuba, Dominican Republic, Grand Cayman, Jamaica, Turks Islands
- 106 North American 1927 -- MEAN FOR Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua
- 107 North American 1927 -- MEAN FOR Canada
- 108 North American 1927 -- MEAN FOR CONUS
- 109 North American 1927 -- MEAN FOR CONUS (East of Mississippi River) Including Louisiana, Missouri, Minnesota
- 110 North American 1927 -- MEAN FOR CONUS (West of Mississippi River)
- 111 North American 1927 -- Alaska
- 112 North American 1927 -- Bahamas (Except San Salvador Island)
- 113 North American 1927 -- Bahamas (San Salvador Island)
- 114 North American 1927 -- Canada (Alberta, British Columbia)
- 115 North American 1927 -- Canada (Manitoba, Ontario)
- 116 North American 1927 -- Canada (New Brunswick, Newfoundland Nova Scotia, Quebec)
- 117 North American 1927 -- Canada (Northwest Territories, Saskatchewan)

- 118 North American 1927 -- Canada (Yukon)
- 119 North American 1927 -- Canal Zone
- 120 North American 1927 -- Cuba
- 121 North American 1927 -- Greenland (Hayes Peninsula)
- 122 North American 1927 -- Mexico
- 123 North American 1983 -- Alaska, Canada, CONUS
- 124 North American 1983 -- Central America, Mexico
- 125 Observatorio Metereo. 1939 -- Azores (Corvo & Flores Islands)
- 126 Old Egyptian 1907 -- Egypt
- 127 Old Hawaiian -- MEAN FOR Hawaii, Kauai, Maui, Oahu
- 128 Old Hawaiian -- Hawaii
- 129 Old Hawaiian -- Kauai
- 130 Old Hawaiian -- Maui
- 131 Old Hawaiian -- Oahu
- 132 Oman -- Oman
- 133 Ord. Survey G. Britain 1936 -- MEAN FOR England, Isle of Man, Scotland Shetland Islands, Wales
- 134 Ord. Survey G. Britain 1936 -- England
- 135 Ord. Survey G. Britain 1936 -- England, Isle of Man, Wales
- 136 Ord. Survey G. Britain 1936 -- Scotland, Shetland Islands
- 137 Ord. Survey G. Britain 1936 -- Wales
- 138 Pico de las Nieves -- Canary Islands
- 139 Pitcairn Astro 1967 -- Pitcairn Island
- 140 Point 58 -- MEAN FOR Burkina Faso & Niger
- 141 Pointe Noire 1948 -- Congo
- 142 Porto Santo 1936 -- Porto Santo, Madeira Islands
- 143 Provisional S. American 1956 -- MEAN FOR Bolivia, Chile, Colombia, Ecuador, Guyana, Peru, Venezuela
- 144 Provisional S. American 1956 -- Bolivia
- 145 Provisional S. American 1956 -- Chile (Northern, Near 19jS)
- 146 Provisional S. American 1956 -- Chile (Southern, Near 43jS)
- 147 Provisional S. American 1956 -- Colombia
- 148 Provisional S. American 1956 -- Ecuador
- 149 Provisional S. American 1956 -- Guyana
- 150 Provisional S. American 1956 -- Peru


- 151 Provisional S. American 1956 -- Venezuela
- 152 Provisional S. Chilean 1963 -- Chile (South, Near 53°S) (Hito XVIII)
- 153 Puerto Rico -- Puerto Rico, Virgin Islands
- 154 Qatar National -- Qatar
- 155 Qornoq -- Greenland (South)
- 156 Reunion -- Mascarene Islands
- 157 Rome 1940 -- Italy (Sardinia)
- 158 Santo (DOS) 1965 -- Espirito Santo Island
- 159 Sao Braz -- Azores (Sao Miguel, Santa Maria Islands)
- 160 Sapper Hill 1943 -- East Falkland Island
- 161 Schwarzeck -- Namibia
- 162 Selvagem Grande -- Salvage Islands
- 163 South American 1969 -- MEAN FOR Argentina, Bolivia, Brazil, Chile Colombia, Ecuador, Guyana, Paraguay Peru, Trinidad & Tobago, Venezuela
- 164 South American 1969 -- Argentina
- 165 South American 1969 -- Bolivia
- 166 South American 1969 -- Brazil
- 167 South American 1969 -- Chile
- 168 South American 1969 -- Colombia
- 169 South American 1969 -- Ecuador
- 170 South American 1969 -- Ecuador (Baltra, Galapagos)
- 171 South American 1969 -- Guyana
- 172 South American 1969 -- Paraguay
- 173 South American 1969 -- Peru
- 174 South American 1969 -- Trinidad & Tobago
- 175 South American 1969 -- Venezuela
- 176 South Asia -- Singapore
- 177 Tananarive Observatory 1925 -- Madagascar
- 178 Timbalai 1948 -- Brunei, East Malaysia (Sabah, Sarawak)
- 179 Tokyo -- MEAN FOR Japan, Korea, Okinawa
- 180 Tokyo -- Japan
- 181 Tokyo -- Korea
- 182 Tokyo -- Okinawa
- 183 Tristan Astro 1968 -- Tristan da Cunha


- 184 Viti Levu 1916 -- Fiji (Viti Levu Island)
- 185 Wake-Eniwetok 1960 -- Marshall Islands
- 186 Wake Island Astro 1952 -- Wake Atoll
- 187 Yacare -- Uruguay
- 188 Zanderij -- Suriname
- 189 Norsk Gradnett
- 190 RT90/RH70 or RT38/RH70
- 191 IGN NTF

Raster charts

Raster charts

Raster is a Computer graphics term describing a predetermined pattern of line that provides uniform coverage of a display space. Raster graphics are computer graphics that are composed of an array of pixels arranged in rows and columns. Raster charts are stored as a series of pixels.



<p>The Chart Zone Information lists all available charts and allows you to switch between them for displaying on screen the chart that you want to see. .</p>		Planisphere.wld
<p>In our example Navigation Chart is selected and displayed</p>		<p>15460.MAP</p> <p>Vertical Aerial Photo</p> <p>Navigation Chart</p>
<p>Allows you to change the chart density display.</p>		<p>Density</p>

All your Raster charts can be opened together in the same window chart.

Show / Hide one or all together charts in the opened window :

1. Click the **[Chart zone information]** on the chart toolbar to show or hide all together opened charts in the active Chart Window.
2. Click the Chart Zone Information Arrow to open the drop-down menu list and click a chart file name to show or hide it.

Note:

1 - A red mark nearest the chart file name indicates that the chart is shown.

2 - The chart data display depends of the scale chart selected.

Create a new Raster chart window:

- 1. Select **[New chart window...]** from the **[Window]** menu.
- 2. A window chart is automatically opened when only one type of window chart is opened.
- 3. A dialog box appears when different types of chart window are opened together. You will have to choose which type of window chart you want to create raster or vector type.

In this section documentation about using different types of raster charts

- [Mapmedia mm2](#)
- [Mapmedia v1 charts](#)
- [ARCS / SeaFarer catalog](#)
- [Maptech chart pack](#)
- [Maptech chart kit](#)

Related topics about how to install raster charts


- [Mapmedia mm2](#)
- [Mapmedia v1](#)
- [ARCS / Seafarer](#)
- [Maptech BSB](#)

Raster charts

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In this section documentation about using different types of raster charts

[Mapmedia mm2](#)

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Related topics about how to install raster charts

[Mapmedia mm2](#)

[Mapmedia v1](#)

[ARCS / Seafarer](#)

[Maptech BSB](#)

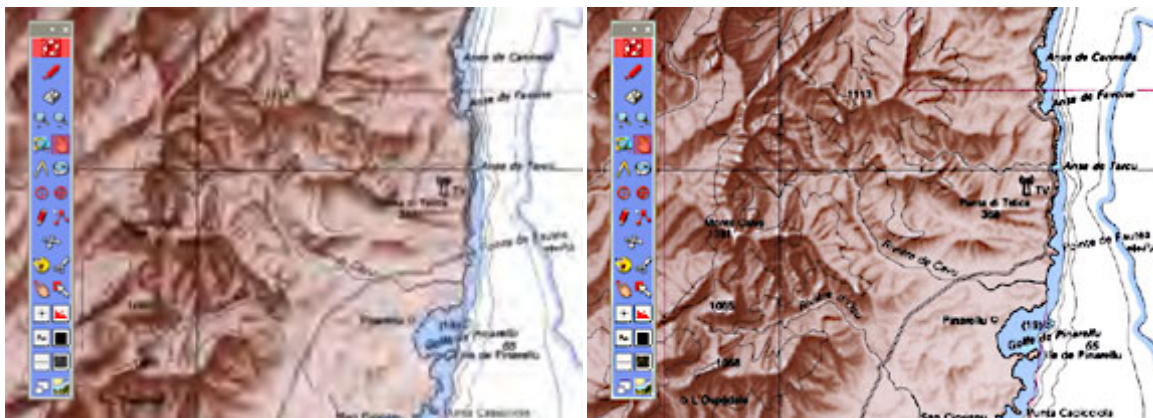
Mapmedia mm2

Mapmedia mm2 Charts

Mapmedia mm2 charts are in the " the second generation " Raster format, the display quality of the text has been improved (anti aliasing effect).

Mapmedia mm2 charts are in 16,7 million colors, this improvement in the quality of your charts displayed on the screen is not achieved at the expense of disk space.

The screen refresh display, when you move within the Cartographic window, is made gradually with an intermediate display which seems fuzzy (example below).



Display partially in favor the speed of movement

Net and optimal final display of the data

Contrary to the other cartographic formats which lose in quality and in performance when we pass from a lower scale (under-zooming) of the chart, the .mm2 chart format Does not lose its quality or display speed.

The Mapmedia mm2 format offers numerous advantages:

The management of the mm2 cartographic format permits optimal organization of cartographic data to best display your charts.

The fast and simplified installation allows managing mm2 Mapmedia charts directly from MaxSea, by way of the Mapmedia mm2 charts catalog.

Using Mapmedia mm2 charts

All the functions are described in the chapter " the use of Mapmedia mm2 cartography charts"

Only the functions of opening and closing charts are different in the properties drop-down of the Mapmedia mm2 cartography window.

1. To open and / or close a Mapmedia mm2 chart use the Mapmedia mm2 charts catalog
2. To display and/ or hide the Mapmedia mm2 cartography click in the Chart information Zone
3. To Choose the display density of The chart
4. To move the cartography use the Toolbar or the right click to access the associated pop-up menu
5. To move one chart to another one
6. To obtain information about the Mapmedia mm2 charts Use the Mapmedia mm2 chart properties window

Open Mapmedia mm2 charts

The process of opening and closing Mapmedia mm2 chart is different from that used for Mapmedia v1 charts.

When Mapmedia mm2 charts are installed and registered they are permanent and they are stored in a catalog.

1. **To open** a new mm2 Mapmedia chart you have to enable the procedure of recording mm2 Mapmedia charts.
2. **To Close** a mm2 Mapmedia chart, moreover not to display it in MaxSea, you have to delete the chart from the Mapmedia mm2 catalog. When you delete the chart from catalog it will not appear any more in the display on the other hand it is not deleted from the hard disk.

Mapmedia mm2 charts were recorded and the licences were entered, "Mapmedia mm2" option appears in the charts information drop-down menu list.

Catalog of Mapmedia mm2 charts

Mapmedia mm2 charts are listed in a catalog which includes all the information linked to the charts which are in your ownership.

To access the Mapmedia mm2 charts catalog, select the function **[Charts Catalog..]** from the menu **[File]**.

All the useful information linked to your charts are shown in this catalog

1. Chart Number Reference
2. Name of the Manufacturer which is here Mapmedia,
3. Its Chart title
4. Its reference scale,
5. Its recording status allows organization of the charts which are usable in MaxSea and those of which are not because of a detected problem. See also below available statuses list.
6. Its revision Date
7. Its Edition Date
8. Its Region of membership,
9. The file location path on the hard disk,
10. The last date the MaxSea charts were used.

Besides its informative function, the catalog will become useful as a real cartography management tool:

The Status allows the user to know which of his charts are available, and if not, what is the type of problem.

List of available statuses, that can happen:

1. **No Permit** : the user recorded his .mm2 file, but has no corresponding licence. He has to open his (".mxconfig" or ".pm2 ") license file.
2. **Bad Permit** : the licence was entered in but the mm2 chart was not recorded. In this case, the user has to record his .mm2 charts.

3. **Chart File Not Found:** the chart was not found in the place where it was saved. The chart was found on the CD, but the CD was removed or the chart recorded on the network, but the network was disconnected. The chart was recorded on the hard disk, but the user deleted or moved it.
4. **Chart File Corrupted:** the .mm2 file is damaged. It cannot be read by MaxSea, or does not answer to the .mm2 format.
5. **Chart Not Opened** the chart was correctly installed and was found but it is not currently opened in MaxSea.

To sort content in the table depending on your choice:

Double-click in a chosen cell header will increase or decrease column content depending on the selected data type (numeric or alpha numeric). For example, Double-click in "Manufacturer" cell header to display all charts which belong to Mapmedia.

To directly access a chart selected in the catalog:

1. Select a line in the table
2. Click "**Center on the chart**", the window simultaneously displays the chart which you have just selected.

Click "**Manage**" to access the management of mm2 Mapmedia charts which are in your ownership. in instance to reopen charts or to validate the Chart Catalog.

To delete a chart under the catalog list

For example when the chart status indicates "Chart File Corrupted", you can delete it by selecting the line and clicking on **Delete**.

To close the catalog, click on "**OK**", it is Simultaneously updated if you have modified the catalog.

Properties of Mapmedia mm2 charts

To display the information concerning the mm2 cartography (option Mapmedia mm2 in the chart information zone of charts being selected):

1 - Use the Toolbar

1. Click the tool **Hand** in the Toolbar to select it
2. Double-click on the chart in the active window.
3. The window " Chart Properties " appears.

2 - Use the pop-up menu

1. Click anywhere on the chart with the right button of the mouse to enable the pop-up menu.
2. Position the cursor on the option "**Chart properties**" And click to display the window.

3 - The window " Chart Properties ":

The dialog details various information available for the chart displayed in the clicked point.

1. Title of the chart
2. Hydrographic service
3. Chart Number identification of the chart

4. Its datum
5. The units

Only the applied fields will be displayed in the table, it is thus different according to the selected chart

The organization functions and configuration settings of the information Table for mm2 Mapmedia cartography are identical to those used for the center tables.

1. Double click in the title bar to anchor the table at the bottom of the screen.
2. Display in floating palette mode and folded up table which appears in tab at the bottom of the screen.

Return to the chapter Configure the table display to know more.

Switching Chart From One To Another

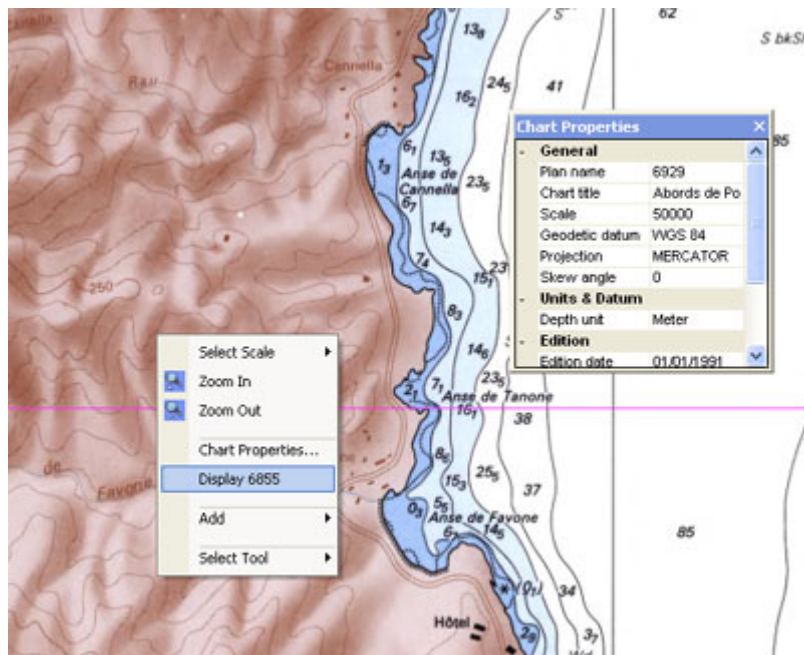
IMPORTANT - THIS FUNCTION IS ONLY ACTIVE FOR RASTER CHARTS

This function allows switching from one chart to another one when several charts of the same scale are available.

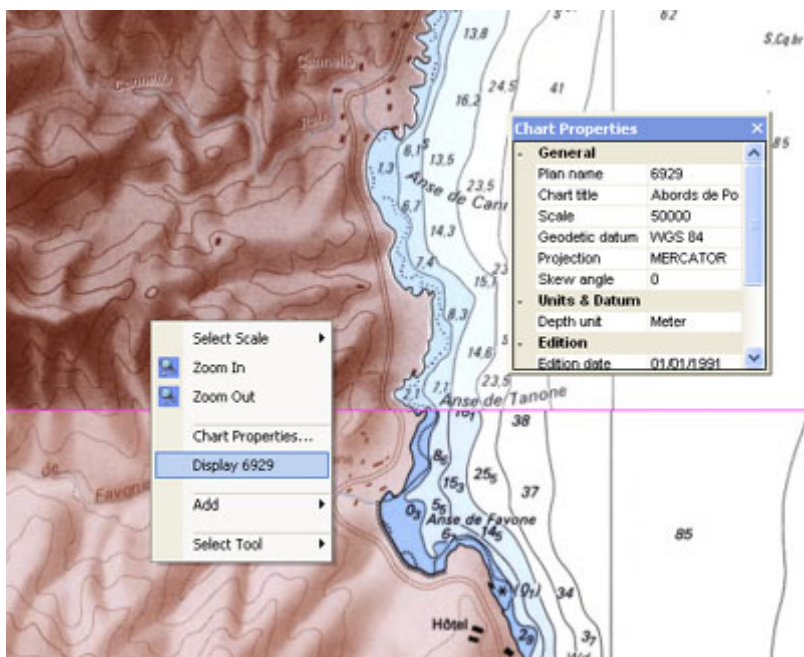
This is frequently the case at the edges of charts, several charts can overlap in the same scale (or close to the same scale in the example below the chart in the scale " 50000 " is displayed by default While in this area a chart with a scale of " 51000 " appears underneath).

To know the charts which are effectively available in this scale, enable the pop-up menu by means of a right click in the place where several charts overlap (to help you outline charts: to display them select **[Option: display]** from the menu **[Display]**).

Sample:



In this example the chart 6829 is displayed by default, the pop-up menu shows that it is possible to switch the display to the chart 6855 by selecting the corresponding option.



The chart which was hidden is displayed top and the pop-up menu is simultaneously updated and proposing the option to display it as the default chart.

Note: MaxSea records the last display changes, and defaults to the chart which has just been selected at the next start up of the program. On the other hand if the chart file is closed this configuration is not taken into account.

Mapmedia v1

Mapmedia V1 Charts

IMPORTANT - Look after your CD-ROMs, cleaning them when necessary with a product designed specifically for this purpose.

A dirty CD-ROM may lead to the malfunctioning of MaxSea and/or the system software.

Mapmedia charts are available on CD-ROM. You have the choice to buy only certain charts on the CD-ROM (you can buy other charts at a later date as you wish).

Charts are opened using codes which are sent to you by **Maxsea International** or **Mapmedia**. These codes are unique and are personal, they are linked to your hardware key.

To use a Mapmedia CD-ROM, it is necessary to configure **MaxSea**. The MapmediaConfig software, delivered with MaxSea, can be used to enter personal codes necessary for chart access.

Note:

- 1 - If you forgot to enter your personal codes before starting up the software, MaxSea shows automatically the "Mapmedia Config. CD " dialogue box.
- 2 - you will have to carry out this configuration procedure before first using a Mapmedia CD-ROM and each time that you receive new codes, following a new request for new charts.

Chart Display Fault

If you change your computer, the Mapmedia charts codes are lost. In this case it is necessary to enter the corresponding codes again, as above.

Note: you will have to repeat this operation for each one of the CD-ROMs that you have (a series of codes per CD-ROM). It is not necessary to insert a CD-ROM to enter the corresponding codes.

IMPORTANT - <u>Be sure to keep track of your personal codes</u> for Mapmedia charts.

Mapmedia 3D Batymetric Charts

Bathymetric data used by Mapmedia comes from the sounding campaigns realised by **Ifremer** and the **Hydrographic Services**. They use multi-beam sounders covering the deep up to 7 times.

The whole of the data is then processed to obtain a matrix that contains the geographical (x,y) coordinates as well as the (z) deep corresponding to every points.

Then, files are subsequently interpolated to guarantee regular information networking.

The 3D Mapmedia module allows the 3D display for a current chart zone for which you have already access rights. (refer you to the Enter 3D Mapmedia codes paragraph from Installing charts chapter)

ARCS / Seafarer CD Roms catalog

ARCS / SeaFarer catalog

Now launch MaxSea and try to open ARCS / SeaFarer charts.

To open an ARCS / SeaFarer catalog:

- either select **[Open Chart]** under the **[File]** menu.
- or you can choose to open the file **Chart.cat** under the ARCS folder. select from the **[File]** menu **[Open]** to find the chart.cat file under "**C:\Program Files\I&M\Maxsea\ARCS**" from your hard disk.

MaxSea will then open automatically the "world" chart.

To obtain information about Arcs / Seafarer and to work on it right click to call up the context menu which allows you:

- To zoom in/out and to change the scale.
- To get information by selecting **Chart properties**.
- To add object etc...

Related topics to:

[To move the chart](#)

[To choose the scale](#)

Note: this can take a certain time.

IMPORTANT - If you want to open a chart that is on the CD n°x, this CD must be in your CD drive, or must have been copied to your hard drive, either the whole CD, or just the selection of charts you have access to. If not, you will get an error message.

Adding new Chart Permits

ARCS&SeaFarerConfig software allows you to insert new chart permits.

Important: first check that the right type of permit has been selected:

- If you have ARCS skipper permit select GB.SCP window.
- If you have ARCS navigator permit select GB.NCP window.
- If you have SeaFarer chart permit select AUS.CHT window.
- If you have SeaFarer update permit select AUS.UPD window.

Go to the **[Start]** Windows menu point **[MaxSea Utilities]** and choose **ARCS&SeaFarerConfig**

A dialog will allow you to enter permit in two ways:

- from keyboard or from a **Chart Permit file** (from floppy for example).
- from a file, select from the **Permit** menu the **Insert from File...**

Insert the floppy and open the permit file (GB.SCP or GB.NCP or AUS.CHT or AUS.UPD according to your license type).

It is also possible to delete a **Chart Permit** by selecting **Delete**.

To enter a new permit from keyboard (received by phone, FAX...), select **Insert from keyboard** and enter the new permit in the following window.

Update Chart Catalog

Each time you receive a new Update CD or have ordered new charts, you have to update your installation. First be VERY careful not to mismatch any CD (for each ARCS skipper license order you receive a floppy, an update CD, and may receive one or more chart CDs). Verify the dates of each CD. Do not mismatch CDs between two orders.

To update charts, launch the **ARCS&SeaFarerConfig** software like you did before (see first part of this presentation),

1. Select **Update Charts** from the **Charts** menu, and follow instructions.
2. The update procedure is identical to chart installation. Just insert the newly ordered Chart or Update CDs when requested by installation software.
3. Then quit the installation software using **File/Quit** menu.

Verify Chart Integrity

If you have any trouble with a chart, you can verify its integrity by launching the Arcs&SeafarerConfig under Windows Start Menu > Programs > MaxSea Utilities

Then go to the **Chart** menu on the menu bar and choose **Verify chart integrity...** item.

You will be asked to open a chart file, and optionally an update file.

A dialog informs you if the file integrity is good, or if you must install it again from chart CD.

Maptech chart pack

Maptech chart pack

IMPORTANT

MaxSea handles any kind of Maptech Pack charts, excepted the charts which are not using Mercator projection.

MaxSea is not compatible with the Maptech "Super CD".

Look after your CD-ROMs, cleaning them when necessary with a product designed specifically for this purpose.

A dirty CD-ROM may lead to the malfunctioning of MaxSea and/or the system software.

Opening a M.C. Pack Chart file

IMPORTANT ! If you want to change the chart CD-ROM in use, you have to first close the charts in use.

Select **Open** from the **File** menu. The open file dialog appears.

If necessary, pull down by clicking the pop-up menu **Format of file** and select **Charts**. Then pull down the pop-up menu **File of type** and select **M.C. Pack** from the **File of type** pop-up menu.

Insert, for example, the Maptech Chart Pack "Gulf of Mexico" CD-ROM. After a short while, select the **Open** function in the **File** menu, then select the CD drive:

The contents of CD-ROM are displayed as a list in the dialog box:

Open the "Charthdr" folder.

Then click one of the files (.hdr extension) of the list, and finally click **Open**.

Note: MaxSea automatically open all the charts of the folder.

The dialog box with warning about the use of digitized documents appears. Click **I AGREE** to agree.

Maptech Chartkits

Maptech Chartkits Overview

IMPORTANT - MaxSea is compatible with BSB charts version 2.0 (and higher), as well as BSB charts version 1. MaxSea handles any kind of BSB charts, even the charts which are not North Up oriented.

In the U.S., Maptech charts have the same high level of detail as NOAA paper charts. NOAA is the national hydrographic office of the United States. These charts are the result of a 10 year cooperative research and development agreement between Maptech and NOAA.

Learn more on Maptech Chartkits web site : <http://www.maptech.com>.

1. [Opening a M.C. Kit Chart file in MaxSea](#)
2. [Consulting BSB Charts List in MaxSea Catalog](#)

Look after your CD-ROMs, cleaning them when necessary with a product designed specifically for this purpose. A dirty CD-ROM may lead to the malfunctioning of MaxSea and/or the system software.

Opening a Maptech Chartkit File in MaxSea

IMPORTANT - when using Maptech Chart, we recommend that you create a folder called "CHARTS" under the "My Documents" folder in your PC, and then copy the charts from the CD into this new folder.

To open a chart, select **[Open Chart...]** from **[File]** menu and the open file dialog will appear and list all the charts founded into My Documents folder.

You can also select **[Open]** from **[File]** menu to search and found a chart into your PC. If necessary, pull down by clicking the pop-up menu **Format of file** and select **Charts**. Then pull down the pop-up menu **File of type** and select the **M.C. Kit (BSB)** from the **File of type** pop-up menu.

Insert the Maptech Chart Kit Region 4 CD-ROM. After a short while, select **[Open]** in the **[File]** menu, then select the CD drive:

1. Contents of CD-ROM are displayed as a list in the dialog box.
2. Open the **"BSBCHART"** folder.
3. Then click one of the files (*.kap extension) of the list, and finally click **Open**.

Note: MaxSea automatically open all the charts of the folder.

The dialog box with warning about the use of digitized documents appears. Click **I AGREE** to agree.

Catalog of BSB Charts

A BSB CD-ROM version 2.0 contains a catalog of charts, representing a **region** of north America.

Each region is associated to a number. To use your BSB charts with MaxSea, you will have to know the number of the region that is on your CD.

All opened BSB v4 charts in MaxSea are automatically added to MaxSea Charts Catalog:

To open MaxSea Charts Catalog, select **[Charts Catalog...]** in the **[File]** menu.

All the useful information linked to your charts are shown in this catalog

1. Chart Number Reference,
2. Name of the Manufacturer and here Maptech will be written,
3. Its Chart title,
4. Its reference scale,
5. Its recording status allows organization of the charts which are usable in MaxSea and those of which are not because of a detected problem. See also below available statuses list,
6. Its revision Date,
7. Its Edition Date,
8. Its Region of membership,
9. The file location path on the hard disk,
10. The last date the MaxSea charts were used.

Besides its informative function, the catalog will become useful as a real cartography management tool:

The Status allows the user to know which of his charts are available, and if not, what is the type of problem.

List of available statuses, that can happen:

1. **OK** : when all is okay
2. **Chart File Not Found**: when a part of a chart is lost (".kap" file for instance) or the chart was not found in the place where it was saved. To solve your problem you can click on Manage, select and open again the file. Problem may occur when removing the CD ROM during the use or the network fails during recording charts or charts are recorded on your PC but the folder has been removed or moved to another place.
3. **Encrypted File Not Found**: when Maptech v4 permits are lost.

To sort content in the table depending on your choice:

Double-click in a chosen cell header will increase or decrease column content depending on the selected data type (numeric or alpha numeric). For example, Double-click in "Manufacturer" cell header to display all charts which belong to Maptech.

To directly access a chart selected in the catalog:

1. Select a line in the table
2. Click "**Center on the chart**", the window simultaneously displays the chart which you have just selected.

Click "**Manage**" to access the management of your charts which are in your ownership. in instance to reopen charts or to validate the Chart Catalog.

To delete a chart under the catalog list

For example when the chart status indicates "Chart File Corrupted", you can select it and click Delete to delete it.

To close the catalog, click on "**OK**", it is Simultaneously updated if you have modified the catalog.

Vector charts

Vector Charts

The vector charts are Images defined by sets of straight lines that are defined by the locations of the end-points. Vector graphics require much less storage space than raster or bitmapped graphics.

Each Vector charts are opened in the same seamless window and Chart information drop-down menu list depends on selected vector chart.

In following example CMap NT and CMap CM93 v3 charts are opened together in the same vector chart window:



The Chart Zone Information lists all available charts and allows you to switch between them for displaying on screen the chart that you want to see. In our example CMap NT is selected and actually displayed in the Chart Window and Vector CMap CM93 v3 is also opened.



CMap

When vector chart are available,the Chart Config option is added in the menu list.

Allows you to change the chart density display.

Note: all raster charts can be selected together in the same window. But only one type of Vector Chart can be selected in this same active window and at this moment the "**Chart Config**" sub-menu will be updated according to the selected vector chart format.

Tips

The Mouse-Over each vector chart objects (**only available for C-Map NT objects**), will open **Quick Links Context Menu** list.

Opening a new chart window :

1. Click on the **Chart Desktop** tool in the toolbar to open as many chart windows you desire (maximum of four chart windows can be opened together in MaxSea)
2. At this moment a new option is added to the **[Windows]** menu list on the menu bar.
3. Then select all Raster Charts in the window and the Vector Chart in the second. So, you will get the best of cartographic information at a same time.

In this section you will learn on different types of Vector charts

[Working with CMap NT charts](#)

[Working with C-Map CM93 v3 charts](#)

Related topics about how to install Vector charts

C-MAP NT Cartridge Reader

C-MAP NTPC Selector

C-Map CM93 v3 vector charts

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Each Vector charts are opened in the same seamless window and Chart information drop-down menu list depends on selected vector chart.

In following example CMap NT and CMap CM93 v3 charts are opened together in the same vector chart window:



The Chart Zone Information lists all available charts and allows you to switch between them for displaying on screen the chart that you want to see. In our example CMap NT is selected and actually displayed in the Chart Window and Vector CMap CM93 v3 is also opened.

When vector chart are available, the Chart Config option is added in the menu list.

Allows you to change the chart density display.

Note: all raster charts can be selected together in the same window. But only one type of Vector Chart can be selected in this same active window and at this moment the "**Chart Config**" sub-menu will be updated according to the selected vector chart format.

Tips

The Mouse-Over each vector chart objects (**only available for C-Map NT objects**), will open **Quick Links Context Menu** list.

Opening a new chart window :

1. Click on the **Chart Desktop** tool in the toolbar to open as many chart windows you desire (maximum of four chart windows can be opened together in MaxSea)
2. At this moment a new option is added to the **[Windows]** menu list on the menu bar.
3. Then select all Raster Charts in the window and the Vector Chart in the second. So, you will get the best of cartographic information at a same time.

In this section you will learn on different types of Vector charts

[Working with CMap NT charts](#)

[Working with C-Map CM93 v3 charts](#)

Related topics about how to install Vector charts

C-MAP NT Cartridge Reader

C-MAP NTPC Selector

C-Map CM93 v3 vector charts

C-Map NT

Working with C-Map NT charts

To open a C-Map NT chart, select **[Open chart...]** from the **[File]** menu.

C-Map NT Max is C-Map's brand new chart technology used with NavNet 2. C-Map NT Max is replacing C-Map NT+. New value Objects such as aerial photos, improved presentation (256 color palette), new value added data and more... Get more information on C-Map NT Max web site : <http://www.maxnavigator.com/ntmax/>

MaxSea automatically searches and displays a dialog which lists all available charts stored on your computer hard disk and on external support such as CD Rom, Cartridges, via Ethernet, etc...When C-Map NT is found, CMap NT item appears in the **"Open Chart"** dialog.

Only one item is used for all C-Map NT sources found when opening a CMap NT chart. This item is added to the "Chart Zone Information" menu list.

Following list shows available C-Map NT supports:

1. [NavNet system](#)
2. [USB FP reader cartridges](#)
3. [USB C-card reader cartridges](#)
4. [PCMCIA C-card reader cartridges](#)
5. [C-MAP NT/PC chart CD ROM](#)

In this section, you will also learn on:

1. [C-Map NT Chart Windows Overview](#)
2. [Displaying details on C-Map NT charts](#)
3. [Changing options of C-Map NT charts](#)
4. [Consulting C-Map NT Object Center](#)
5. [Editing C-Map NT Chart Object properties](#)
6. [Activating C-Map NT Find nearest function](#)
7. [Closing C-Map NT charts](#)

Learn more about related topics:

1. Installing Charts and Data
2. Troubleshooting when using CMap NT charts

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6. [Activating C-Map NT Find nearest function](#)
7. [Closing C-Map NT charts](#)

Learn more about related topics:

1. Installing Charts and Data
2. Troubleshooting when using CMap NT charts

Using cartridges

NavNet (Ethernet)

C-Map Charts inserted in a NavNet display unit chart drive are read in real time as long as the card are actually inserted in the host display. You can also use your own cartridges by adding a USB reader.

MaxSea automatically detects all of them when you choose **[Open chart ...]** option from the **[File]** menu.

You will see in the open chart window presence of C-Map NT but path indication is empty.

Notes:

- 1 - MaxSea automatically retrieves all presence of NavNet C-Map NT charts only if host names are correctly assigned. Get more information by referring to Option : Navnet...
- 2 - All C-Map NT Charts are regrouped in the same item (CMap NT) in the **Chart Zone Information** menu.
- 2 - NavNet charts updates list are automatically notified and if not the case you will have to move the chart for taking in account the insertion or removal event.
- 3 - C-Map NT charts cannot be downloaded into your PC for off-line viewing.

USB FP reader

Charts inserted in a C-Map USB FP reader are read in real time as long as the cards are actually inserted in the host display or card reader. MaxSea automatically detects them when you choose **[Open chart ...]** option from the **[File]** menu.

You will see in the open chart window presence of C-Map NT but the path indication is empty.

C-Map charts cannot be downloaded into your PC for off-line viewing.

USB C-card reader

Charts inserted in a C-Map USB C-Card Reader are read in real time as long as the cards are actually inserted in the host display or card reader. MaxSea automatically detects them when you choose **[Open chart ...]** option from the **[File]** menu.

You will see in the open chart window presence of C-Map NT but the path indication is empty.

C-Map charts cannot be downloaded into your PC for off-line viewing.

PCMCIA C-card reader

The opening of C-MAP NT charts can only be carried out through the function **[Open a chart]** from the **[File]** menu.

If the PCMCIA C-card is inserted in your PCMCIA reader, the Open chart dialog box will appear.

Select the chart you wish to open and click Ok

Using CD Rom

C-Map NT/PC chart

You can open a **C-Map NT/PC** chart in MaxSea only if you have referenced it at first. Then, MaxSea is going to suggest to open this cartography from its launch.

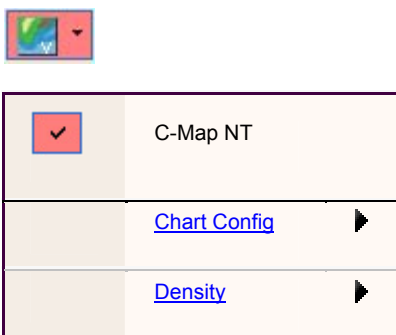
If you chose other maps, at MaxSea's launch, you can afterwards open them in the same window as well as other format by choosing " **Open Chart** " in the "**File**" menu. The chart is opened in the current window and hide other opened charts.

If a chart is already opened, your selecting " **Open Chart** " will see **C-Map NT** chart (already open) being displayed besides the other cartographies available on your discs.

Note: to order **C-MAP NT/PC** refer to the "Installing charts" chapter.

C-Map NT Functions Overview

The C-Map NT charts are opened in the same window as seamless chart, and its opened presence can be identified by means of the C-Map NT option which is added in the Chart Information drop down menu list.



When a CMap NT chart is already opened, the Chart Information drop-down menu list shows following items:

1. CMap NT item: to show / hide the CMap NT Chart layer, click on it to display or not the layer.
2. Chart Config item: The appropriate CMap NT sub-menu appears at the same time in the list . This menu list is called **Chart Config** and allows you to [configure the chart display as you wish](#).

As with all charts in MaxSea, you can open several C-Map NT windows.

In order to open a new C-Map NT window chart, select **[New chart window]** from the **[Window]** menu. The window that you have just opened places you on the same geographic zone as the one in the last opened chart window. For more information see related topic above: [Opening several chart windows](#).

C-Map NT Chart Properties

You can obtain information from the C-Map NT chart presently opened in MaxSea by displaying the corresponding C-MAP NT chart properties dialog.

Two ways for activating the Chart properties dialog:

1. Using the **Hand Tool** on Toolbar and double-click anywhere on the chart.
2. Using the **right click** anywhere on the chart will display the contextual menu, then choose and click on **Chart Properties**.

The "**Chart Properties**" window appears on screen and informs you on cartographic info such as the Source of data.

If you need more information on a specific object drawn on the chart or if you want to find specific information nearest you, see related topics:

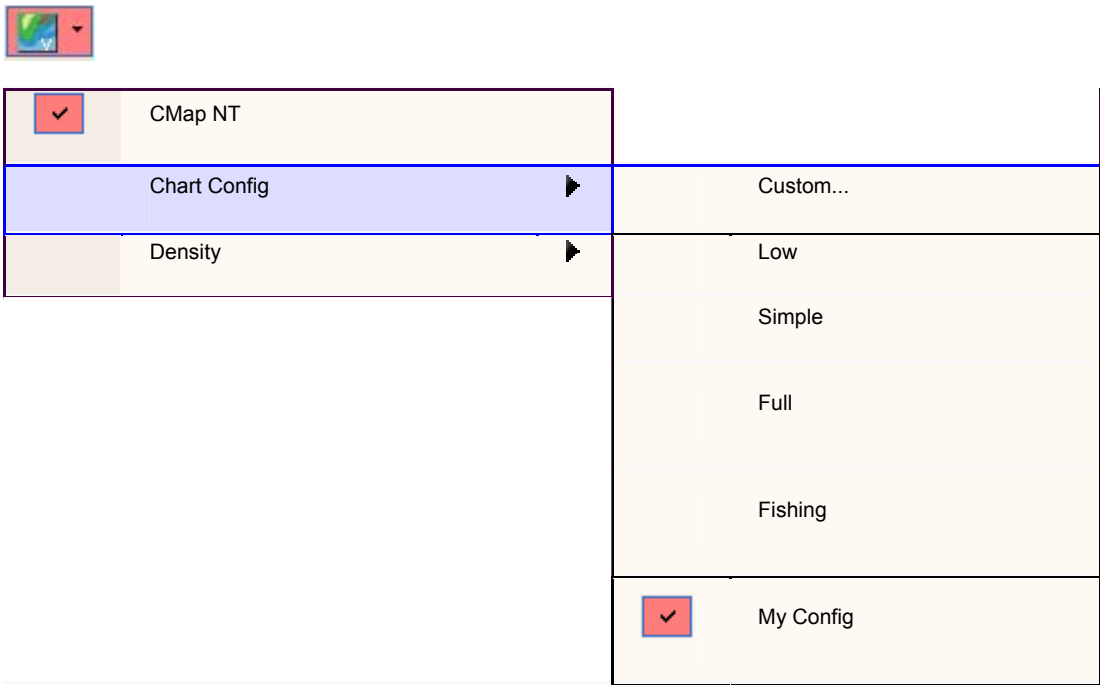
1. [CMap NT Chart Object Center](#)
2. [C-Map NT Chart Object Properties](#)
3. [C-Map NT Find nearest function](#)
4. [Display options](#)

C-Map NT Chart Configuration

You can change the display **scale** by clicking on the chart where you wish to zoom. You can then select the desired scale. The scales with an available chart are preceded by one black sign, the others are available but will over-zoom when necessary.

Two methods to display the dialog which allows you to modify display options:

- 1. Either click the **Chart zone information** and Choose **"Chart config..."** item from the pull down menu.
- 2. Or **RIGHT CLICK** anywhere on the chart to call up the contextual menu, then select the "Chart Config..." item .



The **"Chart Config"** menu list allows you to choose a type of configuration between 6 detail levels:

- 1. **Custom...** (if you want to create your own display configurations.)
- 2. **Low:** minimum level of detail
- 3. **Simple:** standard level of detail
- 4. **Full:** most complete level of display detail
- 5. **Fishing** useful configuration for fishing
- 6. **"My Config"** (additional option which configuration created by user)

Click on **"Custom..."** to display the **"Change Config"** dialog:

Change Config

Low
Simple
Full
Fishing

Config Name :
Full

De Cluttering
☒ On

General
☒ Land
☒ Aeronautic
☒ Marine
☒ Text / Names

Marine
☒ Seabed Type
☒ Tide & Currents
☒ Buoys Name
☒ Lights Sectors

Land
☒ River & Lake
☒ Cultural Feature
☒ Natural Feature
☒ LandMark

Nav Aids
☒ Ports and Services
☒ Attention Area
☒ Tracks & Routes
☒ Nav aids
☐ US
☐ US Simple
☐ Int
☐ Int Simple

Depth Filters
☒ Highlighted Depth Area Min Max
☒ Soundings Display Min Max
☒ Underwater Objects Display Min Max

Add Remove OK

To display an own configuration:

1. Click "**Add**" button in previous window,
2. Enter a "**Config Name**" and check each box nearest an option to choose which one you will affect to your own configuration
3. Then click on "**OK**" to validate your Configuration
4. A new Name Config is added to the Config Sub menu list

To remove a configuration

1. Select Chart Config / Custom... and click a config in the right target window and then click on the **"Remove"** button.
2. Click on **OK** to confirm the change

CMap NT Chart Object Center

The Chart Object Center is useful for quickly obtaining all available information from an object selected on the chart.

Two ways for editing information on selected object:

1. Using the Select tool in the Toolbar:
 - Then Position the cursor on the object drawn on the chart which it is necessary to obtain information,
 - Then double click on it
2. Independently of selected tool in the palette:
 - Select the **[Center]** option from **[Display]** menu, then select and click on **"Chart Object Center..."**.
 - Right-click an object drawn on the chart which it is necessary to obtain information. Select and left-click on **"Chart Object Center..."**.



This action has two consequences :

1. A window is displayed in the bottom part of the Chart Window. It contains all available information on the selected object.
2. An acquisition marker appears on the chart around the selected object which indicates its ultimate position on the chart. Purple hooks surround the selected object on the chart. The Same purple hooks symbol is reminded in the Tab center.



The Chart Object Center's content depends on the object type which is selected.

As it is shown on picture example the chosen object is a Lighthouse and the Chart Object Center lists all available information according to the selected object such as Light, Lighthouse, Tower, Source of data and more...

When you double-click a line the Object details dialog is opened. For more information see related topic: [C-Map NT Chart Object Properties](#)

For more information on how to use and move in the Center Window see related topic: Center display and controls...

C-Map NT Chart Object Properties

You can each time you wish acquire information on a selected object by displaying its Properties Dialog.

Several ways for opening the Chart Object Properties:

1. When you move the mouse over a C-Map NT object a tooltip of **Quick links** appears on screen. This tooltip allows you to reach the four most important object at the selected localization. Then click a link to get details on it.
2. Double-click on object with the Select Tool will bring the **Chart object Center** and its **Properties dialog**, then click a line to display the Properties dialog.
3. RIGHT CLICK on object right mouse context menu and then choose "**Chart Object Center...**", then click a line to display the selected Object Properties dialog.
4. Or using the select point tool and double left clicking any where in the Chart window to bring up the "**Chart object Center**" dialog.

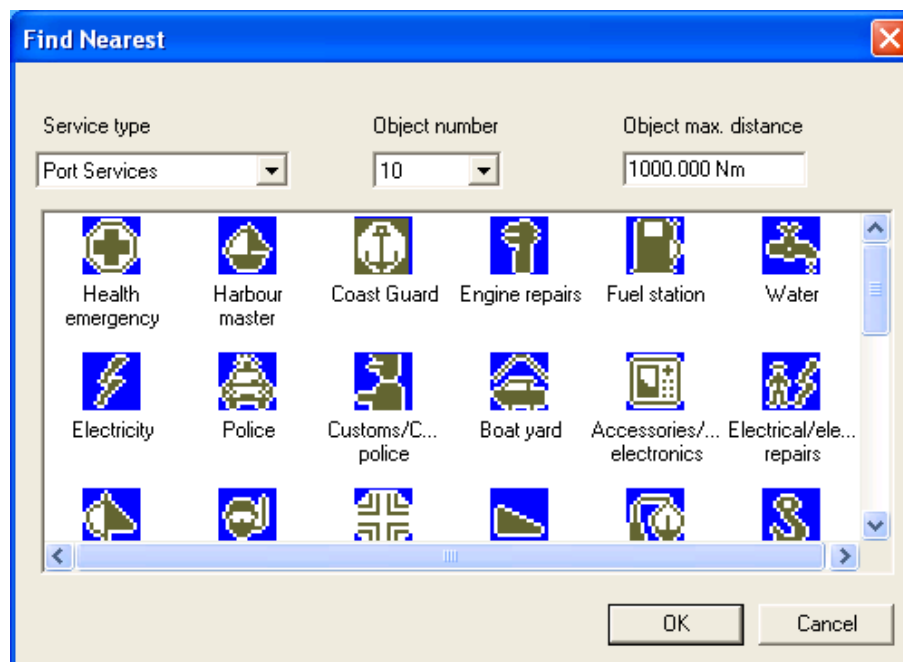
CMap NT chart object "**Properties**" dialog gives following:

1. In the left window part: list of attribute names of the selected object.
2. In the right window part: detail of each attribute of the selected object.

C-Map NT Find nearest function

C-Map NT find nearest function is useful for obtaining complementary information around a selected point displayed on the chart.

- 1 - Right click anywhere on the chart, choose and click **Find Nearest...** item in the contextual menu list
- 2 - The following dialog appears and allows you to choose a service nearest the selected position.



- 3 - Choose a Service type in the appropriate pop up (Port service is chosen in the example above). You can choose between 4 types: Port services or Wreck or Port area or Obstruction

4 - You can also limit the number of object to research and define the distance offset around the selected object (selected number equal to 10 by default).

5 - Then Click on a symbol which is representative of a chosen service, this will search and display a result list.

6 - Click OK to confirm your choice, at this moment the **Find Nearest Center** is displayed on the bottom of



the screen and its symbol representation looks like :

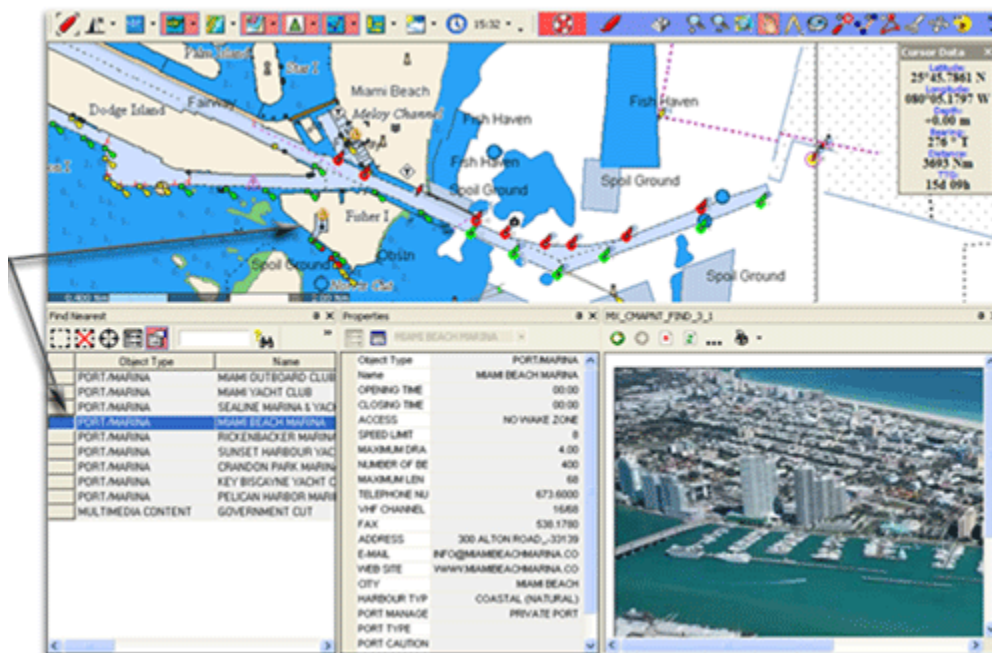
For example:

(If the area in the present example is Fuel Station of around a point selected on the chart)

The Find Nearest Center enumerates all C-Map NT Objects of requested type at a given position such as :

1. It gives you up to ten best matches (value selected by default).
2. If you need more information, select a line and double click on it to display its Properties dialog. You will obtain complementary information on a selected point by clicking the "Properties" button on the center toolbar, if there is no more information, the dialog will appear empty. See related topic: [C-Map NT Chart Object Properties](#)
3. It allows you to quickly locate a "Find Nearest object" on the chart. To do this, select the appropriate line in the "Find Nearest" center, click the "Center On" button on the Center toolbar and the chart will automatically be centered around the selected point (drawing of black hooks outlined it on the chart.)

IMPORTANT - The Find Nearest Multimedia Object as Photography, can only be done in a same level of scale. Use magnifying tools to change scale level and find other multimedia objects location.



For more information on how to use and move in the Center Window see related topic: Center display and controls...

Closing C-Map NT chart

Select the **[Close]** function of the **[File]** menu. Select the CMap NT item, which represents the C-Map charts catalogue in the list of available files and click **Close**.

The C-Map chart layers are closed in MaxSea and all the C-Map charts are canceled. "C-Map NT" Item disappears from the "Chart Zone Information" menu list.

Note : You may change the C-Map NT cartridge at any time without quitting MaxSea, provided that you close the chart beforehand.

C-Map CM93/3

The C-Map Cartographic Service Overview

The system that you are now using has the capability of using and displaying the latest C-Map CM-93/3 worldwide **vector** chart database. These charts are fully compliant with the latest IHO S-57 3.1 specifications and, when using the CM-93/3 ENC database in an approved ECDIS, are considered equivalent to the navigational charts required by the SOLAS (Safety Of Life At Sea) convention.

In order to prepare the system for use with the C-Map CM-93/3 database, there are a number of steps you must follow:

1. Registering the system at C-Map.

When a system is installed that has the capability to use the CM-93/3 database, a file called USER.USR will be automatically created (normally in the Program Files\CM93v3 SDK directory). This file contains the Company ID and System ID assigned to the ECDIS/ECS system when it is installed. These ID's can be found on the back of the installation CD box or on a sticker placed on the equipment. This file must be sent to C-Map Norway by email (license@c-map.no) or by a direct Internet connection when installing the software. Licenses can only be generated once this file has been received and registered by C-Map. It is important to note that the software may need to be reinstalled and reinitialized if the operating system or hardware is upgraded (see the troubleshooting section). In some cases the manufacturer of the system will have already pre-registered the system.

If when installing a new system, you do not know your Company ID or System ID, please contact C-Map Norway before continuing installation.

2. Ordering Charts

It is essential that as much information as possible is sent to C-Map when ordering charts for a system. To order CM-93/3 charts, the System Information section should first be completed (normally found in the License Administrator section of your software). This contains vital information that will allow us to maintain your licenses throughout the lifetime of the system. Once this section is completed you can order charts by choosing the ORDER LICENSES section in the License Administrator. Charts can be ordered by Zone, Area or Cell and these which can be seen at www.c-map.no. Price quotes can be obtained via your chart dealer or direct from your local C-Map office. Once the license order has been prepared, it should be e-mailed to (license@c-map.no) or faxed to C-Map Norway AS (+47 51464701).

3. Applying For Licenses

Once the order has been received at C-Map, a license will be generated and transmitted back to the user. This may be in the form of a single alphanumeric string (16 characters), or in the form of a file called PASSWORD.USR. Once this license has been received it should be input using the License Administrator or the software designed by the ECDIS/ECS manufacturer. There are two types of licenses, purchase and subscription. Purchase licenses are valid indefinitely while subscription licenses need to be renewed each 12 months from the start of the subscription. Failure to renew a subscription will result in the charts becoming unavailable.

4. Troubleshooting

If you are having problems installing your software or charts please check the following before calling C-Map:

- You are installing on Windows XP, Windows NT, Windows 2000 or Windows 98 second edition. The system will not normally run under Windows 95 or Windows 98 first edition.
- That you have registered the WORLD database in the GDBADMIN application.
- That the registered WORLD database is available. If you are running the database from the CD drive, the CD-ROM must be loaded.
- That you have correctly typed the license string.
- That you have not reinstalled Windows or any major hardware components. If you have done this you will probably need to reinstall your software.

Contact Information:

For information or help please call you're nearest C-Map Office (details can be found on the reverse side of the C-Map chart CD box) or contact C-Map Norway:

**C-Map Norway
AS**

Post Box 212

Hovlandsveien 52

4379 Egersund

Norway

Tel. +47 51464700

Fax. +47 51464701

Email: technical@c-map.no

Opening C-Map CM93 v3 Chart


Unlike other charts, CM93v3 charts are organized in a database (and not as simple graphic files). **This database must be referenced before you open CM93v3 charts.** (for more information see related topic: *How to install CM93 v3 vector charts*)

From **[File]** on the MaxSea menu, choose **[Open Charts]** and then highlight **CM93/S57**.

Next press "**Open**," at the bottom of the dialog box.

As you do for the other charts you can open the C-Map CM93 v3 background chart and its database by selecting the [Open chart] option from the [File] menu.

New items appear in the Chart Information menu list as it is shown in following:

	
CMAP NT	
<input checked="" type="checkbox"/>	CMap CM93 v3
Geographic Grid	
Chart Config	▶
Density	<input checked="" type="checkbox"/> Low
	Normal
	High
	Very High
	Maximum

Note that the Chart Config menu list depends on the selected type of chart.

Important

- If the CM93v3 database is corrupted or unavailable, MaxSea will warn you and will not open Cm93v3 Windows.
- If no CM93v3 licence is available at the time you try to open a chart, only a general scale chart (1:5 Million) will be available in MaxSea.
- MaxSea will warn you 2 months in advance of any license expiration. (See the Licences Management chapter to renew licenses.)

C-Map CM93 v3 display Options

Magnifying

As in all the available cartographies in MaxSea, you can change display **scale** by doing one click straight ahead in the wished place. You can then select the scale suited to your needs. The scales for which there is a chart are preceded by one black sign, the others are thus available but without supplementary information with regard to the first marked superior level.

Modify the display level

You can customize the appearance of charts by turning on and off layers of information. You can modify the display level by clicking on the Chart zone information situated in the chart palette to call up the menu. This menu gives you the choice between various display configurations.



<input type="checkbox"/>	Planisphere.wld	
<input type="checkbox"/>	Mapmedia.mm2	
<input checked="" type="checkbox"/>	Vector CMap CM93	
<input type="checkbox"/>	Geographic Grid	
<input checked="" type="checkbox"/>	Chart Config	Custom...
<input type="checkbox"/>	Density	S52 Base
		S52 Standard
		<input checked="" type="checkbox"/> S52 Other
		S52 Other Text
		<input checked="" type="checkbox"/> Antigrounding Master GPS

You can obtain information about the present objects around a point of the chart, either by clicking the **Charts zone information** button or by **right clicking** in the chart window to call up the context menu.

The Charts menu on the chart palette provides the ability to display :

- [A own configuration by selecting "Change Configuration..."](#)
- S52 Base,
- S52 Standard and corresponding S52

- Other in standard S52.
- S52 other text
- [To activate the anti-grounding function](#)

C-Map CM 93 v3 display settings

To add a personal configuration,

You should choose " **Add** " in the dialogue that appears, a new configuration is created with the name " **New Config** " by default, he can modify this name in the frame " Config Name ". The user is then free to choose the elements that he wishes to be a part of this configuration, among the 9 available groupings in the frame " Layers ".

To erase a display configuration,

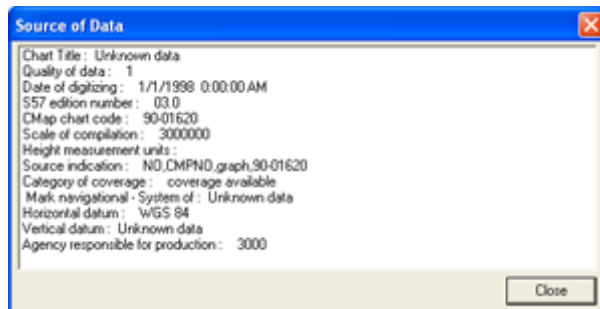
It is enough to select it in left window and to click " **Remove** ".

To validate modification made in this dialog box,

it is necessary to click on " **OK** ". The configuration selected during the release of the dialog box will be used that for the posting.

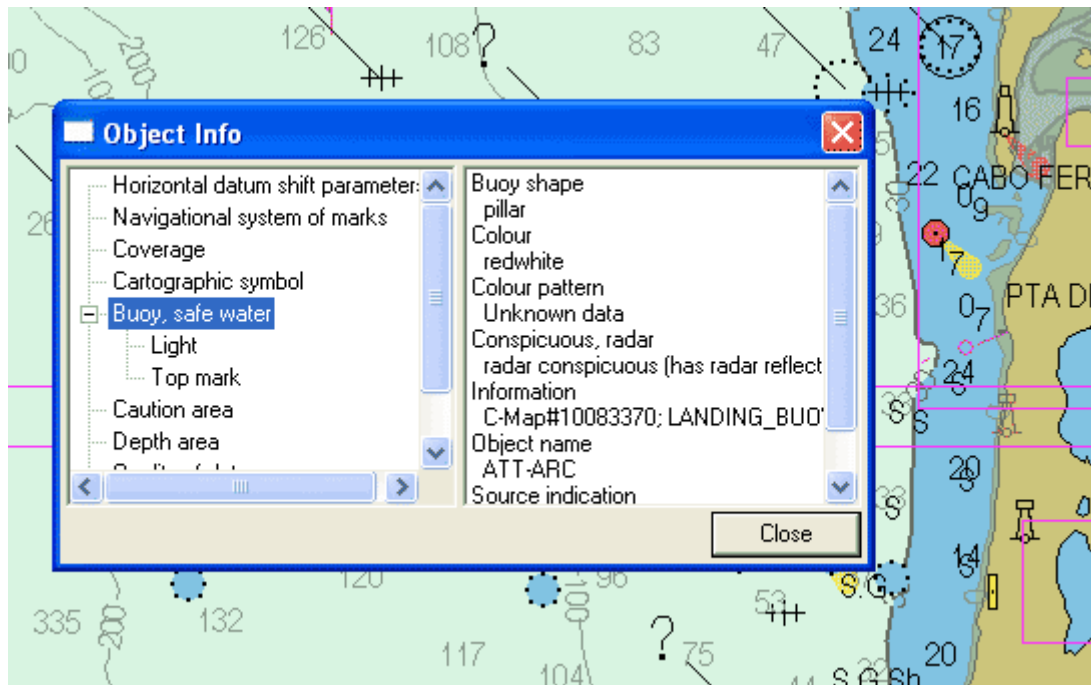
To obtain information about the chart:

As with all charts in MaxSea the user can have chart information by double clicking the hand tool



To obtain information about the present object around a point of the chart :

- Either by double left-clicking an object with the **Selected object** (finger) tool.
- Or **RIGHT CLICKING** without switching tool an object to call up the context menu and choose the "**Chart object properties**" item.



The information dialog box about the chosen point appears:

- The Left-hand dialog box window brings together all the objects around the place chosen by the user.
- The Right-hand dialog box window gives description about each of the object selected with the mouse (one click) in the above window.

Your own display configuration

You can also create your own display configurations by using the dialog Box " Change Config " by the menu " **Change Config** " of the pop - up zoom.

Objects displayed by default:

Bridge, Cable, overhead, Canal, Coastline, Conveyor, Dam, Deep water route centerline, Deep water route part, Depth area, Depth contour, Dock area, Dredged area, Floating dock, Gate, Hulk, Ice area, Incineration area, Inshore traffic zone, Land area, Lock basin, Log pond, Mooring/Warping facility, Obstruction, Offshore platform, Oil barrier, Pile, Pipeline, overhead, Pontoon, Precautionary area, Pylon/bridge support, Radio calling-in point, Recommended route centerline, Recommended traffic lane part, Shoreline construction, Underwater/awash rock, Unsurveyed area, Wreck, Accuracy of data, Compilation scale of data, Coverage, Horizontal datum of data, Horizontal datum shift parameters, Nautical publication information, Navigational system of marks, Production information, Quality of data, Sounding datum, Survey reliability, Units of measurement of data, Vertical datum of data, Vertical datum of data, Vertical datum of data.

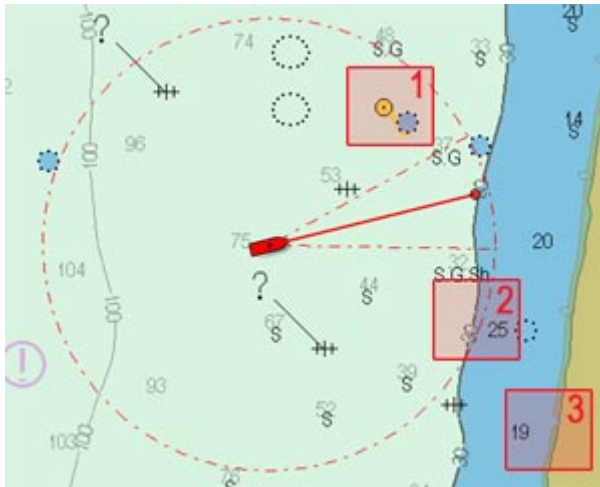
RIGHT CLICK any where on the chart window, select "**Chart Config...**" to call up the dialog box which allows you to change the configuration.

The "Change Config" window allows you to destroy or create your own config by choosing options under a table as it is described below:

Select an option NAME :	To display on chart :
Text / Names	Cartographic line, Text, Text...
Traffic info	Ferry route, Signal station, traffic, Traffic separation line, Traffic separation scheme boundary, Traffic separation scheme crossing, Traffic separation scheme lane part, Traffic separation scheme roundabout, Traffic separation zone, Two-way route part, Cartographic area, Cartographic area...
Small Craft facilities	Small craft facility
Low Nav info	Anchor berth, Anchorage area, Cable area, Cable, overhead, Cable, submarine, Caution area, Dumping ground, Fairway, Fog signal, Ice area, Local magnetic anomaly, Magnetic variation, Offshore platform, Military practice area, Offshore production area, Pilot boarding place, Pipeline area, Radar transponder beacon, Recommended track, Restricted area, Submarine transit lane, Top mark, Top mark...
Medium Nav info	Berth, Contiguous zone, Distance mark, Exclusive economic zone, Ferry route, Marine farm/culture, Pipeline, submarine/on land, Tideway, Cartographic line, Cartographic symbol, Compass, Text, Text...
Objects Low info	Airport area, Building, single, Built-up area, Cargo transshipment area, Dam, Dyke, Fishing ground, Incineration area, Lake shore, Navigation line, Radar line, Radar range, Radar reflector, Radar station, River, River bank, Sea-plane landing area, Signal station, warning, Silo/tank, Sloping ground, Waterfall, Waterfall...
Objects Medium info	Canal bank, Causeway, Checkpoint, Coast guard station, Coastline, Contiguous zone, Continental shelf area, Control point, Conveyor, Crane, Current - non-gravitational, Custom zone, Day mark, Deep water route centerline, Dry dock, Dyke, Fairway, Fence/wall, Fishery zone, Fishing facility, Fog signal, Fortified structure, Free port area, Gate, Gridiron, harbor area (administrative), harbor facility, Inshore traffic zone, Lake, Marine farm/culture, Military practice area, Mooring/Warping facility, Navigation line, Pile, Pilot boarding place, Production/storage area, Radio station, Railway, Rapids, Recommended track, Rescue station, Retro-reflector, Road, Runway, Sand waves, Sea area/named water area, Sea-plane landing area, Seabed area, Signal station, traffic, Slope top line, Sloping ground, Spring, Square, Straight territorial sea baseline, Swept area, Territorial sea area, Tidal stream - harmonic prediction, Tidal stream - non-harmonic prediction, Tidal stream panel data, Tidal stream - time series, Tide - harmonic prediction, Tide - non-harmonic prediction, Tide - time series, Traffic separation scheme roundabout, Traffic separation zone, Tunnel, Unsurveyed area, Vegetation, Water turbulence, Weed/Kelp, Tidal stream - flood/ebb, Tidal stream - flood/ebb...
Lights and buoys	Light : Beacon, cardinal, Beacon, isolated danger, Beacon, lateral, Beacon, safe water, Beacon, special purpose/general, Buoy, cardinal, Buoy, installation, Buoy, isolated danger, Buoy, lateral, Buoy, safe water, Buoy, special purpose, Land area, Land elevation, Land region, Landmark, Light, Light float, Light vessel, Light vessel...
Soundings	Sounding
Lights real range	Displays dotted black lines showing the real range of lights.
Simplified Symbols	Displays object using S52 normalized / traditional presentation. Valid for buoys, lights...
Int-1 (C-Map style)	Use S52 normalized / C-Map style for chart display.
Low detail scales	Changes the MaxSea's zoom where new charts appear.

Activating Antigrounding Alarm

The Antigrounding alarm warns you when your boat crosses a potential danger as grounding boundaries, buoys and depth lines which are defined on the chart. (Related topic : [List of objects which can be taken as a potential danger](#))



The AntiGrounding function will be activated when the boat head will cross objects as :

- (1) - Buoys
- (2) - Line width sounder
- (3) - Ground boundary

By default the Antigrounding Master GPS is unchecked.

When the **"Antigrounding Master GPS"** is selected, both actions are done together, the alarm is activated and the [Antigrounding Dialog](#) is displayed.

The Antigrounding alarm depends to the Cone base width of the Security circle.

You can specify the boundary alarm settings by changing the circle distance size.

Go to the [\[Utilities menu\]](#), choose [\[Option: GPS/Track\]](#) to call up the dialog box which allows you to modify the parameters.

1. Click on the **"Misc"** tab.
2. Check the **"display"** box to show the security circle on the chart.
3. Enter a value of the radius to define the alarm limit (By default the radius circle is equal to 1Nm and the width of the cone base is equal to 30°).

All activated Alarms are recorded and displayed in a table which is called ["AntiGrounding Dialog"](#)

Note: the Security circle and the cone base (Alarm zone) are displayed on the chart by default.

List of potential dangerous objects

[List of objects which can be taken as a potential danger:](#)

Anchorage area (a name by default is defined) - Beacon, cardinal - Beacon, isolated danger - Beacon, lateral - Beacon, safe water - Beacon, special purpose/general - Bridge - Buoy, cardinal - Buoy, installation - Buoy, isolated danger - Buoy, lateral - Buoy, safe water - Buoy, special purpose - Cable area - Cable, overhead - Canal - Cargo transshipment area - Causeway - Caution area - Conveyor - Crane - Deep water route part - Depth area (can take value from x to y meters) - Depth contour (define a value for y meters) - Dredged area (can take value from x to y meters) - Dry dock - Dumping ground - Fairway - Fishing ground - Floating dock -

Ice area - Incineration area - Inshore traffic zone - Land area (can take value from x to y meters) - Light vessel - Marine farm/culture - Military practice area - Obstruction - Offshore platform - Offshore production area - Oil barrier - Pile - Pipeline area - Pipeline, overhead - Pontoon - Production/storage area - Recommended track - Recommended traffic lane part - Restricted area - Sea-plane landing area - Shoreline construction - Sounding - Submarine transit lane - Traffic separation line - Traffic separation scheme boundary - Traffic separation scheme crossing - Traffic separation scheme lane part - Traffic separation scheme roundabout - Traffic separation zone - Two-way route part - Underwater/awash rock - Wreck

Example :

Depth range from 20 to 50 meters and the Buoy, cardinal are defined with Karek Kreiz, Land Area.

Antigrounding Dialog

The Antigrounding Dialog is your control center where you can follow all recorded alarms and they history.

To bring up the **Antigrounding Dialog** click on the "**Chart zone information**" in the chart palette and choose "**AntiGrounding Master GPS**".

The table contains all useful information for each present object having crossed the Security circle boundaries :

1. The date when the alarm is activated.
2. The type object category.
3. Details of the object.
4. Its geographical position.

The alarms are displayed in order of their recording. To change the data order display of each column, simple click in each column title.

The width of each column can be modified by left clicking a border and drag to the desired position.

You can specify the display position of the palette as you will do with the others palettes (setting the palette position as a menu bar layout display mode or as a floating layout display mode).

AntiGrounding center display configuration parameters

1. To change the display order in each column of the table, double left-click on its title, a symbol appears located nearest its title and shows the direction.
2. To modify the width of each column click either on its left border or its right border, move the mouse while holding down its button to the desired size and release the mouse button.
3. As done for the other Center tables, you can decide on the location and display mode ("Floating palette" mode, "toolbar" mode or "Tab" mode).

See also related topic : [Advanced configuration](#)

Advanced configuration

Miscellaneous preferences.

You can also modify some global parameters which will be added to the former configuration.

That for, you have to open the “**cmapconfig.ini**” file, localized in “C:\WinNT” or “C:\Windows”, depending the system you use; then you can tune the values by clicking.

This file allows you to modify:

Identification KEY	Description	Default Value
GP_PARAM_ID_SHALLOWCONTOUR	Sets value of the shallow contour	2 meters
GP_PARAM_ID_SAFETYCONTOUR	Sets value of the safety contour	30 meters
GP_PARAM_ID_DEEPCONTOUR	Sets value of the deep contour	30 meters
GP_PARAM_ID_TWOSHADESSCHEME	If 1 the two shades scheme will be used for depth areas presentation.	0
GP_PARAM_ID_SHALLOWPATTERNUSED	If 1 shallow pattern will be used to present shallow areas more prominent.	0
GP_PARAM_ID_PLAINPRESUSED	If 1 Areas with plain boundaries presentation is used.	0
GP_PARAM_ID_SAFETYDEPTH	Sets value of the safety depth, all soundings with the depth value more safety depth will be shown in gray color.	30 meters
GP_PARAM_TEXTIMPORTANT	If 1 important text for navigation will be displayed (e.g. clearance of a bridge).	0
GP_PARAM_ID_LIGHTS_INFO	If 1 string with short light description will be displayed.	0
GP_PARAM_ID_DANGER_SYMBOL	If 1 the OBSTRN or isolated underwater dangers (UWTROC, WRECKS) of depths less than the safety contour which lie within the safety water will be presented by Isolated Danger symbol as hasardous objects. The category will be set to IMO category DISPLAYBASE.	0
GP_PARAM_ID_OVERSCALE_PATTEN	If 1 correspondent M_COVR objects from over scaled Data set will be presented with OVERSC01 pattern. See correspondent value for GP_PARAM_ID_OVERSCALE_FACTOR .	0
GP_PARAM_ID_NOT_DANGER_DEPTHS_OFF	If 1 all soundings of depth more than GP_PARAM_ID_SAFETYDEPTH will not	0

	be shown.	
GP_PARAM_ID_PLAIN_DEPCNT	If 1 no numbering on DEPCNT will be shown.	0
GP_PARAM_ID_QUALITY_OF_DATA_OFF	If 1 M_QUAL object will not be shown (Quality of data).	1
GP_PARAM_ID_GENERIC_TEXT_OFF	If 1 no \$TEXTS objects will be shown.	0
GP_PARAM_ID_OVERSCALE_FACTOR	<p>Quotient of Scale/ScalePres</p> <p>Scale - original scale of the data set</p> <p>ScalePres - scale of presentation quotient must be > 1. Default value 2.</p> <p><u>In this case if Scale/ScalePres > 2 the correspondent pattern will be drawn</u></p>	0
GP_PARAM_ID_COVERAGE_OFF	If 1 the coverage of datasets will not be shown.	0
GP_PARAM_ID_SHALLOW Depths_OFF	If 1 the soundings with depth value less then the value that was set in GP_PARAM_ID_SHALLOWCONTOUR would not be present.	0
GP_PARAM_ID_VISIBLE_SECTOR_ON	<p>Permits to choose the colour of light to be highlighted.</p> <p>ALL_SECTORS = 0x7</p> <p>WHITE_SECTORS_ONLY = 0x1</p> <p>RED_SECTORS_ONLY = 0x2</p> <p>GREEN_SECTORS_ONLY = 0x4</p> <p>WHITE_RED_SECTORS = 0x3</p> <p>WHITE_GREEN_SECTORS = 0x5</p> <p>GREEN_RED_SECTORS = 0x6</p>	0
GP_PARAM_ID_MARINER_NOTES_OFF	If 1 the correspondent text (attributes OBJNAM and _usrmrk) will not be shown for Mariner Objects.	0
GP_PARAM_ID_SHOW_INFO	If 1 to display the corresponding symbol if INFORM (NINFORM) attribute is present.	0
GP_PARAM_ID_SHOW_TEXTDESCR	If 1 to display the corresponding symbol if TXTDSC (NTXTDS) attribute is present.	0
GP_PARAM_ID_SHOW_REF_PICT	If 1 to display the corresponding symbol if PICREP attribute is present.	0
GP_PARAM_ID_MARINER_NOTES_USER_REMARK_OF F	If 1 the Marine notes text will not be displayed	0

GP_PARAM_ID_ALL_DEPCNT_ON	If 1 all depth contours will be shown in all modes: BASE, STANDARD, OTHER	1
GP_PARAM_ID_CHANGE_DEPCNT_COLOR	If 1 The color for Safety contour will be changed (default: from CMC_DEPSC to CMC_DNGHL)	0
GP_PARAM_ID_SHOW_RADAR_CONSPICUOUS	If 1 the radar conspicuous object has special presentation. These objects are: bcnwtw, bridge, boywtw, cblohd, canbnk, FLODOC, PYLONS, rivbnc, SLCONS	0
GP_PARAM_ID_SHOW_INFORM_NOTMRK	If 1 object notmrk has special (qualifying) presentation	0
GP_PARAM_ID_UNKNOWN_OBJECT_ON	If 1 the unknown object will be present	0
GP_PARAM_ID_UNKNOWN_ATTR_ON	If 1 the object with unknown attribute will be present	0
GP_PARAM_ID_APPROX_POS_ON	if 0 approximate symbol for ILW C-Map will be shown.	0
GP_PARAM_ID_NATIONAL_TEXT	if 0 NOBJNM not present, if 1 NOBJNM is present, if 2 - OBJNAM+NOBJNM.	0
GP_PARAM_ID_CHARTN01_NAVID	if 1 NOAA symbols for buoys and beacons (BOYXXX and BCNXXX) will be presented.	0
GP_PARAM_ID_SOUNDG_OFF	if 1 SOUNDG objects will not be presented.	0
GP_PARAM_ID_SAFE_HAZ_OFF	If 1 in case of IMO display category OTHER	0
GP_PARAM_ID_WHITE_LIGHT_SHOW	If 1 lights with COLOUR attribute equal to "White" will be shown in original colour (white, but not yellow)	0
GP_PARAM_ID_SHOW_ISODANGER	If 1 isolated dangers in shallow water will be shown.	1
GP_PARAM_ID_LOW_ACCURA_OFF	If 1 low accuracy symbol for point objects will not be shown.	1
GP_PARAM_ID_DEPCNT_INT1_STYLE	If 1 DEPCNT objects will be labeled in INT 1 style.	0
GP_PARAM_ID_LABELED_LNDELV	1 - numbering off.	0
GP_PARAM_ID_LNDELV_INT1_STYLE	If 1 LNDELV objects will be labeled in INT 1 style.	0
SAFETYCONTOUR_ONLY	If 1 only safety contour will be shown.	0
SAFETYCONTOUR_LINE_OFF	If 1 no DEPCNT objects will be presented as safety contours.	0

Note: 0 for false and 1 for true

Weather Forecast

Weather overview

MaxSea provides all the features that allow you to interpret GRIB files from several sources:

- [MaxSea chopper : Forecast...](#)
- [Navimail](#) : Meteo France forecast...
- Meteo consult

These files contain numeric data which give you various forecast information :

- Wind
- Pressure
- Waves
- Temperature
- Altimeter
- Geostrophic Stream

These files can be received by different means. They will be generally received on board via :

- one of the **Immarsat satellite** systems.
- from an **e-mail**.

In this chapter you will learn how to display weather forecasts in MaxSea and how to work with data weather.

1. [Opening a weather file](#)
2. [Getting a Weather file from e-mail](#)
3. [Using a Weather file saved on Hard Disk](#)
4. [Weather data palette](#)
5. [Weather display options](#)
6. Option: weather
7. [Modifying Wind Forecast](#)
8. [Getting information on Weather data](#)
9. [Changing the date display](#)
10. [Creating a movies](#)
11. [Opening a movie](#)
12. [Closing forecast file](#)

Opening a weather file

It is assumed that you already have the GRIB file [save on your hard disk](#) or opened directly [from an e-mail](#)

Using weather button



The weather button is used to show or hide the last opened weather file.

If you don't open GRIB file before when you click the weather button

1. A browse window is opened
2. Select the folder where the GRIB file is saved
3. Select the desired weather forecast from the file list and click **Open**.

Now each time you click on the weather button, this weather data will be displayed or hidden even if the weather file is closed. If you want to change the displayed file you have to **open a new weather file**.

Different types of information (wind, swell, pressure, etc.) can be contained in this file. The software displays immediately on the chart the forecast for the present date, if the present date is included in the interval covered by the forecasts. If it is not the case, the time is set to the last forecast date. You can also change the display sate : [Change display date chapter](#).

Note:

- (1) you can only open one weather forecast file at a time.
- (2) by default the wind is displayed in the form of vectors with barbs, the swell in the form of vectors characteristic of direction and height, pressure in the form of isolines and water temperatures in the forms of areas. [See Weather data display preferences paragraph to change a display](#).

How to open a new weather file.

1. Select **[Open weather file]** from the **[Weather]** menu .
2. A browse window is opened.
3. Select the folder in which you wish save the GRIB file.
4. Then choose among the file list the required weather forecast file and click **Open**.

Getting a Weather file from e-mail

You just receive Weather information from an e-mail (using MaxSea chopper,Navimail...).

- Double click directly on attached file which you have received in your e-mail.

A dialog box appears and gives you two choices

1. open the file

2. save it to your computer

- Click on "**Open...**" to launch it directly in MaxSea.

IMPORTANT - in this case files are saved in temporary internet file folder and cannot be opened again directly using the file open procedure. It become the default weather file until the next download.

- Or click on "**Save...**"

and select the destination folder. The file is then saved in the selected folder and ready to be opened and displayed on a chart. (See chapter "Weather file save on hard disk" .)

Using a Weather file saved on Hard Disk

Weather file can be saved on your hard disk :

- from an e-mail attached file save on the hard disk (via [MaxSea chopper](#), via [Navimail](#),...)
- after a copy from an external support (diskette)
- ...

Weather file extension

To be opened by MaxSea Weather file you have should have **.GRB** or **.bz2** extension

- GRB : is the extension for **GRIB** file format
- bz2 : Bzip2 compressed file extension. this type of file is automatically decompressed by MaxSea during the opening.

Note :

- 1 - If the extension is not the good one or missing then MaxSea cannot see and open the file.
- 2 - If the file is compressed (Zip,Rar,...) then you have to use the corresponding program (Winzip,Winrar,...) to extract the GRIB file.

Weather Information

MaxSea allows you to easily show or hide each type of data contained in the weather file.

You will learn in this chapter :

- To change how the Weather Information menu is displayed
- To quickly control available Weather data contained in the weather file
- To show or hide Weather data layer on the chart

The Weather zone information can be displayed in three modes :

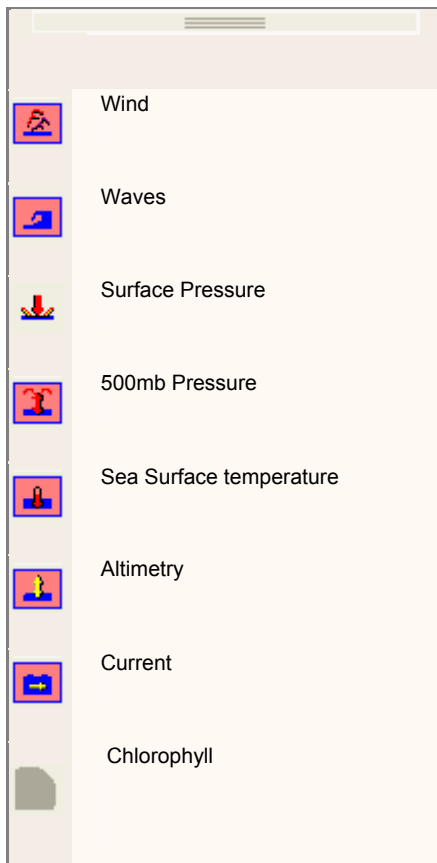
Weather Information button in the Chart toolbar

pop up menu under the Weather Information button is the default mode display as following:

>> if you click and drag the vertical grey bar and place weather data menu anywhere you want.



(Fig. 2 - displayed in floating palette mode - Fig.3 -displayed in toolbar docked to the Window chart .)



>> Click each item to show / hide corresponding weather data on the chart.

To control the Weather Data Information presence in the Weather File

1. Colored icon means that corresponding weather data is available in the opened weather file.
2. Icon appears surrounded in red when weather data is selected and displayed on chart as shown below in Fig.1 for the wind data.
3. Icon appears in gray means that corresponding weather data is not available in the opened weather file.

To change how the weather data information is displayed on chart

You can use arrows, contour lines, color, Bubbles with text and Wind feather when displaying weather information. You can change display of each data layer by selecting the **[Option: weather...]** item from **[Weather]** menu. (see related topic: Option: weather)

Note: functions previously describe are available from the **[Weather Layers]** item from the **[weather]** menu.

Fig. 1: Weather Information menu

Weather Information displayed as floating palette



Fig.2 : Floating palette mode representation

Weather Information displayed as a toolbar docked to the chart palette

1. click and drag the vertical grey bar (as shown with 2 in Fig. 3) and place weather data menu anywhere you want around the Chart window.
2. As shown in following Fig. 3 , all icons appears in gray. this means that either no weather file is opened or all data layers are hidden.
3. Click on Weather Information button to display data layers or to open "GRIB" file if it is not.

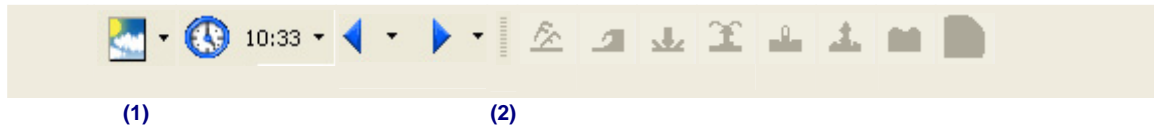


Fig.3 : Toolbar representation

Show/Hide weather layer

Click any data layer in the Weather Information menu to display various layers of weather data on the chart.

When a layer is displayed on chart the corresponding icon is displayed with blue border.



Wind Data Layer is hidden



Wind Data Layer is displayed

Different looks can be achieved using the [Option: weather...] from the [Weather] menu as well as by choosing which mode is applied on each weather data layer.

For more information see related topics:

1. [Weather Display Options](#)
2. Option: weather

Weather Display Options

They are many ways you can display weather (GRIB) data. MaxSea allows several display options:

Available data in a GRIB file depend on your order selection.

A weather file can contain up to eight types of data:

- Wind,
- Waves,
- Current,
- Altimetry,
- Sea Surface Temperature,

- Surface Pressure,
- 500 Mb pressure.
- Chlorophyl

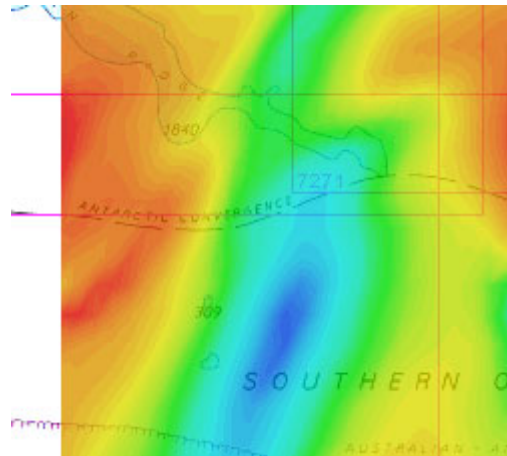
All available data are shown in default mode (see [Available display mode table](#) below) but you can show or hide certain types using the [Weather data palette](#).

Variety of Ways to Display Weather Data Layer on the Chart

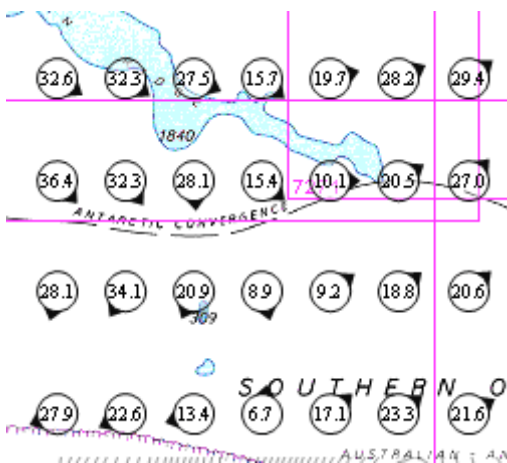
Each data type can be displayed in different display modes :



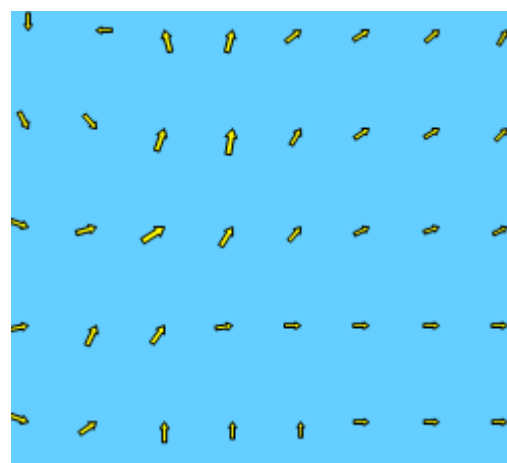
Line : Isolines mode



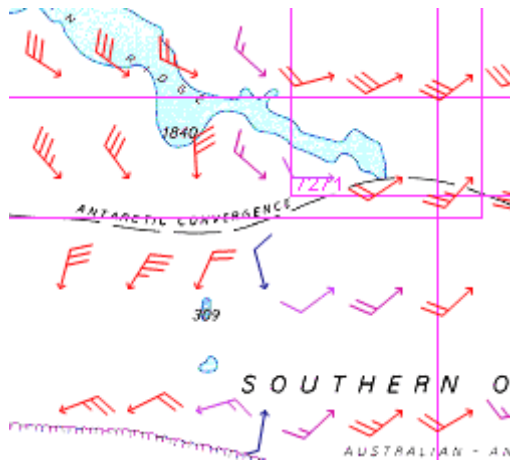
Colors : Surfacing mode



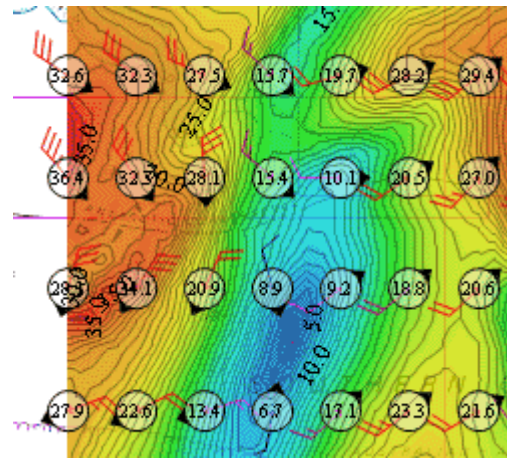
Bubbles : Text in bubble mode



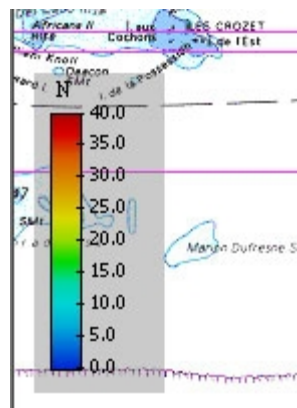
Arrows : Vector mode



Wind feather : For wind information only



Several modes shown at the same time



Notes :

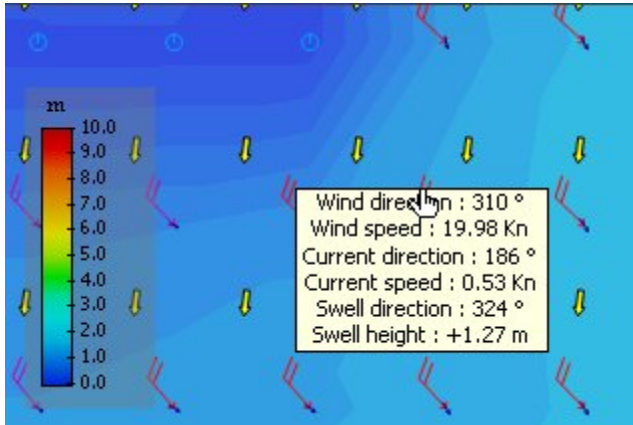
- (1) A color legend is displayed when needed.
- (2) Each data can be represented in several modes in a same time.

Weather options.

Go to the **[Weather]** menu, select **[Option: weather...]** to call up the dialog box which allows you to customize each weather data display

Getting Information on Weather Data

With using the **Finger tool** left-click on a point from the chart (in the weather file zone) and maintain the left mouse button down to display strength (speed) and direction of weather data available in your weather file (other parameters such as well, pressure, temperature, etc.) at the point clicked.



It should be noted that none of the existing models is handling wind speed above 60 Kt; NOAA and meteorological offices have specific programs to predict and track hurricanes; consequently models cannot be used to define which category of hurricane (3, 4...) you face; it is necessary for that to get specific information from hurricane centres; meanwhile when you see on a model more than 30-40kt of wind in sub-tropical area you know that it is a hurricane.

Notes:

- (1) - The software interpolates in space and time the file values.
- (2) - If several chart windows are opened, use the weather button to show or hide the current weather file for each window.

Changing Date and Time Display

Chart time display

The time/date, **Chart time information**, is displayed in the tools bar. This "**Chart time**" is by default the current time and date. You can check base time of the current Weather file by looking in the **Weather Time Periods** (shown in Fig.1 as 3).

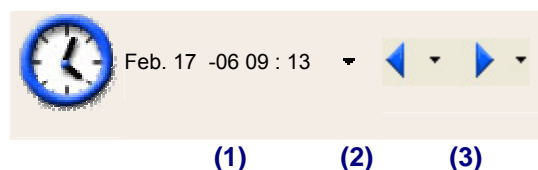


Fig. 1

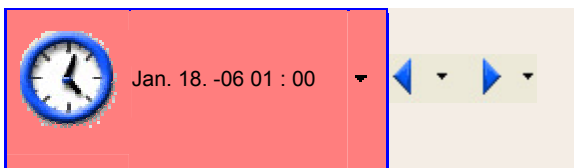
Weather files are displayed on the chart according to this **Chart time**.

To view displayed information (Wind, pressure...) at a different time/date, check a date from the **Chart time information** (shown in Fig.1 as 1) menu by clicking on the drop down menu arrow (shown in Fig.1 as 2).

How to Change Date and Time and choose in the weather file a valid time for your location:



Current Time when a new forecast is loaded, base time and valid time are the same indicated by the computer clock. The current date will be displayed only if you choose of displaying text labels in toolbar.



- Select Date/Time...
- Next Quarter
- Next Half-Hour
- Next Hour
- Nov. -29 -05 01:00
- Nov. -30 -05 01:00
- Dec. -01 -05 01:00
- Dec. -02 -05 01:00
- Dec. -14 -06 01:00
- Jan. 16 -06 07:00
- Jan.17 -06 01:00
- Jan.17 -06 07:00
- ✓ Jan.18 -06 01:00
- Jan.23 -06 07:00
- Jan.24 -06 01:00

Select Date/Time allows you to enter a chosen date and time in appropriate dialog (enter value using keyboard or select value under a calendar).

When you are using either previous or old forecast, the Chart Time Information is surrounded in red.

Note: Weather forecast menu under the Chart Time information lists all available forecast contained in the opened weather file.

Check a Date/Time under the drop-down menu :

In our example selected date is the 17th January of 2006 and the actual date is 18th January of 2006 .

Click on  time period arrows to display previous or next weather forecast from hour interval periods (+ ou -) 1h, 2h, 3h, 6h, 12h ou 24h.

Note: Chart Time is associated with a chart window. It is therefore possible to display on the same weather file at different dates on several chart windows.

Modifying Wind Forecast

It is possible to adjust the wind forecast data values, in order, for example, to take into account the hours or wind direction or wind speed, which has been prevailing in the zone for several days.

In such a case, the program replaces the values which you have selected in the corresponding input text.

Activate the function **Modify Wind Forecast**, under the **Weather** menu, to access the modify Wind Forecast dialog box.

Go to the **[Weather]** menu and choose **[Modify Wind Forecast]**

A dialog box appears and allows you to modify parameters as:

1. Wind forecast hours value from + or - 24 hours .
2. Wind angle enter + or - 180 °.
3. The strength of the wind from + or - 50.

IMPORTANT - this function will only be available in case if your software is a professional version and it has Routing and Performance modules.

Making Movies

The weather data symbols in MaxSea can be animated to show how the weather data will move during a time period. MaxSea enables to create **movies (.avi file)** of playing weather forecast data on the chart. The film will be recorded in "My Documents" folder or in a chosen folder on your hard disk.

To create the **movie**, prepare the window chart as you want it to appear (window size, **scale** , zone, etc.).

Then select **[Create movie]** from the **[Edit]** menu.

IMPORTANT - The generation of many images requires sufficient free space on the hard disk. The size of the chart window used when the movies is created (active window) greatly influences the necessary disk space. <u>You are strongly advised to reduce the size of the window before generating the film.</u> A window covering half the screen is generally sufficient.
--

The dialog displayed can be used to choose the parameters for the creation of the film.

Define the interval between each image by selecting:

- Day number (00d).
- Hour number (01h).
- Minute number (00mn).

- Second number (00s).

Note : 1 hour is the movie sequence value defined by default.

Then click on **OK**, the saving dialog box can be used to specify the name of the film that you are going to generate.

After clicking **Save**, a dialog box appears and allows to choose either a movie compression format or not.

1. Uncompressed format is selected click on **OK** to generate the movie.
2. In case you have selected a compression format, you can adjust the compression quality or/and configure the video display.

The software automatically generates the film in "**My document**" folder, easier to find the movie later for playing.

Note: the creation of the film generally requires several minutes.

To play the movie, go to "My Documents" folder, click twice the file movie (*.AVI), the **Movie reader** window is activated as same time the film is played (See [Open a movie](#) chapter).

Opening Movie

To play the movie you may open it by clicking twice on the file movie (*.AVI) from "**My documents**" folder , the **Movie reader** window is activated.

The Weather movie shows you how Wind Feathers will move according to the wind data speed in MaxSea.

Note: Date and time are displayed in the right lower corner of the window movie.

Playing and controlling movies is easy. Simply double-left-click on the movie file to open the movie window (this will be done except the software).

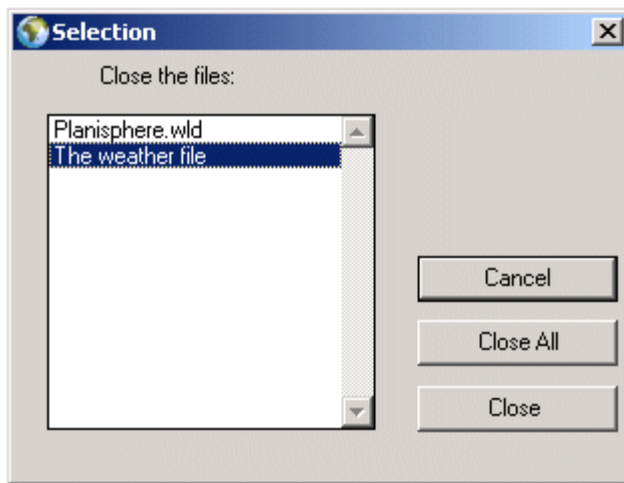
From the movie player left-click on one of each button:	To do this :
PLAY	play the movie in a continuous loop
PAUSE	if you want to pause the movie at any point. Resume play with the Play button.
STOP	stop the movie at any point.



Play the movie as often as you wish to get a feel for the rhythm of the weather. After the movie has been paused, you can control it by dragging the "**Seek bar**" left or right to study the weather more carefully (forward and back in the weather forecast file).

Closing forecast file

Select **[Close]** from the **[File]** menu.



Select the weather file, then click on **Close**.

The weather forecast is removed from the chart.

Via MaxSea Chopper

MaxSea Chopper

Note: MaxSea Chopper is installed at the same time as your software.

MaxSea chopper functions are only available if you have MaxSea's Weather module.

You can reach this program directly from the software without having to leave it under the software **[Weather]** menu select **[Chopper: Forecast...]**.

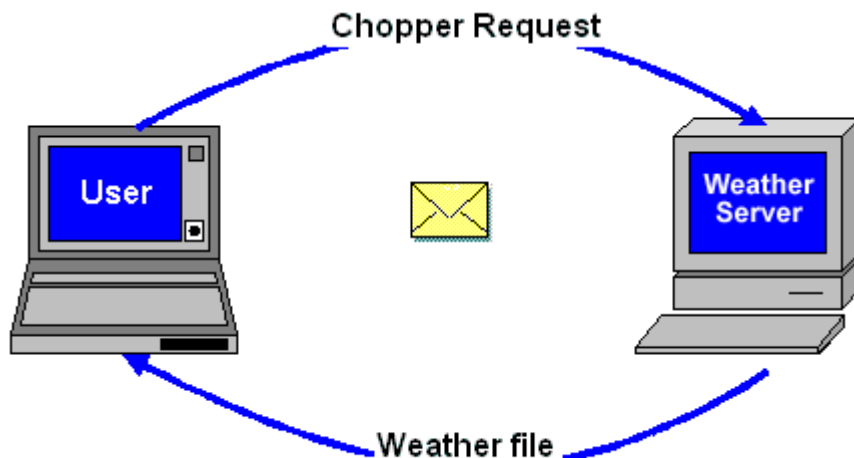
IMPORTANT

the first time you are using a new address E-mail to access to one of the MaxSea Chopper services, click on the button "**To Register**" upper hand of MaxSea chopper window.



(see [Register to MaxSea Chopper](#) chapter)

MaxSea chopper allows you to send by email a request to the MaxSea Chopper weather file server. MaxSea Chopper will return requested information using personal email address (if the address you are using is registered)



THIS SERVICE IS ENTIRELY FREE FOR THE MAXSEA USERS!

- **How to send a request?**
 - Go to the [\[Weather\]](#) menu and choose [\[Chopper : Forecast...\]](#)
 - MaxSea Chopper menu interface appears as a local Web page
 - **Choose a model between the following ones:**
 1. Oceanic Worldwide model which covers ocean only. Meridian view or Antimeridian view
 2. USA East Coast High Resolution Model.
 3. USA West Coast High Resolution Model.
 4. Alaska & Pacific Northwest High Resolution Model.
 5. Worldwide GFS model which covers sea and land areas: Meridian view or Antimeridian view
 6. Wave Watch III Worldwide model which covers ocean only: Meridian view or Antimeridian view
 - [Choosing Weather Data Parameters](#)

IMPORTANT - available Area, Parameters and Forecast can be different from a model to an other one

- Simply left-click and hold the button down to draw a rectangle around the area you want to select (the size of the area is entirely up to you)

- Select Parameters: Wind, Pressure ...
- Choose a time interval for the weather Forecasts : 00h 12h 24h ...
- Select File Compression : No compression, Zip, MaxSea compression
- Then select a course (and/or) a speed value, in this case MaxSea will automatically centered the display according to the weather forecast and the defined position.



- At least click on the button to receive the selected forecast file.

The **MaxSea Chopper** is compatible with any email service which authorizes attached files to be received.

A few minutes after sending your email request from the **MaxSea Chopper**, your MaxSea weather forecast file will be received in your personal email box. You then upload this information into MaxSea for a comprehensive weather forecast.

Register to MaxSea Chopper

If it's the first use of your address Email for MaxSea Chopper, please you have to register it from our web site.



Simply click on register button from MaxSea chopper software.

An intermediate screen allows you:

- **To reach the registration form which you have to carefully complete :**
 - Name, First Name, Address, Zip Code, City, State,
 - Email: Your Email address must be valid if you want to use MaxSea chopper services
 - **License and Dongle** (optional)

Note: All your e-mails addresses of use must be recorded.

- **To choice which service you need :**
 - MaxSea User Registration
 - **Subscribe to MaxSea Chopper**
 - Subscribe to News Letters

- [To receive Select Subscribe to MaxSea Chopper](#)

Choosing Weather Data Parameters

The **MaxSea Chopper** offers easy selection of any area around the world by specifying the data you want to receive (wind, waves, sea temperature, etc.) you control file size.

You simply select an area from a map at "**MaxSea Chopper**" (the size of the area is entirely up to you), then enter the parameters you require, for example wind strength and direction. Finally, specify **the time scale** for your forecast. It works with any system of communication.

Note: parameters number and time forecasts depend of the model you have selected.

Before sending your request:

1. Choose the weather area either by clicking & dragging to draw a rectangular area on a world map or enter precisely the latitude and longitude values into the **N,W,E,S** fields.
2. Choose any combination from the lists containing: wind (direction and strength), surface barometric pressure, waves, and sea temperature (plus other data more likely to interest Oceanographers).
3. Choose a type of file compression if you wish
4. Enter Speed and/or Route parameters.

All weather data parameters depend on the weather forecast model that you have chosen and each weather data parameters are defined according to a Forecast Model as following:

1. [Oceanic Worldwide Model](#): covers ocean only (NOT Mediterranean sea, the English Channel, Baltic and North American Great Lakes areas)
2. [USA East Coast High Resolution Model](#)
3. [USA West Coast High Resolution Model](#),
4. [Alaska & Pacific Northwest High Resolution Model](#)
5. [Worldwide GFS Model](#): covers sea and land areas. (Antemeridian View)
6. [Wave Watch III Worldwide Model](#): covers ocean only (NOT Mediterranean sea, the English Channel, Baltic and North American Great Lakes areas - Antemeridian View)

Note: if you have chosen to enter the boat speed and/or route, the weather forecast display will be automatically centered on the boat position

How to receive weather forecast from Chopper

After having registered to MaxSea Chopper and having selected the various parameters according to your needs, choose the mode of how you wish to receive Weather forecasts.

Two ways of receiving the selected request:

1. Either Click on [\[Get it by Email\]](#) to get it once according to the request
2. or click on [\[Register to this request\]](#) to get it the request every day.

A few minutes after sending your email request from the **MaxSea Chopper**, your MaxSea weather forecast file will be received in your personal email box. You then upload this information into MaxSea for a comprehensive weather forecast.

See also Related topic: [Getting a Weather file from e-mail](#)

MaxSea Chopper Forecast Models

PARAMETERS	SPATIAL COVERAGE	SPATIAL RESOLUTION (latxlon)	AVAILABLE FORECASTS	UPDATE FREQUENCY	AVAILABLE FROM hh:mm GMT (first download)
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Oceanic Worldwide model

Wind	Global (except Inland & Mediterranean)	1°x1,25°	00H to 168H (6H step)	global update every 6 hours	06:10
Pressure	Global (with Inland)	1°x1°	00H to 168H (6H step)	global update every 6 hours	05:45
Waves	Global (except Mediterranean)	1°x1,25°	00H to 168H (6H step)	global update every 6 hours	06:10
Sea Surface Temperature	Global	0,075°x0,075°	N/A (only one forecast by day)	global update once a day	06:00
Altimeter	Global	0,060°x0,080°	N/A (only one forecast by day)	global update once a day	06:30
Stream	Global	0,060°x0,080°	00H to 72H (24H step)	global update once a day	07:30
Geopotential Height	Global (with Inland)	1°x1°	00H to 168H (6H step)	global update every 6 hours	05:45
Chlorophyll	Global	0.06 ° x 0.08°	only 00H (only one forecast by day)	global update once a day	13:00

USA East Coast High Resolution Model



Wind	Global (except Inland)	0,25°x0,25°	00H to 168H (6H step)	global update every 6 hours	06:05
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Pressure	Global (with Inland)	1°x1°	00H to168H (6H step)	global update every 6 hours	05:45
Waves	Global	0,25°x0,25°	00H to168H (6H step)	global update every 6 hours	06:05
Sea Surface Temperature	Global	0,05°x0,05°	N/A (only one forecast by day)	partial update every 1 hour	00:00
Altimeter	Global	0,060°x0,080°	N/A (only one forecast by day)	global update once a day	06:30
Stream	Global	0,060°x0,080°	00H to 72H (24H step)	global update once a day	07:30
Geopotential Height	Global (with Inland)	1°x1°	00H to168H (6H step)	global update every 6 hours	05:45
Chlorophyll	Global	0.06 ° x 0.08°	only 00H (only one forecast by day)	global update once a day	13:00

USA West Coast High Resolution Model



Wind	Global (except Inland)	0,25°x0,25°	00H to168H (6H step)	global update every 6 hours	05:55
Pressure	Global (with Inland)	1°x1°	00H to168H (6H step)	global update every 6 hours	05:45
Waves	Global	0,25°x0,25°	00H to168H (6H step)	global update every 6 hours	05:55
Sea Surface Temperature	Global	0,05°x0,05°	N/A (only one forecast by day)	partial update every 1 hour	00:00
Altimeter	Global	0,060°x0,080°	N/A (only one forecast by day)	global update once a day	06:30
Stream	Global	0,060°x0,080°	00H to 72H (24H step)	global update once a day	07:30
Geopotential Height	Global (with Inland)	1°x1°	00H to168H (6H step)	global update every 6 hours	05:45

Chlorophyll	Global	0.06 ° x 0.08°	only 00H (only one forecast by day)	global update once a day	13:00
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Alaska & Pacific Northwest High Resolution Model



Wind	Global (except Inland)	0,25°x0,50°	00H to 168H (6H step)	global update every 6 hours	05:45
Pressure	Global (with Inland)	1°x1°	00H to 168H (6H step)	global update every 6 hours	05:45
Waves	Global	0,25°x0,50°	00H to 168H (6H step)	global update every 6 hours	05:45
Sea Surface Temperature	Global	0,05°x0,05°	N/A (only one forecast by day)	partial update every 1 hour	00:00
Altimeter	Global	0,060°x0,080°	N/A (only one forecast by day)	global update once a day	06:30
Stream	Global	0,060°x0,080°	00H to 72H (24H step)	global update once a day	07:30
Geopotential Height	Global (with Inland)	1°x1°	00H to 168H (6H step)	global update every 6 hours	05:45
Chlorophyll	Global	0.06 ° x 0.08°	only 00H (only one forecast by day)	global update once a day	13:00

Worldwide GFS model



Wind	Global (with Inland)	1°x1° and 2,5°x2,5° for forecasts > 180H	00H to 384H (12H step)	global update every 6 hours	05:45
Pressure	Global (with Inland)	1°x1° and 2,5°x2,5° for forecasts > 180H	00H to 384H (12H step)	global update every 6 hours	05:45

Geopotential Height	Global (with Inland)	1°x1° and 2,5°x2,5° for forecasts > 180H	00H to 384H (12H step)	global update every 6 hours	05:45
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Wave Watch III Worldwide model



Wind	Global (except Inland & Mediterranean)	1°x1,25°	00H to 168H (6H step)	global update every 6 hours	06:10
Waves	Global (except Mediterranean)	1°x1,25°	00H to 168H (6H step)	global update every 6 hours	06:10

Via Navimail

Navimail



The NAVIMAIL program is automatically installed in the MaxSea folder in the same time of the MaxSea program.

It is directly accessible in MaxSea from the **weather** menu.

Prerequisite

Possess an e-mail and install MaxSea on your PC.

Products

This application allows you, wherever you are on the globe, to order easily different type of data (wind, pressure, waves, surface temperature). The numerical files are delivered through GRIB format and require a MAXSEA to be used.

Security bulletins and satellite images concerning your zone of navigation are available free of charge (except telecommunication cost).

Operation

Orders and deliveries work through e-mail via your telecommunication system, answers being attached files.

In order to receive numerical files, you must subscribe for an account in points at METEO-FRANCE on our internet site <http://meteopro.cvf.fr>. However, if you possess such an address my.boat@inmarsat.francetelecom.fr, you directly access to the Navimail service; the orders will be reported to your telecom bill.

Help



[NAVIMAIL help on line](#)

You can find all information you need to use it from the [?] tab of Navimail by clicking on the **Help** button




[Navimail is a service of Meteo France](#)


Tides and Tidal Currents

Tides and Currents

In this chapter you will learn the basics of using Navigation tools in MaxSea with Tides Currents data. Tide and Current values derived and displayed on the screen are predictions only.

Tides and currents data is overlayed onto the chart with one button-click (as shown Fig.1):



Show / Hide Tide bars on the chart		Tide Height
Show / Hide vector arrows of Mapmedia Tidal Current		Mapmedia Tidal Current
Show / Hide vector arrows of US Tidal Current		US Tidal Current
Show / Hide vector arrows of Other Tidal Current that you have permits		Other Tidal Current
		Active Current Data


	Mapmedia Tidal Current
	US Tidal Current
	Other Tidal
	Weather Current
	None

Fig. 1: Tides and Currents information

Tides and Currents offers following features :

- 1. [Tidal currents data displayed on the chart](#)
- 2. [Getting information on a drawing tidal current arrow](#)
- 3. [Changing time](#)
- 4. [Making & opening movies](#)

Tides information for the main Stations of world are integrated into the software and require no installation beforehand. This is not the case for Current information providing from Mapmedia or Us Tidal Current who constantly update their prediction models. You may install properly Tidal Current data as it is explained in following chapter: Installing Atlases and entering your personal codes.

Note : please contact your dealer to know Tidal Currents Catalog available list. You will display Tidal Currents data on the chart only if you have permits for it.

Getting Information on Tides Data

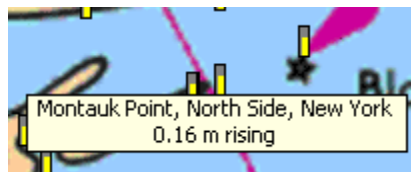


Tides & Currents information button is selected and Tidal gauges are displayed on the chart. Show and hide tide gauges on the chart in the same manner as Weather data layers.




MaxSea allows you to get information on Tides in three different manners:

1 - To Display Screen Tip

- Choose the Select tool in the toolbar
- Apply a long left-click on a chosen gauge on the chart until a screen tip appears. Its contents informs on Tidal Height, Tidal Status (Rising, Falling or Slack) and location (country or reference stations)



The following symbols represent the three tidal height status that can be displayed on the chart.

- Rising  gauge shown as up-arrow
- Falling  gauge shown as down-arrow
- Slack 

2 - To Display Tides & Currents Window

- Go to **[Display]** on the menu bar and select **[Tide & Current display]**.
- This brings up a window which displays tide and current values at the selected location.
- The 7.6Ft refers to the height of the tide and the current arrow indicates approximate direction of the tidal flow and strength.
- GMT time is displayed at the bottom so you have one place where this time is available.

3 - To display Tide Properties Dialog

- Use the right-click menu on selected gauge and choose Tide Properties
- Or double click on a selected gauge with the Select tool
- The Tide Properties dialog consists in two parts with Tide Table and the appropriate graph. Related topic for more information on [Tides Properties Graph](#)

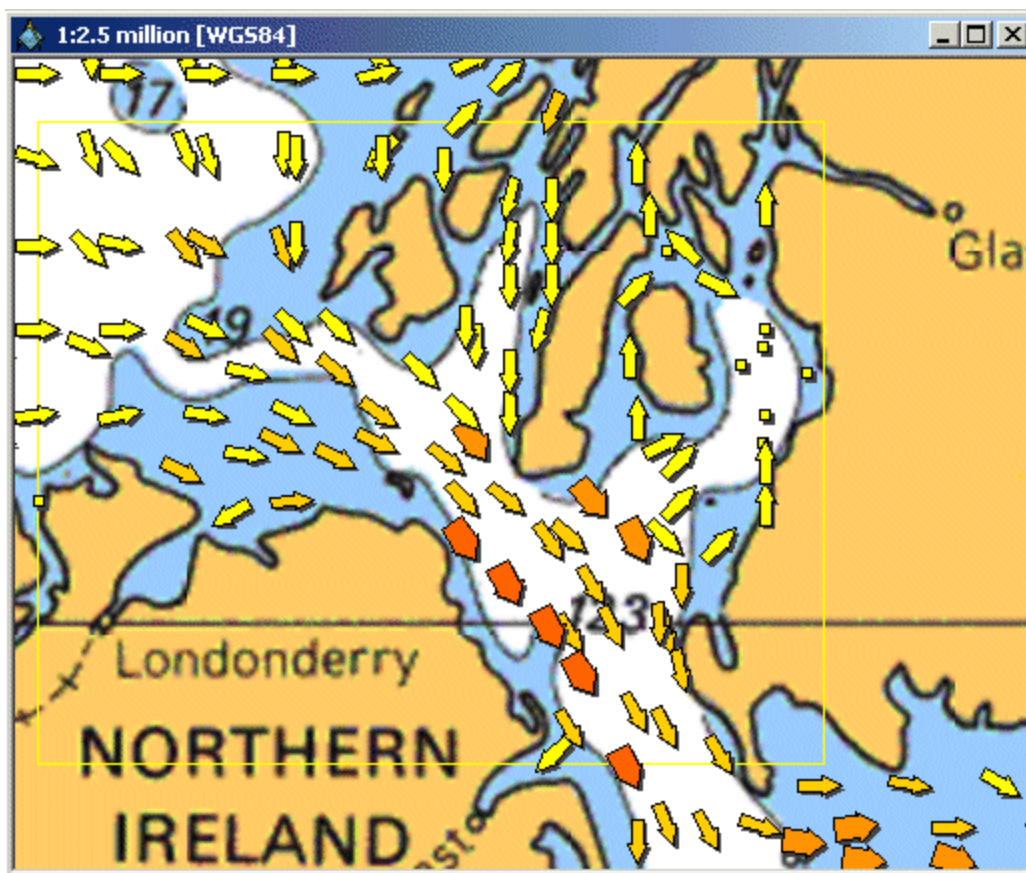
Note: the reference stations is displayed in double width pen style, whereas the secondary stations is displayed in single width pen style.

Getting Information on Tidal Current Data

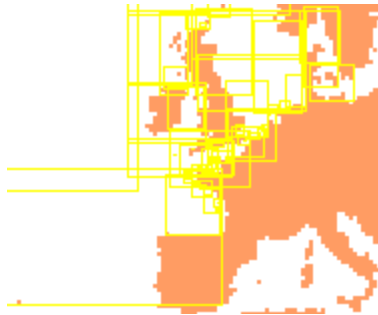


click the Tides & Currents information arrow and choose a Tidal Current layer in the corresponding drop-down menu. Show and hide tidal current vector arrows drawn on the chart in the same manner as Weather data layers.


This will display yellow rectangles outlined on chart that show the presence of tidal currents data (for high **scales**). To bring up tidal current arrows right-click on one of yellow rectangle outlined and choose a scale under the menu. For lower scales, currents are represented by arrows.



Tidal currents legend :



Yellow rectangles outlined on chart display the location of Tidal current data.

 Arrows become yellow squares for values less than 0.1 knots, we are between ebb and flow, the current direction may change rapidly.



0.1 knot > 3.0 knots

Show / Hide Tidal Height Data

To display Tidal Height information :

- 1 - Go to the **[Display]** menu and choose **[Tides & Current]**, this will bring up the "Tides & Current" window which gives information of the display on the nearest tide station to your present location.
- 2 - Display Tides gauges on chart for each location. To access this data click on the "Tide & Current" button in the Chart toolbar. The Tidal height icon becomes selected and this brings up the tide gauges on the chart as shown below.



The tidal height function is used to display the tide for the main ports of the world.

The tidal height display depends from the chart **scale** :



From scale 1: 250 M to 1: 2.5 M, tide and current station are represented by fixed shape symbols:



From scale 1: 1 M to 1: 500 000, only reference station is shown:



From scale 1: 250 000 to 1: 500, both reference and secondary station are shown:

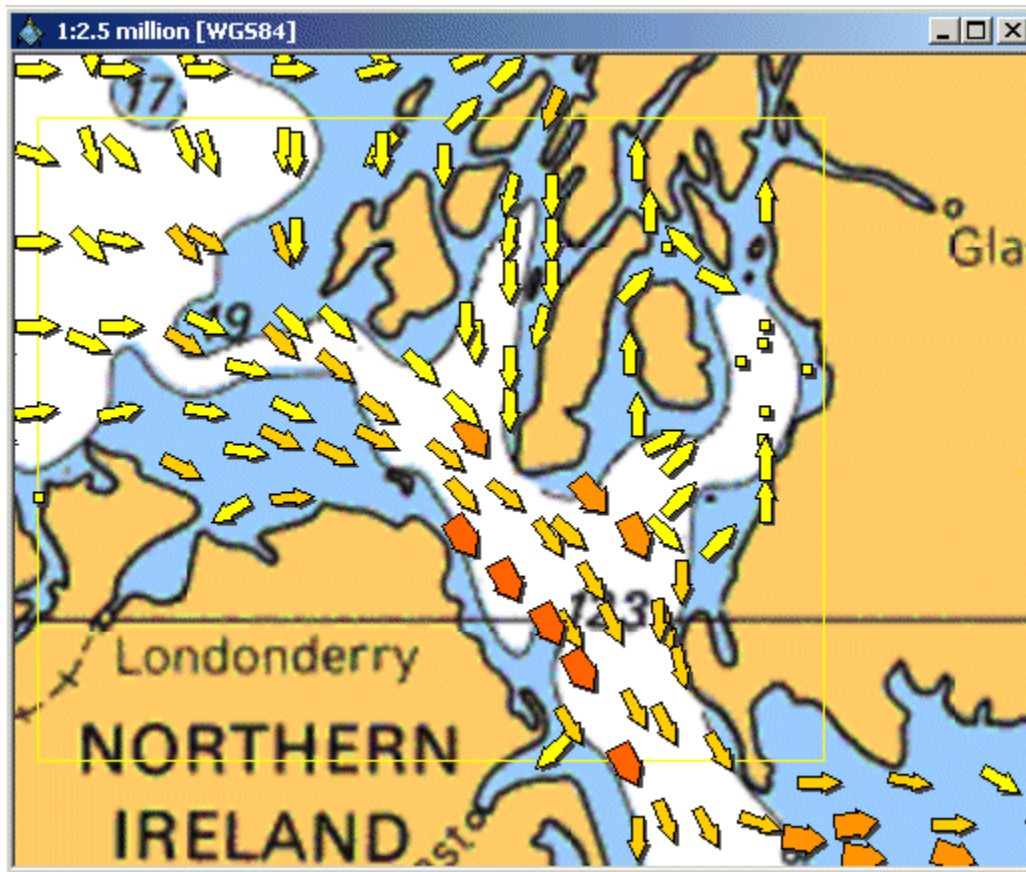
Note: every gauges come along with a label indicating the height of the tide. The unit is which one you have chosen in the program. For more information of changing all units defined in the program red paragraph about "Option: units..."

Getting Information on Tidal Current Data

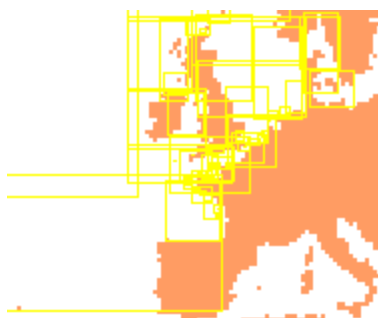


click the Tides & Currents information arrow and choose a Tidal Current layer in the corresponding drop-down menu. Show and hide tidal current vector arrows drawn on the chart in the same manner as Weather data layers.

This will display yellow rectangles outlined on chart that show the presence of tidal currents data (for high **scales**). To bring up tidal current arrows right-click on one of yellow rectangle outlined and choose a scale under the menu. For lower scales, currents are represented by arrows.



Tidal currents legend :



Yellow rectangles outlined on chart display the location of Tidal current data.

Arrows become yellow squares for values less than 0.1 knots, we are between ebb and flow, the current direction may change rapidly.



Changing Tides Date & Time Prediction

Once the tide gauges display is on, you can change the date and the time of the tide gauge by left-clicking on the change date and time symbols on the layers toolbar.

1 - Changing time of the tide gauges displayed beginning with the current date

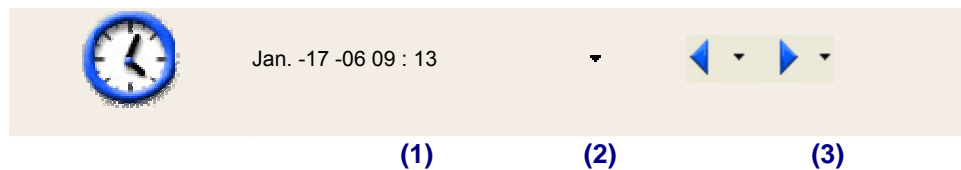
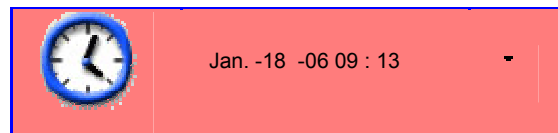


Fig.1

- The default mode is the "**Current time**" as shown in Fig.1-1. In this mode, the **tidal gauges** are **updated automatically** each minute according to the computer clock.
- To move the time of the tide display by one hour increments, left-click on the decreased blue arrow or increased blue arrow. The Clock becomes surrounded in red and the time display beside the clock is updated.



- Apply a long click on arrows nearest blue arrow as shown in **Fig.1-3** to pull down a menu from which you can choose different values for the display increment (-/+1h or -/+2h or -/+3h or -/+6h or -/+12h or -/+24h).

Note: to change between the "**Current time**" and "**Select Date/time**", the Clock icon in the layer tools bar displays the same date as the computer

2 - Changing time of the tide gauges displayed beginning with a chosen date

- Left-click on the clock from the **Layers tools bar** and choose **Select Date/Time** to open a specific window.
- The Clock becomes selected as shown above
- Check a date from the calendar and the date & time display beside the clock is automatically updated.
- To change the time of the tide display you can choose one hour increments, by clicking on the decreased (-1h) or increased (+1h) symbol. The Clock becomes selected and the time display beside the clock is updated.

- Click on the arrow beside the "-1h" or "+1h" icon to pull down a menu from which you can choose time display increment. (-/+1h or -/+2h or -/+3h or -/+6h or -/+12h or -/+24h).

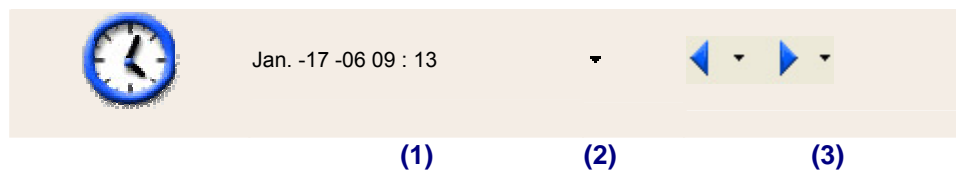
Note that while the tide gauges respond to the change time, the tide/current display stays with the present time for the closest tide gauge.

Changing Tidal Current Date & Time Prediction

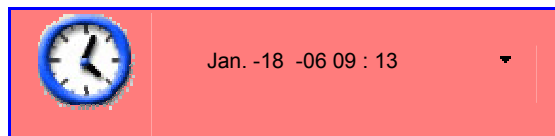
Once the tidal current display is on, you can choose between two ways to change the tidal current display time:

1 - Changing time of the tidal current display beginning from the current time

- The default mode is the "**Current time**". In this mode, the **Current arrows** are **updated automatically** each minute according to the computer clock.



- To move the time tidal current data display by step of one hour, simply left-click on one of each decreased (blue Left arrow) or increased (blue right arrow) as shown in **Fig.1-3**. At this moment the Clock becomes surrounded in red and the time display beside the clock is updated.



- Left-click on the arrow beside one of each "blue Left arrow" and "blue right arrow" icon to pull down a menu from which you can choose different step values of the changing time display (-/+1h or -/+2h or -/+3h or -/+6h or -/+12h or -/+24h).

Note: to make the difference between the "**Current time**" mode and the "**Select Date/time**", the Clock icon in the layer tools bar becomes selected when the second option is chosen.

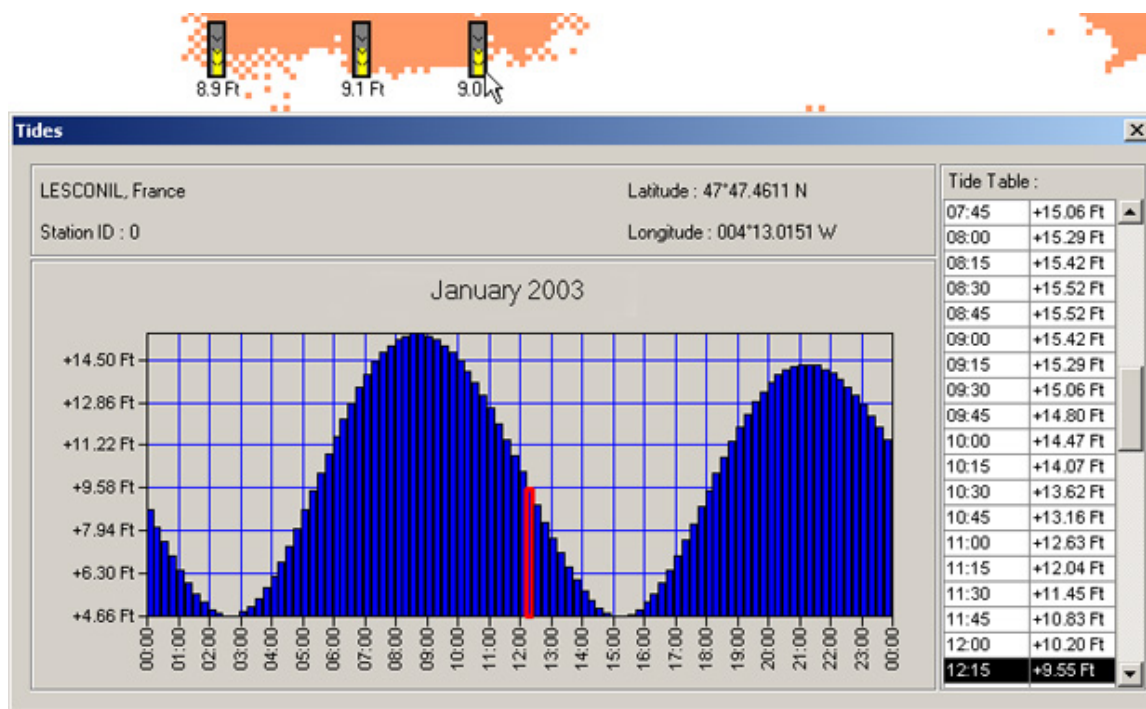
2 - Changing time of the tidal current display beginning from a chosen date

- Left-click on the clock from the **Layers tools bar** and choose **Select Date/Time** to open a specific window.
- Then check a date from the calendar. Then to change the time of the tidal current display select the step value between two choices. Select a step of one hour, by simple left-clicking on one of each decreased (-1h) or increased (+1h) symbol.
- Left-click on the arrow beside one of each "-1h" or "+1h" icon to pull down a menu from which you can choose different step value of the changing time display (-/+1h or -/+2h or -/+3h or -/+6h or -/+12h or -/+24h).
- At this moment the Clock becomes selected and the time display beside the clock is updated.

Note for example: you have chosen date value "January the 22 at 13:54:59" and time value (+6h). The next two layer tidal current data display are projected six and twelve hours forward from the current data (just to the left 13:54:59)

Tides Properties

Double left-click on any tide gauge to bring up Tides Properties dialog:



From the top of the window the name location, geographical location and the station identification number are displayed.

The height tide data information during 24 hours for each hour are indicated in the Tide table on right of the window and the same information are reported on a graph. By default the present tide gauge data appears selected in the table and a red line drawing on the graph indicated its position.

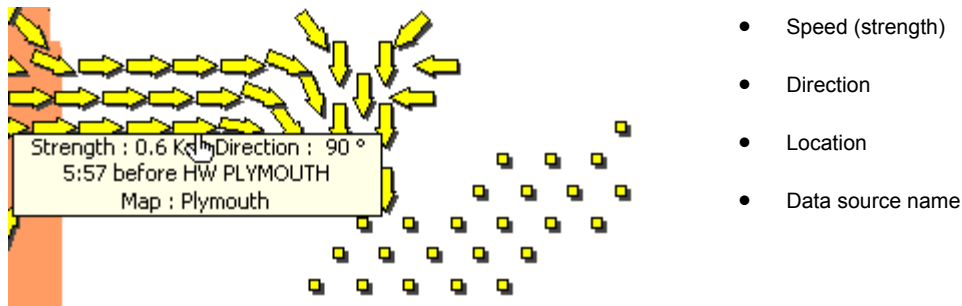
Bring up the Tide & Current window to obtain more information about the tide and current values, and the **GMT time** with the nearest reference harbor refer to related topic **Tide & Current Window**.

When you choose to display this window, it permanently appears in the chart window.

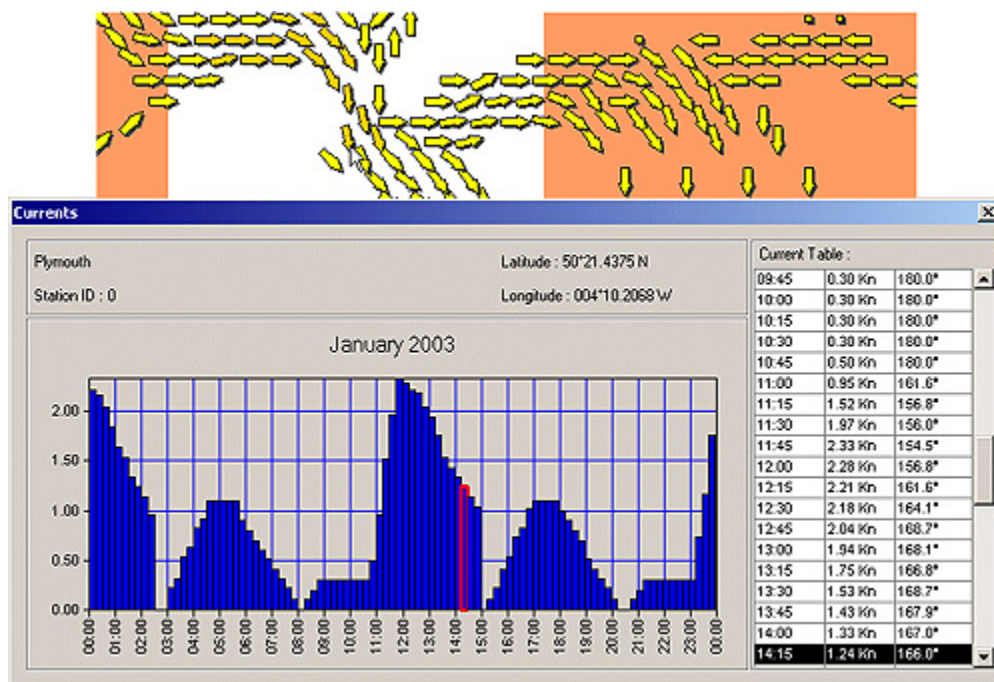
Current Properties

Once the tidal current data display is on, you can use the finger tool to check any current arrow for data on it.

Simple left-click on any current arrow and maintain the mouse button down to bring up a screen tip which shows specific data :



Double left-click on any current arrow to bring up the tidal currents graph:



Upper left part of the window is reserved for information concerning the selected harbor (name, identification number of the station and its position with according to geographic position (latitude, longitude)).

The tidal current data information (Strength and direction of the tidal current) during 24 hours for each hour are indicated in the Current table on right-hand of the window and same information are reported on a graph. By default the present tidal current data appears selected in the table and it is indicated with a red line on the graph.

Bring up the Tide & Current window to obtain more information about the tide and current values, and the **GMT time** with the nearest reference harbor refer to related topic **Tide & Current Window**.

When you choose to display this window, it permanently appears in the chart window.

Choosing the Active Tidal Current Data Layer

Tidal Currents Data are produced by different publishers such as Mapmedia or NOAA US Tidal Currents. Other type of Tidal current data can be contained in files of weather forecasts. You may choose which Tidal Current data you will use in your navigation calculations. According to your navigation, choose the type of the currents of tide which you wish to integrate into your calculations of follow-up of navigation. When you wish to calculate a routing for example, the route is calculated according to the Tidal Current Data layer you have chosen before.

To activate the Tidal Current Data Layer :

1. Click on the **Tides & Current** drop-down arrow in the Chart Toolbar,
2. Point to **Active Current Data**
3. Check which type of Current data layer you wish to activate

Next all calculations that need tides and currents data, will be added in your planning route.

Making and Opening Movies

You can make time-lapse movies of weather and tidal current stream under the software from the selected chart window. This movie includes chart current arrows.

To make a **movie file** under the software, first choose the Tidal current time at which you wish the movie to begin.

Next, from the **[Edit]** menu, select **[Create a movie]** and choose the time between each image.

- Day number (00d)
- Hour number (01h)
- Minute number (00mn)
- Second number (00s)

Note: one hour is the interval of time between two sequences of animation.

IMPORTANT - Generation of many image sequences requires enough free space on the hard disk. It is strongly advised to reduce the size of the window chart before generating movies.

1. Then, select the folder and the file name for which you want to save the movie as (easier to find later for playing).
2. Finally, select a type of compression format and click on OK (uncompressed format is selected by default). If you have chosen a compression format, you can adjust the quality or/and customize the video display.

The software automatically makes a movie (in the **"My documents"** folder by default. This movie is defined on a period of 24 hour period, date and time are displayed in the right lower corner of the window movie.

Playing and controlling movies is easy. To play the movie, go to Windows Explorer and click on the Movie file (*.AVI).

Click twice on the movie file to open the movie window (this will be done except the software).

From the movie player left-click on one of each button:	To do this:
PLAY	Play the movie in a continuous loop
PAUSE	If you want to pause the movie at any point. Resume play with the Play Button
STOP	Stop the movie at any point

Click twice on the movie file to open the movie window (this will be done except the software).

Play the movie as often as you wish to get a feel for the rhythm of the tidal currents moving. After the movie has been paused, you can control it by dragging the "**Seek bar**" left or right to study the movement more carefully (forward and back in the file).

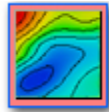
2D Bathymetric Maps

2D Bathy Maps

With the 2D module installed and a connection to your depth sounder, you can generate your own **bathymetric database** in real-time and display it in 2D.

You can select the characteristics of the display: minimum and maximum depth displayed, step between isolines, etc.

A choice of several displays (isolines, plain colors, etc...) allows for quick assessment of the sea floor configuration.



To display data in 2D, click the 2D button located in the Chart palette. The 2D bathy config palette appears and allows you to configure the **2D bathymetric data** that you want to display in the current window. Clicking on the button again turns off the 2D display.

This section provides all the features that allow you to find and display bathymetric data on the chart. You will learn on:

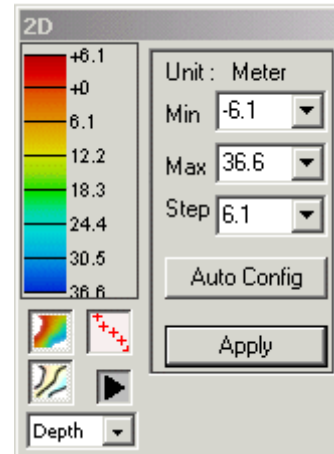
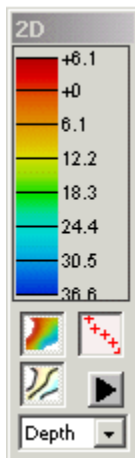
1. [How to use the 2D Bathy config palette](#)
2. [Displaying type and presence of imported data](#)
3. [Setting up the 2D display configuration](#)
4. [Choosing a 2D color gradient for the display](#)
5. [Choosing a 2D display mode](#)
6. [Displaying simultaneous different layers](#)
7. [All the bathymetric data are stored in a database, you will also learn in this section how to import different types of data and how to manage this database.](#)
8. [2D CreateRouteFromContour](#)

See Also Related Topics :

1. Setting up the Bathymetric data display
2. Installing bathymetric Data

2D Bathy Config Palette

The 2D Bathy config palette can be represented in 2 different ways.



To switch from the "**reduced Palette**" mode to the "**full Palette**" mode and vice versa, click the special button :

[Full Palette](#)

[Reduced Palette](#)



Caution: The " **reduced Palette**" or " **full Palette** " mode is not remembered when you leave MaxSea.

The palette is always in " **full Palette** " mode when you start MaxSea.

"Reduced Palette" description

- Upper left-hand the bathymetric color **scale** is displayed.
- Below the "**2D display mode choice**" buttons and pop-up



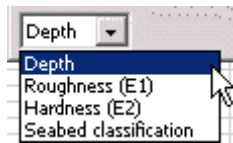
Button to display / mask isolines.



Button to display / mask depth surface.



Button to display / mask the presence and the type data imported to the 3D data base.

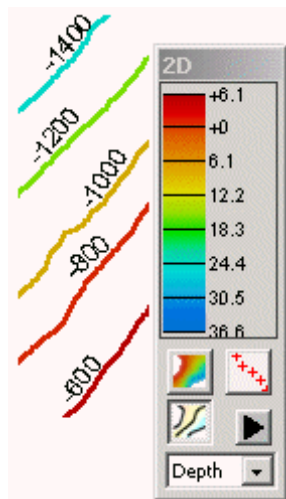


MaxSea displays the depth by default, when available the pop-up gives you the possibility to display the ground discrimination **track** and access the ground discrimination function.

(for more information refer you to the Ground Discrimination chapter)

NB: the Depth option contains **DEM**, **Cmap** or User data **depth** values.

The values Min and Max is reminded, in fact, in the bathymetric color scale. It allows you to know these values even in "**reduced Palette**" mode.



In the example, one sees according to the palette that the shown isolines is 600 , 800,1000,1200,1400 and 1600m.

"Full Palette" description


Upper right-hand of the **Bathy Config palette**, there are 3 small pop-up menus to select the interval of the depths on which the display will be based.

However you can directly keyboard the data.

IMPORTANT

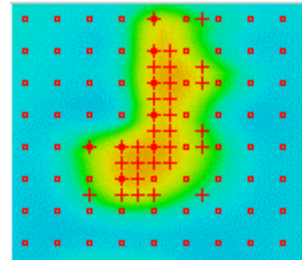
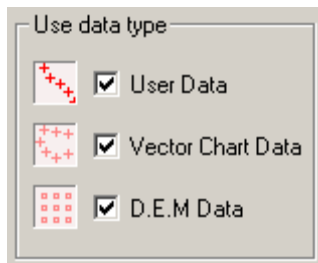
if more than 100 isolines is selected to display, a warning is displayed. Otherwise, MaxSea may start to slow down, displaying Hundreds of isolines.

Show/Hide 2D Bathymetric Data on the Chart

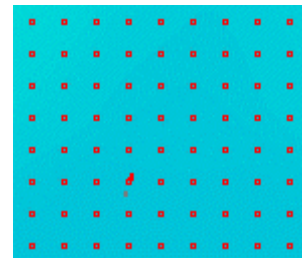
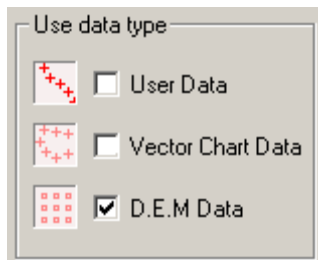
Use the  button to show / hide the 2D bathymetric data displayed on the chart and find quickly where data are localized.

1. Before selecting the button you have to configure parameters for choosing which data you want to display. (see [MaxSea options](#) chapter to display the details of your data import)
2. The "Use data type" displayed on chart, depends on which options you have selected.

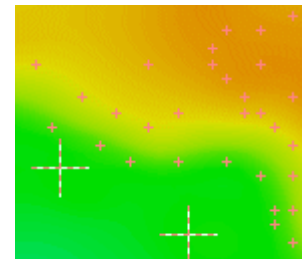
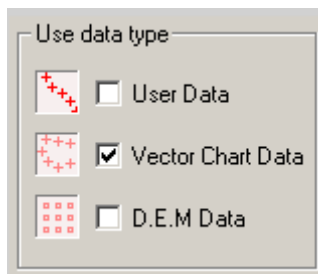
Example :



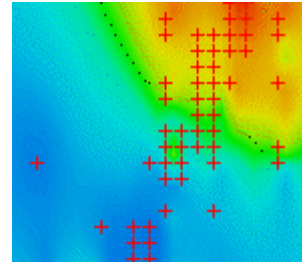
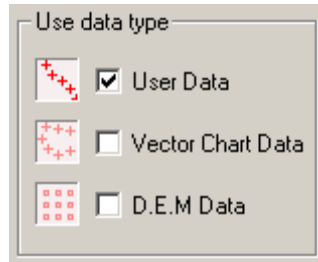
Display all Use data type



Display only DEM data



Display only Vector chart data



Display only User data

IMPORTANT

If occasional problems may occur when displaying the bathymetric data on the chart, an up-to-date list of common display problems can be found in the Troubleshooting section.

Note: if you forget to select the **Use DataType** button, the data will not be displayed.

2D Display Configuration

Depth choice

Min = Minimum depth

Max = Maximum depth

Step = Distance in meters between 2 isobathes.

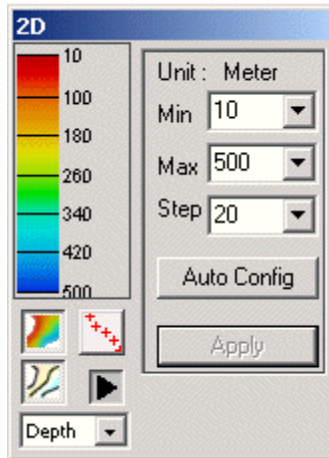
Automatically

The **Auto Config** button automatically applies optimal display parameters based on the current chart data. Use this button to get an instant 2D view relevant to your current screen display. It is then easy to manually adjust the display to your own preferences.

Manually

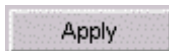
For example, if you navigate between 10 and 500 meters, you may wish to view isobathes every 20 meters.

You can use the values suggested in the pop-up or adjust them directly.



- Configure the "**Bathy palette config**" like in the example
- Click on the Apply button to see the new display.

The **Apply** button will activate once you change the parameters. (Your parameter settings will be discarded if you choose not to click the **Apply** button.)

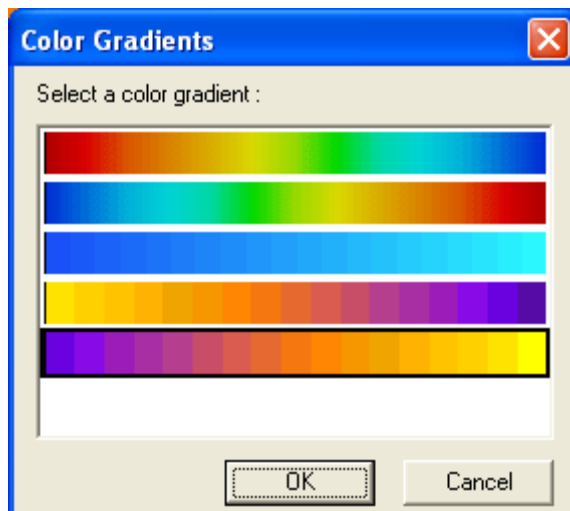


Note: MaxSea accepts decimal numbers for the depth values (.2, .3, etc.).

2D Color Gradient

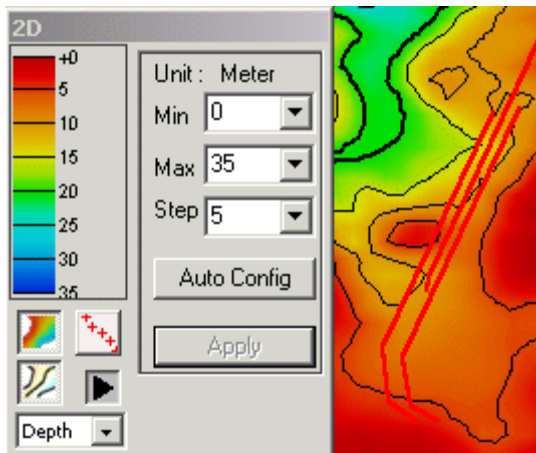
There may be times when you want to change the 2D color gradient - for example when there isn't enough contrast between the 2D display and ship **track** (which is red by default).

To change colors, double-click on the upper left-hand color **scale** of the 2D palette. The following dialog box appears and gives you five color gradient choices, select one and click on OK.

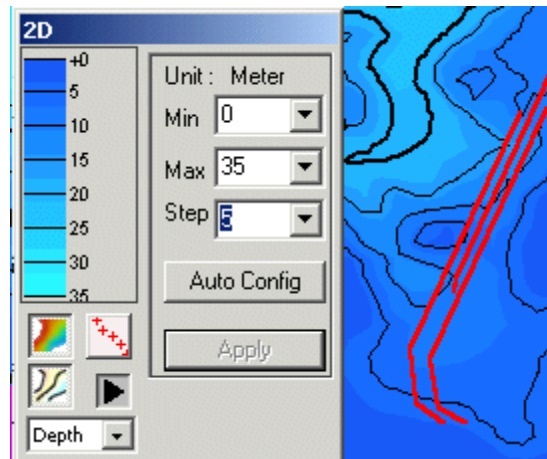


The configuration is simultaneously applied in the 2D palette and in the chart window.

Examples:



Example(1): the 2D color gradient is from blue to red and in this example the ship track is not clearly visible.

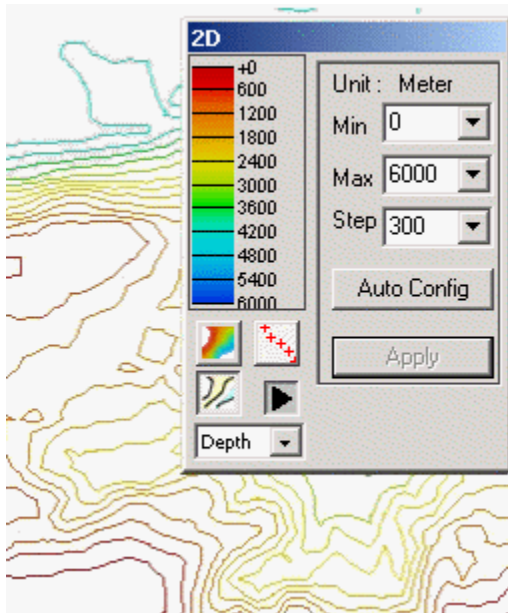


Example(2): in this example the ship track appears clearly after you have chosen the blue gradient color.

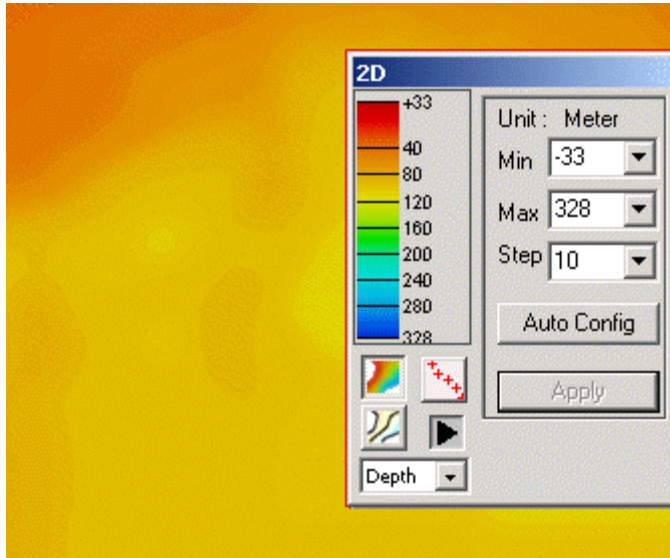
2D Display Mode Choices

There are three available display modes:

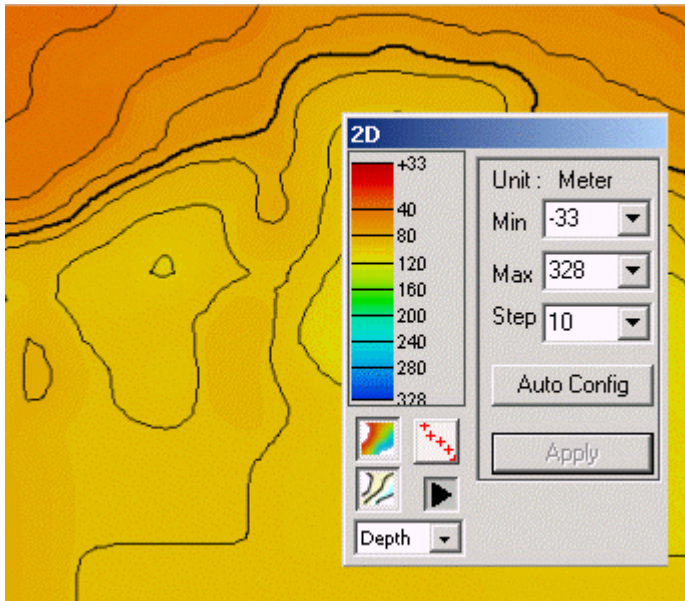
- **Isobathes only:** to follow a fault line,



- **Depth surface only**



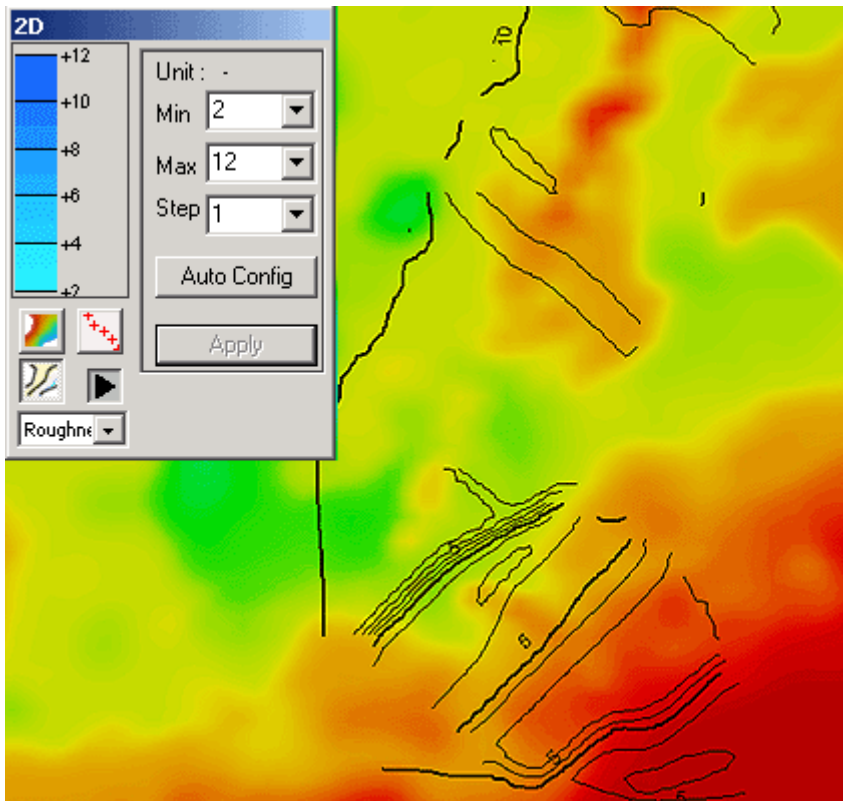
- **Isobathes and depth surface: for a composite view**



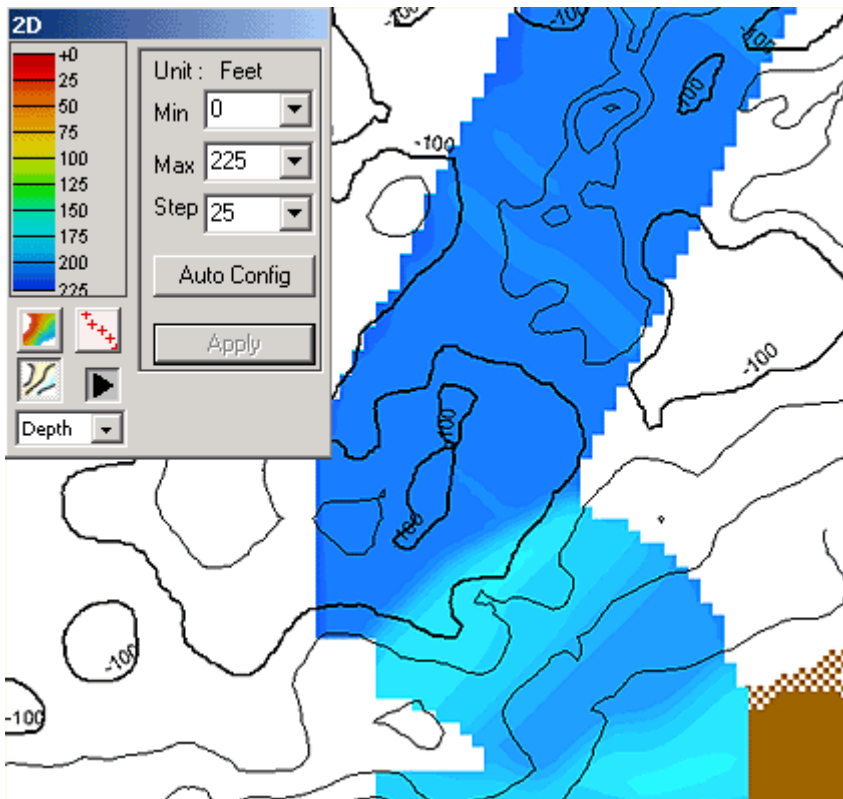
Overlaying simultaneously several types of data

If a ground discrimination system is connected to MaxSea and the Hardness (E1) or the Roughness (E2) data values are recorded, MaxSea can show the depth data values (in "**Isobathes**") and the roughness data (in "**Depth surface**") simultaneously:

This example shows two ways to simultaneously display multiple data types.



Here the **"depth surface"** mode is selected to display the depth values and the **"Isobathe"** mode configuration is selected to display the **"Roughness"** data.



Here the "**isobathe**" mode configuration is selected to display the depth values and the "**Depth Surface**" mode configuration is selected to display the "Roughness" data.

Note: the isobathes are drawn in black to distinguish them in "Depth surface" mode.

Only one type of representation ("Isobathe" display mode, "Depth surface" display mode) is applied to only one type of data value chosen between the depth,E1, E2 or seabed class data.

Creating Route From 2D Contour Line

Your MaxSea version has the 2D module, you can easily create a route by follow-up a selected 2D contour line on the chart.

1. Display 2D view in selected **Isobathe Mode** in your navigation zone area (See related topic to learn more on [2D Display Configuration](#))
2. Use the Right-click menu on a drawing 2D contour line to select it
3. Choose and click on "**Create Route From Contour**".
4. The route will be created along the 2D Contour Line with limits defined inside the zone area display as shown in Fig.1. The Waypoint Route number depends on the scale chosen during action.

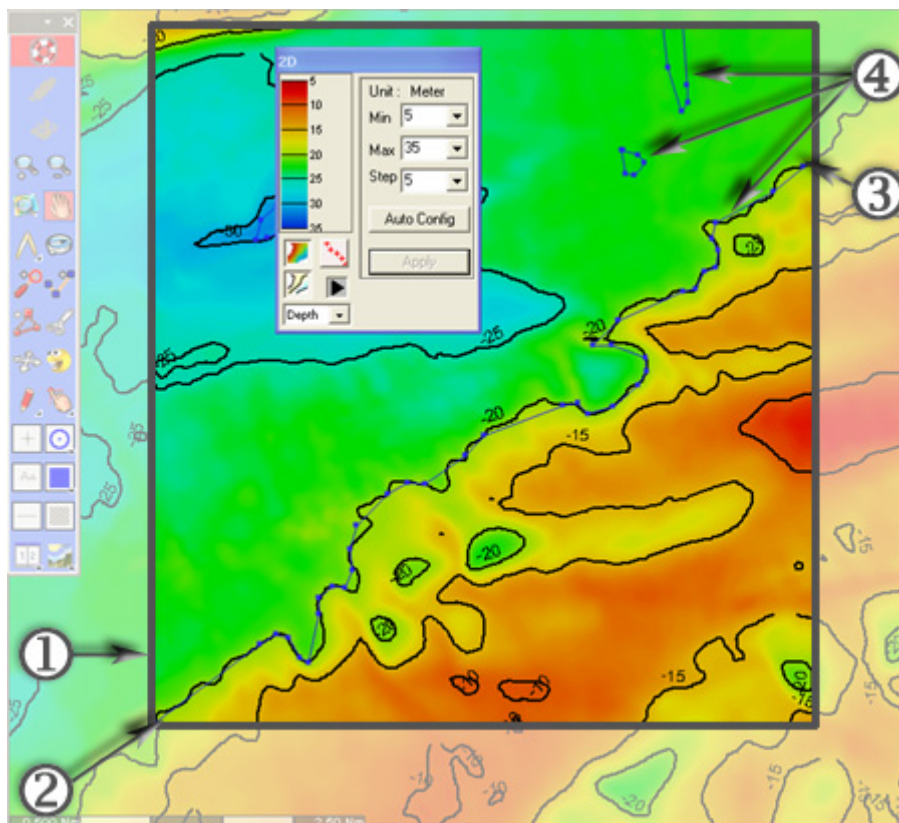


Fig.1 Creating Route From 2D Contour Line:

- (1) - View of selected zone area before creating route
- (2) - left-hand corner where the waypoint route is created in the selected zone area limit display
- (3) - right-hand corner where the waypoint route is created in the selected zone area limit display
- (4) - routes created from following contour lines

All new routes are automatically added in the Routes Center and appear with each name beginning by " **CTR** xxx" (xxx is a serial number of new creating route)

See also related topics to learn more on :

1. [Creating a Route](#)
2. Active Route

Note: a message will warn you if there are no 3D data at the chosen location zone area.

3D Bathymetric database

3D Bathymetric Database

Before activating the 3D view, you must import sounding data either from external sources or personal data. Every time needed, you will be able to create and enhance a personal database containing this sounding data.

MaxSea is delivered with a world-wide 3D data base (Sandwell). The best way to proceed is first to import more precise 3D data such as DEM (Mapmedia) or C-Map on your fishing area. Now that you have more references in your 3D database, you can enhance it with your own .ptf files or Real Time sounding data using MaxSea's Personal Bathymetry Generator (PBG) capabilities.

This way you will be able to enhance the quality of the database as you navigate by correcting the chart values with your own measurements.

There are two available 3D database formats:

1. **H.D.F. format:** Used for grid data (DEM) management

Note: this data base which are (*.GRZ) files cannot be moved from one user to another. Users of MaxSea less version than the v10.3.4 can't read encrypted GRZ files.

2. **ACCESS:** Used for discrete data management

- Imported user data from personal layer (*.ptf format), text files (ASCII format) and user data imported from an old database.
- Data recorded from PBG.
- Vector Charts data.

There are three 3D data such as :

- 1) - **Personal User** data which can be:

- Layer files (PTF)
- Marks
- Lines.
- (XYZ) files

- 2) - **CD ROMs of 3D bathymetric charts** provided by :

- Mapmedia for bathymetric data (D.E.M.)
- C-MAP NT for example for Vector charts
- ".GRD" file of data grid.

- 3) - **Real time PBG** – Personal Bathymetry Generator. The availability of this function means that a sounder is connected to your system.

Note about Datum: Bathymetric data such as Bathymetry Mapmedia, C-Map NT and .GRD data grid, is in WGS84 format. Be careful when you import real time or personal data, for the WGS84 **datum** must be used consistently.



Then Click the 2D button to display or to block off bathymetric data in the 2D window.

You will learn in this chapter:

[How to Import Data To MaxSea 3D Database](#)

Hardware configuration

Hard disk

As the database is to be stored on the hard disk, we strongly recommend you to choose a fast hard disk (ATA-100 or better if possible) with a large capacity (20 gigabytes or more) formatted on a single FAT 32 partition.

Video card

In order to obtain the best 3D display results, you should choose a video card with 3D capabilities and a minimum of 16MB of video memory.

The best performance will be reached if you have the possibility to display the 2D and 3D windows on two different screens. To do that, you will have to equip each screen with a 16 Mb video card (or a dual video card).

Memory

Under Windows 98 SE we recommend a minimum of 128 Mo of SRAM memory (PC100).

Under Windows 2000 PRO or XP, we recommend a minimum of 256 Mo of SRAM memory (PC100).

Operating system

Windows 2000/ XP	Windows 98
<u>The +</u> <ul style="list-style-type: none"> • Stability • Security (system protection) • General performances 	<u>The +</u> <ul style="list-style-type: none"> • Simplicity of running • Best managing of 3D card • Allow an installation on less efficient systems
<u>The –</u> <ul style="list-style-type: none"> • A minimum of 256 Mo of memory is necessary • A little more technical knowledge is necessary for the installation • A good quality 3D card is required 	<u>The –</u> <ul style="list-style-type: none"> • Less stable system • No security managing

See also related topic : Hardware and system requirements

3D Database Import

Import data to MaxSea 3D database

You can import your own data using the files you have previously recorded or and also miscelously data .

- You can also import data

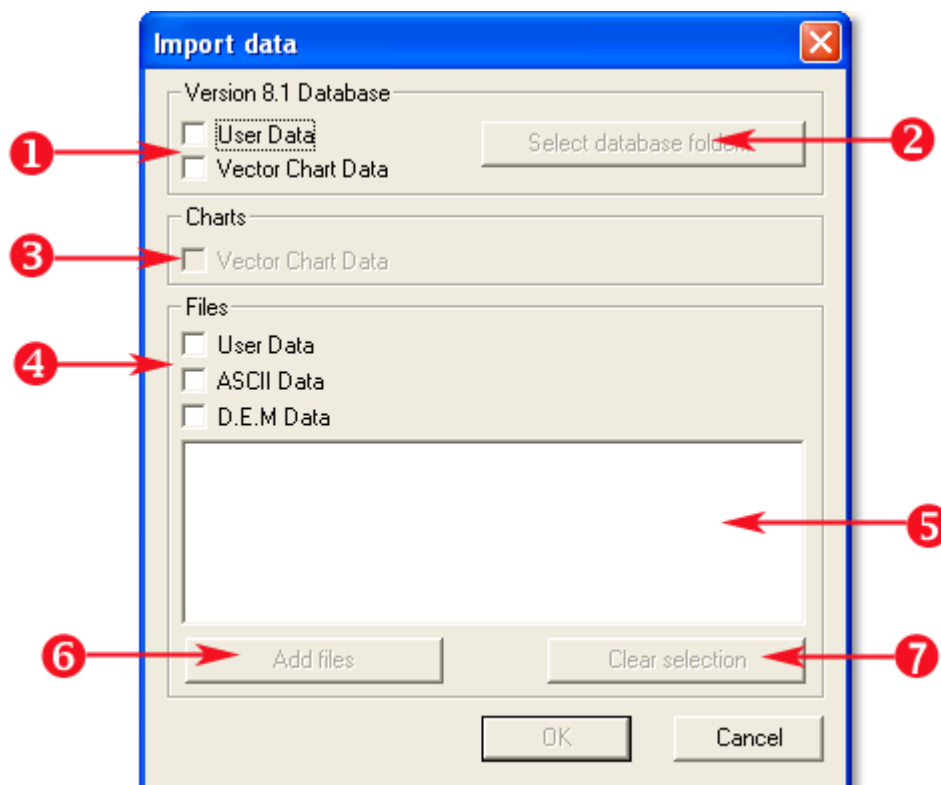
From a version 8.1 DataBase (Be careful and don't use this option if the version 8.1 database contains DEM grid data)

From vector chart Data

From files

1. From **User Data**
2. From **ASCII** file
3. From **D.E.M.** ("Mapmedia" 3D charts and MaxSea "3D charts world database")

- To import data, select **[Import to 3D data base]** from the **[File]** menu
- Then select the type of data you wish to import:



By choosing in the first zone area to import your previous database:

1. Check corresponding box it is a MaxSea database previous version (between User Data or Vector Chart Data).
2. Search and select previous Database.
3. To import **Vector charts** database
4. To import data from **User data** (file PTF file, PBG on), **ASCII** (xyz file), **D.E.M.** (Digital Elevation Model, *.GRD, *.G03)
5. The path zone file import data
6. Use "**Add data files**" button to select a new data file
7. Use "**Clear selection**" button to clear a data file from the list before importing

Note : if the import takes too much time, you can cancel by clicking on the "**Cancel**" button.

Import data to MaxSea 3D database

You can import **your own data** using the files you have previously recorded or and also miscelously data .

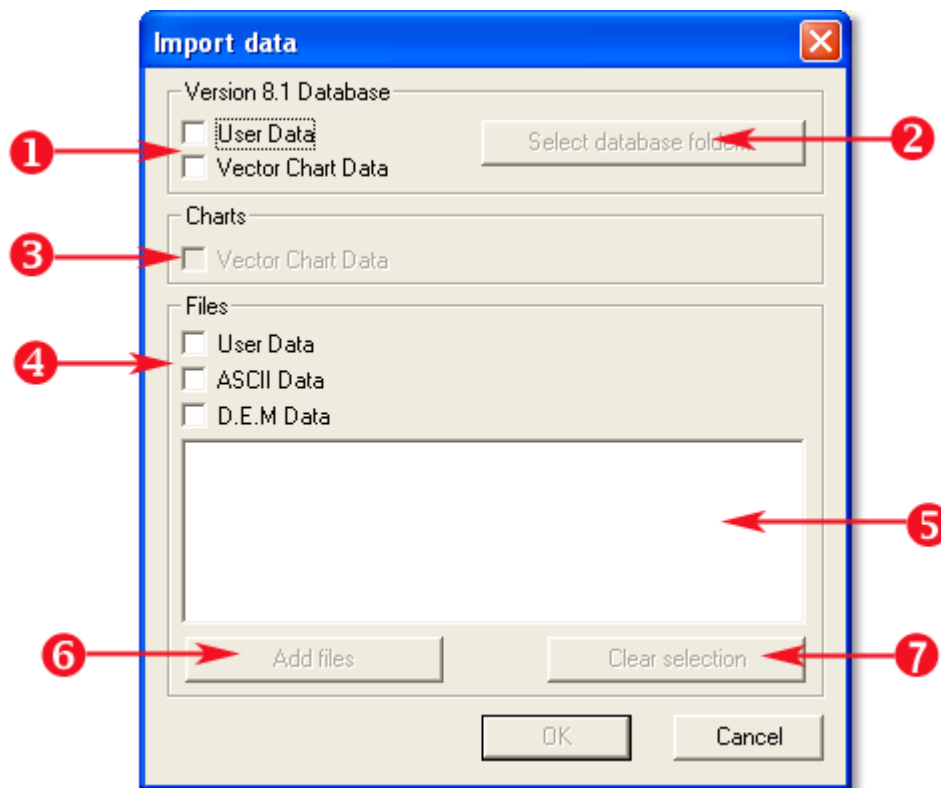
▪ **You can also import data**

From a version 8.1 DataBase (Be careful and don't use this option if the version 8.1 database contains DEM grid data)

From vector chart Data

From files

1. From **User Data**
 2. From **ASCII** file
 3. From **D.E.M.** ("Mapmedia" 3D charts and MaxSea "3D charts world database")
- To import data, select [**Import to 3D data base**] from the [**File**] menu
- **Then select the type of data you wish to import:**



By choosing in the first zone area to import your previous database:

1. Check corresponding box it is a MaxSea database previous version (between User Data or Vector Chart Data).
2. Search and select previous Database.
3. To import **Vector charts** database
4. To import data from **User data** (file PTF file, PBG on), **ASCII** (xyz file), **D.E.M.** (Digital Elevation Model, *.GRD, *.G03)
5. The path zone file import data
6. Use "**Add data files**" button to select a new data file
7. Use "**Clear selection**" button to clear a data file from the list before importing

Note : if the import takes too much time, you can cancel by clicking on the "**Cancel**" button.

Import data from a previous Database

There are two ways to import data from an 8.1 Database

1 - The most secure way to import the 3D data from version 8 is to follow these steps:

Import depth value upon the fishing area from the grid files:

- Check **D.E.M.** box (**Digital Elevation Model**)
- Click **Add files** to select 3D data files
- An "**Open file**" dialog box appears that allows you to select the file you wish to import.

Import depth value upon the fishing area from the Cmap93Ed2 CDs. :

- Select [**Open chart...**] from [**File**] menu (the CMAP chart must be open before the import)
- Check the "**C-Map**" box to select the chart from the CD.

Import the "User data" in the 3D database version 8:

- Check the "**User Data**" box
- Click on the "**Choose database folder**" button to import old user data from an exiting database.

2 - An option available to automatically import his Vector Charts depth data from the version 8 3D database.

IMPORTANT

Be careful when using this feature.

This method can be used ONLY if the user has not imported DEM data (in such a case the accuracy could be significantly decreased).

All data is imported with the old parameters (you can't, for example, modify Tide parameters).

Only **version 8** User Data from fishing plan or from a PBG tracking file can be exported and included in the 3D database.

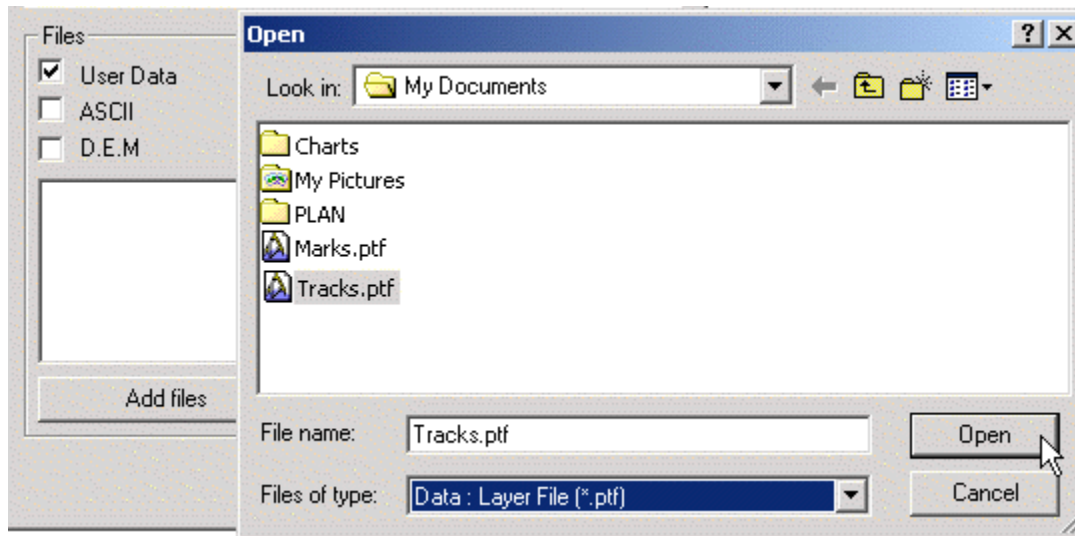
Import "User data"

To import depth information from User data :

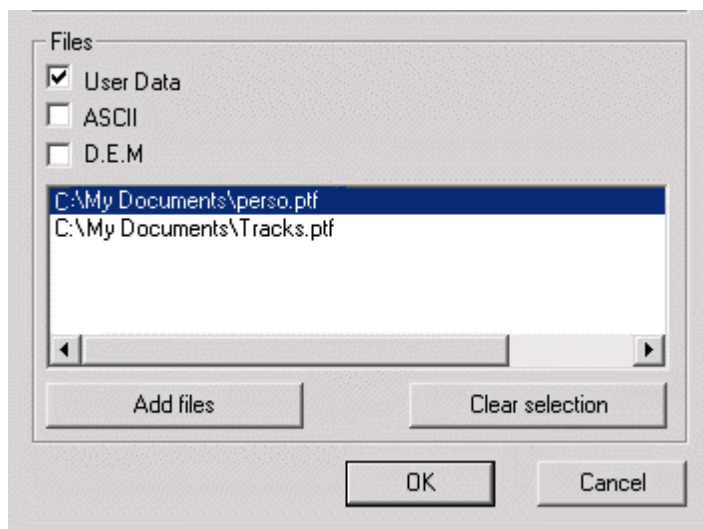
Check "**User data** (*.ptf)",

Click the "**Add files**" button and the Windows Open file dialog will appear.

Search and select a "PTF" file you wish to open.



Click on "**Open**" and the file path will appear as it is shown in the following window.



Click on **Add Files** again to add simultaneously several User data files.

If you want to delete a selected file, click the file to select it and click the **Clear Selection** button to delete it.

Click "**OK**" to validate and start the import User Data process.

Before importing data into the 3D database, you may adjust several parameters.

For more details see related topic: [How to configure 3D data Import](#)

Note: all data with null depth value will not be imported.

Inserting lines and points

If you wish, you can plot your own bathymetric data on an existing point or line and then import it into your 3D database:

Create or display the point or line,

Double click on the point with the Select tool to display its Properties dialog box.

Enter in a depth value in the corresponding text area

Validate by clicking **OK**.

Note: if you want to modify all the depth value for a line, click on the "**All the line**" button.

You can add this new information to your database by importing the ptf file. (You must save the ptf file before importing data from it.) For more information see [Import "User data"](#).

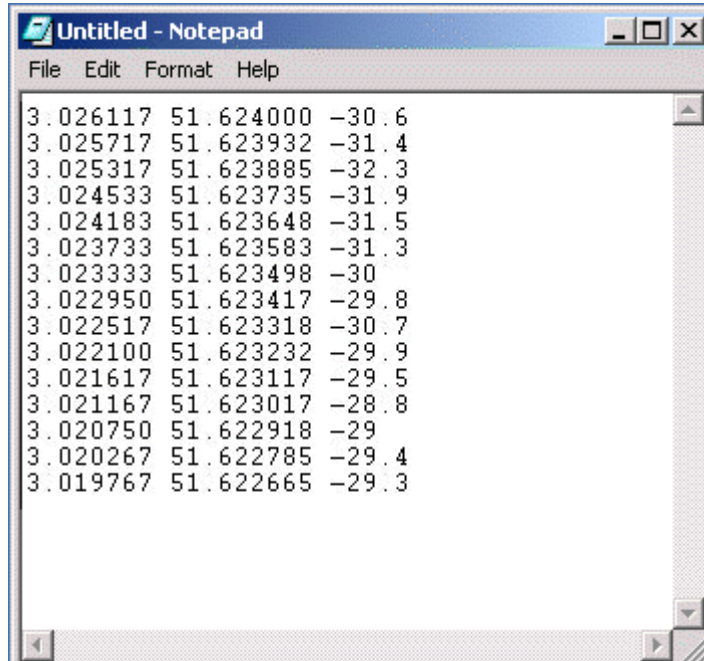
Before importing "ASCII (*.xyz)" files

The **MaxSea** data format:

1. **Latitude** and **Longitude** are in decimal degree.
2. The depth is in meters,
3. By default the **scale** of import is 1/10000.

The standard lines of this basic format will be: X Y Z.

Each data field must be separated by a space.



Note: you can change import data parameters, to do this you have to add information in the ASCII file header.

[COMMENTS]

User comments

[PARAMETERS]

HeightUnit = METERS // (meters by default)

ImportLevel = 9 // scale data import (1/10000 by default)

<i>MaxSea scale</i>	Scale import
500	5
1000	6
2500	7
5000	8
10000	9
25000	10
50000	11
100000	12
250000	13
500000	14
1M	15
2.5M	16
5M	17
10M	18
25M	19
50M	20
100M	21
250M	22

[COORDINATE SYSTEM]

Group = LAT-LONG

System = LAT-LONG

Datum = WGS84 or ED50

Unit = METERS

The complete list unit:

MILLIMETERS, CENTIMETERS, DECIMETERS, METERS, KILOMETERS, INCHES, USINCHES, TENTHFEET, TENTHUSFEET, FEET, USFEET, CLARKE FEET, LINKS, BENOIT LINKS, SEARS LINKS, GUNTER LINKS, CLARKE CHAINS, BENOIT CHAINS, SEARS CHAINS, GUNTER CHAIN, YARDS, SEARS YARD, INDIAN YARD, NAUTICAL MILES, U.S. SURVEY MILES, INTERNATIONAL MILES, RODS, PERCH, POLE.

[DATA TYPE]

Data type =	8 for depth data
	26 for Roughness (E1) data
	27 for Roughness (E2) data
Data origin =	-1 for all data
	0 for User data
	1 for Cmap data
	2 for Grid data

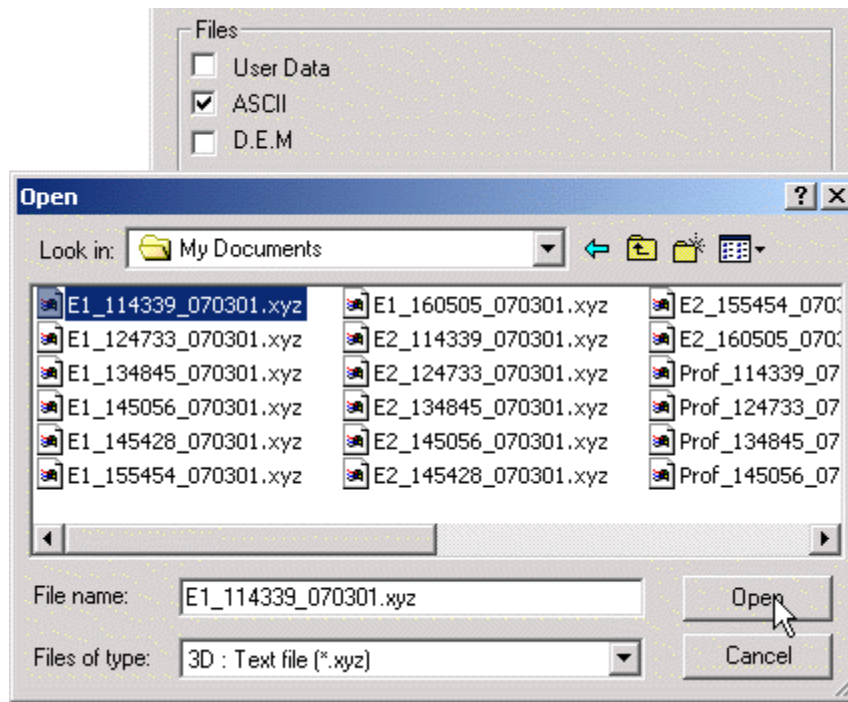
[DATA]

Separated the data to be imported by a space ...

Import ASCII (*.xyz) files

To import data from "ASCII(*.xyz)" you have to:

- Choose "ASCII"
- Click on "Add files" button, the following file appears.

**Note:**

1. To add several user data files in same way click on "**Add files**" again.
2. To delete a selected file in the window, first select the displayed file and click on **Clear** selection button
3. At last click "**OK**" to start the import

Before importing data to 3D database, the software suggests you to adjust some parameters (for more information refer you to chapter How to configure data import "from ASCII (*.xyz)" file)

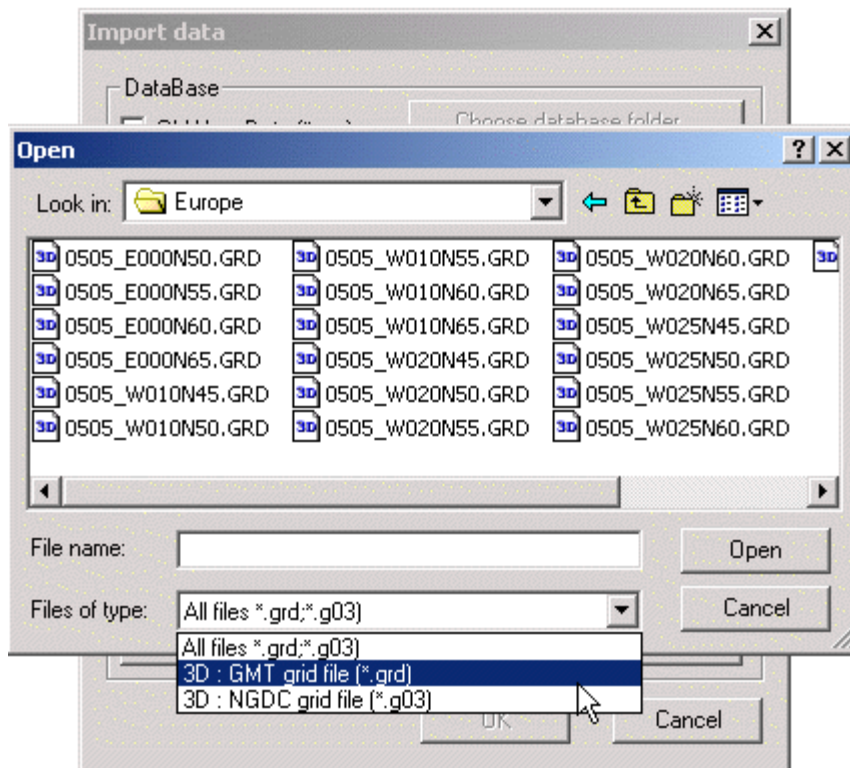
Import Digital Elevation Model

Allows you to import data from bathymetric charts such as:

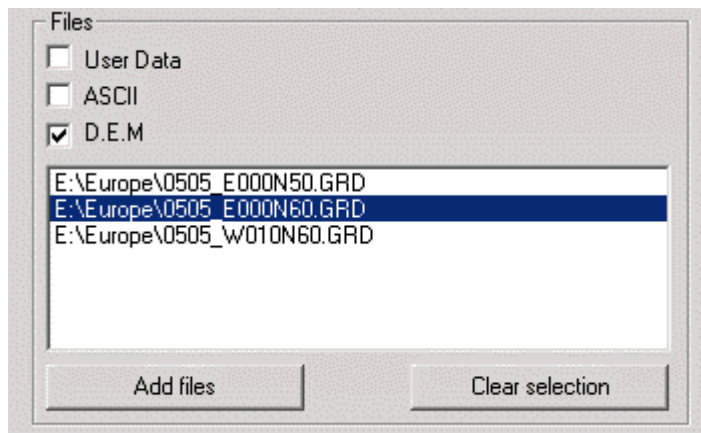
- World-wide data (provided with the 2D module),
- Mapmedia data (SHOM, IFREMER).

To import data from "3D charts" you have to:

- Select D.E.M. box (Digital Elevation Model)
- Click Add files button to select a 3d data file
- An "Open file" dialog box appears that allows you to select the file you want to import in your database.



- Click "Open" after you have selected a file
- The file path appears in the following window



Notes:

- 1 - To add several user data files, click on **"Add files"** again.
- 2 - To delete a selected file in the window, first select the file and click on **Clear selection**
- 3 - Click **"OK"** to start the import

IMPORTANT

- Before importing data to the 3D database, you are given the option to set some parameters, but you must click the **Import** button. Adjusting these parameters has no effect on the importing D.E.M. data.
- It is possible to cancel the import if it takes too much time by clicking on the "STOP" button. **Note that it will stop it at that point and not cancel the entire import.**

Import Vector Chart's Data

First open the vector chart, by selecting [**Open chart...**] from [**File**] menu

Select a **scale** of the front window from 1:1000000 to 1:500, zoom on the region you want to import. MaxSea will import depth *from ALL charts included inside the window, at ALL scales from the window scale up to scale 1:500.*

Then select [**Import to 3D database**] from the [**File**] menu

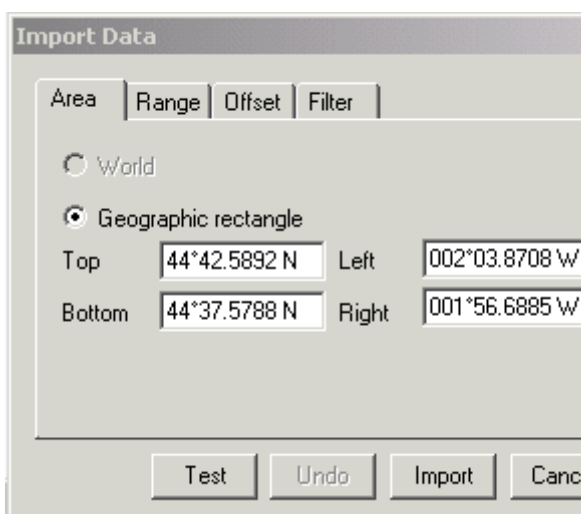
The following dialog box appears: select the type of data you wish to import :

- **Check the Vector chart box**
- Then Click on **Ok**.

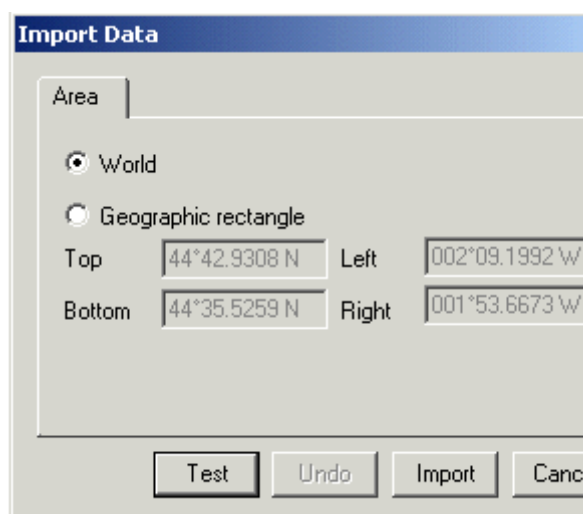
You have to define some parameters before importing data. (See "how to configure data import from C-Map CD")

Start the 3D data import

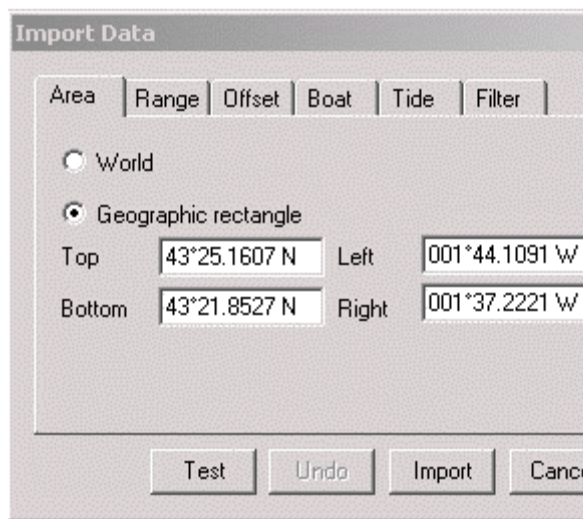
Once you have chosen the data to be imported and adjusted the parameters (if necessary) you can start the import.



Start the "C-MAP" 3D data import



Start the "D.E.M." 3D data import



Start "User data" files

- To preview before importing data, click on the **Test** button.
- If you need configure the import, see "[How to configure data import](#)".
- Start the import by clicking on **Import**

Note: the Test function is available for C-Map Chart and (ASCII / PTF) files.

If you have already imported a file, a warning appears and informs that this file might be already imported.

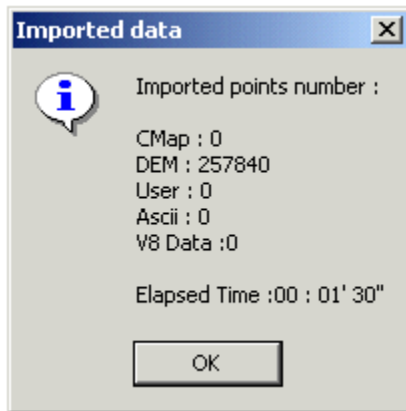
- Click on the **Import** button to confirm

or

- Click on **Do not import** to escape.

A dialog informs you about the time remaining for the import.

When the import is finished the following dialog box gives you the number and type of points imported into the database.

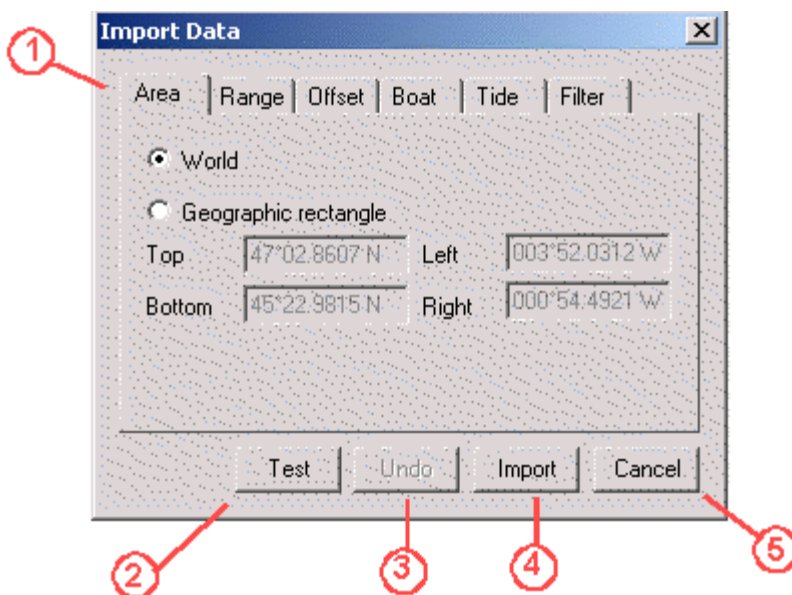


BE CAREFUL: this operation can take a long time.

Configure imported data

How to configure Data Import

- The **Import Data** window interface will change according to the type of imported data.



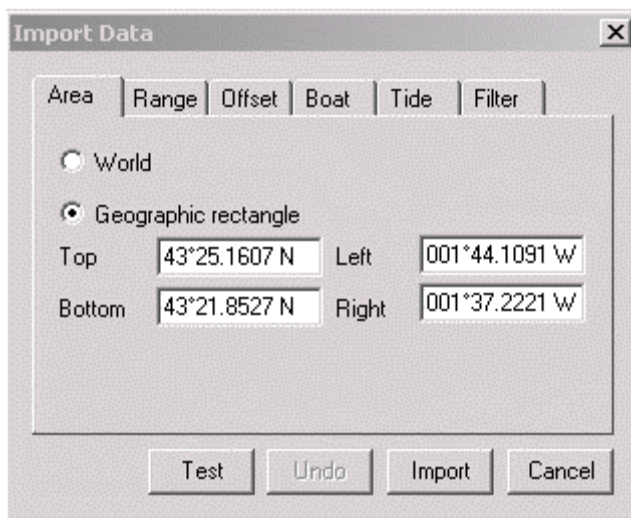
- 1- **Parameters Tabs** are available according to the chosen import of data ([Area](#), [Range](#), [Offset](#), [Boat](#), [Tide](#), [Filter](#)).
- 2- **Test button:** when you have done a change you can test the result before importing your data.
- 3- **Undo button:** to cancel the test.
- 4- **Import button:** to launch the import data
- 5- **Cancel button:** to quit

Note: in most cases you don't have to change the parameters.

When you choose the data to be imported:

- If the imported parameters need to be adjusted you can preview directly the result by selecting the Test button. Select **Undo** to erase the configuration if it's wrong.
- Then select the **Import** button to add directly data in the database.

How to configure an Area Data Import



By default World box is checked (all depth data will be imported)

The Geographic rectangle checked allows you to define the geographic zone for which you want to import data. This function is available for C-Map chart, ASCII file and user data and not available for Mapmedia 3D data chart and world data.

- Before selecting a zone check the **Geographic rectangle** radio button.
- Define a zone on the chart using the **Arrow tool**, the data coordinate will be automatically updated.

Note: By default the geographic zone corresponds to the window displayed at the time of the data import.

How to configure a Range Data Import

The 'Import Data' dialog box has a title bar with a close button. Below the title bar are tabs: 'Area', 'Range', 'Offset', 'Boat', 'Tide', and 'Filter'. The 'Range' tab is selected. Inside the 'Range' tab, there are two sections: 'All' and 'Limited'. The 'All' section has a radio button labeled 'Apply to all values' which is selected. The 'Limited' section has two radio buttons: 'Inside the range' (selected) and 'Outside the range'. Below these are two input fields: 'Minimum' with a value of '0' and 'Maximum' with a value of '0'. Both fields have a unit dropdown set to 'Ft'. At the bottom are four buttons: 'Test', 'Undo', 'Import', and 'Cancel'.

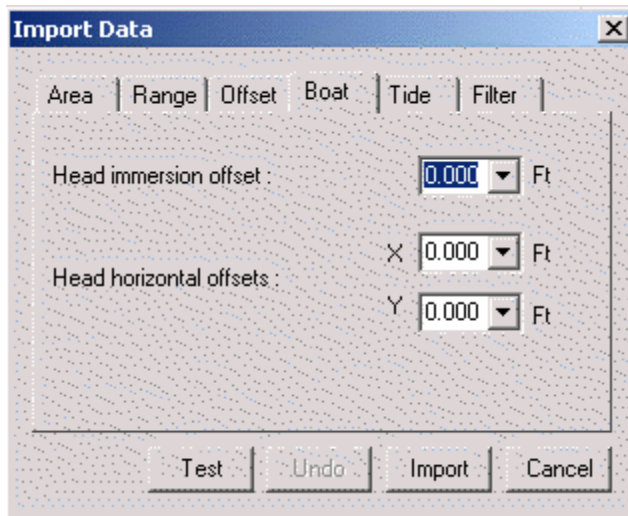
You can choose the range according to the depth data import.

How to configure the Offset Data Import

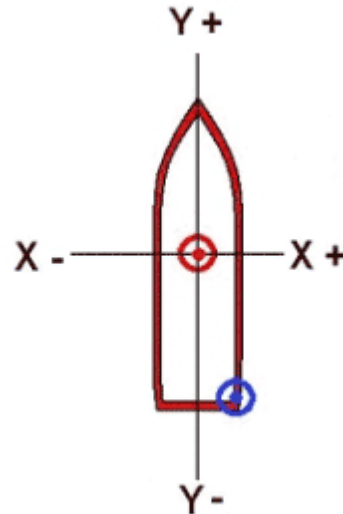
The 'Import Data' dialog box has the same tabs as the previous screenshot. The 'Offset' tab is selected. Inside the 'Offset' tab, there are two sections: 'Absolute' and 'Proportional'. The 'Absolute' section has two radio buttons: 'Offset' (selected) and 'Constant Value'. Next to the 'Offset' radio button is an input field with the value '0.000000' and a unit dropdown set to 'Ft'. The 'Proportional' section has a radio button labeled 'Offset %' which is not selected. Next to it is an input field with the value '0' and a unit dropdown set to '%'. At the bottom are four buttons: 'Test', 'Undo', 'Import', and 'Cancel'.

This function allows you to apply a constant or proportional data difference.

How to configure the Boat Data Import



This function allows you to choose an immersion value for your Echo Sounder head in case it is not self compensated. It is also important to correct the x,y horizontal offset.



Sounder position



GPS position

How to configure the Tide Data Import

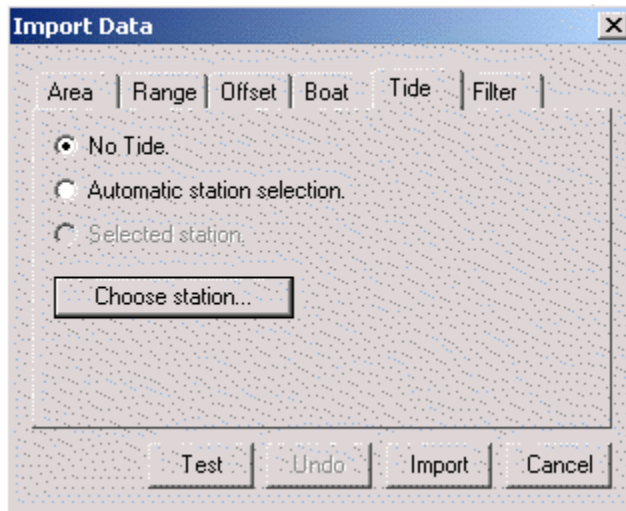
Allows you 3 possibilities of tide display:

No tide

When the tide tables on the zone are not precise.

Automatic station selection

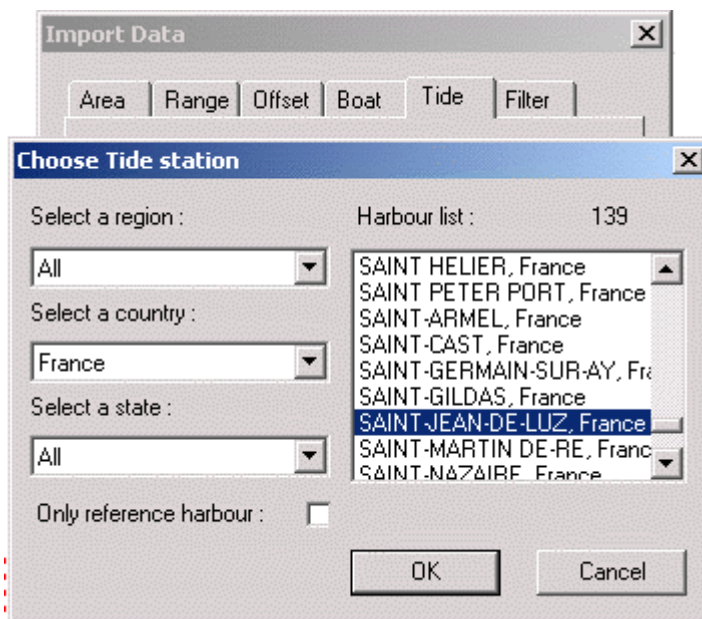
MaxSea adjusts data with the nearest reference harbor.



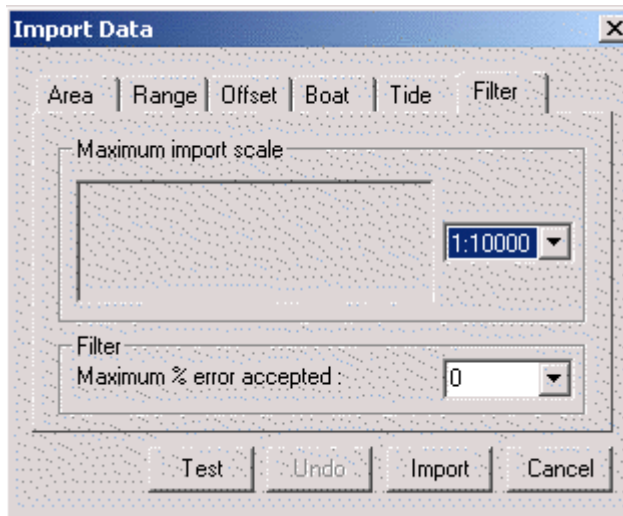
Selected station

Otherwise, choose a reference harbor for the tide values. The tide values of that harbor will correct the sound data you import. It also works with your former own data.

Then choose a station from the harbor list:



How to configure the Filter Data Import



Maximum import scale

It is recommended to select a scale to import your data. It indicates the precision of the grid on which data will be inserted.

For example: for a scale of 1:10000, data will be available from 1:10000 to 1:250 million.

Note: to display the under scale value you have to activate the Overzoom function (see 3D properties chapter). Data value will be available but not precise.

Please pay attention to following advises:

If you choose the **Auto** item from the pop-up, MaxSea will define the scale of imported depth value.

Filter:

Select the range of sounding values that will be inserted in the database to enhance it. It is a % value.

Edit 3D database

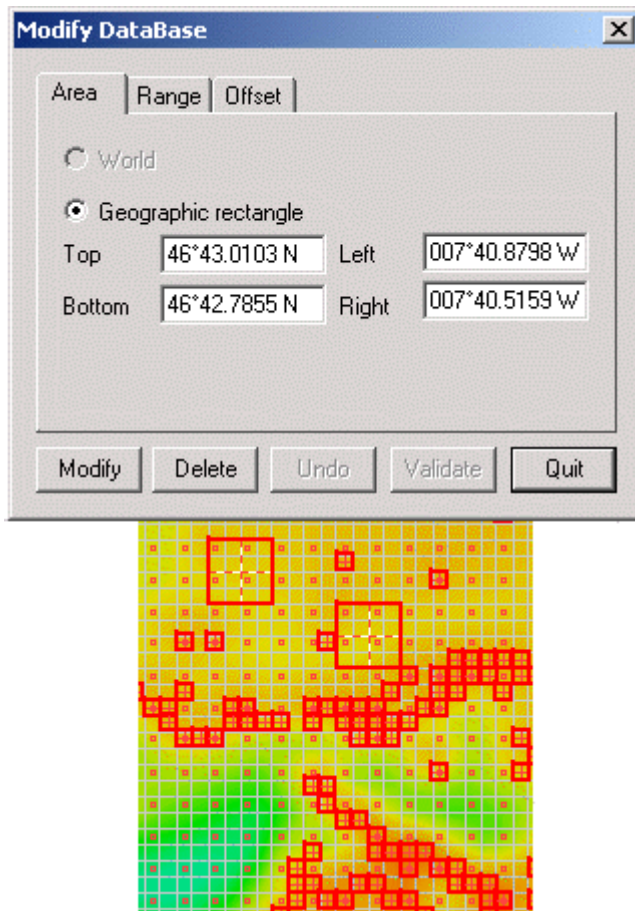
Edit 3D Database

This function allows you to display the contents of the database in order to eventually delete or modify non accurate values.

To edit database, first select **[Edit 3D database]** from the **[Edit]** menu:

Then, the following display appears in which you can from this window:

- Delete user data values
- Modify user data values



MaxSea allows to display independently each kind of data:

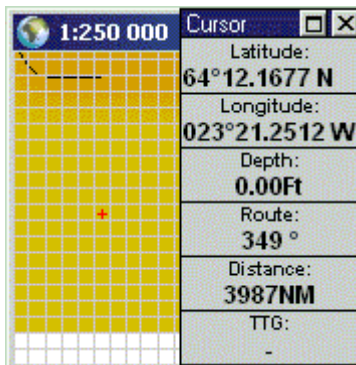
- **C-Map** by small pink crosses
- **UserData** by small red crosses

It will allow to display step by step these 3 kinds of data, or to select which one to display.

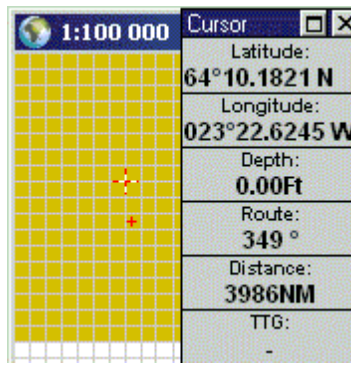
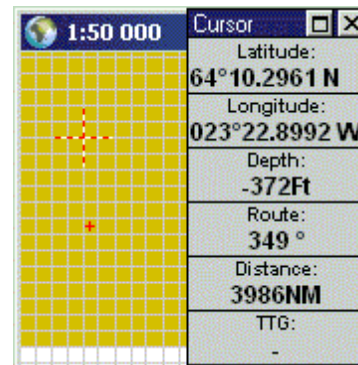
You can see that the grid display is different: the grid and all imported data are displayed just as data that can be deleted are displayed with red included rectangles.

"Overzoom depth" values are represented by crosses in dotted line. 2 levels of "Overzoom depth" values are displayed in the 2D view.

Example :



Correct value representation

First level of the "overzoom depth"
valueSecond level of the "overzoom
depth" value

By default all data displayed on screen and which can be edited, are selected.

IMPORTANT

It is possible to delete and modify Overzoom depth values you have to select the option **Overzoom** from the 2D properties dialog box.

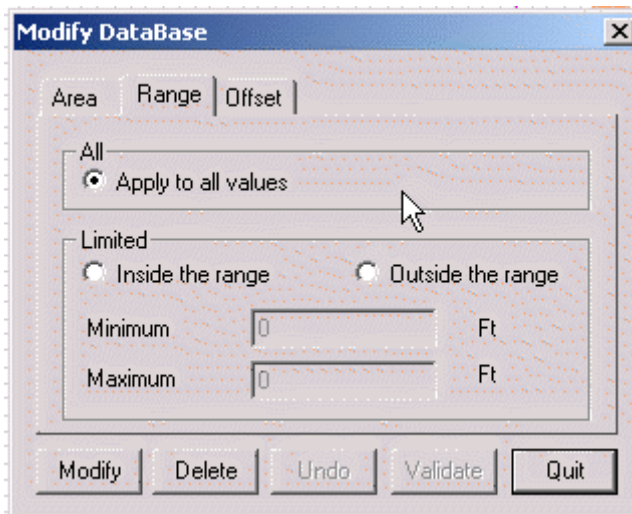
(for more information about this option refer you to the 2D properties chapter)

- To select several values use the **Select tool** in the Rectangle mode and draw the zone in which you want to modify or delete data.
- You can also refine this selection by determining a range to which the operation will be applied:
- Choose the **Range** tab.

The following box appears and allows you the below options:

- Apply to all Depth values
- Apply inside the range Depth values you have chosen
- Apply outside the range Depth values you have chosen

Then define the range



See also related topics:

1. [Modify Non Accurate Values](#)
2. [Delete Non Accurate Values](#)

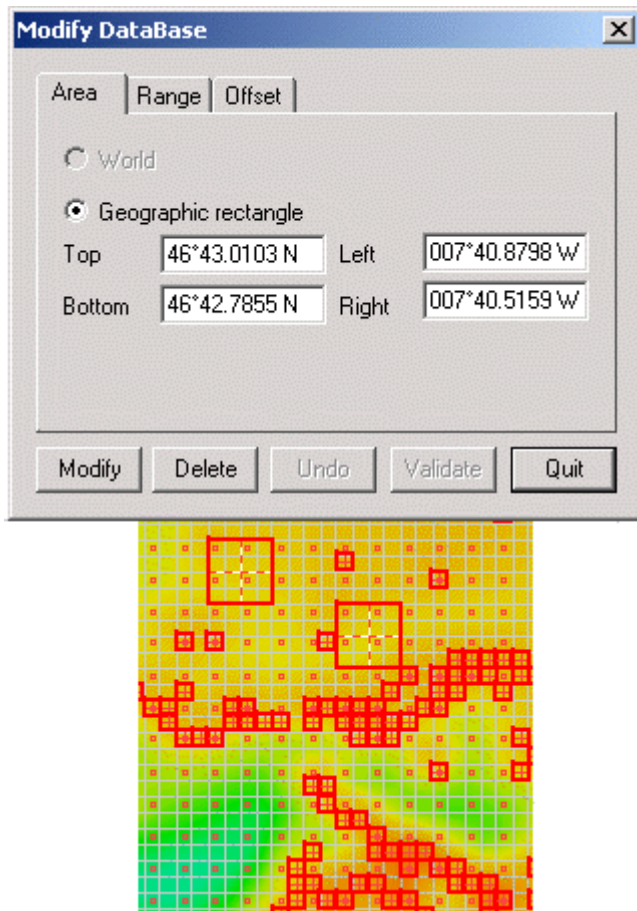
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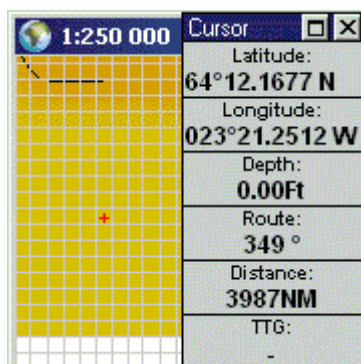
- **C-Map** by small pink crosses
- **UserData** by small red crosses

It will allow to display step by step these 3 kinds of data, or to select which one to display.

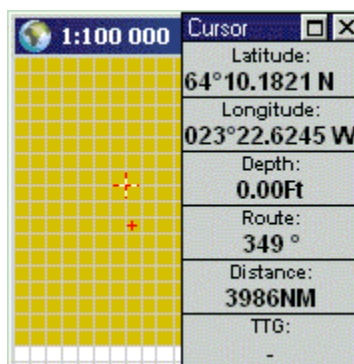
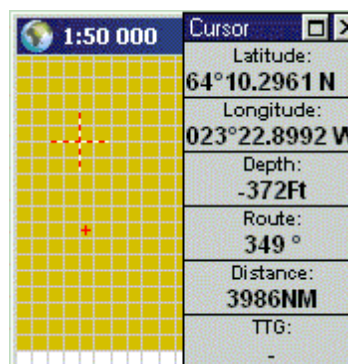
You can see that the grid display is different: the grid and all imported data are displayed just as data that can be deleted are displayed with red included rectangles.

"**Overzoom depth**" values are represented by crosses in dotted line. 2 levels of "**Overzoom depth**" values are displayed in the 2D view.

Example :



Correct value representation

First level of the "overzoom depth"
valueSecond level of the "overzoom
depth" value

By default all data displayed on screen and which can be edited, are selected.

IMPORTANT

It is possible to delete and modify Overzoom depth values you have to select the option **Overzoom** from the 2D properties dialog box.

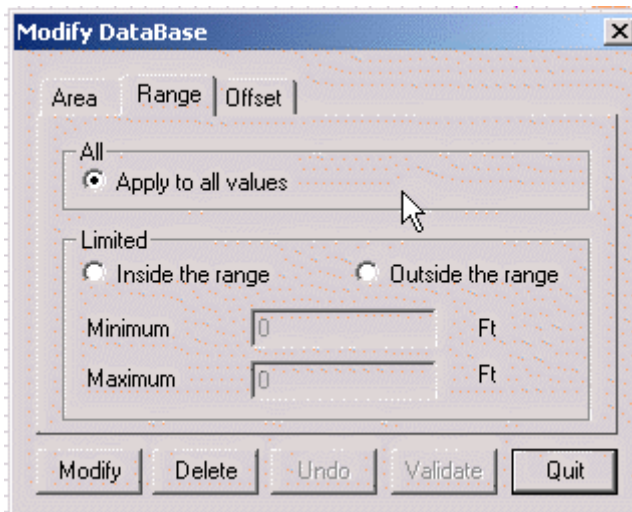
(for more information about this option refer you to the 2D properties chapter)

- To select several values use the **Select tool** in the Rectangle mode and draw the zone in which you want to modify or delete data.
- You can also refine this selection by determining a range to which the operation will be applied:
- Choose the **Range** tab.

The following box appears and allows you the below options:

- Apply to all Depth values
- Apply inside the range Depth values you have chosen
- Apply outside the range Depth values you have chosen

Then define the range

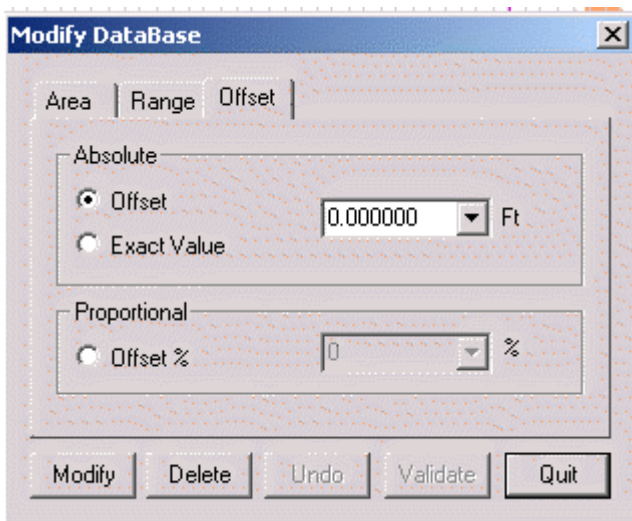


See also related topics:

1. [Modify Non Accurate Values](#)
2. [Delete Non Accurate Values](#)

Modify Non Accurate Values

Select the **Offset** tab before you have selected non accurate values to be modified.



Three modifying options are proposed:

- **[Offset]** box checked: the function consists in adding a fixed value in your selected depth values and then you have to choose the value which you want to affect.
- **[Exact Value]** box checked: the function consists in replacing selected depth values by a fixed value and then you have to choose the value which you want to affect.
- **[Offset%]** box checked: the function consists in replacing selected depth values by a proportional value and then you have to choose the value which you want to affect.

After you have chosen the option select the **[Modify]** button.

Modified values are displayed and you have to:

- Confirm your modification by selecting **[Validate]**

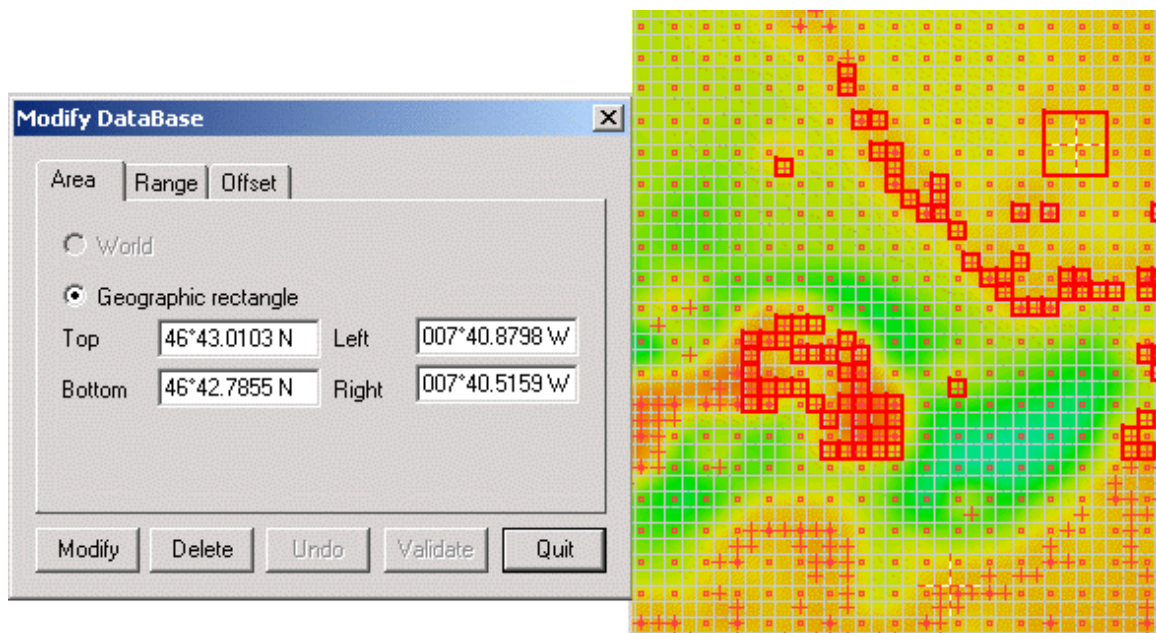
Or

- Escape by selecting **[Undo]**

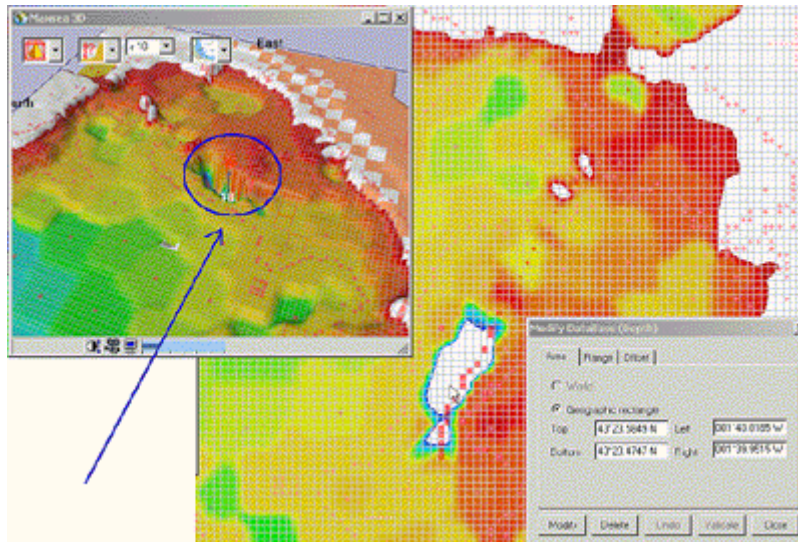
Note: you also have the possibility to do successive selections before validating your modification.

Delete Non Accurate Values

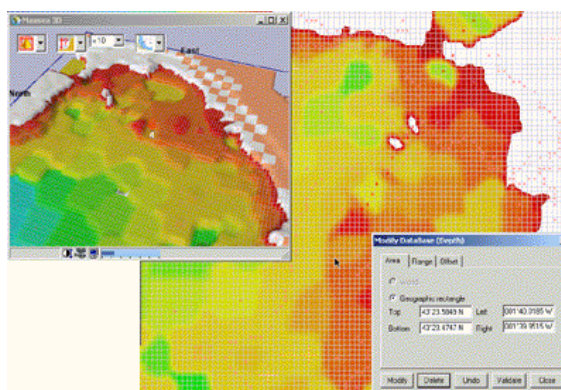
You can erase the selected values by clicking on the Delete button



Erased data are not definitively deleted to update the 2D/3D displays according to these modifications you have to click on the Validate button (to cancel click on Undo).



All depth values selected are automatically refreshed in the 3D view according to the 2D view, so you can improve your selection.



At every moment you can choose to undo or to validate the deleted function. You also have the possibility to do successive selections before the deleted function.

Manage 3D database

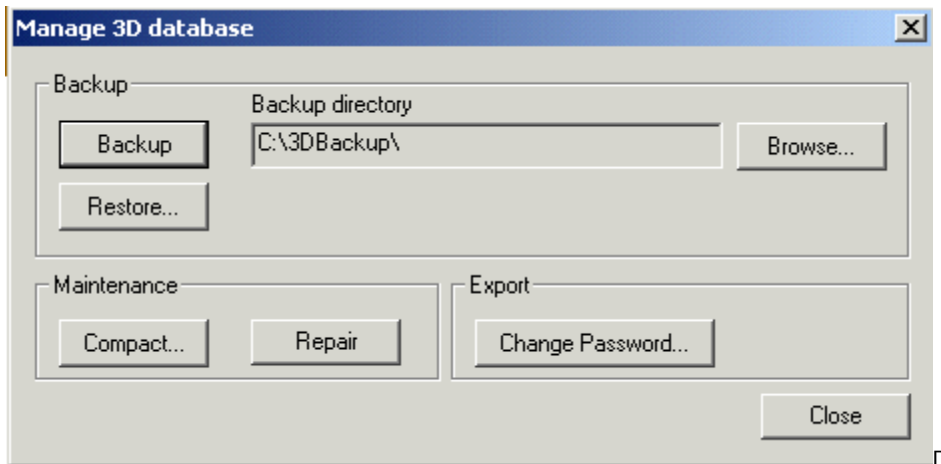
Managing 3D database

Data is stored by default in **C:\3Dbackup** and are formatted in .grd (for a standard installation of MaxSea).

Frequently MaxSea will warn you to do backup of your 3D database.

You can reach the management of the database directly from the MaxSea **[file]** menu.

To do it select [**Manage 3D database...**] from [**file**] menu



This window allows you the ease of your database management.

You can :

- [Backup your database](#)
- [Restore your database](#)
- [Compact your database.](#)
- [Repair your database if need](#)

Backup the 3D database

It is important to frequently backup the 3D database by selecting **Backup 3D database** from the **File** menu.

A dialog box appears and informs you that this function may take a long time :

If you are sure, click **OK**.

A second dialog box appears and tells you where the backup files have been saved on your PC.

Click **OK**.

IMPORTANT

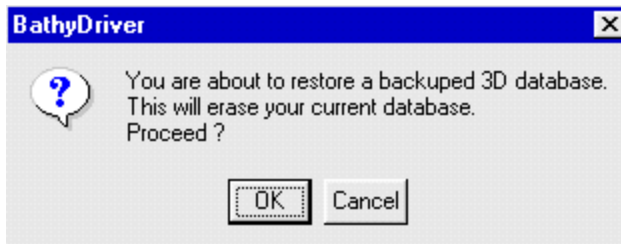
We recommend that you archive these files to a separate disk, CD-R, or separate computer. Otherwise you will lose this data in the event of a severe hard disk failure.

Restore the 3D database

You may need to restore the last database backup for example after a false manipulation when importing data.

To do that, select **[Restore 3D Database]** from the **[File]** menu:

The following dialog is opened:



If you are sure, click **OK**.

IMPORTANT

The restore function replaces the current database by the last one which have been saved. In certain cases, editing the base and deleting data can be enough to correct a mistake during an import.

Compact the 3D database

If the database is very voluminous, it is necessary to compact the database to accelerate the operations on it.

This function modifies not at all the type of file and the useful data which are imported but deletes all unusable data.

The database should be compacted after several imports of data or after a PBG's long use.

Note: It is not useful to compact the database for every data saving. It takes more or less of time following the number of data to compact the database.

To launch the compact database function you have to click on the **[Compact]** button from the **"Manage 3D database"** dialog box.

Then a dialog box with the warning about the duration to compact the 3D database appears.

Click on **Ok** to validate.

The bar of progress appears and informs you about the duration.

Repair the 3D database

MaxSea verify the 3D database at the first run and every time when a new data is read.

A warning appears each time when MaxSea detected a wrong format value in the current 3D database zone. MaxSea proposes to repair your 3D database.

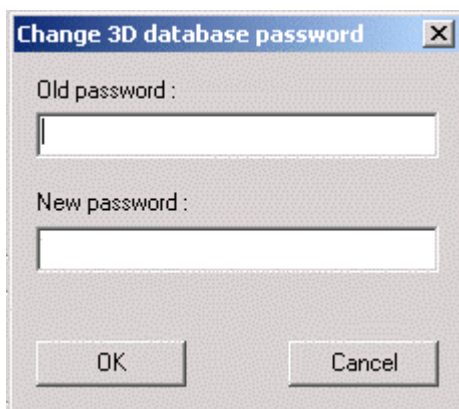
To repair your 3D database select **[Manage 3D database...]** from **[file]** menu and then click on the **"Repair"** button.

Note: in case MaxSea has detected no wrong value and the repair function has been selected, a message appears and warns you before launching the process.

Change your 3D database password

You have the option of changing your 3D database password.

Click on the **[Change]** button from **"Manage your 3D database"** window and the following dialog box appears:

A screenshot of a Windows-style dialog box titled "Change 3D database password". The dialog has a blue title bar with a close button (X) on the right. Inside, there are two text input fields. The first is labeled "Old password :" and the second is labeled "New password :". Below the input fields are two buttons: "OK" and "Cancel".

Enter your old password and the new one and click on **OK**.

Export 3D database

Export a 3D database

You can export data from a database. It allows you by import of these data (**type of file: *.XYZ**), to share your data with the other users or to merge data of several databases.

Caution: MaxSea ONLY exports the "UserData" . The exported file is encrypted and will only be available with MaxSea software.

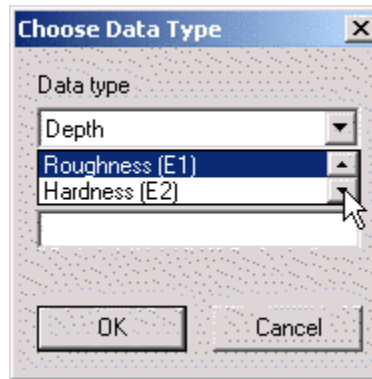
, select the function **[Export the database 3D]** from the **[file]** menu.

Then a dialogue box appears:

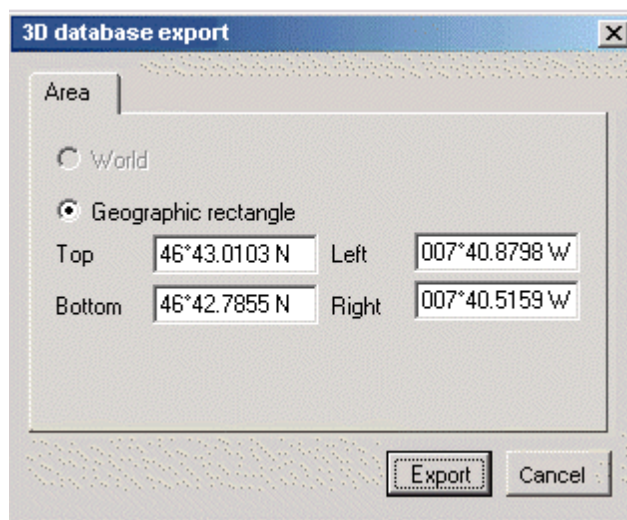
Choose the type of data which has to be exported (by default the Depth is selected)

Note: if the database contains Roughness (E1) or Hardness (E2) information, you can also export these data by selecting the corresponding item from the pop-up.

Then if need be, enter the password and click on OK to validate.



Note: you can protect exported data by password since the menu **[Manage the 3D database]** from the **[file]** menu



- Select on the chart with the **Select tool** in the Rectangle mode the data zone of which you want to export.

Note: by default during the opening of this window the preset zone corresponds to the zone displayed on the screen.

- If you change the **scale** it will automatically be updated according to the new displayed zone on the screen.
- Click on **[Export]** to validate
- Then choose a folder and file name for your exported file.

Archived 3D Database

What means archived database?

It is not especially necessary to confuse the notion of database Backup and the notion of archived database

The Backup is only a working copy. So if during a tide the data which you recorded are not correct, you can decide not to keep them. To do so, you must restore the database previously Backed-up so as to be able to return on a clean database by ignoring the last acquisitions.

The archives is a help copy of your data base in case having problems on your hard disk or on your PC. The backup will be made rather on an external support such as an external Hard disk or a CD-ROM. You can keep a copy of your database in a safe place and possibly reload it in case of important problem.

Caution : *please, do not store your Database archives on same hard disk as the active database because you risk to saturate the hard disk pointlessly. Furthermore in case of "crash" of your hard disk you would lose all your work.*

Establish an Archive

To archive your database you must :

Protect your Database if necessary, make a backup of it (3D Backup by default) on an external support (the copy process depends on the type of support you will use : CD, Hard disk)

3D View

2D/3D Function Overview

The software 2D/3D module displays bathy data in the current window.

In this section, you will learn how to use 3D charts and the 3D window's easy-to-use interface.

To obtain the best 3D performance and detail, the minimum hardware configuration required is : 128Mb RAM with an 8Mb RAM 3D video card.

In this section :

[The 3D display](#)

[The display Modes](#)

[The slope size Representation](#)

[Moving into the stage](#)

[The render modes in the 3D view](#)

[The 3D view settings](#)

[Configuring the 3D view](#)

[The 3D view contrast](#)

[The 3D camera options](#)

See Also Related Topics :

How to enter Mapmedia 3D codes

Information about how to install the DEM / 3D cartography.

3D display

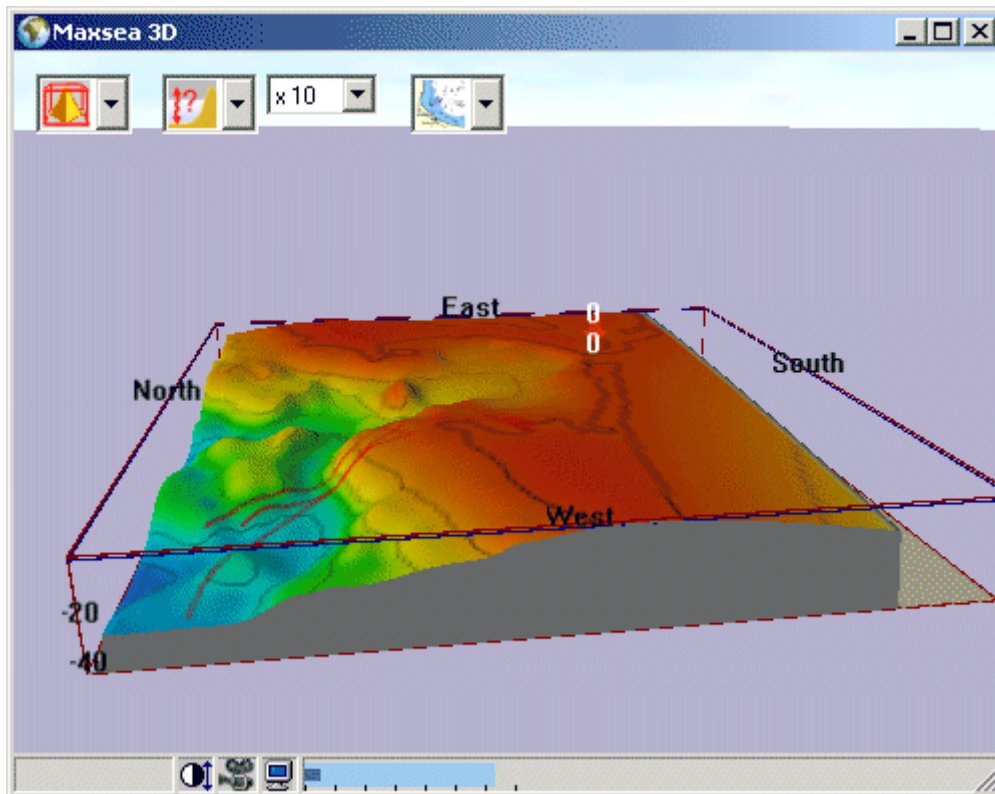
The 3D module allows you to display a 3 dimensional view of the displayed chart.



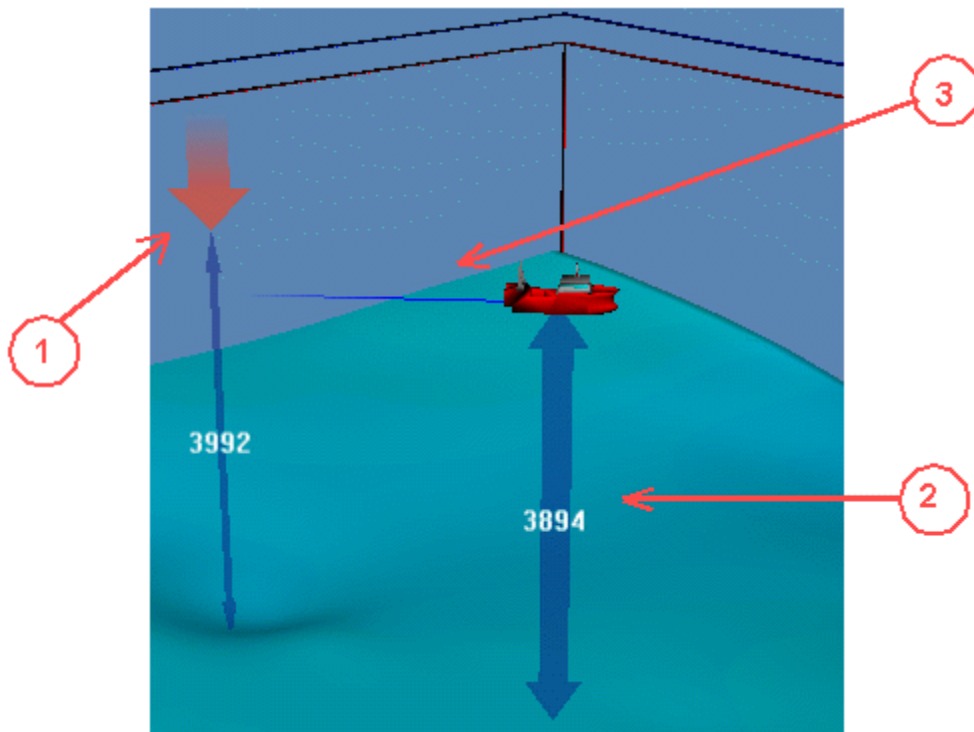
To see the new 3 dimensions window, click on the **3D Button** and calls up the "3D view" window.

in the Chart palette, it becomes active

The following window appears :



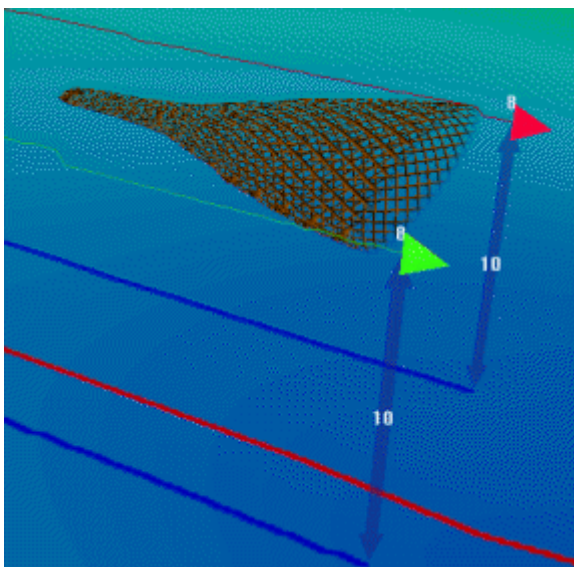
➡ Display description:



1. Red arrow shows the depth at the cursor position on the 2D chart
2. Blue arrow shows the depth at the boat position
3. The track of your ship is also displayed in the 3Dview

➡ Trawl Displayed in 3D window

- Sensors position is also represented in the 3D view showing the trawl position.







A blue arrow is displayed under each mobile to indicate the depth position on the chart.

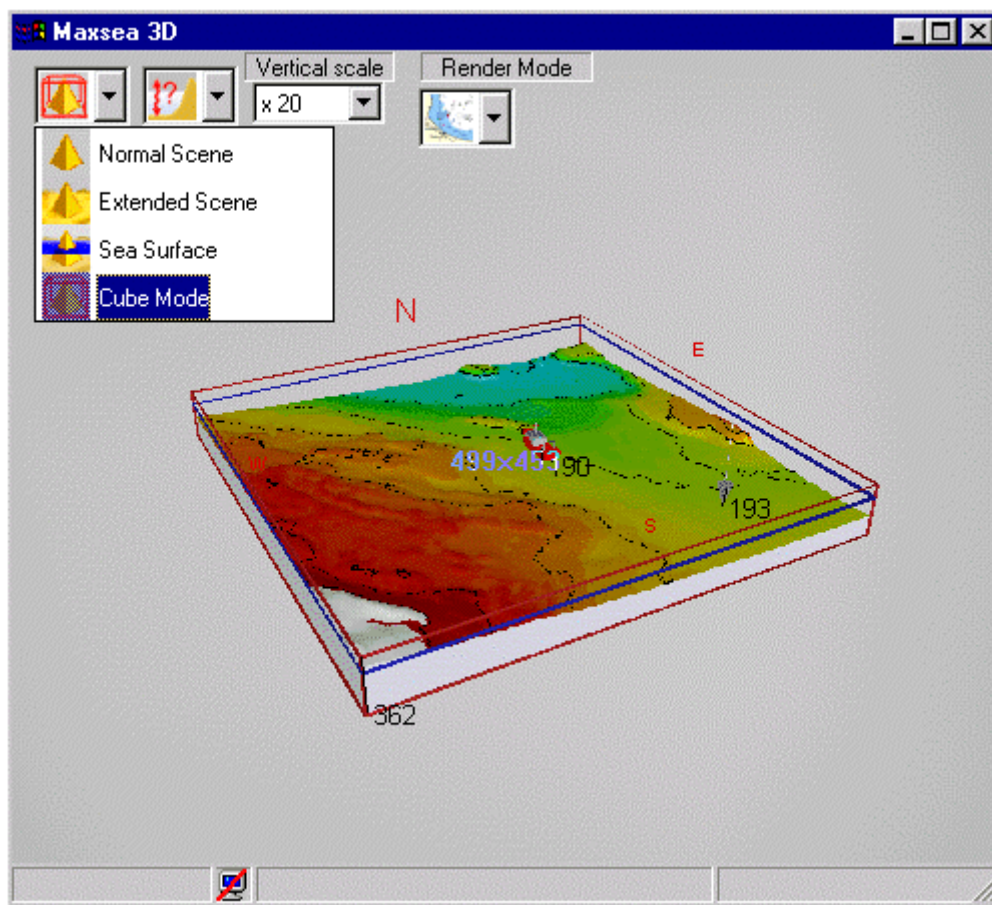
(Refer you to Trawl positioning chapter for more information)

3D Display Modes

4 display modes are available:

- 
"Normal Scene" mode: is the exact representation of the current chart window in 3 dimensions.
- 
"Extended" mode: extend the scene as far as the horizon. However, the chart will not cover all the window and the extended parts will appear in gray color.
- 
"Sea Surface" mode: is an extended scene with a visualization of the sea surface. This mode is useful to obtain a view of the sea level in the far parts of the scene, where the charts cannot be displayed.
- 
"Cube" Mode: this mode is strongly recommended to view the general configuration of the undersea relief. This representation allows you to view the section of the relief inside a cube which you can manipulate as you wish.




To change the Display mode, select it from the Display mode pop-up located in the high left corner of the 3D Window :



Slope Size Representation

The **scale** changing allows you to emphasize the detail of the **relief** especially when it is slight, or, on the contrary to reduce it when the **slope** is steep.

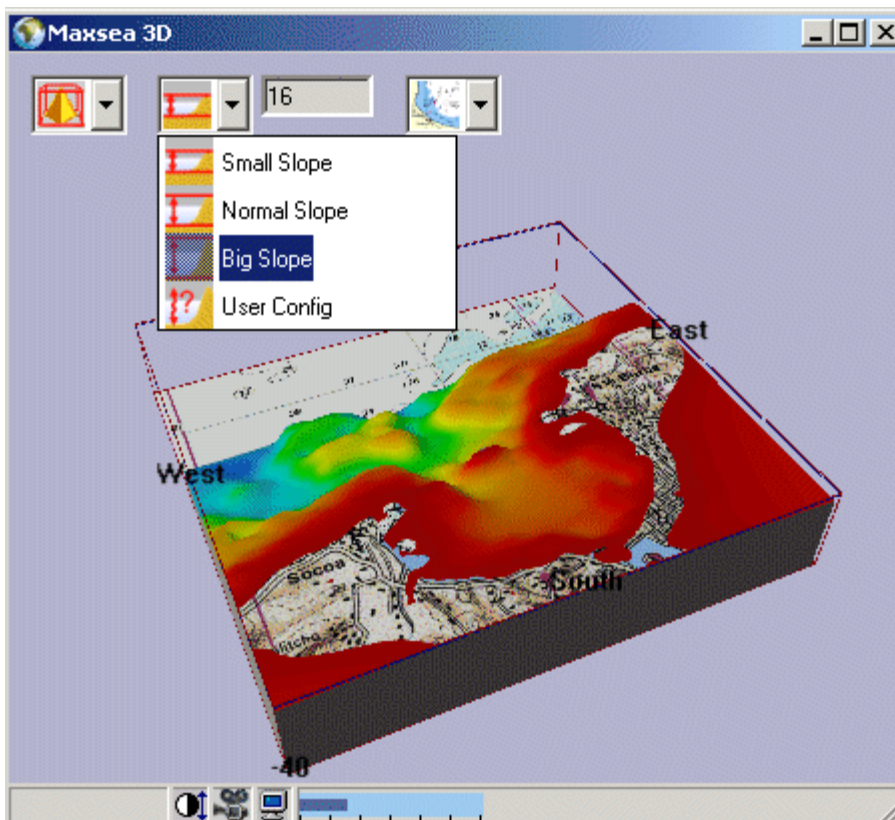
3 pre-selected levels are proposed to you :

-  Small Slope
-  Normal Slope
-  Big Slope

Note :

- (1) - the "Normal" mode allows you to see better the slight relieves and, on the contrary reduce the steep relieves.
- (2) - the relief appears twice as big in Big Slope mode, and twice as small in Small Slope mode, compared to the Normal Slope mode.

To change the Slope size , select it from the Slope size pop-up located in the high left corner of the 3D Window :

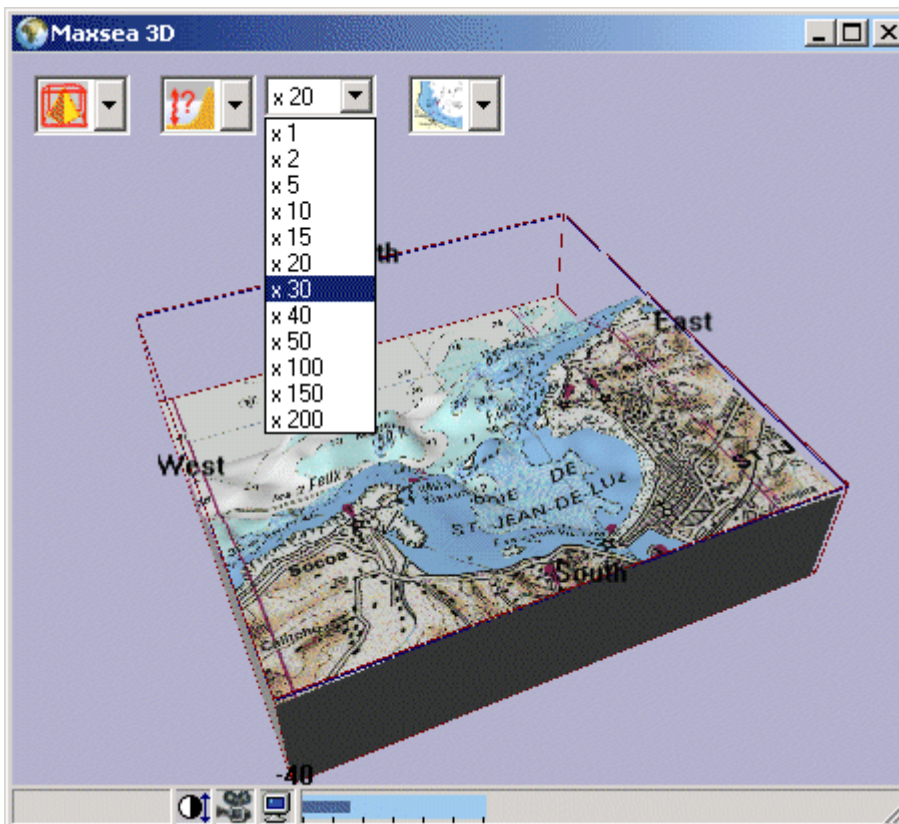


Configuring manually

1. Select the **User Config** icon from the **Slope Size** pop-up



The values are corresponding to the multiplication coefficient applied to the depth values. The X,Y values are not modified.



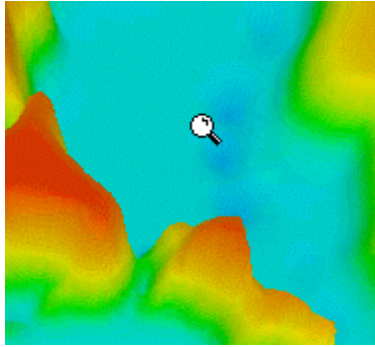
To configure the Slope value, click on the **Vertical scale** pop-up and then, select the value of your choice.

Note:

You can also configure the Slope value directly from the scroll button of the mouse.

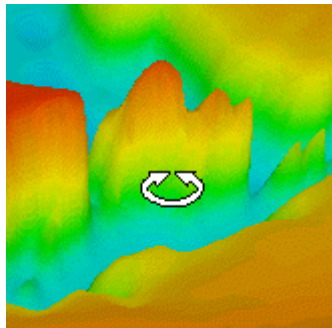
Moving Into 3D View

To zoom, click and slide backwards or forwards with the right button of the mouse on the 3D window.



A magnifying glass drawing indicates you that you are in position of zoom in or zoom out.

To turn around the relief, slide at left or at right with the left button of the mouse.



An arrow drawing indicates you that you are in position to turn around the relief.

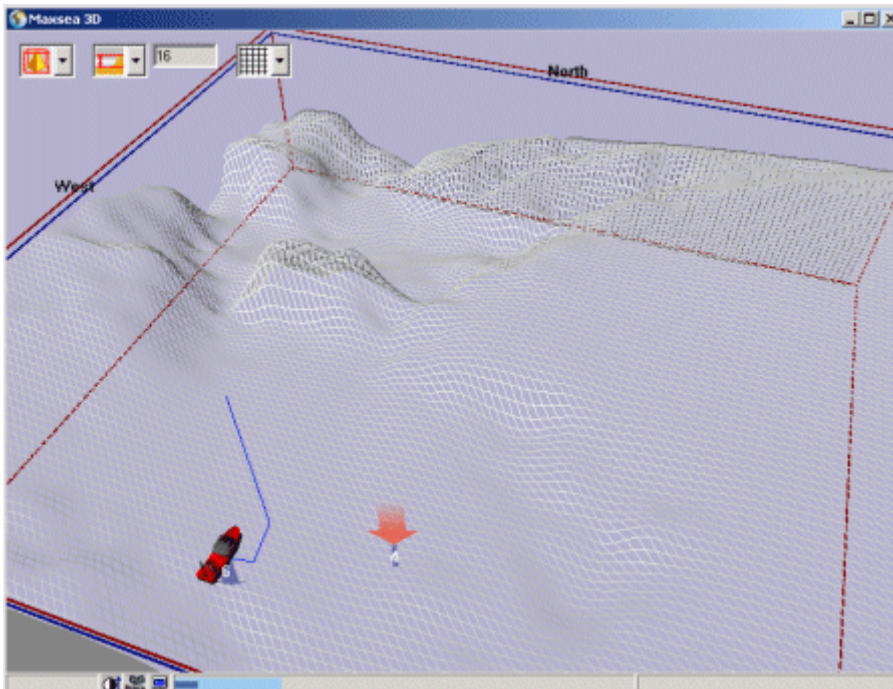
Note : Each slide of the chart is automatically reported to the 3D display : the 3D window "follows" your current chart window.

3D View Overlay Modes

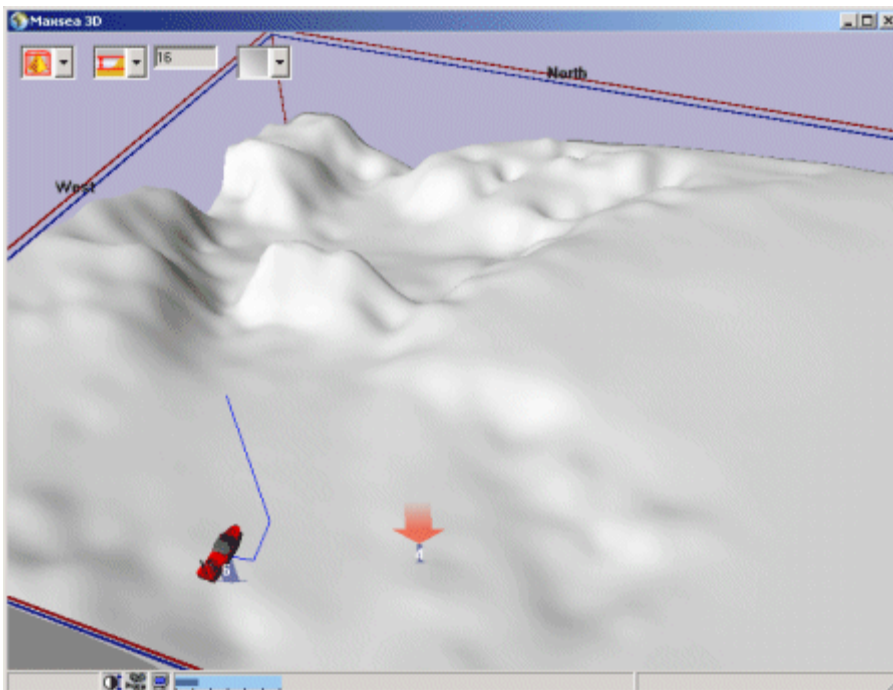
Five overlay modes are available in 3D view

To access them, select a mode from the **Render Mode** pop-up menu which is situated on the fourth position upper right hand of the software 3D window .

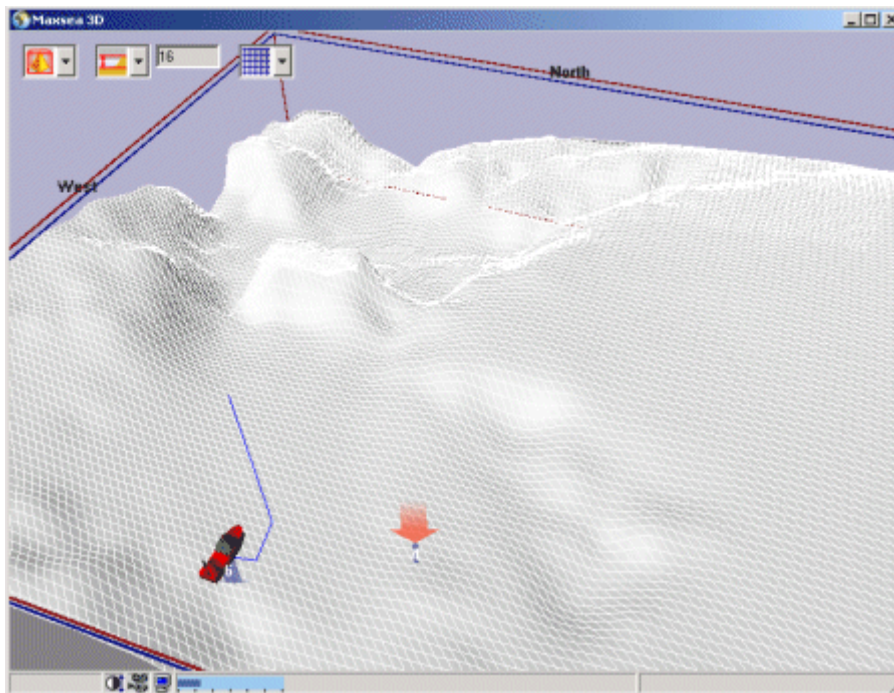
Simple Grid



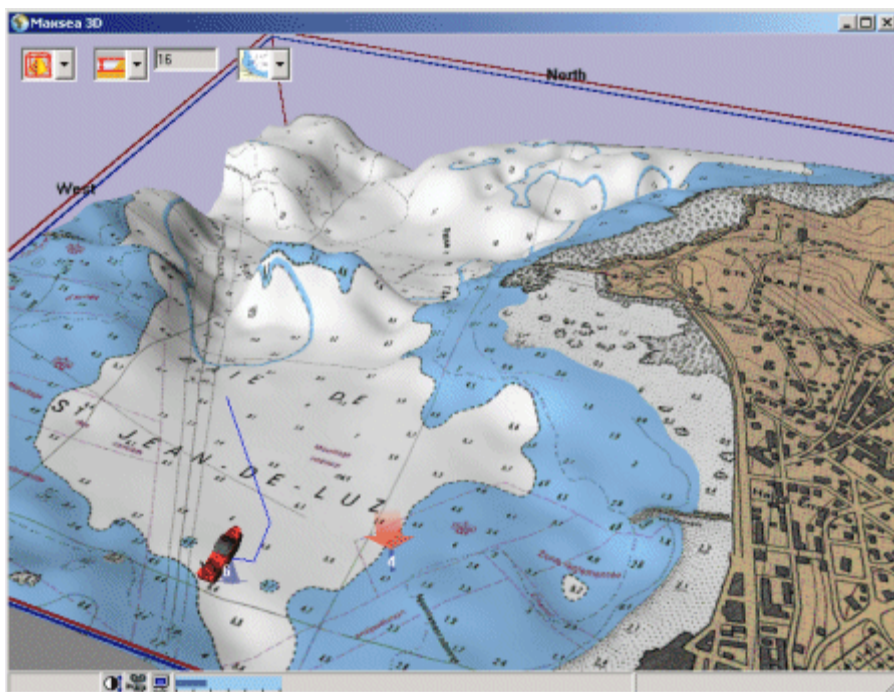
Filled faces



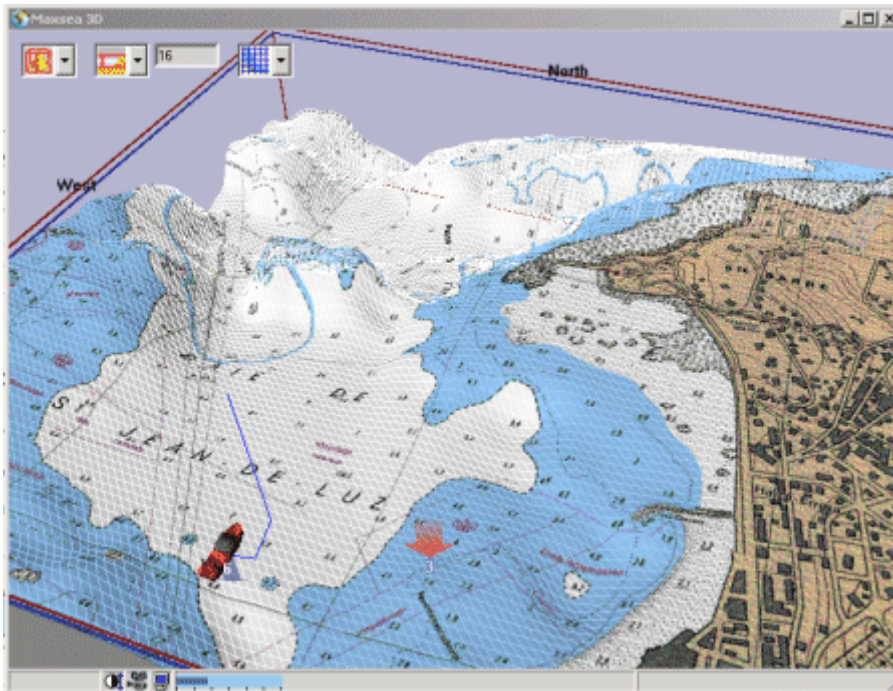
Grid Filled faces



Chart






Grid Chart



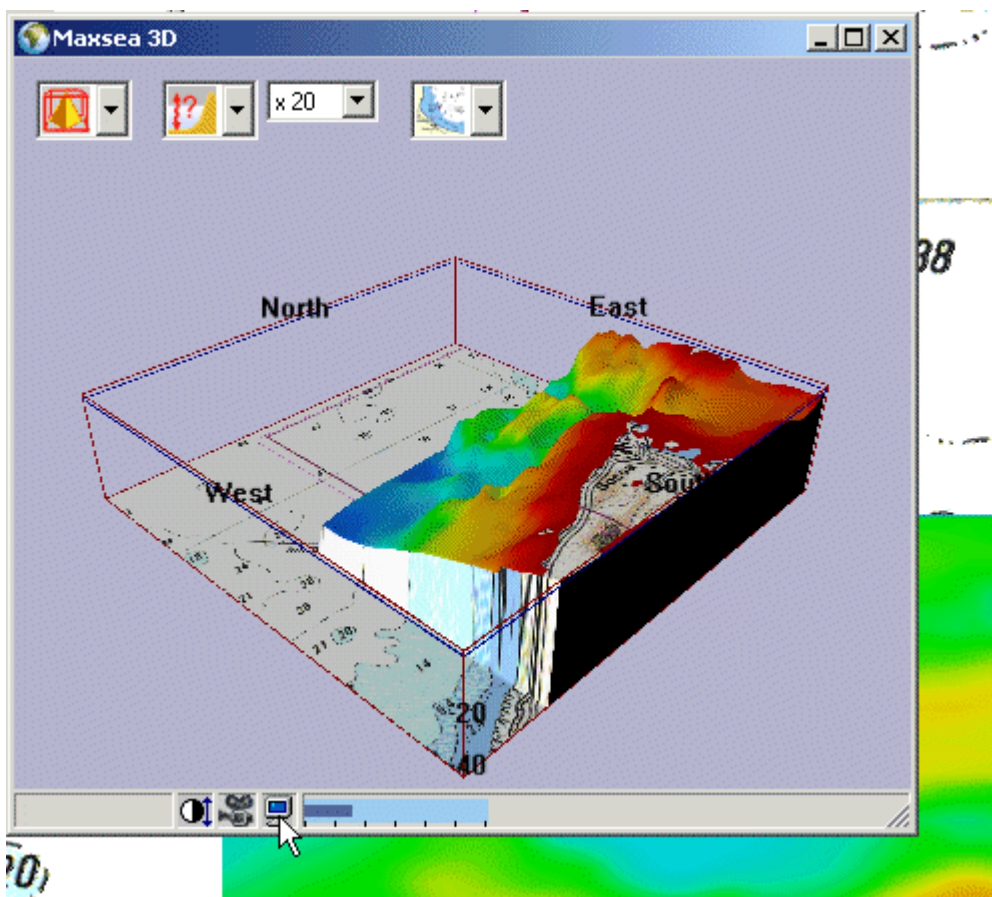
3D View Settings

In order to get a better display in the 3D window you can:

1. reach directly to the [3D configuration](#) by selecting the button  situated at the bottom of the window 3D view.
2. [configure the contrast](#) of the 3D view by selecting the contrast button  at the bottom of the window 3D view..
3. configure the position of the 3D view with regard to the boat position by selecting the [camera button](#)  at the bottom of the window 3D view.

Optimizing 3D View Display

To obtain the best **3D velocity** and graphic details, refer to MaxSea' choice for Hardware Requirements.



Note : the 3D window is in "hardware" mode if it's possible for it to use the 3D card.

Otherwise, the 3D window is in "software" mode that is to say that all the 3D graphics are calculated by the software, without the help of the 3D hardware.



: "Software" mode



: "Hardware" mode.


If there is no 3D graphic card on your computer, the mode stays in "Software" mode .

If the 3D graphic card on your computer has only 4Mo RAM, the mode stays in "Software" mode.

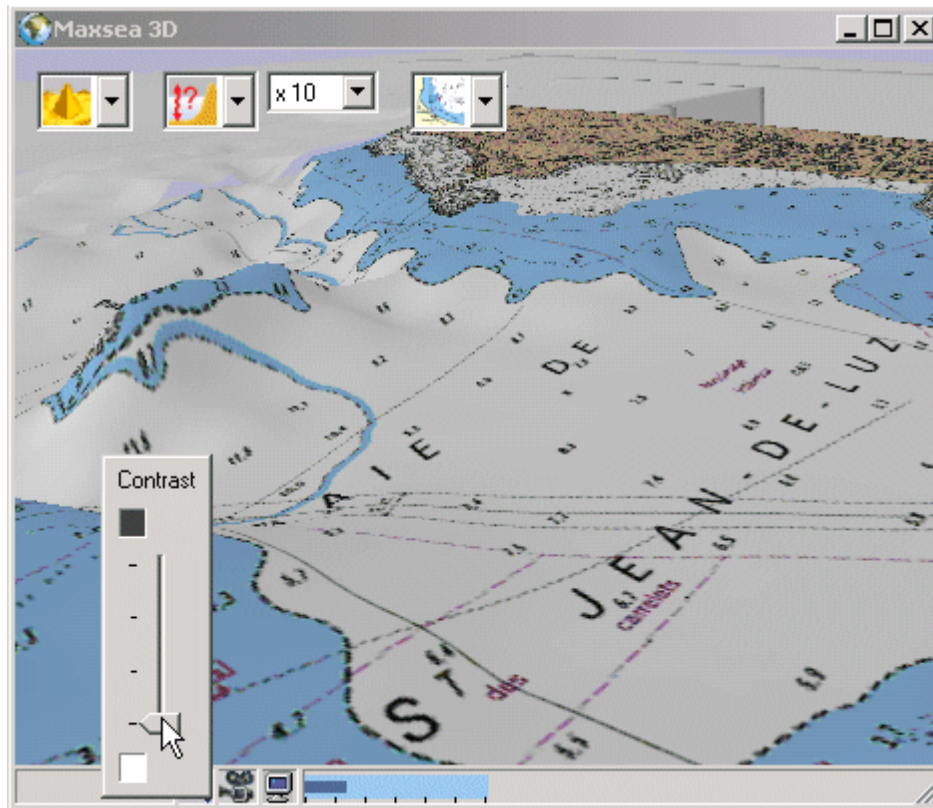
If your computer is very powerful you can optimize the 3D chart details and display speed.

To do so, refer to the [PBG](#) chapter.

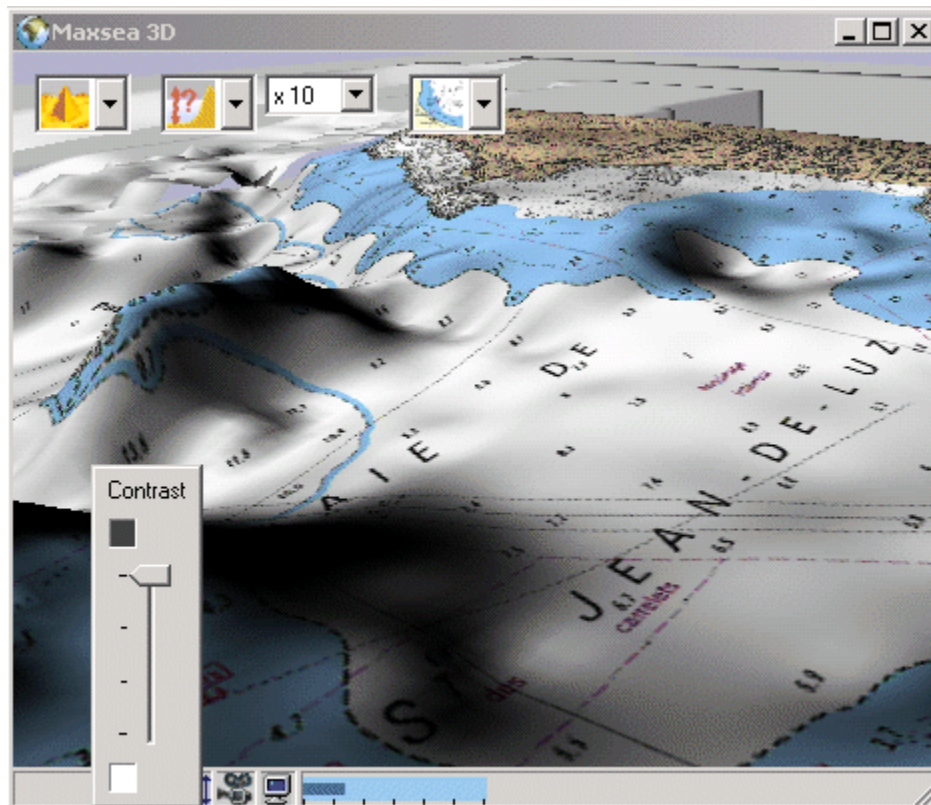
Configure the contrast

You can adjust the 3D view contrast on the screen by selecting the "**Contrast button**" situated at the bottom of the window 3D view : 

- Click on the "Contrast" button and adjust it like in the following example:




[White contrast \(low contrast\)](#)

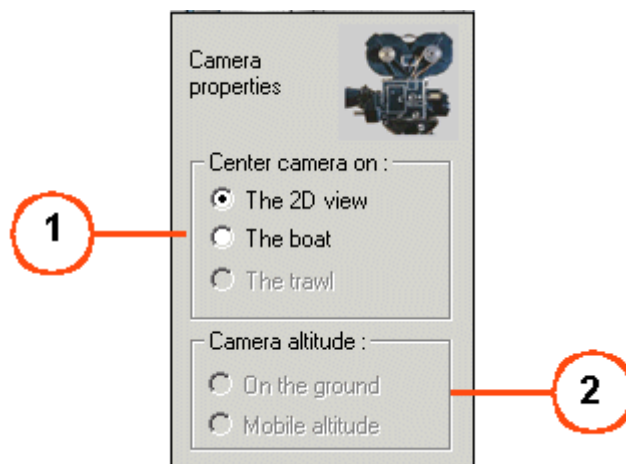


[Black Contrast \(high contrast\)](#)

3D camera options

If you want to configure the 3D view so that you are always viewing from behind or beside the boat, click on the camera button  situated at the lower left of 3D window.

Then the following dialog box appears :



1 - Three options for the camera center:

- **The 2D view option** allows you to be centered according the 2D view. By default this option is selected and the Camera altitude options is not available.
- **The boat option** allows you to center the camera on the boat . By default the camera is positioned behind the boat and the camera moves according to the movement of the boat.
- **The trawl option** allows you to center the camera on the trawl. The camera moves according to the movement of the trawl. This option is unavailable if the trawl is not displayed.

Note: The Camera altitude can be changed with the boat or the trawl option.

2 -Two options for the camera altitude settings:

If the **"Mobile altitude"** option is selected , the camera is centered on the mobile's altitude (if the Boat option is selected the mobile altitude is equal to 0 or if the trawl option is selected the mobile altitude is equal to the depth of the trawl).



The **"On the ground"** option is selected, the camera is centered on the ground.



PBG Real Time Bathymetry

PBG Real Time and 2D/3D



- this function is included in MaxSea depending on your own software version.

PBG allows to get depth data from a sounder in real time. When the function is activated, the depth data is automatically recorded (in the database) and the 2D and 3D displays are updated in real time in the window chart.

Note: a sounder must be connected and the **input/output port** must be configured.



The **PBG on/off** button activate or deactivate the real-time recording of depth data.

When PBG is on, the data is automatically recorded and the 2D and 3D displays are updated as configured. The PBG settings (filter, tide...) can be configured in the 2D/3D properties dialog box.

Access to PBG options:

Select **[Option: PBG/2D/3D]** from the **[Utilities]** menu to open the full dialog box for "**PBG / 2D / 3D**" options.

In this section:

1. [How to configure PBG options](#)
2. [How to configure PBG Data import](#)

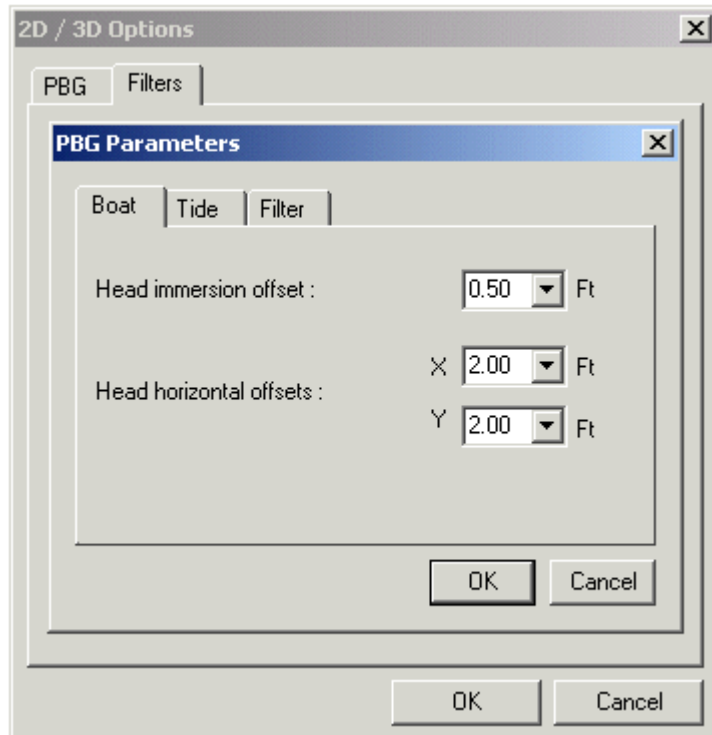
See Also Related Topics:

1. Connecting equipment
Information about how to connect your equipment and how to configure the input / output data settings.

How to configure PBG Data Import

Parameters

To modify the Data Import parameters, click on the **Parameters** button situated in the "Real time import" zone.



See the following paragraphs to adjust the parameters:

- [How to configure the Boat data import.](#)
- [How to configure the Tide data import.](#)
- [How to configure the Filter data import.](#)

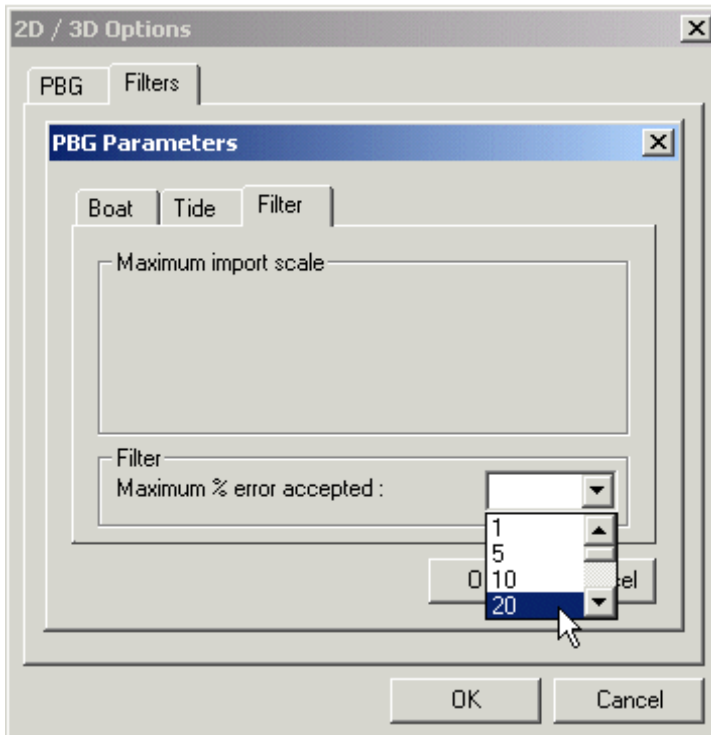
Import scale

Before activating the PBG function, you have to select a scale for importing data (see "[How to configure PBG options](#)"). It indicates the precision of the grid on which data will be inserted.

Please pay attention to the following:

Data values will be available **from** the **scale** selected up to higher scales, but be careful. If you choose a level which is too high to import data, your disk will fill up quickly. If you choose the "Very High Resolution Bottom Analysis", MaxSea will display a Dialog box to warn you.

Filter



No echo sounder is 100% accurate, and echo sounder may send false depth values from time to time. If those values are imported, the 3D database will not be accurate.

I

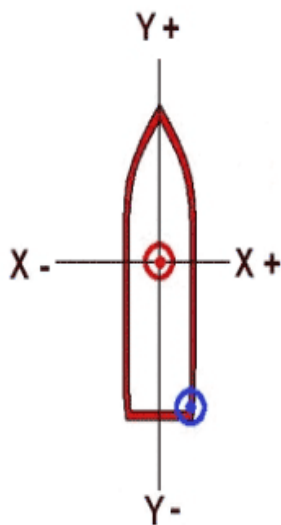
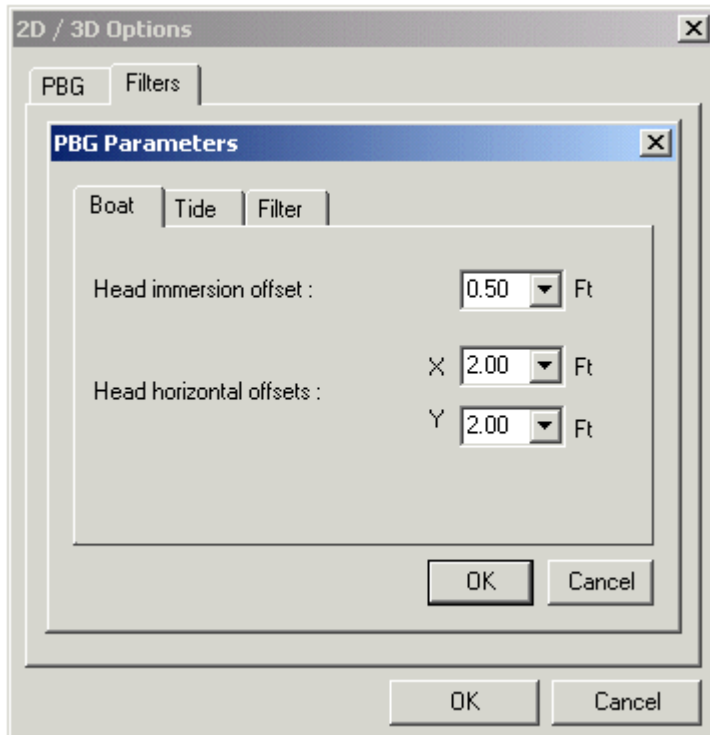
Select the range of sounding values that will be inserted in the database to enhance it. It is a % value that is explained in the example below.

Example: you choose 20% and import data in a zone where previous sounding values were 100 meters.

All data in the range 80 – 120 meters will be inserted to correct your data base; the other ones will be rejected.

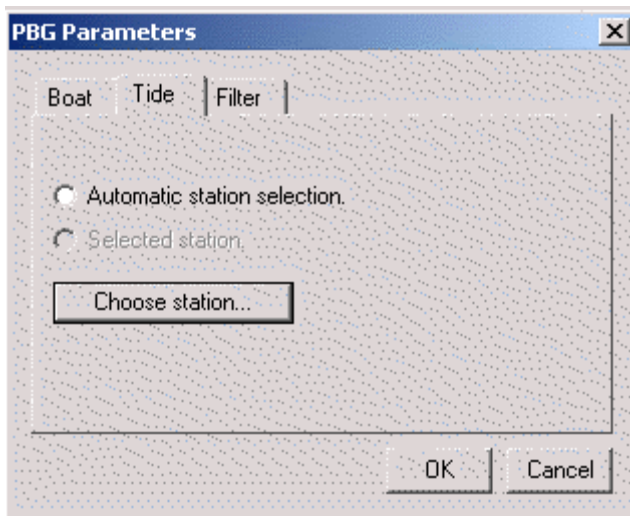
Echo sounder

Choose an immersion value for your Echo Sounder head in case it is not self compensating. It is also important to correct the x,y horizontal offset according to its location in relation to your GPS receiver (positioner).



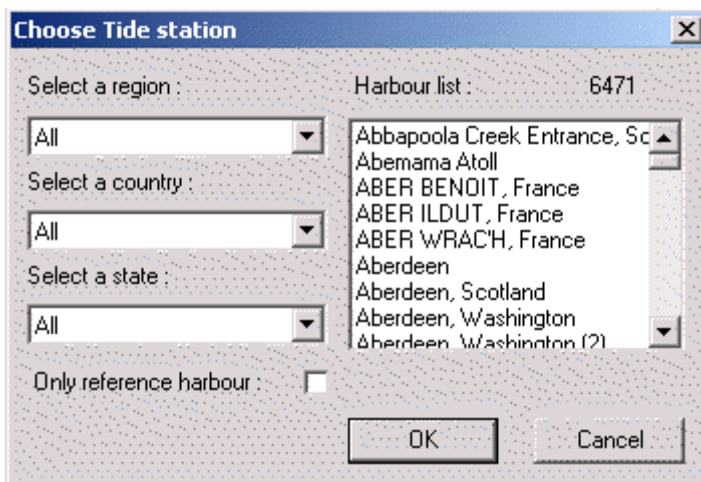
Tide

Choose a constant tide value to insert an offset if the tide tables on the zone are not precise.



Otherwise, choose a reference harbor for the tide values. The tide values of that harbor will correct the sound data you import. It also works with your former own data.

To choose a reference harbor, select the **Choose station** button



How to configure PBG options

Select the PBG tab to choose a PBG import resolution (see: [Personal Bathy Generator settings](#))

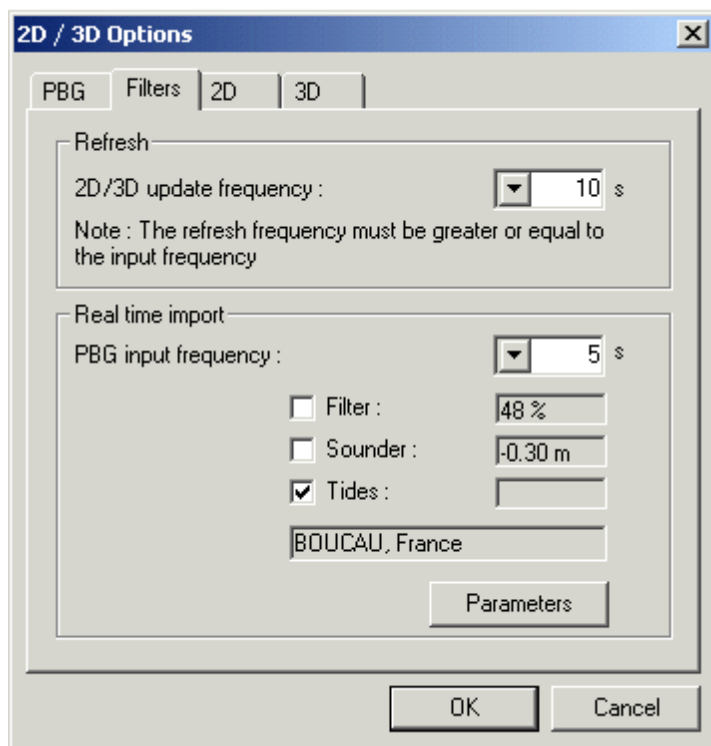
For example you can choose:

1. **"Very High Resolution Bottom Analysis"** only on a small area.

2. **"Shallow Water"** if you are going out daily and when you fish near your harbor.
3. **"Open Water"** when you work far from the shore.
4. **"Navigation and Prospecting"** to get general information about the bottom.
5. **"Automatic"** MaxSea will select the best resolution according to the depth.

Note: by default, the **"Automatic"** radio button is checked.

Then select the **Filters** tab



This option allows you :

2D/3D update frequency: allows you to select the time interval between updates of the 2D/3D view. Depending on your needs and computer speed, select a frequency from 1 to a few seconds.

PBG Input frequency: select the time interval in seconds between database updates.

Note: When **PBG** is on, the echo sounder data is inserted into the database in real time. It is strongly recommended to first set the PBG parameters by clicking the **Parameters** button (see **How to configure the PBG parameters** paragraph above). You can select a filter value, a tide correction... that will be active when recording data in real time.

Seabed Analysis

Seabed analysis



- this function is included in MaxSea depending on your own software version.

Connected to a Seabed system the PBG function enables gathering 2D and 3D data providing much more details of ocean floor relief and composition (sand, silt, rock,...).

The **software** displays and records Roughness (E1) and Hardness (E2) information.

When a **Seabed system** is connected and **PBG** is on, the Roughness (E1) and Hardness (E2) data are recorded automatically in the database.

Note:

- (1) - Refer you to the related topic [PBG Real Time](#) for more information.
- (2) - a seabed system must be connected and the input/output port must be configured, see "Connect equipment to MaxSea " for more information.

You will learn in this section:

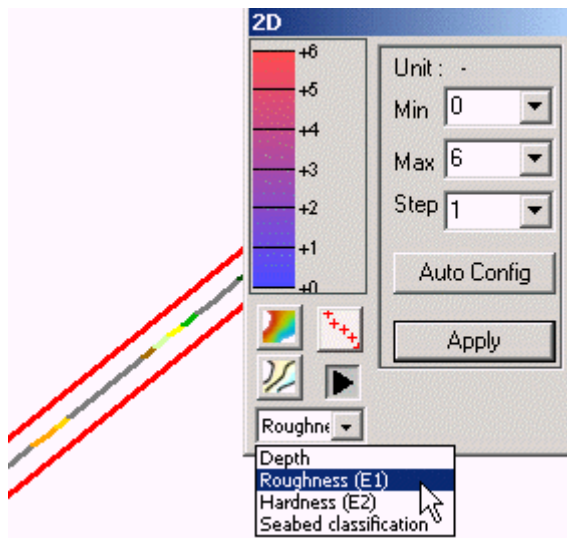
1. [How to display the Roughness or the Hardness data over the chart](#)
2. [Display the Seabed Classification Data and graphical palette](#)
3. [Changing the Seabed Classification Scale display](#)
4. [Activate Tracking on](#)
5. [Display the Seabed classification Preferences](#)
6. [Configuring a Seabed classification](#)
7. [Setting up the Seabed Classification system connected to MaxSea](#)
8. [Setting up the Track to the Seabed Configuration](#)

Displaying Roughness (E1)/ Hardness (E2) on the Chart

The **software** gives you the possibility to display directly on the chart, the Roughness (E1), the Hardness (E2) or the seabed classification according to the available data in the 3D database

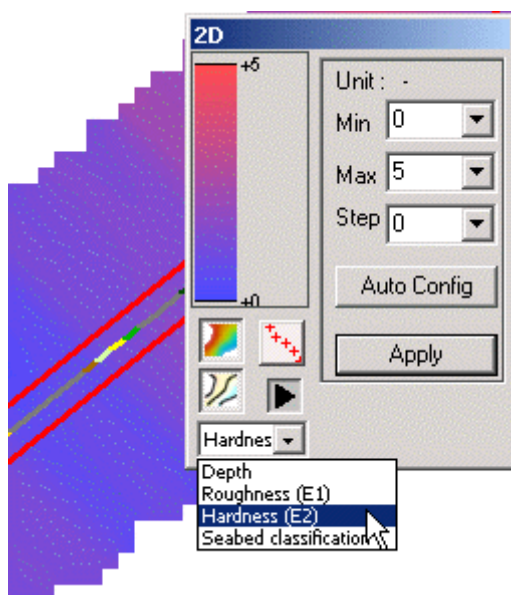
Three display modes are available :

- **Display the Roughness (E1)**

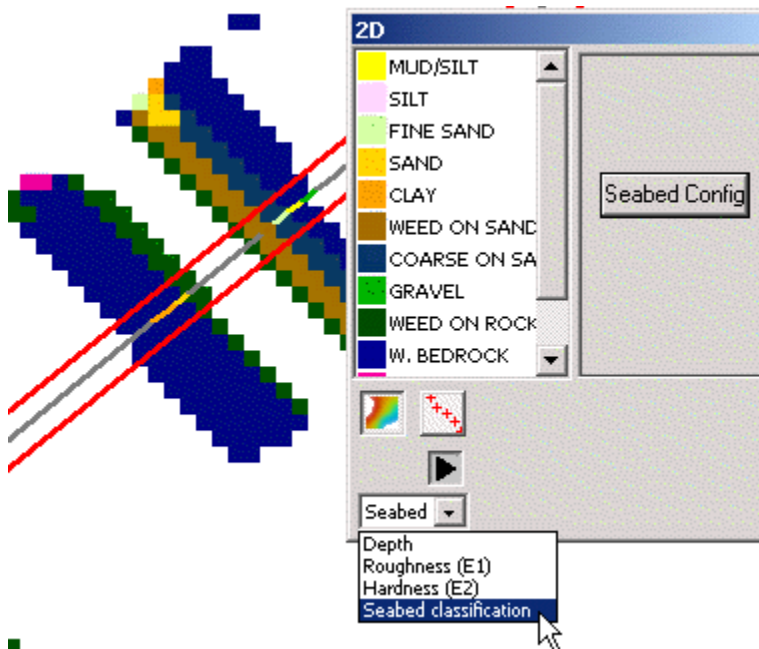


To display the Roughness (E1) information on the chart select the corresponding item from the pop-up

- **Display the Hardness (E2)**



To display the Hardness (E2) information on the chart select the corresponding item from the pop-up.



- In this example, one sees that the **track** color is according to the seabed zone.
- To change the Seabed classification configuration click the "**Seabed Config**" button in the right 2D window.

Related topic: ["Configuring a Seabed classification"](#)

"Seabed Class" palette

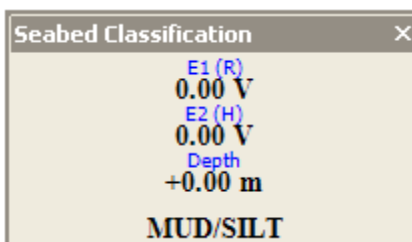
When a Seabed system is connected to MaxSea, a specific box can be displayed.

To call up the "Seabed Classification" palette go to the **[Display]** menu and select **[Seabed classification]**.

Two Available Display Modes:

Showing or Hiding the Seabed Classification palette in Reduced Mode with data received:

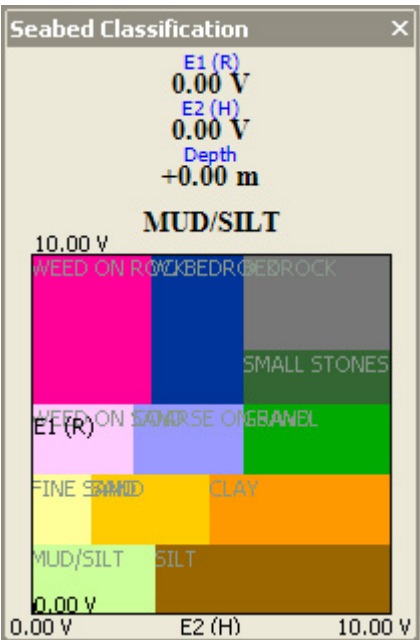
1. Select the **[Seabed Classification]** from the **[Display]** menu



Showing or Hiding the Seabed Classification Graph

1. Right-Click any where in the Seabed Classification palette to call up its contextual menu.

- 2. The drop down menu lists display controls such as degrees of transparency, font size and showing the Seabed classification Graph.
- 3. Click "Show Graph" to display the



When the **Show Graph** item is chosen you can access by using again the right-click to the following features

<p>Transparency allows you to choose different degrees of the palette transparency display over the chart.</p>	▶	Not, 10%, 20%, 30%, 40%, 50% and Text outline
<p>Font size allows you to choose a font size for data displayed in the palette.</p>	▶	smallest, smaller, medium,...
<p><input checked="" type="checkbox"/> Graph size allows you to choose different size for displaying the graph</p>	▶	<input checked="" type="checkbox"/> Smallest
		Smaller
		Medium
		Larger
		Largest
<p>User Scale >> calls up the dialog which allows you to modify the display ratio between E1(Roughness) and E2(Hardness).</p> <p>For more information see related topic : Changing Seabed Classification Scale</p> <p>Track On >> activate tracking</p> <p>Show Selection >> Show or hide the track displayed over the graph.</p> <p>Graph Configuration >> calls up the Seabed Classification Configuration dialog, for more information see related topic : Configuring a Seabed classification</p>		

Changing Seabed Classification Scale

It is possible to modify the display **scale** of the Seabed graphic from the palette using any tool selected from the Toolbar.

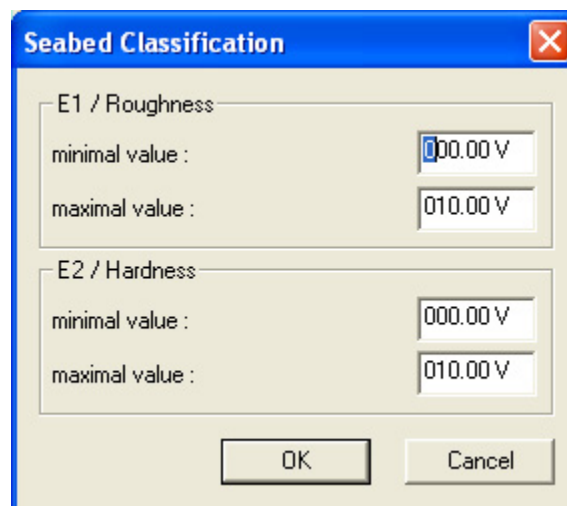
Several methods can be used to modify the Seabed Classification Graphic scale

Using fixed scale

1. Right click any where in the Seabed Classification palette
2. Choose "Graph size" and click on an item between smallest, smaller, medium, larger and largest.

Modifying the scale ratio

1. Right click any where in the Seabed Classification palette
2. Choose "**User Scale**" to open dialog which allows you to modify the display ratio between E1 (Roughness) and E2 (Hardness).



Enter the E1 and E2 interval of value to redraw the Seabed Classification garphic's mark.

Activate the track

To activate tracking on :

Right-click on the Seabed Classification Palette to display the Graph and right-click again and choose the Track on item.

Select then "Show Selection" allows you to display and follow up simultaneously the boat track in on the Seabed Classification Graph and on the chart.

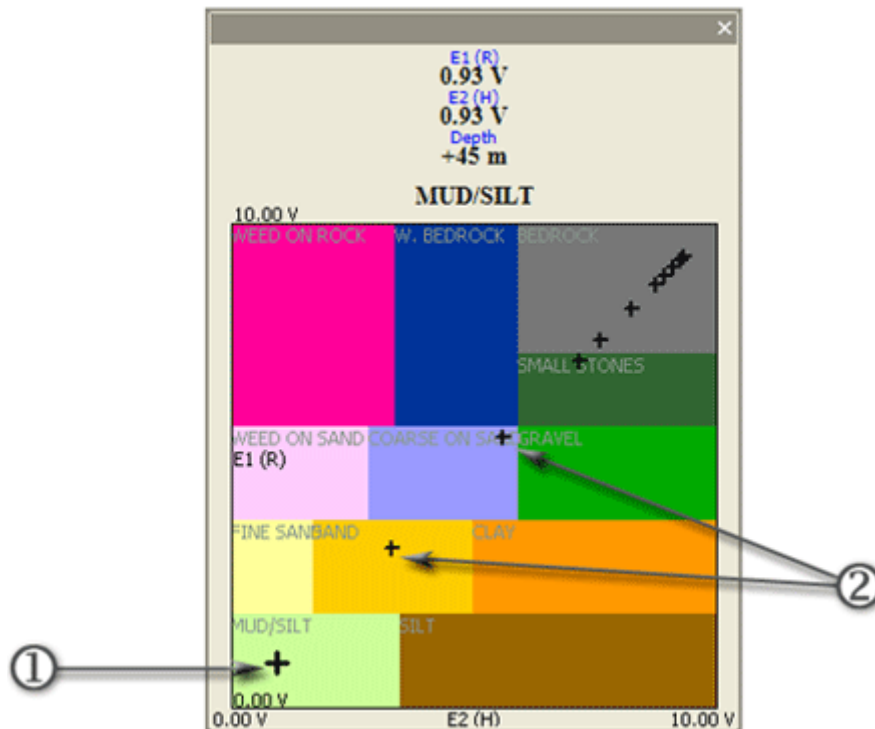


Fig.1 : The last 12 points remain are displayed on the "Seabed Class" graphic in Tracking mode as it is shown in Fig. 1 with number 2 and the number 1 shows you the actual boat position.

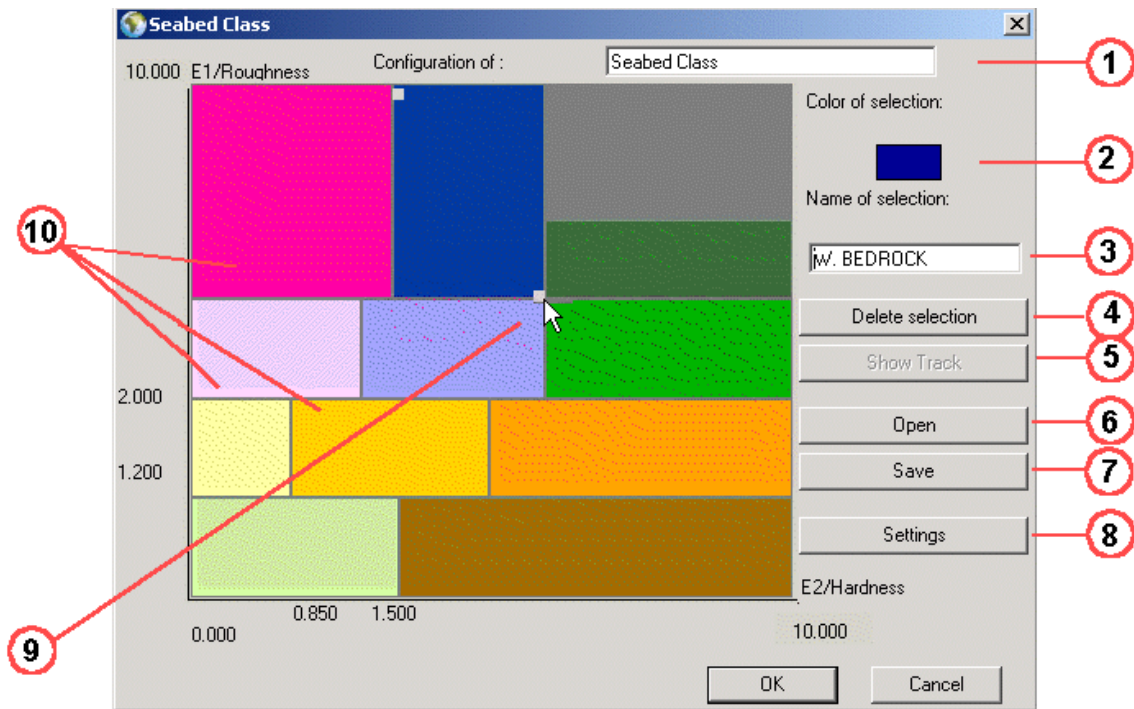
Seabed classification preferences

In order to obtain the best results, it is necessary to configure the Ground discrimination system depending on the type of sounder, water salinity, etc..

The software allows you to define as many configurations as necessary and use them when required.













IMPORTANT - When you change the configuration, the new configuration is automatically applied to the current **track** . The previously recorded tracks are not modified with respect to the new Ground discrimination system configuration (see paragraph Applying a configuration to a track to adapt the display of a previously recorded track to the new configuration).

- Click on preferences button **P** located in the upper right-hand corner of the Seabed class box to open the configuration dialog box.



Seabed graphic Interface:

1. To define a new Seabed configuration name
2. To define a Seabed zone color
3. To define a Seabed zone name
4. To delete a selected zone
5. To show the track on the Seabed graphic
6. To open a Seabed configuration
7. To the current Seabed configuration
8. Settings to adjust the **Ground discrimination system** with the MaxSea software
9. Seabed zone selected
10. Different Seabed zones (constituting the Seabed graphic)

	MUD / SILT		COARSE ON SAND
	SILT		GRAVEL
	FINE SAND		WEED ON ROCK
	SAND		WEATHERED BEDROCK
	CLAY		SMALL STONES
	WEED ON SAND		BEDROCK

Seabed color legend

See also related topics:

1. [Configuring a Seabed classification](#) for changing Seabed color depending on your choice
2. [Engineer Adjustment](#) for setting up the Seabed analysis system connected to Maxsea

Configuring a Seabed classification

The Seabed Classification window enables personal configuration of seabed file managing.

Using Seabed configuration

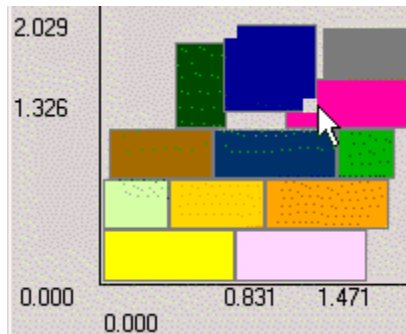
Saving a Seabed configuration:

- When you define a new seabed configuration you should save it with a new file name. It will be easy to load it again in the future.
- To save, click on the **Save button**, the configuration will be saved in the "**My documents**" folder and the file extension is (*.rox)

Opening a personal Seabed configuration:

- In case you want to open a personal Seabed configuration, which is stored in "**My Documents**" folder click on **Open** button.
- This opens the "**file open**" dialog box and can be used to load a previously saved configuration.

Modifying the size of a selected zone



- Click on a zone to select it.
- Then click the upper left-hand corner or the lower right-hand corner of the selected zone and drag the mouse to modify the size of the zone.

Note:

by clicking this zone, you move it into the foreground.

Be careful Zones should not overlap. If the modifying zone covers other zones the visible zone becomes priority.

Modifying the zone name

Click the zone to select it and then enter the new name in the Title box.

Modifying the color of the zone

Click the zone to select it then call up the color pop-up menu.

Erasing a zone

Click the zone to select it, then select Erase from the Edit menu.

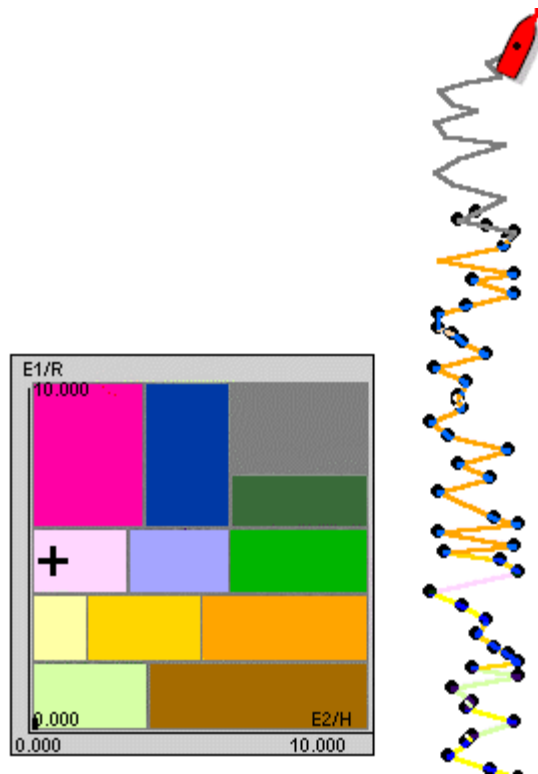
Creating a zone

Click outside of the existing zone. Next, drag the mouse holding its button down to define the new zone. Then, enter the associated parameters (name, color) as explained above.

Note: 16 zones max can be created.

Displaying the selection

If points to which (E1/E2) information is associated are selected on the chart, a "S" button appears in the upper left corner Ground discrimination palette



Click the **Selection display (S)** button to display the points selected in the dialog box.

Click on the mouse to interrupt the simulation.

Note : Preferences are always saved when exiting and restored during exit launch cycle.

"Engineer" adjustment dialog box

Click the **Settings** button in the Seabed Classification dialog to open the **Seabed class "Engineer" adjustment** dialog box (for more information see your Ground discrimination system manual before filling items).

The **Seabed Class** dialog box appears and then inform the required items:

1 - "Apply depth correction" option is selected

The frequency and the sound speed fields are filled. The following calculation which is applied on the displayed depth value is:

$$(\text{Displayed Depth value}) = (\text{Entered Depth value}) \times (\text{propagation speed of sound} / (2 \times \text{selected frequency}))$$

2 - "Apply E1/E2 correction" option is selected

Enter a maximum depth value and The following calculation is applied:

If the (Depth value \geq entered LMax value) then **(Displayed E1 value) = (Entered E1 value) X (Depth value / LMax value)**

or

If the (Depth value <= entered LMax value) then (**Displayed E2 value**) = (**Entered E2 value**) X (Depth value / LMax value)

3 -"Apply display law" option is selected

by default this option allows a calculation on E1 and E2 to improve the display in the 2D view.

Then to allow the calculation you have to click on **OK**.

IMPORTANT - The calculation is available on the display and not on the recorded values. The data values are saved in the database without the Display Law correction. The display law is applied dynamically during the display process. This will allow you to change the display law or to share there Hardness / roughness database more easily. Be careful, an old Hardness/Roughness databases from a previous version are Not available if the "display law" was applied.

Applying a configuration to a track

Choose the required current configuration as explained above.

1. Right-click on the **track** that you wish to apply the current configuration.
2. Choose Select and click on Line under the contextual menu to select all the track on the chart.
3. Then select **[Edit Track Line]** from the **[Edit]** menu.
4. In the Change the **track parameters zone** in the upper part of the dialog box, select Track color (and optionally the line thickness).
5. Check the **Variable color box** and the select the Edit color range button from the **Track color zone**, then call up the pop-up menu and select **(E1/E2)** as the new display parameter. Finally, click OK to validate.
6. The selected **track display** is modified depending on the current **E1/E2** configuration.

Trawl Positioning

Dead Reckoning Trawl Positioning

This function is used for testing trawl positioning when trawl positioning system are not connected.

User knows the wire length and the depth where the Engin is supposed to be. Always have an estimation of the trawl position displayed on your screen. It is less accurate than dedicated trawl door positioning systems but it is a good value solution. Reduce the risk of loosing or damaging your trawl. Fish with more precision and as close as possible to dangerous, but full of fish, areas.

Setting up the simulated Trawl positioning

1. Go to the **[utilities]** menu and choose **[Data Input / Output Settings...]**
2. Click on Trawl tab and Add Instrument button
3. Check Simulated in "**Add a connection to an instrument**" and click Next
4. Draw Engin is selected and click Next to finish

How to Determine Trawl Positioning Parameters

1. Go to the [Display] on menu bar and choose **[Manual Trawl Positionning]**
2. Enter the Wire length as shown on following example 900m is chosen (1500m by default and you can choose value from 0 to 99999,99)
3. Enter the Wire tension as shown on following example 70%is chosen (70% by default choose value from 10% to100%)
4. Enter an estimated depth as 10m for example (500m by default choose value from 0 to 10000)
5. Check display for showing the Trawl engine drawn in the Depth Profile window selected on MaxSea Mode.
6. Click Apply to confirm.

MaxSea displays the estimated trawl position

MaxSea has developed a technology which provides the estimated fishing gear position. This function is mainly designed for trawlers (pelagic or bottom trawler). Always have an estimation of the trawl position displayed on your screen. Reduce the risk of loosing or damaging your trawl.

Fish with more precision and as close as possible to dangerous, but full of fish, areas.

The trawl is displayed as a half circle located behind the boat based on COG. (as shown in **Fig.1**)

The trawl is shown on the cartography and in the profile window (not in 3D).(as shown in **Fig.2**)

It is less accurate than dedicated trawl door positioning systems but it is a good value solution.

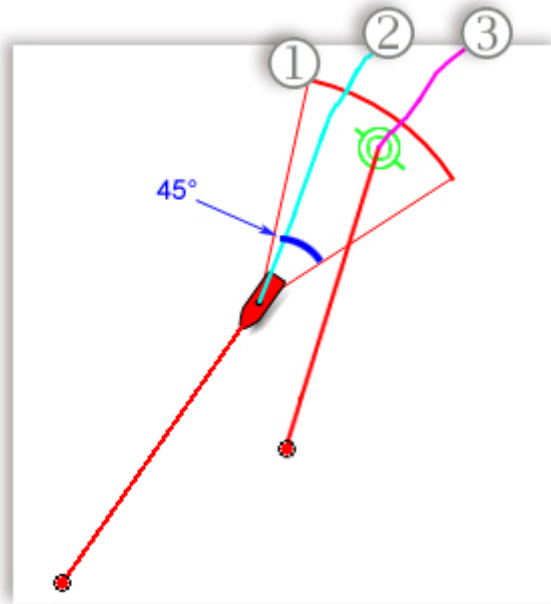


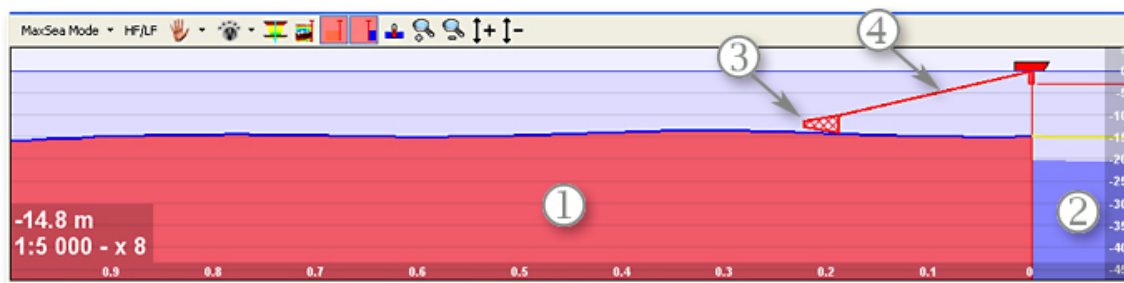
Fig. 1 : Dead Reckoning Trawl Engine Representation

- (1) - Red circle arc with 45° for angle to estimate its position
- (2) - ship track representation
- (3) - Green Symbol indicates simulated Trawl Engine drawn on the chart followed by purple track .

To modify Parameters:

1. Select the **[Manual Trawl Positioning]** from the **[Display]** menu
2. Enter the rope length, in our example the chosen value is 900meters (1500 m selected value by default)
3. Enter the estimated depth, in our example the chosen value is 70% (70% selected value by default)
4. Enter the rope tension, in our example the chosen value is 10meters (500 m selected value by default)

Note : message error dialog will warn you for wrong values.



ated Trawl positioning in the Depth Profile Window

profile Contour

d Depth Profile Contour

wing the estimated trawl positioning in the Depth profile window

distance is equal to the rope length by its tension

Trawl positioning with PACHA or GEONET

The Pro version of MaxSea Fish with the module enables you to display data provided by PACHA, Geonet or Simrad ITI, the depth acoustic positioning system for trawls.

For more information about this function, contact your reseller.

Introduction

The PACHA , Geonet or Simrad ITI system allows to determine the location, geometry and environment of a trawl in order to safely and efficiently perform trawling operations.

This system makes it possible to determine in a very precise way the site, positioning in order to improve the security and to optimize the performances of each spinning operation .

For example, thanks to the accurate measurements of the trawl location, it is possible to operate very close to the obstacles and wrecks where the catch of fish can be very much increase.

Configuration

To receive data from PACHA , Geonet or Simrad ITI transponders, the configuration required is the following :

- MaxSea Pro with 3 serial ports
- Pacha Geonet Simrad ITI module.
- 1 serial port for Position (**GPS**)
- Gyro
- 2 serial ports for the PACHA , Geonet or Simrad ITI system.

Connection

NMEA standard.

All the data coming from the system PACHA arrive on PACHA DAP1 serial port. The configuration in MaxSea DAP2 is there only to simulate position coming from DAP2. The DAP2 data comes in fact from DAP1 serial port.

Input-Output configuration

1. Select **[Input/Output Settings]** from the **[Utilities]** menu. The following dialog box is opened :
2. Click the **Trawl** tab
3. Add the PACHA/GEONET system by clicking on "Add Instrument".
4. Select a the port com which is connected to the system
5. Click next to activate the wizard which lets you to choose between several system.

6. Select the line PACHA / GEONET or Simrad ITI or Scanmar or Marelec.

The system is connected, select the line in the Instrument list by:

1. Either double clicking the line.
2. Or click on the **Advanced settings** button.
3. The data settings : trawl on port COM2 appears to configure your system.

PACHA / GEONET SYSTEM Data Settings

The following setting dialog box is according to **Pacha/Geonet** System.

Data settings : Instr1 / PACHA / GEONET

System

☒ PACHA
☐ GEONET

DAP Number

☐ 1 DAP Sensor
☒ 2 DAPS Sensors

Mode

☒ Synchronization = 0
☐ Synchronization = 1

Commands

Reset Stop Start

Preferences

Intersensor dist : 0 meters

Sound celerity : 0 m / s

Offsets :

X (>0 forward) : 0 meters

Y (>0 Starboard) : 0 meters

Z (>0 Down) : 0 meters

Pitch : 0 °

Bearing : 0 °

Roll : 0 °

OK Cancel

All data provided by Pacha are coming on the PACHA DAP1 serial port.

DAP2 configuration is used to simulate in MaxSea the arrival of the DAP2 transponder.

DAP2 data positioning in fact, arrive through the DAP1 serial port.

SIMRAD ITI SYSTEM Data Settings

To change which information (position, heading and ground speed) from your instrument is feeding MaxSea:

1. Either go to the **[Utilities]** menu and choose **[Data Input-Output Settings]** or press the **[F4]** keyboard shortcut.

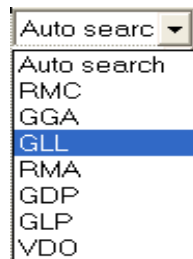
2. Click on **"Trawl"** .
3. Select the corresponding line to the COM on which the system is connected,
4. Either double click the corresponding Instrument line or click on the **"Advanced settings"** button to activate the "Data settings" dialog box.

Data and sentence selection

Choose the corresponding case information that you wish to acquire,

- ☒ GROUND SPEED
- ☒ GROUND HEADING
- ☒ SURFACE SPEED
- ☐ MAGNETIC HEADING
- ...
- ☒ DEPTH
- ...

Choose the sentence under the pull down menu:



This dialog box allows you to :

Choose the data you wish to receive,

Assign the instrument Master if the same information is provided by several instruments, you have to select one as your master source. For example, boat position may be received by your GPS and your Loran.

To define your master instrument, select it ☒ in master column.

Related topic to get more information about NMEA sentences >> [List of acquired ITI trawl sentences](#)

Trawl Display

2D Display

Then trawl is represented as an icon on the window card, the dials instruments show information sent by sensors.

Trawl track

By default the track of the trawl panels is activated. It is thus enough to click [**TrackOn**] to show the tracking trawl on the chart. You can modify parameters or deactivate the track of the trawl in the same way as the ship track from the [**Utilities**] menu: [**Option: GPS/rack**].

Please, select in the left-hand list a positionner of your choice the panel the parameters of track of which you want to modify

Select panel and then, enter the new tracking parameters.

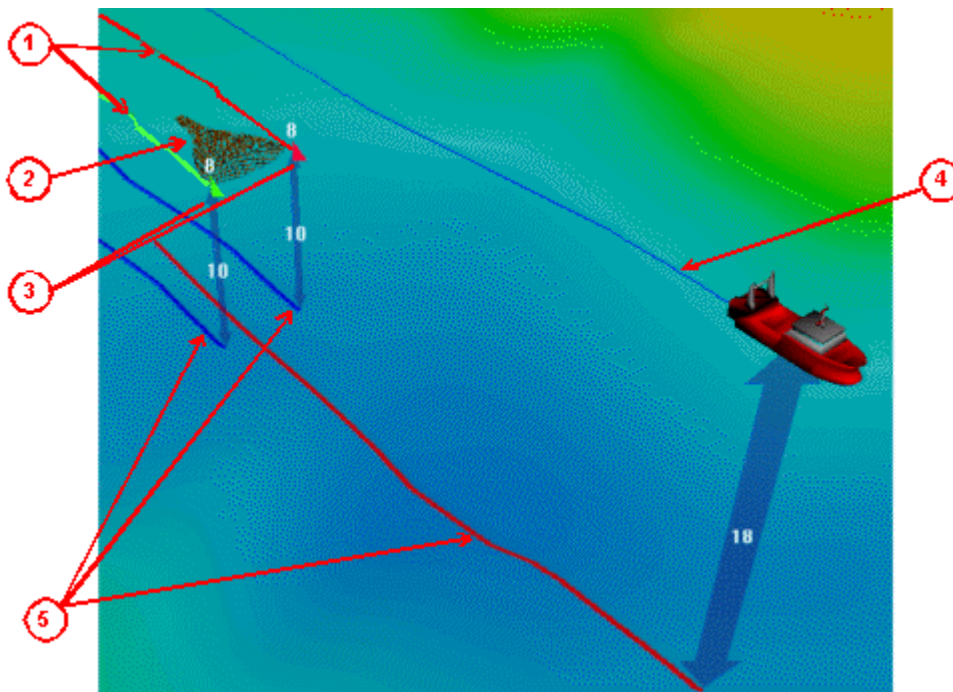
You can activate for example or deactivate the track of the panel by checking or not the **Track on** box.

(For more information about parameter settings refer you to the Ship track chapter)

Remark: it is possible to activate the trawl track by clicking on **Track On/Off** button without showing the track of the ship. To do it you have to deactivate the track option for the **GPS** in the "**Track properties**".window.

3D Display

Sensors position is represented in the 3D window showing immediately the trawl position compared to the bottom.



Description:

- 1 – DAP1 and DAP2 follow-up (displayed only in the 3D window).
- 2 – 3D representation of the trawl net.
- 3 – DAP1 and DAP2 representation in the 3D window.
- 4 – Ship follow-up (displayed only in the 3D window).
- 5 – Ship grounding track and DAP1 / DAP2 grounding tracks which are displayed when the ship is "Track on" positioned, the tracks will be saved into the active fishing plan.

Thanks to this system, it is possible to work in full safety in dangerous trimmings, where it is known that the fish caught will be much better.

List of acquired ITI trawl sentences

Click on available link for more information:

| DBT | [DBS](#) | [FSP](#) | [GLL](#) | [HFB](#) | [MTW](#) | [TDS](#) | [TFI](#) | [TPC](#) | TPP | [TPR](#) | [TPT](#) | [TS2](#) | TTS | VTG | WWL | WWT |

All following messages descriptions are based NMEA 183 representation, related topics for more information: "**Field type**" and "**Character Symbol Table**".

TPR – Trawl position relative to vessel

```
@IITPR,x,M,x,P,x.x,M<CR><LF>
```

a b c d e f

a, b – Horizontal range to the trawl (0-4000m) .

c, d – Bearing to the trawl relative to the vessel heading (resolution 1°).

e, f – Immersion of the trawl below the surface (0-2000m).



TPT – Trawl Position true vessel

```
@IITPT,x,M,x,P,x.x,M<CR><LF>
```

a b c d e f

a, b – Horizontal range to the trawl (0-4000m) .

c, d – True bearing to the trawl (i.e. relative to north). (resolution 1°)

e, f – Immersion of the trawl below the surface (0-2000m).



TPC – Trawl position in Cartesian coordinates

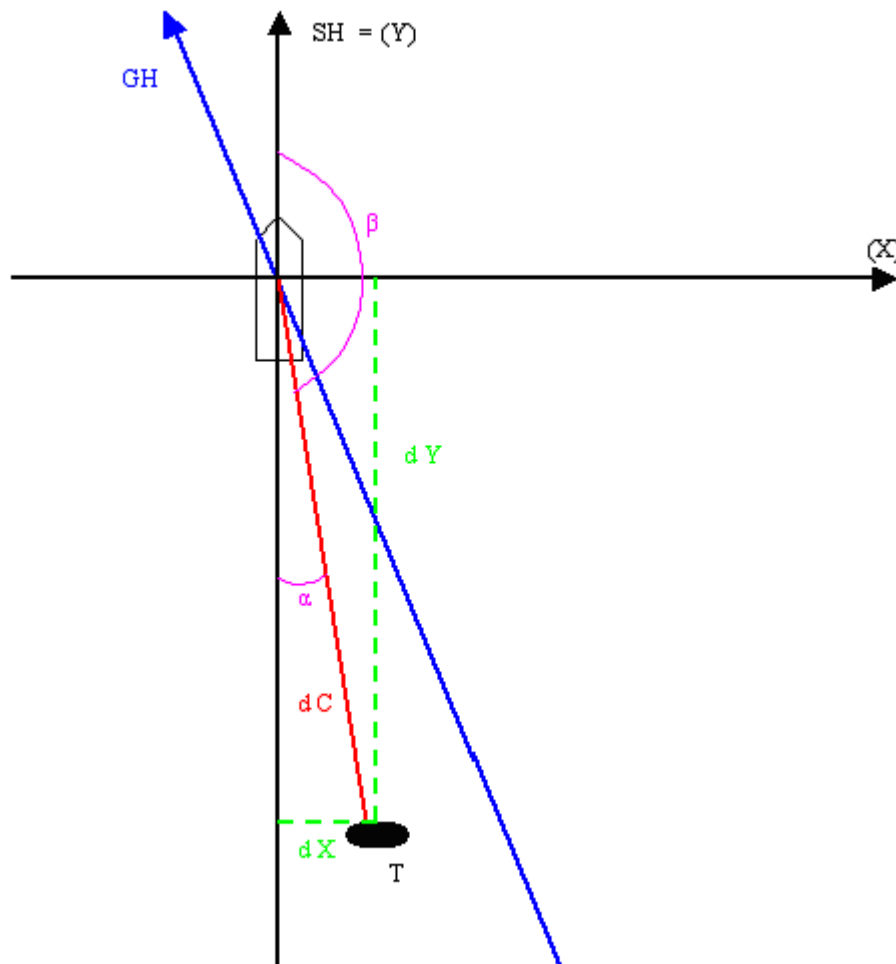
@IITPC,x,M,x,M,x,M<CR><LF>

a b c d e f

a, b – Horizontal distance from vessel center line. Value is positive if trawl in on starboard side, negative if on port side.

c, d – Horizontal distance from the transducer to the trawl along the vessel's center line. The value will normally be positive as the trawl is usually behind the vessel.

e, f – Immersion of the trawl below the surface (0-2000m).



Note:

GH = Vessel's Ground Heading

SH = Vessel's Surface Heading = Vessel's center line = Y axis

dX = Horizontal distance from vessel's center line.

dY = Horizontal distance from the transducer to the trawl along the vessel's centre line

dC = Horizontal distance to the trawl = $\sqrt{dX^2 + dY^2}$

β = Bearing to the trawl relative to the vessel heading = $\beta = \pi - \alpha$

$\alpha = \arctan(dX/dY)$



DBS – Immersion of the trawl below the surface

\$IIDBS,,x.x,M,,<CR><LF>

a b

a, b – Immersion of the trawl below the surface (0-2000m).



MTW – Water temperature at the trawl

\$IIMTW,-x.x,C<CR><LF>

a b

a, b – Water temperature in °Celsius measured at the trawl (sign prefix only if minus). (-5°C to +30°C)



HFB – Trawl headrope to footrope and bottom.

@IIHFB,x.x,M,x.x,M<CR><LF>

a b c d

a, b – Distance from headrope to footrope (0-100m).

c, d – Distance from headrope to bottom (0-100m).



TDS – Trawl door spread

@IITDS,x.x,M<CR><LF>

a b

a, b – Spread distance in meter (0-300m).



TS2 – Trawl spread 2

@IITS2,x,x,M<CR><LF>

a b

a, b – Spread distance in meter (0-300m).



TFI – Trawl filling

@ITFI,x,x,x<CR><LF>

a b c

a – Catch 1 message 1.

b – Catch 2 message 1.

c – Catch 3 message 1.

1) Catch message values : 0 = off; 1 = on; 2 = no answer



FSP – Fish shoal position relative to vessel

@IIFSP,x,M,x,P,x,M<CR><LF>

a b c d e f

a, b – Horizontal range to fish shoal (resolution 1m)..

c, d – Bearing to fish shoal relative to vessel's heading.

d, e – Fish shoal's depth (resolution 1 m).



GLL – Trawl position in Latitude and Longitude

\$IIGLL,IIII.II,a,yyyy.yy,a<CR><LF>

a b c d

a, b – Latitude – N/S.

c, d – Longitude – E/W.



Dredge Function

Dredge Function Overview



- Following documentation is dedicated to MaxSea configured with Dredge option.

MaxSea is able to receive values sent by dredge sensor relative to the different states of the dredge. **0** for inactive dredge, **1** for active dredge or **2** for hanging dredge.

These states are displayed in the data window in the field **Quality**.

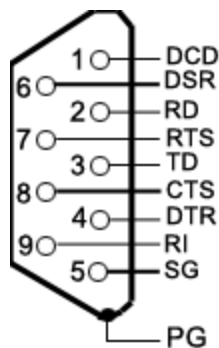
In this section you will learn on :

1. [Connections at serial port of the computer \(Cable diagram\)](#)
2. [Configuring the Dredge Data Input /Output Settings](#)
3. [Dredge features](#)
4. [Setting Up the Time Out](#)

Cable Diagram Connection

ground to pin 5 of the **RS232** standard

output **TTL 0/5 V** to **8 (CTS)** of the **RS232** standard



Serial Port Cable Diagram:

DCD - Data Carrier Detect

DSR - Data Set Ready

RD - Receive Data

RTS - Request To Send

TD - Transmit Data

CTS - Clear To Send [0 ou 5 volts]

DTR - Data Terminal Ready

RI - Ring Indicator

SG - Signal Ground

PG - Protecting Ground (Caution : Do not use it as the signal ground !)

Data Input/Output Settings

How to set up the peripheral devices in MaxSea

1. Select **[Data Input-Output Settings]** from the **[Utilities]** menu
2. Click the **"Dredge"** Tab
3. Click on **"Add Instrument..."** to confirm
4. Select the corresponding port (**COM**) where system is connected.
5. Choose **"Dredge"** under the "Norm" drop-down menu list.

To delete devices, click on the corresponding line in the dialog and click on **"Remove instrument"**

How to input Time Out

1. Click on the corresponding line in the dialog
2. Click on the Advanced Settings button
3. Enter a value to define the delay before stopping the Dredge track (equal to 60sec by default)

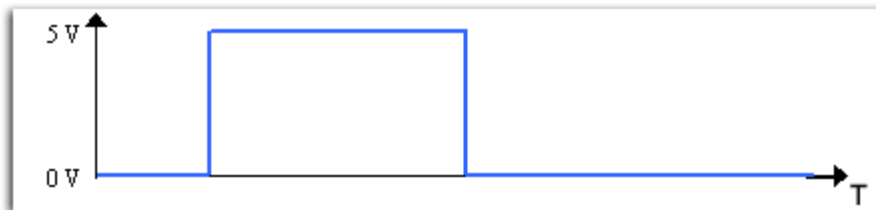
Note: "Dredge" tab does not appear in Input / Output settings dialog means that Dredge function is not available in your MaxSea version. Please contact your dealer to get more information.

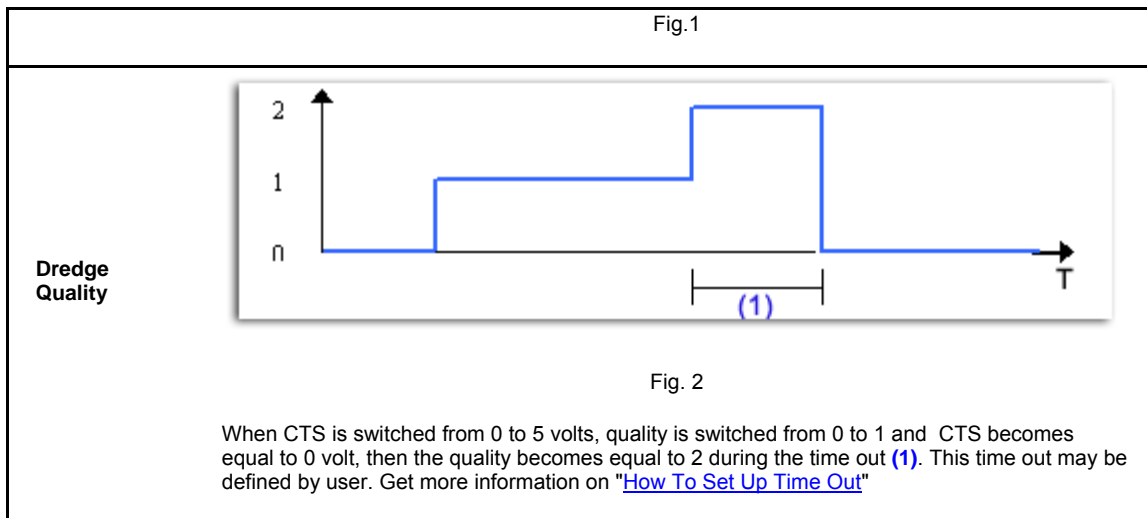
Related topic to learn more on : Connecting equipment

Dredge Features

The dredge transducer provides a 0 or 5 volt signal.

CTS Status
(from 0 to 5 V
at time T)





Inactive dredge (Quality = 0)

When MaxSea receives a 0 volt signal without having ever received a 5 volt one, the state automatically turns to **0 (inactive dredge)**.

Active dredge (Quality = 1 and the track is red)

When the software receives a 5 volt signal, the state turns to **1 (active dredge)** and the **track** is on.

Note: it is **impossible** to Manually stop the track or Activate the track parameters choice dialog or Use the Man overboard function.

Hanging dredge (Quality = 2 and the track is blue)

When MaxSea does not receive anymore signal, the state turns to **2 (waiting for a new state, active or inactive)** the track color turns to **blue** and the track save is still going on.

Then, if the signal is not received within **TimeOut**, MaxSea automatically turns the state to **0**, the track is off.

The software **stops the track save** and suggests to "save as" the track in an existing file named **"*.ptf"**.

Note that you can modify the TimeOut (for that, see paragraph TimeOut Preferences below).

Note : It is possible to create a new destination folder to save the dredge track in a new. PTF file. But it will be impossible to modify this file.

Then, the track is saved in an ASCII format file named "AAAAMMJJ.HHh.DRA.txt", the software suggests you to create a new destination folder for it.

Setting Up Time Out

How to input Time Out

1. Select **[Data Input-Output Settings]** from the **[Utilities]** menu and click on the **"Dredge"** Tab
2. Click on corresponding line in the dialog
3. Click on the Advanced Settings button to display the Time Out edit box
4. Enter a value to define the delay before stopping the Dredge track (equal to 60sec by default)

For Example:

In case the time out is defined

If you stop the dredge, then after 60sec the dredge track will be stopped if you did not activated the dredge again.

Sounder Depth Profile

Depth Profile Overview

When a sounder is connected to MaxSea, the measurement from the sounder is recorded for each point and MaxSea can thus be used to display the bottom profile.

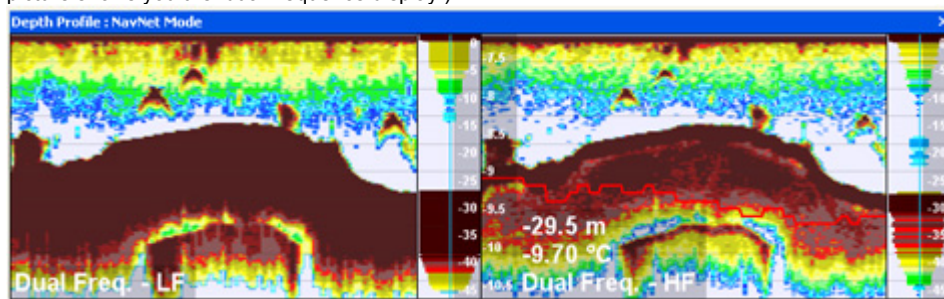
IMPORTANT - To round out the MaxSea-NavNet integration Depth Profile can be added. The Network Sounder is a dual-frequency plugs directly into a NavNet display or into the Ethernet Hub with a single cable. MaxSea-NavNet Depth Profile display gives then an accurate numeric depth data readings. This option is only available when NavNet system is connected to MaxSea.

Activate the Depth Profile Window

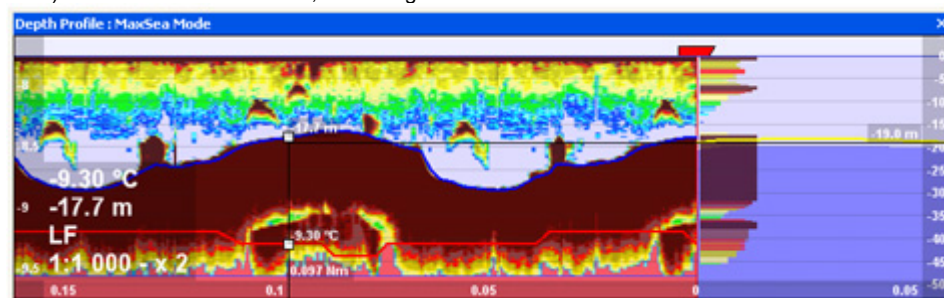
1. Click The **Chart Desktop Mode** on the Toolbar and choose to display the Depth Profile Window with a number of chart window as you want.
2. By default if a NavNet system is connected the Depth profile window is selected on NavNet mode and the Sounder toolbar is displayed. Click on the Depth profile mode on the toolbar to select a Depth profile mode. Toggle between NavNet or MaxSea or Historic mode.

There are three viewing modes; **NavNet Mode**, **MaxSea Mode** and **Historic Mode**:

1. **NavNet Mode** is the Time Advance display mode, echo displayed at each new echo arrival (up to 5/sec). The X Axis is echo based (no unit). You can choose to display Echo graph either in single or dual frequency (following picture shows you the dual frequency display.)



2. **MaxSea Mode** is the Distance Advance display mode. The echogram and the Depth Profile Outline are updated every new GPS position (usually less than 1sec). The X Axis is distance-based (same as SPEED SENSING PRR) If the boat does not move, the echogram does not advance.



3. **Historic Mode** is the profile of your boat 's Track. The profile window is always associated to a track , either a previously saved old track (Historic Mode), or the current track (MaxSea Mode.)



Note that the Depth Profile display mode by default is selected on NavNet Mode.

The Depth Profile window can also be opened from **[Navigation Mode]** under the **[Windows]** menu.

Switching between NavNet Mode and MaxSea Mode:

1. Click the "**Depth Profile Information**" arrow to open the drop-down menu list.
2. Either click **NavNet Mode** or **MaxSea Mode** depending on your choice.

In this section you will learn on :

1 - Let's take a brief tour around the different Depth Profile's toolbars

- [Depth Profile Window Toolbar with NavNet Mode selected](#)
- [Depth Profile Window Toolbar with MaxSea Mode selected](#)
- [Depth Profile Window Toolbar with Historic Mode selected](#)

2 - **NavNet MODE**

- [Changing the NavNet Depth Profile Point View](#)
- [Selecting a NavNet Depth Profile Display](#)
- [Marker Zoom Display Mode](#)
- [Bottom Zoom Display Mode](#)
- [Bottom Lock Display Mode](#)
- [Bottom Discrimination Display Mode](#)

3 - **MaxSea Depth Profile Window Quick View**

- [Changing the MaxSea Depth Profile Point View](#)
- [Selecting a MaxSea Depth Profile Display](#)
- [GPS in the Depth Profile Window](#)
- [Depth Profile Outline](#)
- [Forward Looking Depth Profile](#)
- [Tides corrections](#)
- [Locate your cursor](#)

- [Plot "Events" to mark Fish Schools](#)

4 - Historic Mode

- [Changing the NavNet Depth Profile Point View](#)
- [Selecting a NavNet Depth Profile Display](#)

5 - NavNet Layers

- [Echogram](#)
- [A-scope](#)
- [Temperature Graph](#)
- [Transmission frequency](#)

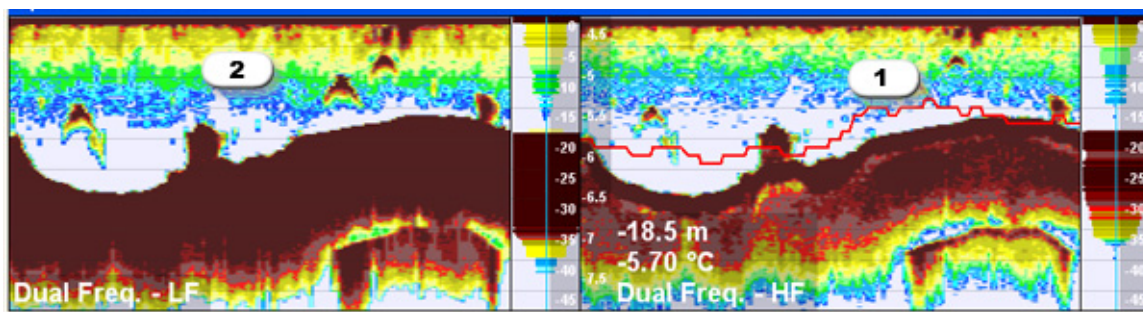
See Also Related Topics:

1. [Option : Navnet...](#) (to choose and configure the NavNet System that you are using.)
2. [Configuring Sounder Options...](#) (To adjust by default : Gain level, chosen mode between Manual and Auto, Noise Limiter, Clutter , Time Variable Gain and Draught Offset.)

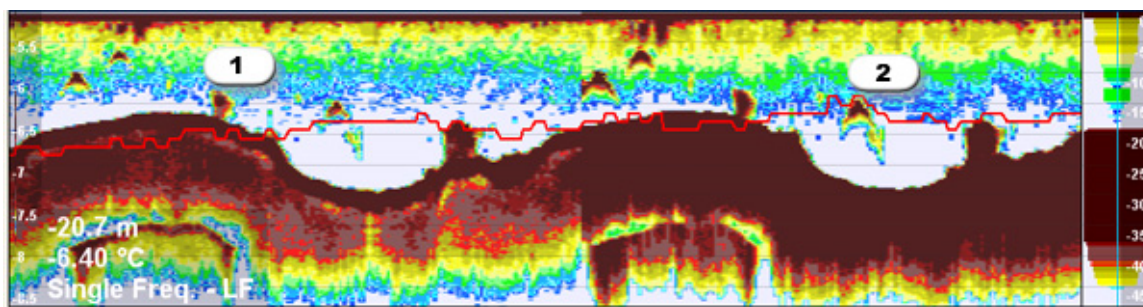
NavNet Mode

NavNet Depth Profile Window Quick View

MaxSea-NavNet Depth Profile's display gives an accurate numeric depth data readings.



Echogram displayed in Dual frequency Mode (LF shown by number 2 and HF shown by number 1)



Echogram displayed in Single frequency Mode (Echo frequency was switched between HF shown by number 1 and LF shown by number 2)

The NavNet Depth Profile's Window can help you on :

- Locating schools of fish and their depths.
- Determining bottom discrimination,.
- Locating shipwrecks, reefs, and other objects between the keel and the bottom.
- Determining the water depth and locating risks for navigation.
- Determining the water temperature changes.

How to choose a Display Mode:

1. Click the Depth Profile drop down menu
2. Click again on a chosen display mode to select and unselect it. For more information see related topics: [Selecting a NavNet Depth Profile Display](#) and [Changing the NavNet Depth Profile Point View](#)

Available Echogram Display Modes when NavNet mode is chosen:

1. [Marker Zoom Display Mode](#)
2. [Bottom Zoom Display Mode](#)
3. [Bottom Lock Display Mode](#)
4. [Bottom Discrimination Display Mode](#)

Single or Double Window Frame for NavNet Depth Profile display, depending on the chosen display mode

	Single Freq	Dual Freq	Marker Zoom	Bottom Zoom	Bottom Lock	Bottom Discrimination
Left window frame	Always display in primary window	LF Frequency	Marker Zoom	Bottom Zoom	Bottom Lock	Bottom Discrimination
Right Window Frame		HF Frequency	HF or LF	HF or LF	HF or LF	HF or LF

You will also learn on in this chapter:

Sounder settings optimization directly from the PC . (See related topic : [Option : Sounder...](#))

- Gain,
- Auto mode,
- Noise limiter...)

[How to easily and quickly change NavNet Depth Profile Sounder Display](#)

["Transmission frequency" settings control](#)

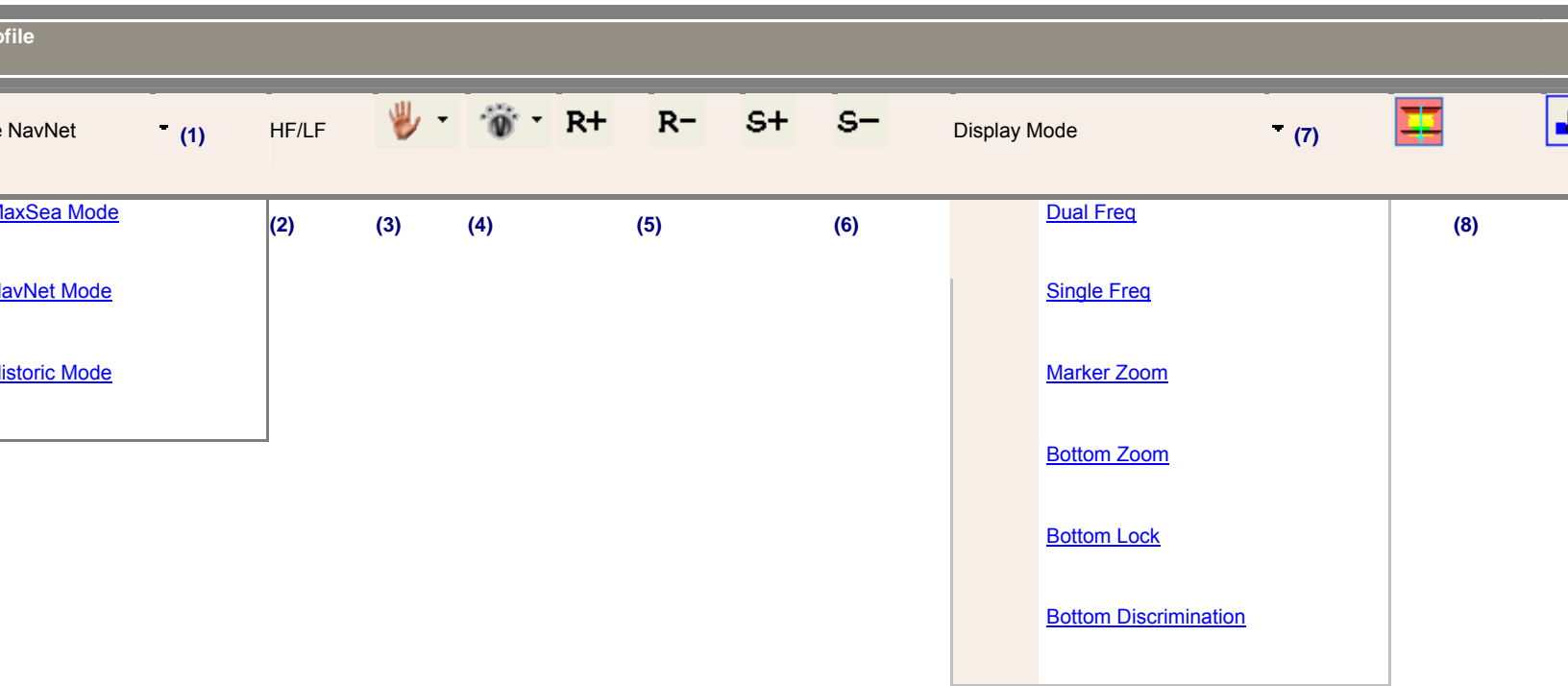
- High frequency
- Low frequency

NavNet "Depth Profile" window including :

- Echogram showing both frequency modes HF and LF ([Dual Freq display mode](#))
- Echogram showing single frequency mode ([Single Freq mode](#))
- [A-scope display](#)
- [Temperature Graph](#)

NavNet Depth Profile Toolbar

NavNet Mode toolbar contains buttons which toggle display data on/off according to NavNet mode and the Sounder tools which allow you to adjust the echo sounder display.



Use corresponding buttons :

- 1 - to switch the display mode in the Depth Profile view and choose available mode between MaxSea, NavNet or Historic.
- 2 - to switch the frequency and to toggle from HF to LF (see related topic: [Transmission Frequency](#).)
- 3 - To change and choose a sounder mode between Manual or different Automatic modes (see related topic: [Sounder Toolbar](#).)
- 4 - To modify gain level when manual mode is chosen (see related topic: [Sounder Toolbar](#).)
- 5 - To change the Sounder Echo Range (see related topic : [Changing NavNet Depth Profile Sounder Display](#).)

6 - To change and the Sounder Echo Location in the graphical view (see related topic : [Changing NavNet Depth Profile Sounder Display.](#))

7 - [To switch between available NavNet Depth Profile Displays](#)






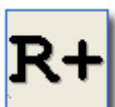
8 - [To show / Hide the A-scope in the depth profile view](#)




9 - [To show / hide the temperature graph in the depth profile view.](#)

Sounder Toolbar

The Sounder Palette allows to quickly set up your view in the Depth Profile window for example if you want to switch frequency between LF and HF or mode between automatic and manual.

Setting Tools have been grouped together into the Sounder toolbar designed for quickly go to specific functions as it is explained on following :

Settings	User Interface	Available	Range	More Information
Switching frequency		Either in MaxSea mode or NavNet mode	HF: Display in Hight Frequency LF: Display in Lower Frequence "HF" or "LF" information appears on the left-hand corner of the graphic view	Related Topic: 1. Moving In MaxSea Depth Profile Window 2. Changing Point of View in NavNet Depth Profile 3. Modifying Echo Graph's Display 4. Option : Sounder...
Display Mode			Manual: this mode allows you to adjust Range and shift in the depth profile window view.	
			Cruising : automatic mode and no adjust available	
			Fishing: automatic mode and no adjust available	
Gain Level			Only available when Manual Mode is chosen To adjust the gain level, click on the Gain level and drag the slider to the desired location (value from 0 to 100 %)	
Range + and -		Only in NavNet Mode	Only available when Manual Mode is chosen. Change the Range value by step which can be defined between 0.5 m (minimum value for R-) and 100	

			m (maximal value for R+)	
Shift level			Only available when Manual Mode is chosen.	
			Switch between S-(Shift down the echo view) and S+(shift up the echo view). When NavNet Mode is toggled on , the S- shifts down the echogram view and S+ shifts up the echogram view in the Depth Window .	

Changing the NavNet Depth Profile Sounder Display

In NavNet Mode you may only change Echogram Point of View in three display modes:

- Either Manual or Fishing or Cruising.
- Fishing and Cruising display modes are automatic.
- The Manual Mode allows you to adjust the Range and the Shift echoes location.

Manual mode is selected on the Sounder toolbar.

- S- and S+ buttons are available, click each one depending on your choice to move up or down the Echogram display view. A blue horizontal line delimits the echogram display down from it.
- When S- is clicked the line moves upward and when S+ is clicked the line moves downward.
- The Range buttons (R- and R+) are also available.

Selecting a NavNet Depth Profile Display

How to change the display in the NavNet Mode Depth Profile window::

- Left-click on item in the Display Mode drop-down menu to show or hide the appropriate layer.
- As it is shown beside the Single Freq is chosen and the Echogram is displayed in single frequency.


	Dual Freq
	Single Freq
	Marker Zoom

[Bottom Zoom](#)

[Bottom Lock](#)

[Bottom Discrimination](#)

Click on  to show or hide the A-scope in the Depth Profile Window (see also related topic: [A-Scope](#))

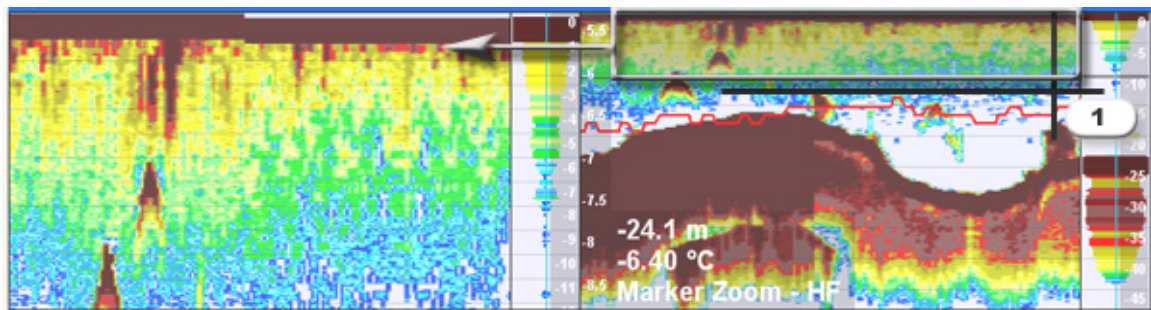
Click on  to show or hide the Temperature Graph overlaying on the echogram if there is the temperature data information in the NMEA sentence (see also related topic: [Temperature Graph](#).)

Single or Double Window Frame for NavNet Depth Profile display, depending on the chosen display mode

Display Modes	Window Frame	Data Displayed
Single Freq	Single	This mode allows you to display the echogram in a single window either in LF or HF (For more information see also related topic Transmission frequency .)
Marker Zoom	Double	This mode allows you to expand a selected area of the echogram and display it in the left window frame (For more information see also related topic: Marker Zoom Display Mode .)
Bottom Zoom	Double	This mode allows you to expand bottom and Bottom fish echoes by the zoom range selected on the Sounder toolbar. It is useful for determining bottom hardness (For more information see also related topic: Bottom Zoom Display Mode .)
Bottom Lock	Double	This mode allows you to provide a 10 or 20 feet (3 or 6 meter) wide layer in contact with the bottom. You may range from the SOUNDER RANGE SETUP menu (For more information see also related topic: Bottom Lock Display Mode .)
Bottom Discrimination	Double	This mode allows you to display the bottom echo to help you determine bottom hardness (For more information see also related topic: Bottom Discrimination Display Mode .)

Note: Dual Freq, Marker Zoom, Bottom Zoom, Bottom Lock and Bottom Discrimination modes are displayed in a double frame window.

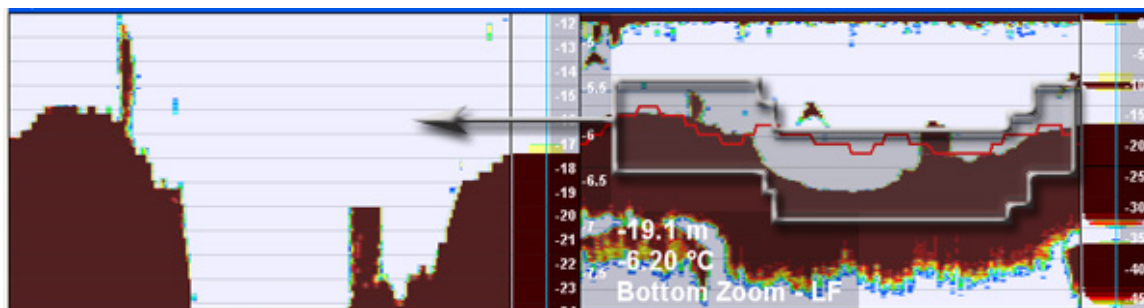
Marker Zoom Display Mode



1. The Marker Zoom display expands a selected area of the echogram displayed in the left window frame.

2. You may specify the portion to expand by operating on the Variable Range Marker (VRM) of your Navnet display system. NavNet VRM location is shown by number (1) in picture above.
3. You can also toggled on HF or LF independently of the chosen display mode.

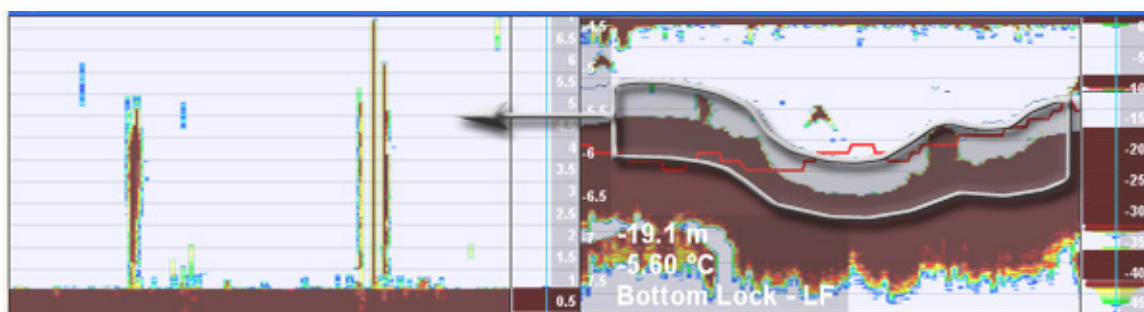
Bottom Zoom Display Mode



The Bottom Zoom display expands bottom and Bottom fish echoes by the zoom range selected on the Sounder toolbar. It is useful for determining bottom hardness.

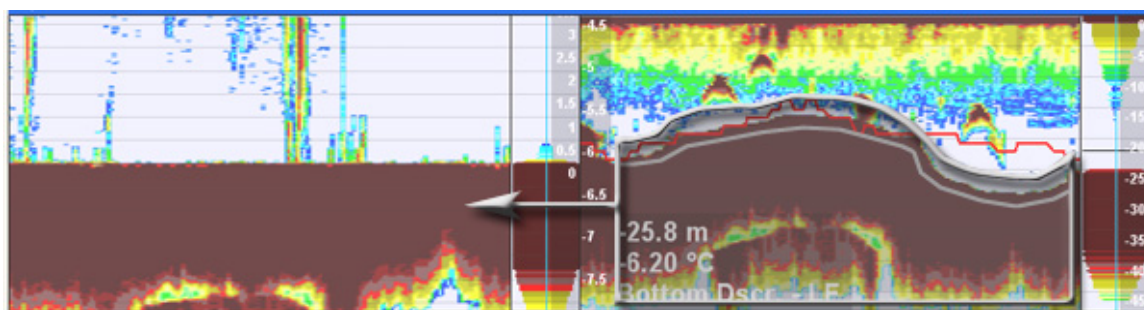
In the right frame window the zoom maker is drawn with grey lines of steps which follow the bottom profile.

Bottom Lock Display Mode



The bottom-lock display provides a 10 or 20 feet (3 or 6 meter) wide layer in contact with the bottom. You may range from the SOUNDER RANGE SETUP menu.

Bottom Discrimination Display Mode



The bottom discrimination mode displays the bottom echo to help you determine bottom hardness. A bottom displayed with a short echo tail usually means it is a soft, sandy bottom. A long echo tail means a hard bottom.

In the right frame window the zoom maker is drawn as a grey graph that follows the bottom profile from 3 meters up.

MaxSea Mode

MaxSea Depth Profile Window Quick View

When MaxSea mode is toggled, the corresponding Depth Profile Window appears on screen. The mode is indicated in the window's toolbar. The "Depth Profile Information" drop down menu list is also updated in MaxSea Mode.

To display the depth profile window:

1. Click the Chart Desktop on the toolbar
2. Select a display mode with the depth profile window.

The NavNet Mode is selected by default if NavNet System is connected, otherwise MaxSea Mode is selected. You can change this mode by choosing it in the Depth Profile Mode drop-down menu list in the Depth Profile toolbar.

The Depth Profile Window Selected in MaxSea Mode Consists in two parts:

A [MaxSea Mode toolbar](#) with more buttons if a NavNet system is connected.

A graphical view which depends on input data from NMEA sentence. The representation

Depth Profile with MaxSea Mode Selected

If a Echo sounder system is connected you will follow your boat track actually recorded in real time as it is shown in following picture:

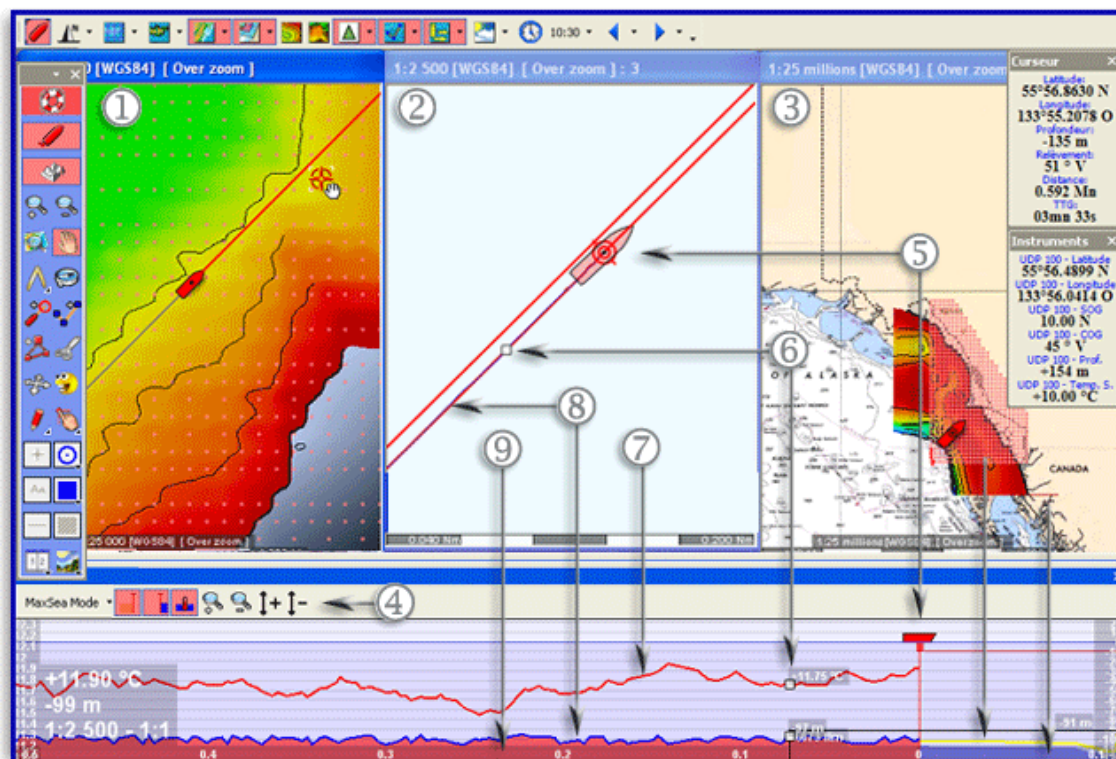
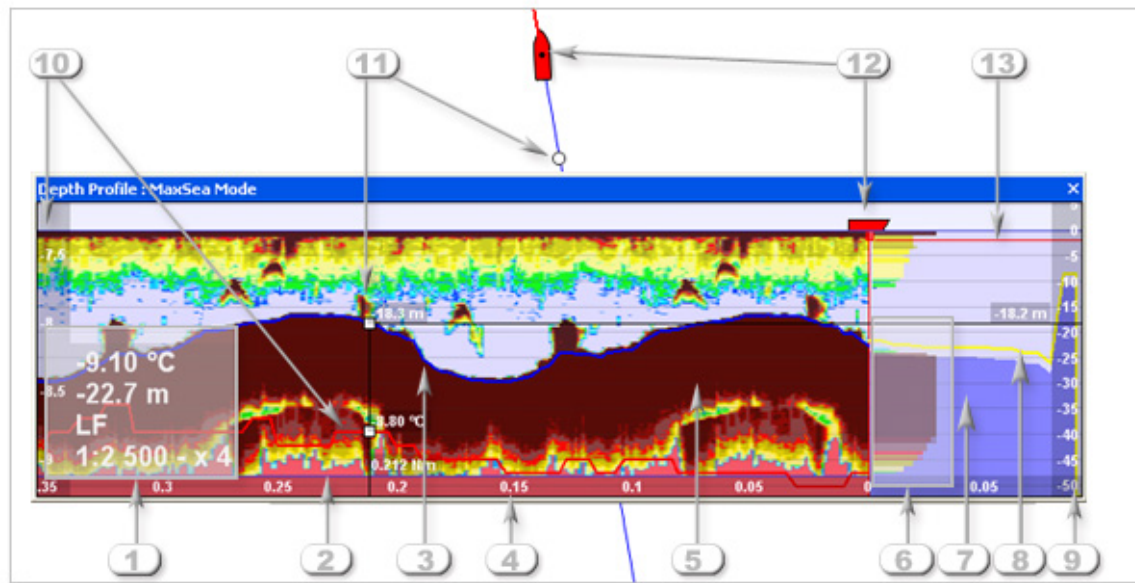


Fig.1 : Représentation du profil de fond d'une trace en cours d'acquisition.

In our example the desktop mode is chosen with a Profile and 3 chart windows opened together : (1- 2 - 3).

- 4 - MaxSea Mode Display selected the Depth Profile Window toolbar
- 5 - Boat position symbol displayed on the chart and in the Depth Profile window
- 6 - Cursor Localization along the track
- 7 - Temperature Graph
- 8 - Depth profile outline drawn on chart and in Depth Profile window.

Depth Profile With MaxSea and NavNet Modes



"Depth Profile: MaxSea Mode" window details :

1. **Depth Profile Label** : when NavNet received is available, you will get Information on Depth below surface from NavNet NMEA (-22.7 m), Frequency (LF and see related topic for how to learn more about [Transmission Frequency](#)), Scale (1: 2 500) and Exaggeration (X4). When no NavNet received is available, you will not have echogram overlay and message of "NO SWEEP" is displayed at top-left Depth Profile window.
2. **Depth Profile Outline** : is shown in the Depth Profile window as a graph filled in with orange when Depth information coming in from NMEA. See related topic : [Depth Profile Outline](#)
3. **Surface trail** : when NavNet received is available, you will get the trail NMEA Depth on speed based.
4. **X Axis** : is distance-based (same as SPEED SENSING PRR) If the boat does not move, the echogram does not advance. For example School fishes appear with the same size independently of the boat speed.
5. **Echogram** : is the NavNet Sounder Echo layer overlay
6. **A-Scope** : Fixed width, right in front of the boat, window vertical scroll&scale. Same colors as echo. Updated every half a second in MaxSea Mode (speed base).
7. **Forward looking Depth Profile** : only available with 2D/3D Module, it Shows Forward Looking Depth Profile in right part of the window . The forward looking depth profile distance is fixed to 500m in front of the boat. See related topic : [Forward looking Depth Profile](#)
8. **Tide corrected** : the yellow line of the graph shows you the forward depth profile without tide correction unlike the blue filled graph which includes tide correction from nearest harbor. The graph and tide elevation are simultaneously updated when new GPS position is received.).
9. **Y Axis** : is the depth range
10. **Temperature** : is shown in the Depth Profile window as a red line when Sea Surface Temperature data information coming in from NMEA.
11. **Cursor Location**: shows simultaneously location where the cursor is on the chart zone area and along the depth profile outline. See related: [Locate your cursor](#)
12. **GPS** : represented by the boat symbol which extends to keel depth. See related topic : [GPS Display](#)
13. **Keel Depth Extending**: by default distance is equal to 0. See related topic to enter a value : [Option: GPS and track](#)

MaxSea Depth Profile User Interface allows you to:

1. [Change the MaxSea Depth Profile Point View](#)
2. [Select a MaxSea Depth Profile Display](#)

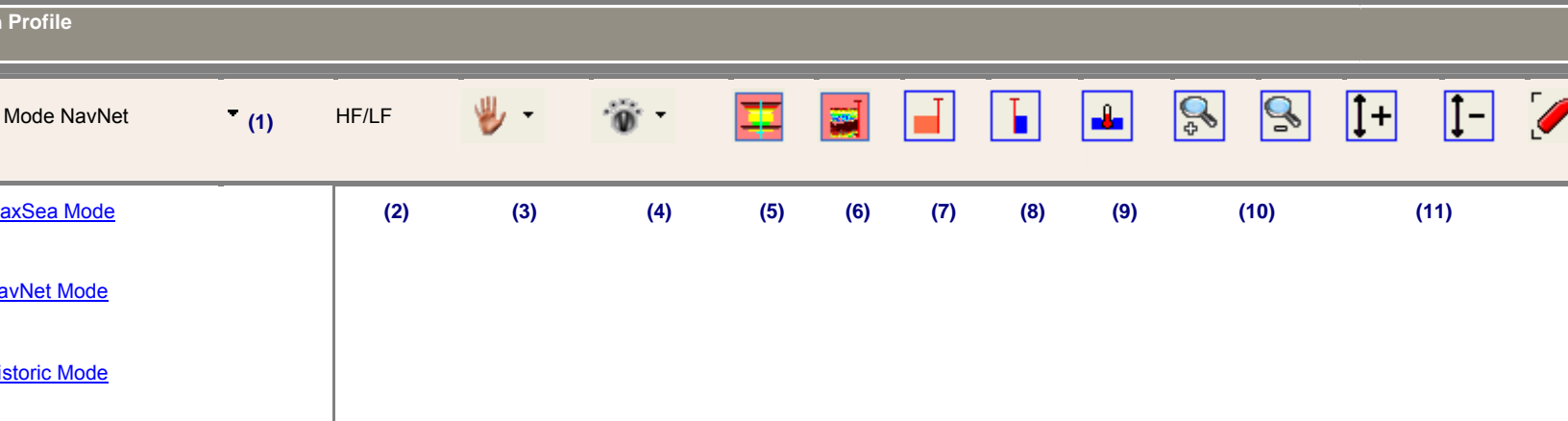
Available Depth Profile information with MaxSea Mode selected :

N° in Picture	Layer	Data needed
Always available layers (MaxSea profile module needed)		
(2)	Depth Profile Outline	Sounder Data Source.
(3)	Surface trail	NMEA Depth sentence received
(9)	GPS Display	Geographic positions
3D Data Base overlay (MaxSea profile and 2D/3D modules needed)		
(6)	Forward looking Depth Profile	3D Bathy information (3D data Base)
(7)	Tides corrections	Tides information
NavNet overlay (NavNet and MaxSea profile modules needed)		
(8)	Temperature Graph	NMEA Sea Surface Temperature sentence received
(4)	Echogram	Sounder NavNet Echo
(5)	A-Scope	Sounder NavNet Echo

Note : MaxSea Depth Profile is always displayed in single frequency and toggled either on HF or LF depending on your choice.

MaxSea Depth Profile Toolbar

MaxSea Depth Profile Toolbar groups all tools that allow you to show or hide overlaying data in the graphical depth profile window and setting up its display.



Use corresponding drop-down menus and buttons from this toolbar to turn on/ off different functions:

- 1 - Switch between Depth Profile display modes (MaxSea/NavNet/Historic)
- 2 - switch the frequency and to toggle from HF to LF for echogram overlay (see related topic: [Transmission Frequency](#).)
- 3 - To change and choose a sounder mode between Manual or different Automatic modes (see related topic: [Sounder Toolbar](#).)
- 4 - To modify gain level when manual mode is chosen (see related topic: [Sounder Toolbar](#).)
- 5 - Show or Hide NavNet A scope in the depth profile window (only available if NavNet system is connected)
- 6 - Show or Hide NavNet echogram overlay in the depth profile window (only available if NavNet system is connected)
- 7 - Show or hide the [depth profile outline](#) depending on the boat movements.
- 8 - Show or hide [the forward depth profile outline](#) (this can be only available if your software is configured with 2D/3D module and data are recorded in your 3D database.)
- 9 - [To show / hide the tempeForward Looking Depth Profilerature graph in the depth profile view.](#)
- 10 - [Zoom in \(PLUS\) and Zoom Out \(MINUS\) the point of view](#)
- 11 - [Exaggeration \(+\) and \(-\) to increase or decrease the vertical scale point of view.](#)
- 12 - [Center the point of view on the boat position.](#)

Note: selected buttons appear in full colored in red.

Changing the MaxSea Depth Profile Point View

Moving in the Depth Profile window :

Move the mouse cursor near each window border. When the cursor changes to an arrow, left-click to move the Depth Profile graph in the direction of the arrow.

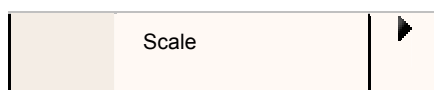
Autolock Function

Release the mouse button and few seconds after, the **Autolock** function will center on the depth profile in the window when the view is outside the screen.







When user scrolls vertically and moves the depth profile outside the window, the **Autolock** function becomes unactive.

The **Autolock** function is triggered only when the boat is displayed. It is applied on the last depth data received.

Changing Depth Profile's display



Right-click anywhere in the Depth Profile window to activate the right mouse menu. Then choose and click an option between followings if

	Scale +	
	Scale -	
	Exaggeration	
	Exaggeration +	
	Exaggeration -	
	Center On	
	Event	

you want to :

1. Change the **Scale**, by selecting a specific value in the sub-menu list (click on Scale) or by step of increasing scale (click on **Scale+**) or decreasing scale (click on **Scale-**).
2. Change the **Exaggeration**, by selecting a specific value in the sub-menu list (click on Exaggeration and choose a value) or by increasing it (click on **Exaggeration+**) or decreasing (click on **Exaggeration-**). Note that you can also use the Mouse Wheel to switch between exaggeration values.
3. Center the view on the boat symbol.
4. Enter Event.

Changing Echogram Point of View

You can use this function only if Manual mode is selected on the Sounder toolbar. The S- and S+ are available, click each one depending on your choice to move up or down the Echogram display view. A blue horizontal line delimits the echogram display down from it.

When S- is clicked the line moves upward and when S+ is clicked the line moves downward.






Selecting a MaxSea Depth Profile Display

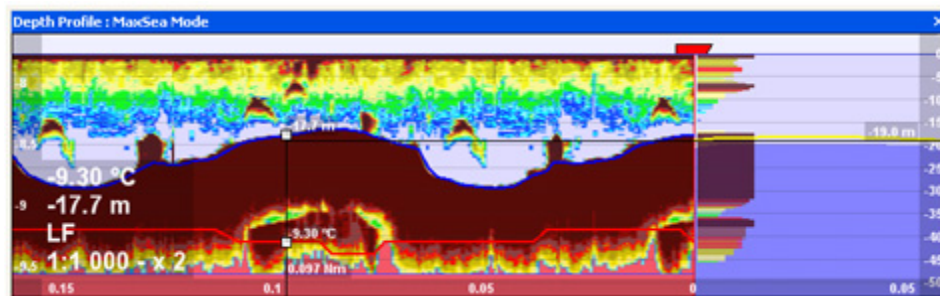
Click the Depth Profile information arrow to open the drop-down menu list and choose **MaxSea Mode** for displaying the appropriate menu :

Choose which information you will overlay in the Depth Profile window.

Left-click an item under drop down menu list to show or hide the appropriate layer.

All layers are selected in our example, and the Depth Profile appears as it is shown in following.

	Depth Profile Outline
	Forward looking Depth Profile
	Echogram
	A-Scope
	Temperature Graph

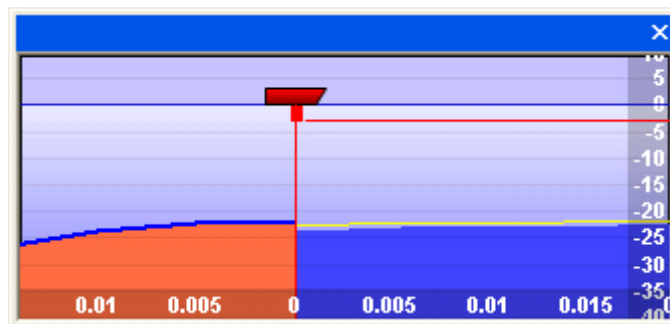


GPS in the Depth Profile Window

GPS boat symbol

GPS boat symbol is displayed at 0 m vertical position, extends to keel depth and by an Horizontal red line.

Blue line to mark 0m depth. A Red vertical line is drawn to separate Depth Profile Outline (behind) and Forward looking Depth Profile (ahead).



Keel depth

Red rectangle is drawn in Graph to mark keel depth and its depth position value can be modified manually :

1. Choose and click the **[Option : GPS/Track...]** option from the **[Utilities]** menu
2. Click **[Characteristics]** tab and type the appropriate value in the **"Keel Depth"** zone area, default value is fixed at 0m.

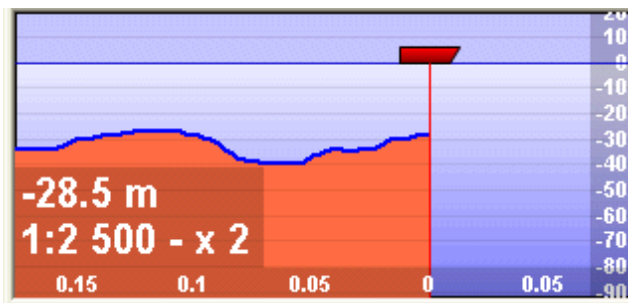
Depth Profile Outline

Display the depth profile outline layer in the Depth Profile window.

Show/Hide Depth Profile Outline

Displayed by default you can show or hide the **Depth Profile Outline** by selecting the corresponding item  from the DP button pop-up menu

Depth Profile Outline display



Depth Profile Outline is only depending on Depth information coming in from your Sounder source .

Note: In demo mode profile is depending on 3D Data available in the 3D Data base.

Forward Looking Depth Profile

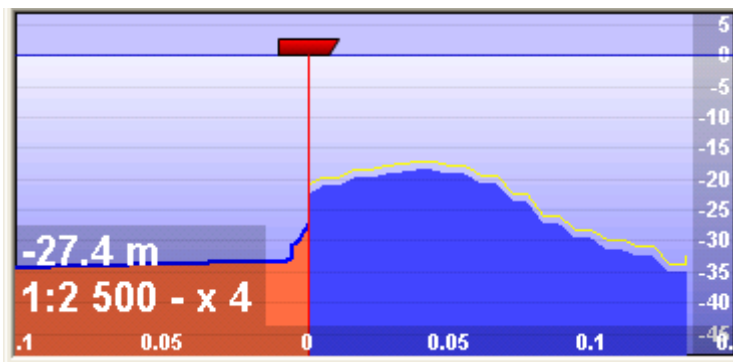
Only available using 2D/3D Module.

Show ahead Depth Profile in the DP Windows. Profile is depending on 3D Data available in the Data base (empty area if no data)

Show/Hide Forward Looking Depth Profile

Displayed by default you can show or hide the **Forward Looking Depth Profile** by selecting the corresponding item  from the DP button pop-up menu

Forward Looking Depth Profile display

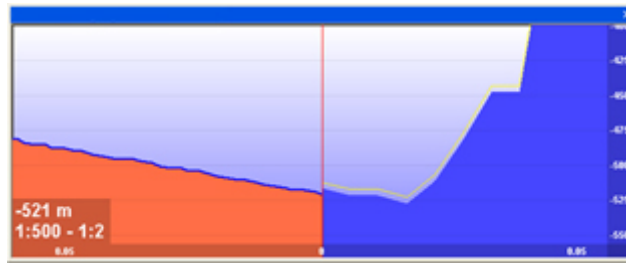


- Maximum forward distance is fixed to 500m
- Data source From PGB database, about 50 points.
- Tide correction Using "Nearest harbor" **related topic** :[Tides corrections](#)
- Graph & tide elevation updated when new GPS position received.

Note: if no data available an empty area is displayed.

Tides Corrections

the Forward Looking Depth Profile includes a tide correction display.



	Yellow line shows Forward Looking Depth profile without tide correction.
	Blue filled graph Forward Looking Depth profile including the tide correction.

The Tide display is based on the nearest tide station to your present location. As the boat moves the software will update the display with the closest tide station.

Graph & tide elevation is updated as soon as a new GPS position is received. Use "Nearest harbor" (same as "tide current" window).

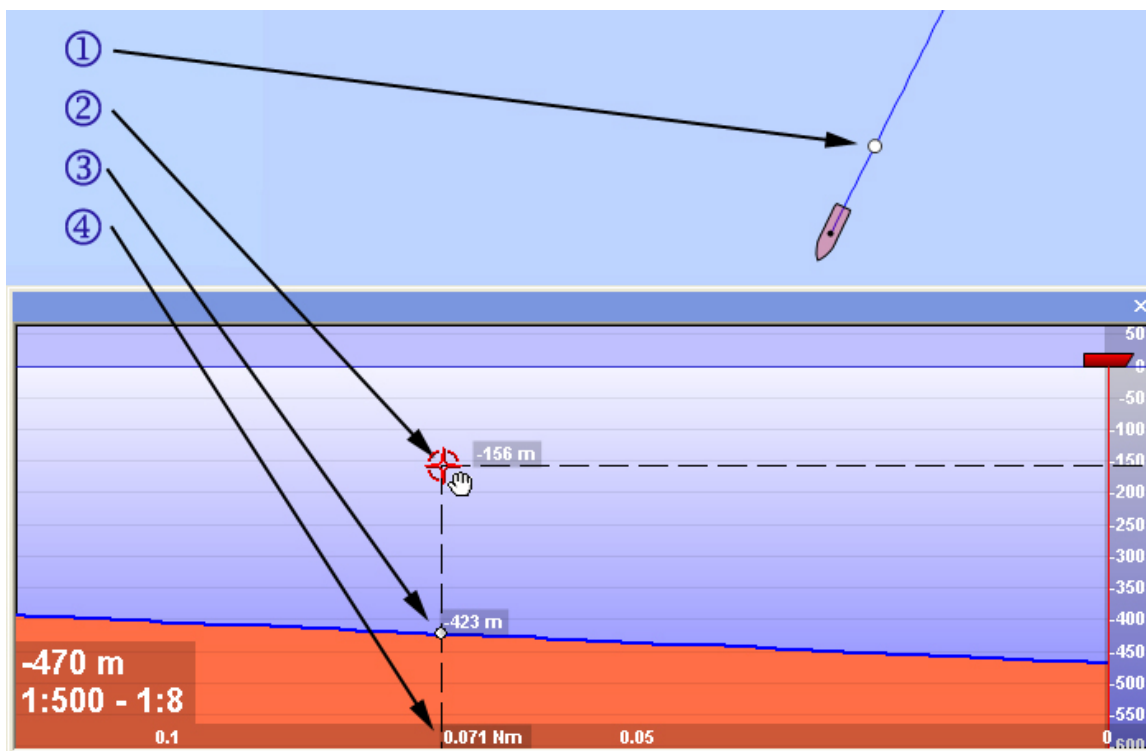
For tides settings refer to the related topic :Tidal height data

Locate your cursor

Locate your cursor both in the Depth Profile and on the chart when Display Mode is toggled on MaxSea.

IMPORTANT!

Available only when Depth Profile Outline is displayed.



ID	Information
(1)	Display : Cursor localization on boat trail in the chart windows
(2)	Depth : depth at the cursor position (-156m)
(3)	Depth : bottom depth at cursor position (-423)
(4)	Distance : from the boat position to the cursor (0.071Nm)

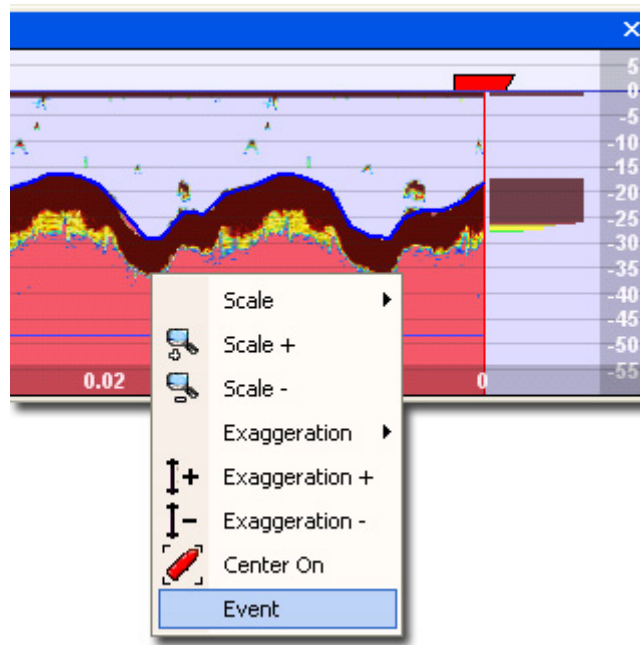
Note: GPS Trail is drawn when "Depth Profile Outline" layer is displayed.

Event Entry

Manual Event can be entered directly from the Depth Profile Windows and when Display Mode is toggled on MaxSea.

When located an interesting echo place on the DP Windows you can add an event which allows you to situated it on the chart windows.

To add an Event Mark on a precise point you have to Right click on it in the DP Windows and select Event enter item.



Event mark has the icon and the color presently selected in the Tool Palette same as the [Enter] key Manual event.

Related topic: Manual event

Event Mark information will inform you about received data at the event time (Position, Speed, Heading, Depth ...)

Related topic: Mark properties

Historic Mode

Historic Depth Profile Window Quick View

The Historic Depth Profile mode allows you to display a previously saved old track in the Depth Profile window, independently of your boat movement. The profile window is always associated to a track (either a previously saved old track this, or the current track).

Display the Historic Depth Profile of Selected Track on the Chart:

1. Use the Right-click menu on a track drawn on the chart and choose "Open Historic Depth Profile" and the Depth Profile window is automatically opened.
2. Select an old track with the Select tool (finger symbol on the toolbar) and choose Chart desktop mode with a profile window.

For more information see also related topic: Modifying marks

Historic Depth Profile Window consists in two parts:

1. The Depth Profile toolbar is where you can modify the scale the distance between two points on a map as they relate to the distance between those same points on the earth. of the window profile using the Magnifying tool, in exactly the same manner as used for the chart.
2. The Historic Depth profile graph is shown in green color and the arrow shows the selected point where it is located simultaneously on the chart and along the graphic of the depth profile.

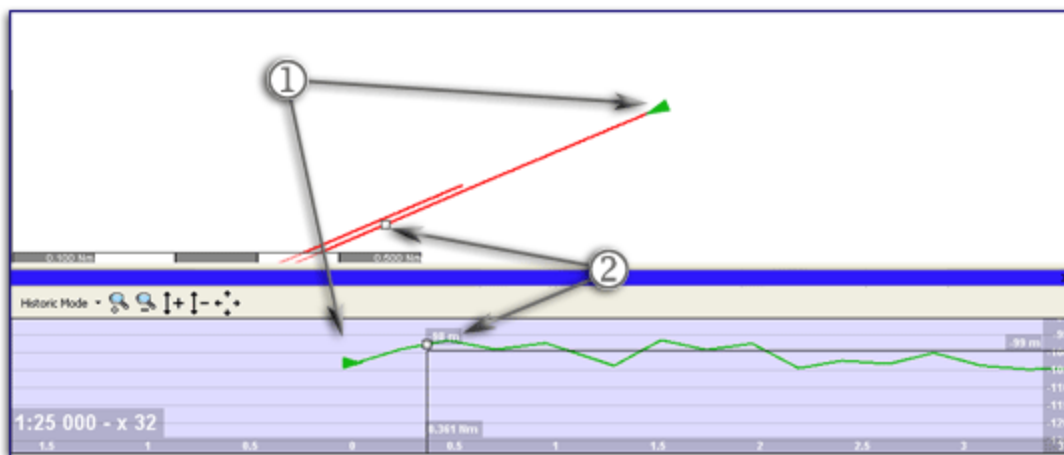


Fig.1 : Depth Profile Outline of an old track selected and shown in the MaxSea Depth Profile Window

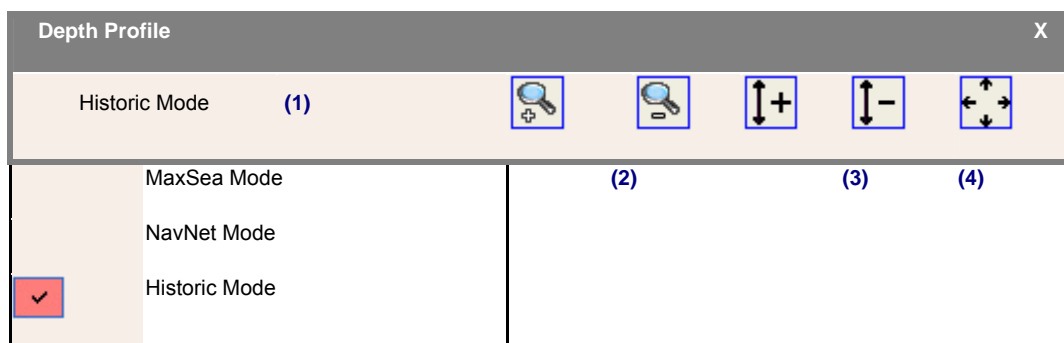
1. The track is displayed in the profile window moving from left to right and the green arrow shows you the started point of the selected track, simultaneously on the chart and in the in Depth Profile graphical view.
2. The white point moving along the track shows you each cursor movement.
3. The green graph in the Depth profile window shows you each point of the selected track that contains depth information

Learn more on related topics :

1. The point of view of the current track in the Depth profile Window corresponds to the [Depth Profile with MaxSea Mode Selected](#)
2. The [Historic Depth Profile Toolbar](#)

Historic Depth Profile Toolbar

Depth Profile's Historic toolbar contains buttons which allows you to follow the profile bottom of recorded track and whose depth information is contained in every point of track.



Use the corresponding button from the Historic toolbar to :

1. Choose Depth Profile display mode.
2. Zoom in/out depth profile displayed in the window , exactly in the same way as you do for changing chart scale.
3. Increase or decrease the vertical scale point of view: Exaggeration (+) and (-)

4. Adjust the point of view centered on. This function is only available in historic mode.

NavNet Layers

NavNet Echo Sounder Overview

The NavNet Echo Sounder determines the distance between its transducer and underwater objects such as fish, lake bottom or seabed and displays the results on screen. It does this by utilizing the fact that an ultrasonic wave transmitted through water travels at a nearly constant speed of 4800 feet (1500 meters) per second. When a sound wave strikes an underwater object such as fish or sea bottom, part of the sound wave is reflected back toward the source (transducer). Thus by calculating the time difference between the transmission of a sound wave and the reception of the reflected sound wave, the depth to the object can be determined. The NavNet Echogram overlay in the MaxSea depth Profile improves the overview of the depth profile.

A series of snapshots are accumulated side by side across the screen, and the resulting are :

1. Contours of the bottom are displayed
2. Fish between the bottom and surface are displayed.
3. Wreck can also be displayed
4. Depth Evaluation and track down the dangerous zone areas for the navigation.
5. Overview on water temperature data changes

To learn more go to related topic : [Depth Profile With MaxSea and NavNet Modes](#)

You will learn in this section :

Setting up the Echo Sounder Display in the depth Profile window like

- Gain level, Range or noise limiter
- Switching between Manual or Automatic (cruising, fishing...) modes
- Related topics: [Sounder Toolbar](#) and [Option : Sounder...](#)

Choosing the transmission frequency between two modes:

- HF echo signal or the LF echo signal
- Related topic: [Transmission frequency](#)

Overview of the Depth Profile

- [Show / Hide the Depth profile outline](#)
- [Show / Hide the Forward Looking Depth Profile](#)
- [Show /Hide the A-Scope](#)
- [Show / Hide the Echogram](#)
- [Show / Hide the Temperature Graph of Sea Surface](#)

Locate simultaneously the cursor along the Depth Profile graph and the track drawn on the chart. (see also Related Topic: [Locate your cursor.](#))

Enter an event to plot fish schools (See also Related Topic: [Event Entry](#).)

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Enter an event to plot fish schools (See also Related Topic: [Event Entry](#).)

Echogram

The NavNet Echogram overlay in the Depth Profile Windows can be done only if a NavNet System is connected. **"NO SWEEP"** message appears in the top-left corner of Depth Profile window when no sweep received for 10 seconds


A limit case is that if using 3000m range, an echo may take 4 seconds to delay in its propagation.

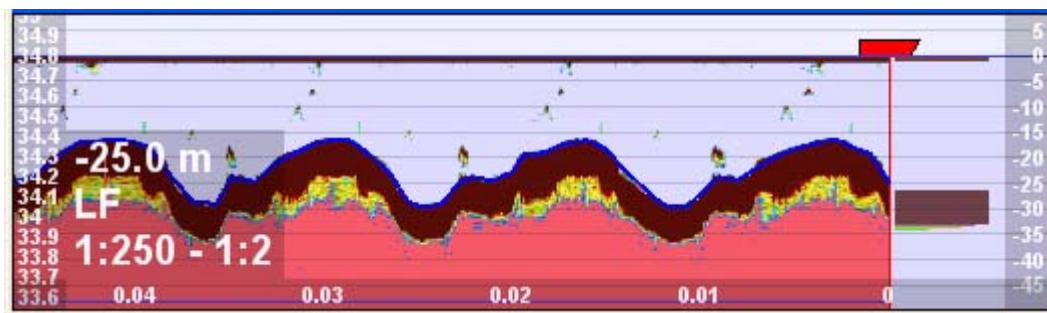
Note that horizontal blue lines delimit Echo Sounder Range.

You may choose a display mode for the echogram between three : Manual / Cruising and Fishing modes.

The manual mode allows you to adjust the echogram gain level, Range and its view position. For more information see: [Sounder Palette](#)

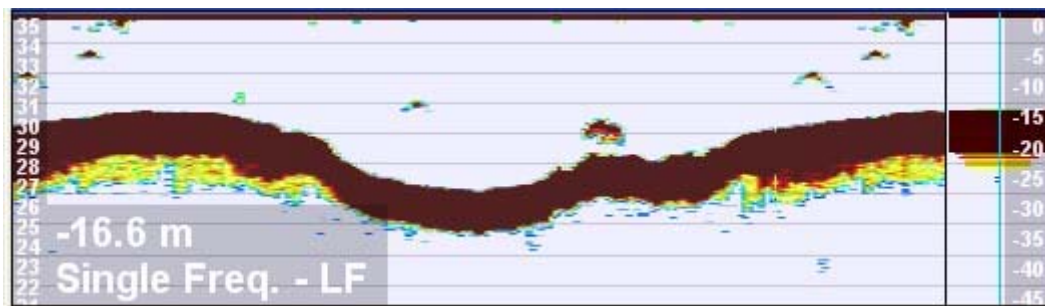
MaxSea Mode chosen:

1. You can either show or hide the Echogram picture overlay in the Depth profile window. Click the Depth Profile Information arrow on chart toolbar, then choose and click the Echogram option .
2. The Echogram is always displayed in single Frequency either LF or HF depending on your choice.



NavNet Mode chosen:

1. The Echogram is always displayed in the Depth Profile when NavNet Mode is chosen.
2. The Echogram in MaxSea matches exactly the Echogram in NavNet and you can choose to display the Depth Profile window either in single or dual frequency mode.




- Echoes displayed are depending on the last 1024 sweeps.
- Shift/Range/Distance are managed for each sweep.

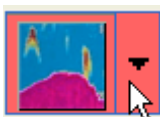
- Colors: one fixed configuration and you can toggle between Day and Night screen display.

A-scope

Independently of the chosen mode you can add A-Scope display in the "Depth Profile" Windows.

Show/Hide A-Scope

Displayed by default you can show or hide the **A-scope** by selecting the corresponding item  from the DP button pop-up menu

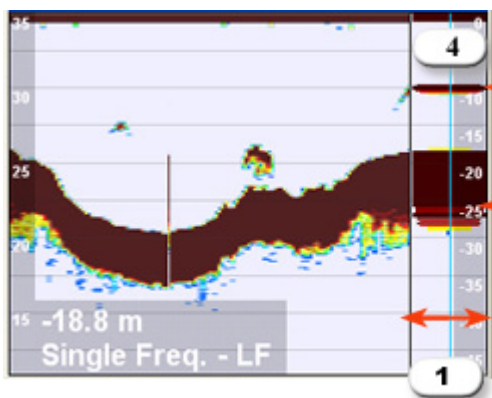


A-scope display

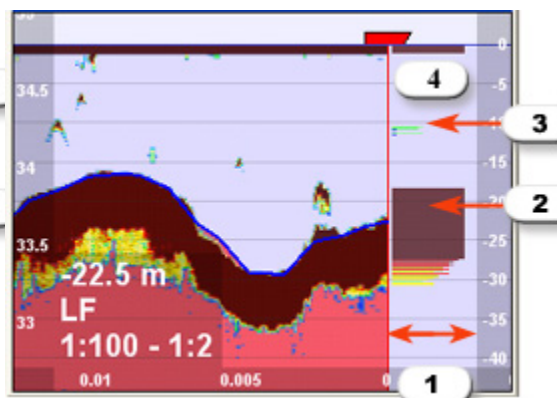
The A-scope display, available in all modes, shows echoes with amplitudes and tone proportional to their intensities, on the right of the Depth Profile Windows with fixed width. It is useful for estimating fish species and bottom composition.

It shows echoes :

- at every half a second in distance advance mode.
- updated on echo arrival on time advance mode.
- using same colors as echo.



NavNet Mode



MaxSea Mode

A-scope is displayed on right in each Depth Profile window and you will get information on:

1. A-scope zone area display
2. Strong echo (bottom)

3. Weak echo (fish)
4. No response

At any moment you can:

1. [Switch between Frequency Modes: LF and HF.](#)
2. [Switch between Manual, Cruising and Fishing as you wish.](#)

When Manual Mode is chosen you can modify the Range display view and either shift up or down the view in the Depth Profile window.

Temperature Graph

According to NMEA Sea Surface Temperature received a Sea surface **Temperature Graph** can be overlay in the Depth Profile Windows. (appropriate equipment required).

Independently of chosen mode (MaxSea Or NavNet) you can show or hide temperature graphic overlay in the Depth profile window.

To Show/Hide Temperature Graph

Displayed by default you can show or hide the **Temperature Graph** by selecting Temperature Graph option  in the Depth Profile drop-down list .

Temperature Graph displayed with MaxSea mode chosen

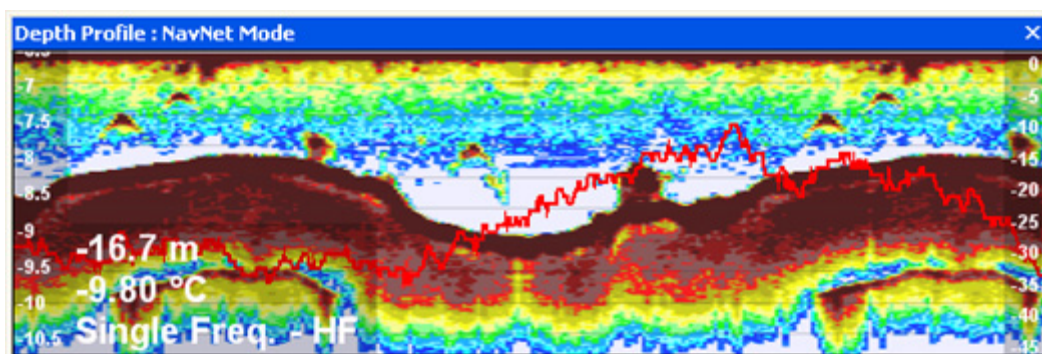
In this example we only choose to display the Temperature graph.



Temperature graph is displayed in the Depth Profile window as a red graphic overlay in fixed width.

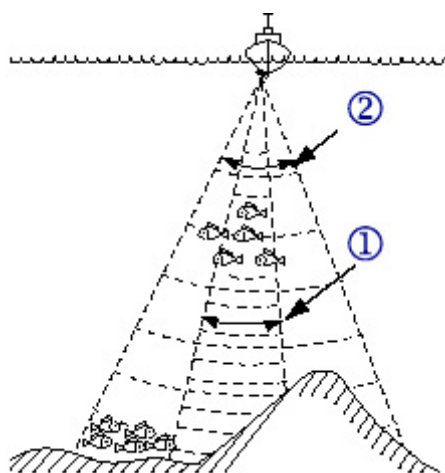
Temperature range is displayed in the left Y axis of the Depth Profile window. Its scale is based on Minimum and Maximum received temperature. The Unit is selected on °Celsius.

Temperature Graph displayed with NavNet mode chosen



Transmission Frequency

The transmission frequency of acoustic energy through the water determines how deep it will travel and also the level of definition you can expect to see after it has bounced off of an object below. The lower frequencies, (50 kHz) provide better ground discrimination. The higher frequencies, (200 kHz) will provide better discrimination between schools of fish and individual large fish.



(2) LF (low frequency)

The sounder uses ultrasonic pulses to detect bottom conditions.

The lower the frequency of the pulse, the wider the detection area.

Therefore, the low frequency is useful for general detection and judging bottom condition.

(1) HF (high frequency)

The higher the frequency of the ultrasonic pulse the better the resolution.

Therefore, the high frequency is ideal for detailed observation of fish school.

Sounding area and transmission frequency.

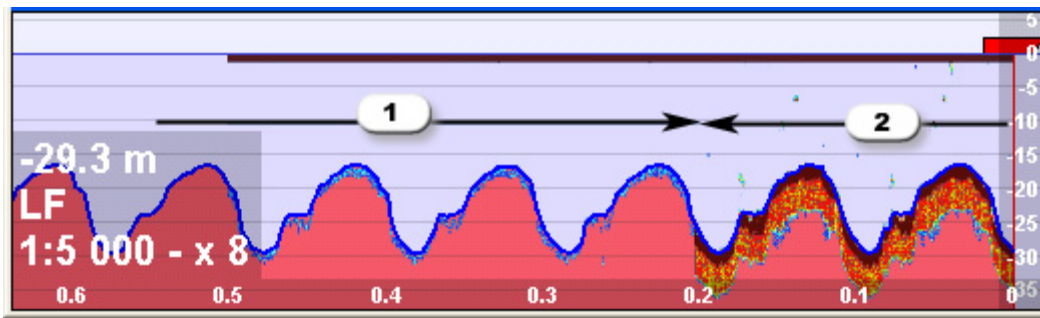
MaxSea Mode Chosen:

The Echogram is always displayed in Single Frequency either LF or HF depending on your choice. You can quickly and easily toggle on HF or LF by clicking the appropriate button (either HF or LF) on the Sounder toolbar. For more information see related topic: [Sounder Palette](#).

In following picture the echogram is displayed :

1. In part number (1) with frequency mode chosen on HF

2. In part number (2) with frequency mode chosen on LF



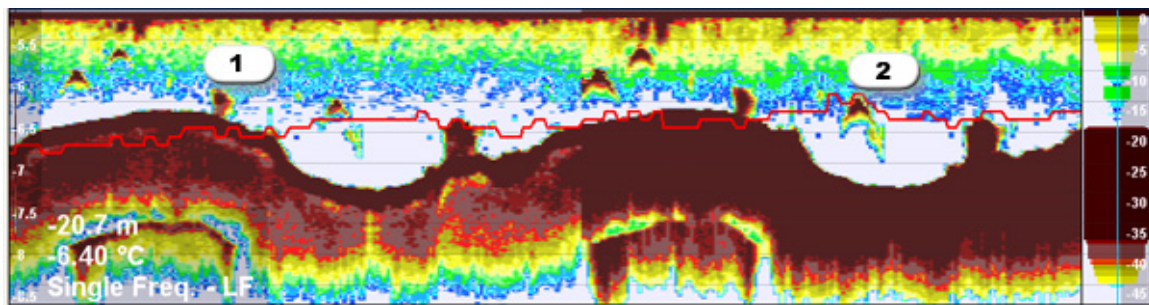
NavNet Mode Chosen:

The Echogram can be displayed either in Single Frequency or Dual Frequency depending on your choice.

Click the **Depth Profile drop-down menu** for choosing a frequency display mode.

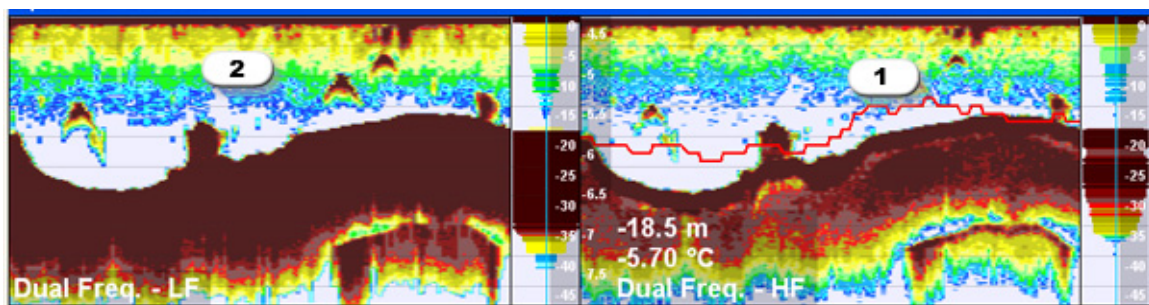
Single Freq Mode

Following picture shows the depth profile when **Single Freq** is chosen. The Single frequency display shows either the HF (number 1 on picture) echogram or LF (number 2 on picture) echogram. To select transmission frequency mode, click the appropriate button (either HF or LF) on the Sounder toolbar.



Dual Freq Mode

Following picture shows the depth profile when Dual Freq is chosen. The Dual Frequency display provides both LF (number 2 on picture) and HF (number 1 on picture). This display is useful for comparing the same picture with two different sounding frequencies.



Targets

Targets Overview

MaxSea shall process all tracked targets reported across its interface and shall present all reported targets in accordance with the system equipment connected to MaxSea.

Target's layers are specific vector files

Depending on the system unit connected to MaxSea you can access to miscellaneous target's layer which stack there transparency on displayed chart and on which user add marks and save his data.

Targets Layer zone in the Chart toolbar allows you to quickly Show/Hide each of them.

Depending on the system unit connected to MaxSea, you can access under the Target Layer Zone in the chart toolbar to :

1. [ARPA](#) targets
2. [AIS](#) (AIS & AIS station) targets
3. [Buoys](#) (Ryokuseisha, SERPE MLR, LineMaster, Tayio,...) targets
4. [Fleet tracking takes in account all other type of mobiles](#) (TrackPointII, INSTANT STDC...) targets

In this section you will learn on:

1. [Display Targets on charts](#) , Each Mobile Targets are clearly shown in real time on the Chart with heading vectors.
2. [Targets Catalog](#) : all available Mobile targets are grouped in a **Catalog**. It allows a direct access to a Mobile center according to the type of mobile and its Mobile properties.
3. [Targets Center](#) is your control center to follow up all available information transmitted from each target . It includes Speed, headings, radius of gyration, size and characteristics of the mobile...
4. [Targets Options...](#) give you useful information about a Mobile target.
5. [Tracking targets](#)
6. [TargetsTrails](#) show the past and expected routes of each target displayed on chart.
7. [Cancelling a lost target](#)
8. [Security CPA & TCPA](#)
9. [Monitoring Zone](#)

See Also Related Topic:

1. Add Instrument
2. [Option: GPS and track](#)

Target's Display

Targets are displayed in real time on the chart.

Target's symbol

Target symbols which are displayed on chart depend on equipment system unit connected to MaxSea.

1. [ARPA](#) : its target symbol is represented by a green circle
2. [AIS](#): its target symbol is represented by a green triangle
3. [BUOYS or other type of target](#): their symbol are represented by a green square.

and different symbolic status will show you that targets are:

1. selected or not
2. considered as dangerous or not
3. lost

Showing or hiding a Target's layer

You can use the "Show / hide" function to improve target's display visibility and to avoid of having too many Mobile targets on screen. Two ways to show or hide a specific Mobile's layer:

1 - From the Chart toolbar:

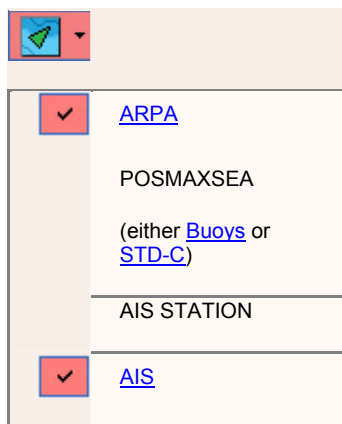


Fig.1

- Click the arrow nearest the Target Information zone
- A drop-down menu appears
- Choose a Mobile layer that you wish to show or hide on the chart. In our example as shown in Fig.1 the ARPA and AIS Target layers are chosen.

2 - From the Catalog under the Targets menu

All different targets are listed in a catalog and it allows to quickly choose Mobile layer you wish to display on the current chart. Refer to the related topic to learn more about [Targets catalog](#).

- Choose **[Catalog]** from the **[Targets]** menu to bring up the Catalog window.
- Click in each boxes of each Mobile layers to show (box checked) or hide (box unchecked) them.

Centering on a Target

The Mobile Centering on is a useful function to quickly retrieve a target displayed on the chart.

The "Center on" function is accessible in each Mobile Center. Refer to the related topic to learn more about [Targets Center](#).

Two ways to bring up directly the Mobile Center and set up the display for each corresponding Mobile layer.

1 - From the menu toolbar

- Choose [\[Centers\]](#) from the [\[Targets\]](#) menu and click the Mobile center you want to bring up its Center.
- The Mobile center listed all targets which belong to the same system.
- Click the corresponding line to select a target.
- Click the "Center on" button in the Mobile center's window.
- The chart is automatically centered on the selected target.

2 - From the Catalog

- Choose [\[Catalog\]](#) from the [\[Targets\]](#) menu to bring up its window.
- The Mobile catalog listed all the Target's layers which available in MaxSea.
- Right-Click on a Target's layer and choose "Layer Center".
- The Mobile Center's window appears on screen.
- Click the "Center on" button in the Target center's window.
- The chart is automatically centered on the selected target.

Note : this function does not allow to follow the target but only allows to center the chart on the target position which is selected.

Changing Target's color

By default each target's color is defined by the ECDIS green color but you can change it if you want. Read more about how to change a target's color using the ["Options: Targets..."](#) function in MaxSea.

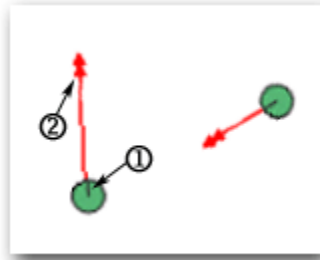
Displaying and changing Target's label

You can display the target label on the chart by selecting [\[Target Label Displayed on Chart\]](#) from the software [\[Targets\]](#) menu.

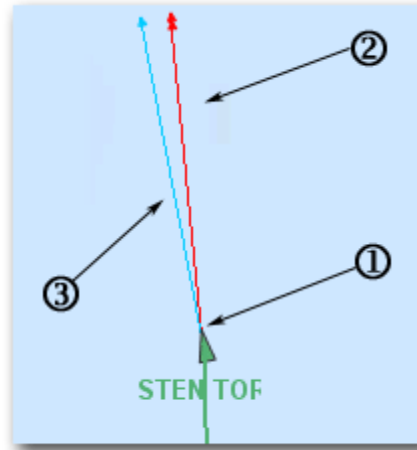
Label format is defined by default according to the connected equipment, and you can change it under an available list of parameters. Go to the [\[Targets\]](#) menu, select [\[options: Targets...\]](#) and click on the corresponding target you wish to configure.

Note : if you have chosen a non available label n/a appears as the label.

Target's direction and vectors



Example 1: ARPA target



Example 2: AIS target

(1) - Target's direction

Except for AIS target that its orientation is represented by the top of the triangle symbol, the orientation for each others targets is represented by a gray straight line as it is shown in pictures above notified by (1).

This relative direction indicates the target's motion assuming their present course (COG) and speed (SOG) remains.

This direction is oriented according to an estimated course and speed of the target.

Note: the target's direction is oriented North up when no COG and SOG are received.

(2) - Target's Vector Display

You can display the symbol targets with one or two vectors lines shown in pictures above by number (2) and (3).

To set up target vectors:

1. Choose **[option: GPS/Track...]** from the software **[Utilities]** menu. The GPS/track settings dialog box appears.
2. Click on **[Misc]** tab.
3. Check corresponding boxes to activate the vector's direction as you wish between Ground heading, Surface heading and drift vectors.
4. Then set the Vector display mode by choosing the display according either to a fixed length or to a speed variation.

Tips

Right-clicking each target symbol will display an appropriate menu list where you can choose various options:

1. Display the selected target **Properties** dialog.
2. **Delete Target Track/Trail** from the chart.
3. Activate the CPA Warning On function.
4. Activate the Track on function.

-
- | |
|--|
| 5. Erase the selected target from the chart. |
|--|

Targets Layer's Catalog

All categories of target's layer, are grouped in a catalog ordered by system's mobile. The targets layer's catalog allows to access functions like:

1. Showing /Hiding Targets layers.
2. Displaying each target center window.
3. Changing each layer's properties.
4. Targets Advanced Options.

To display the catalog:

- Choose **[Catalog]** from the **[Display]** or the **[Targets]** menu in the menu toolbar.
- The window's catalog shows you at a glance a list of presently available Mobile's layers in MaxSea.

To choose the layer that you wish to show or hide on chart:

- Click the Plus symbol to pull down the Mobile's menu list.
- Click in each boxes nearest a layer to specify which layer you wish to display on the chart.

To quickly show or hide together all opened layers:

- Click the box nearest the first level folder named "Mobiles".

To display Targets layer's center

- Click the Targets layer to display the menu list.
- Choose and click "**Layer center**". The Targets layer's center window for the selected mobile is displayed on the bottom of the screen by default.

To edit a layer's details

- Click the Target layer to display the menu list.
- Choose and click "**Layer options...**". The "**Layer options...**" dialog box for the selected Target is displayed.
- Choose and click on the details that you want to edit .
- Change each layer options depending to the selected mobile's system. Check boxes, enter value using the keyboard, numeric pad or drop-down lists will be displayed as required.
- Click each fields or use the keyboard arrows to move in the dialog box.
- Click **OK** to validate modifying parameters and click **Cancel** to quit with out modifying.

Targets layer's center

You can obtain more information about each following target from each category of target by displaying its appropriate Mobile center window. You will have a Mobile layer's center for each target layer's category.

Two ways for displaying Mobile layer's center:

1. From the **[Targets]** menu, select the **[Center]** option and click a layer category in the available menu list.
2. From the [Targets catalog](#), click under the targets a layer and click again the Center option to display it.

Each Mobile center listed all available targets in real time about a specific system

Each lines corresponds to a Mobile target.

Each columns Attributes are displayed by columns.

Mobile target selected on the chart appears between black hook.

To learn more about how to navigate and quickly select for getting specific information in Center's window, refer to related topic : "[Center display and controls...](#)".

Available attributes are the following : AIS or ARPA or Ryokuseisha or ...

Attribute	Attribute Description	Default value	Option displayed
Visible:	Display target on the chart status (on or off)	on	<input checked="" type="checkbox"/>
Tracking Recording:	Activate the recording track in a PTF file (on or off)	off	<input checked="" type="checkbox"/>
Status:	A target can take three different statuses: <ol style="list-style-type: none"> 1. Tracking after activating the Track on function. 2. Lost 3. Query when choosing the Acquire target option. 	depends on acquired target	<input checked="" type="checkbox"/>
Name :	Number (MMSI NUMBER / target number) or Name or Call Sign or ...	User value	<input checked="" type="checkbox"/>
Tgt Number:	Target number depending on acquirement order.	Software identify	<input checked="" type="checkbox"/>
CPA :	Closest Point of Approach from boat to target		<input checked="" type="checkbox"/>

TCPA :	Time to CPA		<input checked="" type="checkbox"/>
Rng to Tgt :	Range from boat to target		<input checked="" type="checkbox"/>
Brg to Tgt :	Bearing from boat to target		<input checked="" type="checkbox"/>
SOG :	Target Speed Over Ground		<input checked="" type="checkbox"/>
COG :	Target Course Over Ground		<input type="checkbox"/>
Tgt Danger:	Dangerous Target		<input type="checkbox"/>
Color:		User	<input type="checkbox"/>
Display Position at CPA:			<input type="checkbox"/>
User Name:			<input type="checkbox"/>
User Comment:			<input type="checkbox"/>
Alarm:			<input type="checkbox"/>
UT:			<input type="checkbox"/>
Type Acq:			<input type="checkbox"/>

When available you can have more information about a target by displaying the corresponding [\[Targets Properties\] windows](#)

To sort out by attribute.

Mobile center information can be sorted by attributes by double clicking on the corresponding column heading.

When double clicking again on the same column, the order is changed (increase <=> decrease).

Targets layer's options

Accessing Targets layer's options:

1. Choose [\[Option: Targets... \]](#) from the [\[Targets\]](#) menu.
2. Select and click a target category to bring up its layer's options dialog box.

Various informations from targets are displayed and updated in real time. Available default value in depends on the type of target you are displaying properties.

Each Target options are listed below:

1. **"Time out"** : allows you to enter a value when the target is considered as lost.
2. **Color** allows you to change the colors of each Mobile target's symbol. Use this option to make targets more visible on the chart.
3. **PTF**: allows you to choose a PTF file to store all the historic information of each target (such as its track).
4. **Trail / Track recording interval**: allows you to select an appropriate Trail/Track recording interval (null by default).
5. **Alarm duration**: enter a time interval for triggered alarm
6. **Trail observation delay**: enter a time value to define when the trail will disappear from the chart.
7. **Track observation delay**: enter a time value to define when the track will disappear from the chart.
8. **Color according to attribute**: valid variable track color by default selected as Off.
9. **Color settings**: allows you to determine the color range.
10. **Display label**: allows to display the label on the chart.
11. **Label format**: allows to choose which label you will display on the chart . Choices between each field of target details (see related topic [Targets Layer's Center](#)) .

When the Mobile Properties Window is displayed you can see properties of an other target displayed on a chart by a simply clicking with the select tool on it. The Mobile properties Windows will then display the information requested.

Target tracks

Target's Track activation

MaxSea displays targets on the chart , you can record its track in the same way as you would for your ship's track.

Manual Tracking

To activate the track on a Mobile you must :

1. select a target or a series of target using the **Select tool**
2. either RIGHT CLICK a target to bring up the context menu and choose **Track On**
3. or for targets selected together, call up the appropriate Mobile center, select targets and click on the center toolbar **"Action"**, choose and click again **"Track on"**

The target track is saved in the layer **"NameTarget.ptf"**. If it doesn't exist yet MaxSea will create and open it.

When you leave MaxSea a dialog box appears asking you : "Do you want to save the targets tracks of this session" **Yes** or **No**.

If **Yes** then MaxSea will propose to save the target track file as : NameTargets.ptf

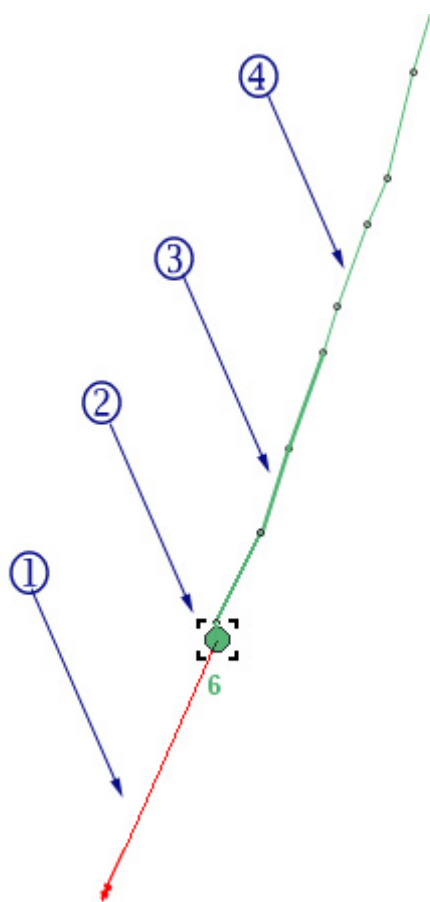
Automatically Tracking

The track can be activated automatically for all categories of target. To set general Mobile track option refer to the [\[Option: GPS and track\]](#) paragraph.

The default track color is green but as with any target (buoys) color can be modified according to a target information.

Targets Trails

You can view a target's history directly on the chart which appears as a trail of dots left by the target as it moves. The trail is shown on the chart (4) by green time-spaced dots marking the past positions of any targets. This allows you to evaluate a target's actions by the spacing between dots.



1 - Target's Vector

2 - Selected target

3 - Target's track is shown in the picture against by a green bold straight line.

4 - Target's trail shows all target's movement and it is drawn in green. For example as it is shown in picture, dots are nearest for reduced speed and far for increased speed.

To turn the past position display on or off, choose the [\[Display Trail\]](#) from the [\[Targets\]](#) menu.

You can also change the display interval of these dots from the selected Target option:

Select [\[Option: Targets...\]](#) from the [\[Targets\]](#) menu.

Choose the desired Mobile layer you wish to configure.

Enter the **Trail observation delay** (value by default = 30mn).

Related topic for getting more information: [Targets layer's options](#)

Cancelling Lost Target

When the program detects a lost target, the target symbol is closed with a cross.

See related topic on [target symbol status representation](#).

To cancel a lost target displayed on the chart

1. Place the cursor on the target and right click for displaying the contextual menu.
2. Choose **Erase** in the menu list.

Collision Avoidance

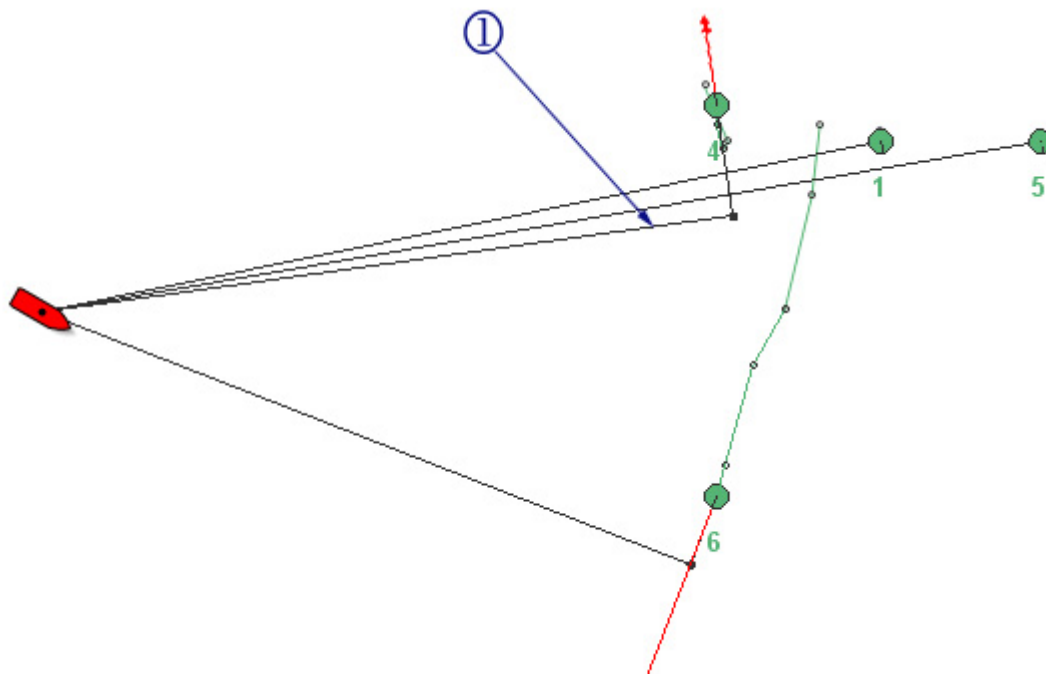
Each target is monitored to determine if it will be within a certain distance (defined by the **CPA**) from your GPS within a certain time (defined by the **TCPA**).

CPA & TCPA alarm

When the predicted CPA of any target becomes smaller than a preset CPA alarm range or its predicted TCPA less than a preset TCPA alarm limit, a red triangle symbol appears nearest the target plot symbol. In addition, an audio alarm will sound if you have chosen this option in the settings dialog.

CPA/TCPA alarm ranges must be set up properly taking into consideration the size, speed and other characteristics of own ship.

As it is shown in the following picture with number **(1)**, you can display the distance drawn on chart which corresponds to the collision avoidance between targets and the boat. At any time you can select or unselect **[CPA displayed on chart]** from the **[Targets]** menu for showing or hiding it on the chart.



CPA and TCPA information is an available information in each **Targets Center** and each **target's Properties** Window.

Note : the [Target Center](#) Window allows you to quickly sort the table using CPA or TCPA attributes.

IMPORTANT

It is a particularly powerful function for ensuring safety but, of course, considers that the two ships are traveling at constant speeds and headings.

CPA Warning

You can activate the Target CPA Warning under the "**Option: Radar...**" dialog box.

Related topic to read more about "[How to set up CPA / TCPA alarm in MaxSea](#)".

Security circle

You can draw around the boat position a security circle. As soon as a target is considered as a danger for the boat when the CPA distance is smaller than the security circle radius then its Icon changes (Red triangle) showing that it is closer to your boat.

To define the security circle :

1. Select **[Option: GPS/Track...]** from the **[Utilities]** menu
2. First select a target in the list on which you want to apply settings.
3. Then select MISC tab to apply settings.

Misc tab / Security circle

1. check "**Display**" to show it on chart.
2. enter a value in **Size** input text to define a circle distance.

Option: Monitoring Zone...

Users can create as many monitoring zone areas as they want. At first you must draw on the chart all areas you want to define as monitoring zones. Then save them in a specific PTF, this is important because you will have to call it for configuring Monitoring zone options.

Note that This option is only used for ARPA and AIS information incoming from system unit connected to MaxSea.

To set up Monitoring zone ...choose **[Option: Monitoring zone ...]** from **[Targets]** menu and a dialog box appears on screen and allows you to enter parameters according to your choice, this dialog box consists in three parts:

1 - Zone definition part

Press the Browse button.

Search and choose the PTF file which contains monitoring zone areas drawing.

2 - Events part

Choose a type of events :

1. Check Enter zone box , this allows alarm and the software will warn you each time a target mobile enters in a zone .
2. Check Escape zone box, this allows alarm and the software will warn you each time a target mobile leaves a zone.
3. Check Abnormal movement box, this allows alarm and the software will warn you each time target mobile, which was stopped in a zone, restarts moving. A target is considered as stopped when its SOG is under a limit value (SOG0). It restarts moving when its SOG is over a limit value (SOG1) or distance from stop point is greater than a limit value. Press the Advanced button for configuring "Abnormal movement parameters".

3 - Actions part

This part consists in how to choose the warning alarm type such as playing a sound and/or launching a program.

When an event occurs, you can:

1. Choose to play a sound by checking the **Play sound** box. Then click on the **Browse** button for searching and selecting an audio file ("wav" extension file format).
2. Choose to launch a personal program by checking Run executable file box. Then click on the Browse button for searching and selecting your program ("bat" or "exe" extensions file format for example).

Notes:

- 1 - It is recommended to save the file in a specific folder on your PC, for after finding it easily.
- 2 - You can modify in real time your monitoring zones PTF file and it is simultaneously taking into account.

Click **OK** to validate. Your Monitoring zone is configured but not activated.

See next topic "[Enable Monitoring Zone](#)" for how to activate this function.

Enable Monitoring Zone

This function enables to activate configuring Monitoring zones which are defined in a chosen PTF file.

1. Choose **[Enable Monitoring Zone]** from the **[Targets]** menu for activating .
2. Click again on it to disable the Monitoring zone function.
3. A warning will appear if No zone to monitor is defined in the specified PTF file.

For more details about How to set up Monitoring zones see related topic [Option Monitoring Zone](#)

Note that this item may be disabled when Monitoring zone configuration has not been defined before.

Targets Advanced Options

This dialog allows to control precisely recording observation of targets according to a situation.

By default each target average are determined and do not need to be modified. This feature allows to control your Mobile database optimization.

Some times, if you need to reduce the average interval of recorded frequency because there is too many targets in your navigation zone area or if you would navigate for a long time in this zone area etc...

From **MaxSea catalog**:

1. Click Plus symbol nearest **[Targets]**.
2. Click a chosen layer to pull down its menu
3. Click "**Advanced Options...**" to display the appropriate dialog.

This dialog enables for example modifying:

1. Average Track/Trail recording interval.
2. Average tracked mobile count.
3. Average track duration.
4. Average target received count.
5. Average trail duration.

A warning appears for wrong values and the changes are not applied.

Notes:

(1) - all the duration values are defined in second (time units) and the others are integer values.

(2) - each default values are depending on a mobile type.

ARPA Targets

ARPA overview

When a target is selected on the radar, it is automatically displayed on the chart.

MaxSea will display the icons for all the targets tracked by the connected radar.

IMPORTANT

the tracks of all the radar targets are recorded in the same file created by default by the software but which you can modify (see below).

Information concerning an ARPA target displayed on the chart

1. Either using the **Select tool** double click a target to display the information window for this target which shows the parameters received.
2. Or right click an ARPA target to call up the context menu and choose **Mobile properties**.

Related topics:

1. [Mobile Properties](#) to display the target mobile displayed on the chart.
2. [Option: Mobiles...](#) to customize the track (display and record parameters). The **Target track** box is used to start and stop the display and record the target track exactly as you would for your own ship.

This dialog box allows you:

- To save the target track check the Save the track box to start and un-check it to stop the display and record the target track exactly as you would for your own ship.
- To modify the name of the target and add a comment.
- To select a new file other than the default file on which you will record the tracks of all the targets, click on "New file" button and choose a path.
- To inform you about the received target data (date, time, headings speed and if available the sea surface temperature data)

How to configure ARPA system with MaxSea

After connecting the ARPA System, you just need to configure the corresponding serial port at the appropriate Norm.

1. Go to [\[Utilities\]](#) menu and select [\[Input Output data settings\]](#)
2. Click on the Radar tab to set the corresponding port and its norm
3. Click on **Add instrument**.
4. Select serial COM port where the system is connected and click **Next**.
5. Choose a norm between *Radar & ARPA (\$--TTM+\$--TLL+\$--RSD)*, *Kelvin Hugues HR2000* or other...
6. Click **Next** and **Finish** to confirm.

ARPA Targets Displayed on the Chart

ARPA targets are displayed on the chart in real time.

Target outside the security circle		Target nearest or inside the security circle		Target lost	
Unselected	Selected	Unselected	Selected	Unselected	Selected



To display the ARPA label on the chart go to **[Targets]** menu and choose **[Target Label Displayed on Chart]**

This label depends to your choice and if needed to change the label displayed on the chart go to **[Targets]** menu and select **[Option Targets:...]** then **[ARPA...]** to call up the dialog box which allows you to choose a type of label between three choices **Name**, **Call sign + Name** or **Name + Sea Surface Temperature**.

The **Name** of the mobile is the label text displayed on chart by default.

Various information from **target** (SOG, heading, TCPA, etc.) are displayed and updated in real time .

Get received information from an ARPA target

1. Using the **Select point tool** double click on the target symbol to bring up the **Targets properties** dialog box.
2. Right-click on an ARPA target to call up the context menu and choose **"Targets properties"**

Tracking on an ARPA target

1. Using the **Select point tool** go to the **[Targets]** menu and choose **[Track on]**.
2. Right-click on an ARPA target to call up the context menu and choose **"Track on"**

How to configure the Time Out

This option depends to the Radar settings

- Select eventually the time limit (in seconds) for a radar target is considered as lost.
- To do it, select **[Data input/output settings...]** from the **[Utilities]** menu.
- Click on the Radar tab to choose the instrument for which you want to configure.
- Select a port for the Radar and choose ARPA and then click on the **"Advanced settings..."** button.

A windows appears and allows you to adjust:

1 - **Target Time Out** for all targets that belong to the selected instrument (45 sec time out by default).

2 - Identifying number for each instrument connected. By default this ID number is assigned. This allows to easily identify the owner displayed targets.

Note: If you choose the option "Do not use time out" , a target which once appeared since MaxSea's launch is never marked as lost.

Simulating the TCPA

1. You can activate the target CPA Warning by selecting **[CPA warning on]** from the **[Targets]**.
2. Select **[CPA warning displayed on chart]** from the **[Targets]** menu to graphically show on the chart the positions of your ship and the target at TCPA (point on the chart where your ship and the target are located when they are the closest to one another).

Related Topic: [Security CPA & TCPA](#)

IMPORTANT

It is a particularly powerful function for ensuring safety but, of course, considers that the two ships are traveling at constant speeds and headings.

AIS Targets

AIS overview



- This function is included in MaxSea depending on your own software version. Before using it, the hardware installation has to be done.

MaxSea provides the capability to connect to an AIS and may provide remote presentation of reported AIS targets.

In combination with **MaxSea**, the AIS technology gives you an improved surveillance system and information about nearby ship traffic.

The three main components in the Transponder are :

- GPS-receiver,
- VHF-transceiver,
- Computer.

The GPS-receiver provides accurate position and navigation data, the computer packs this information together and broadcasts the data on a digital data link via the VHF-transceiver. All vessels within VHF range equipped with an AIS transponder can receive this message, unpack it, and plot the position, vessel name (references), speed over ground, course over ground of the other vessels..

In this section you will learn on:

1. [How to configure AIS system with MaxSea](#)
2. [AIS mobile Displayed on the chart](#)
3. [Mobile AIS, target displayed on chart](#)
4. [MaxSea AIS MKD settings dialog box](#)
5. [MaxSea AIS TX messages](#)
6. [How to connect the junction Box](#)

How to configure AIS system with MaxSea







After connecting the AIS System, you just need to configure the corresponding serial port at the "AIS Transponder" Norm.

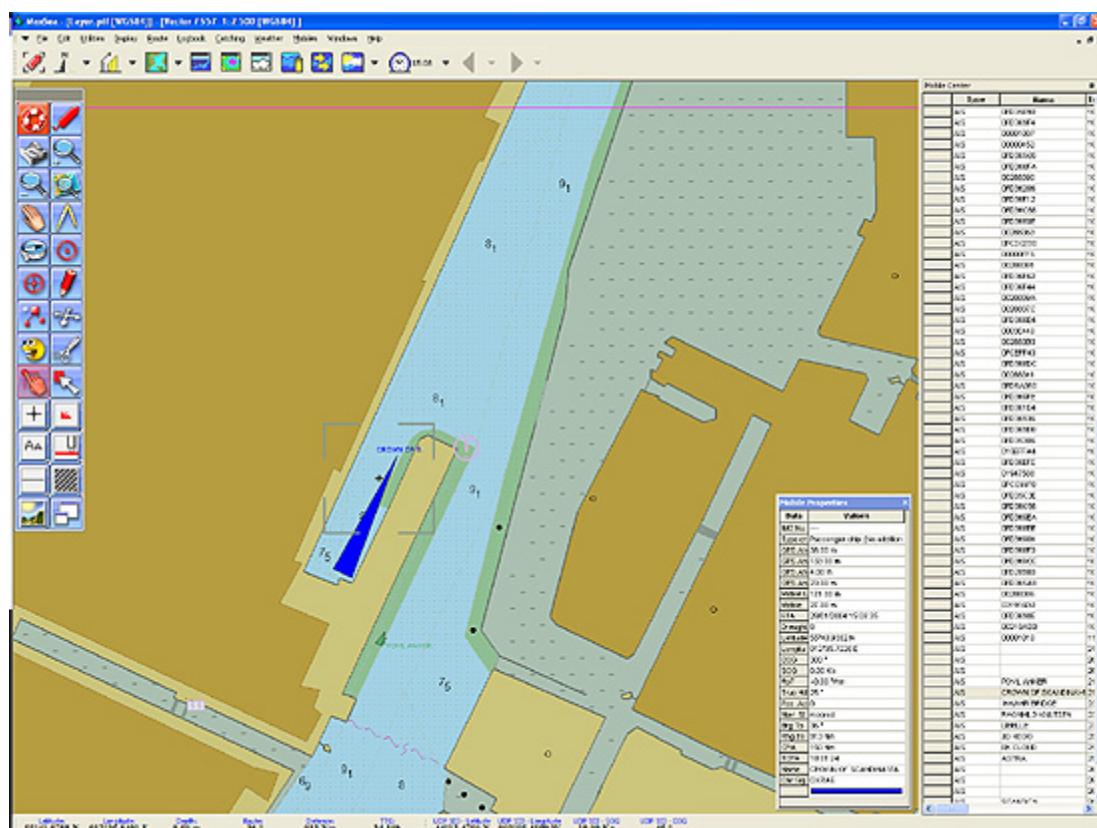
- 1. Go to **[Utilities]** menu and select **[Input Output data settings]**
- 2. Click on the **Radar & AIS** tab to set the corresponding port and its norm
- 3. Click on **Add instrument**.
- 4. Select serial COM port where the system is connected and click **Next**.
- 5. Choose a norm between *AIS NMEA 183 / AIS transponder* or other....
- 6. Click **Next** and **Finish** to confirm.

Note: When connected to an AIS, own boat data can be taken from VDO sentence .
>> AIS VDO sentence contains LAT, LON, SOG, COG and HEADING from own boat.

AIS Targets Displayed on the Chart

MaxSea provides an overview of vessels transmitting AIS signals. The vessels are shown with different symbols depending on zoom level, and all information about individual vessels are presented in an easily accessible way. Track of AIS targets displayed on the chart, can be recorded in MaxSea exactly as you do for recording your ship **track**.

AIS's Target Symbol	Target outside the security circle		Target nearest or inside the security circle		Target lost	
	Unselected	Selected	Unselected	Selected	Unselected	Selected
						



The picture above shows how MaxSea can be precise when it shows an AIS target which represents a ship position on the chart.



Overzooming AIS target displayed on chart in MaxSea.

Related topic : [Displaying mobiles on chart](#)

Note: each track point stores the date and the time, the position, as well as the speed and the heading of the target.

Display AIS Targets Properties

MaxSea displays automatically the AIS symbol target on the chart for all the vessels tracked by the connected AIS system.

Displaying AIS target properties

Using the **Select point** tool double click on a target to display the information window for this target, which shows the parameters received.

Various information from target :

- Position,
- Speed,
- Heading,
- TCPA,
- etc...

are displayed and updated in real time.

Related topic: [Mobile Properties](#)

You can modify the name of the target and add a comment.

Activating The **Target tracking** box is used to start and stop the display and recording of the target **track** , exactly as explained in your own ship.

IMPORTANT

The tracks of all the radar targets are recorded in the same file, created by default by the software but which you can modify .

Note: click **New file** to select a layer, other than the default one, on which you will record the track of all the targets.

MaxSea AIS MKD Settings Dialog Box

MaxSea setup ship static data in AIS. User can store several configurations of its static data. Ship type, Navigation status, draught, persons, destination, ETA, antenna position, ship name, call sign can be setup.

To activate the AIS MKD settings dialog box:

Either go to the **[Targets]** menu and choose **[AIS MKD]** or direct access by using the keyboard shortcuts (**Ctrl + M**)

This dialog box consists in three parts:

Header part

It allows you to assign your own configuration (you can enter for example; the departure harbor and the arrival harbor that correspond to your present trip).

Voyage Related Data

This part of the dialog box must be filled and the information depends from your present situation.

You have to enter different parameters as:

Person's number on board and you can either choose a value under the list or enter a specific number (available number from 0 to 8191 max)

Destination harbor which is limited to 20 characters max.

Trip's duration,

ETA (Estimation Time Arrival), you can either enter a own value or click on "Recalculate ETA" button to calculate according to computer time and duration.

Navigational Status, select an option under the list.

Choose your boat's belonging category.

Enter boat's corresponding draught which can be defined from 0 to 25.5m.

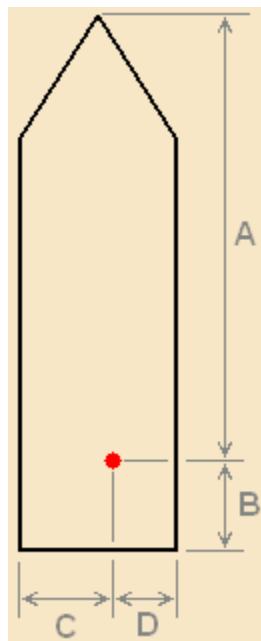
Ship Static Data

This part displays two sorts of data :

"static information" on your boat as the MMSI, IMO,

"boat information" as the boat's name which is limited to 20 characters max and the CALL SIGN which is limited to 7 characters max.

Required antenna position values. Those values are also defined in the dialog box for GPS configuration, but they are not shared. So you have to enter again the A, B, C, D values represented on the following picture:



Note: the static Data are integrated into MaxSea and not managed by it.

MaxSea AIS TX Messages

User can send message using the AIS TX function directly from MaxSea. Priority, addressed or broadcast, acknowledgement and message text are managed.

To activate AIS TX dialog box to enter your message, go to the **[Targets]** menu and choose **[AIS TX Message]**

If you need to send a message:

1. You can choose how to send it , either addressed or broadcast.
2. If you have chosen the Addressed option you have to enter the called boat's MMSI number.
3. Assign a type for your sending message either it's safety or normal.
4. Then, choose a build channel expression depending to the sending priority. Four expressions between Channel A, B, (A or B), (A and B).
5. Check "Acknowledgement required" if you wish.
6. At last to finish by typing your message and click on OK to send it.

Table of "AIS ID" list according to corresponding Message and Send Type you have chosen.

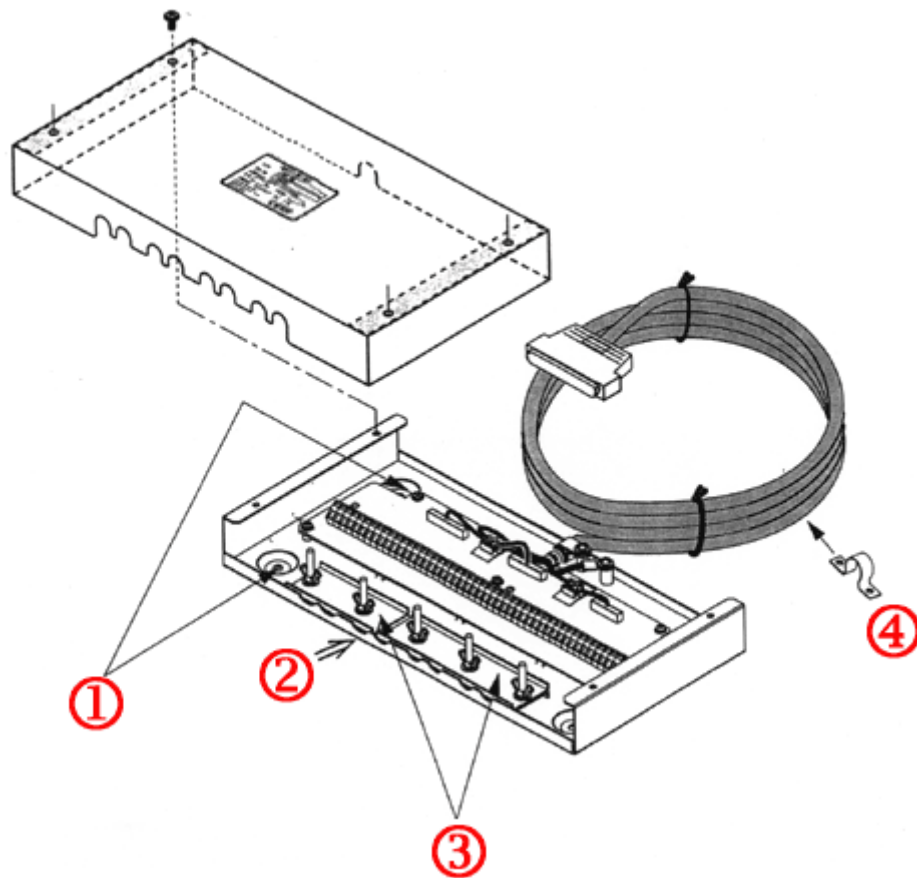
AIS ID	Message Type selected	Send Type selected
6	Normal	Addressed
12	Safety	Addressed
8	Normal	Broadcast
14	Safety	Broadcast

How to connect the Junction Box (UAIS transponder)

Mount the junction box where the junction box is protected from the rain and water splash.

Mounting:

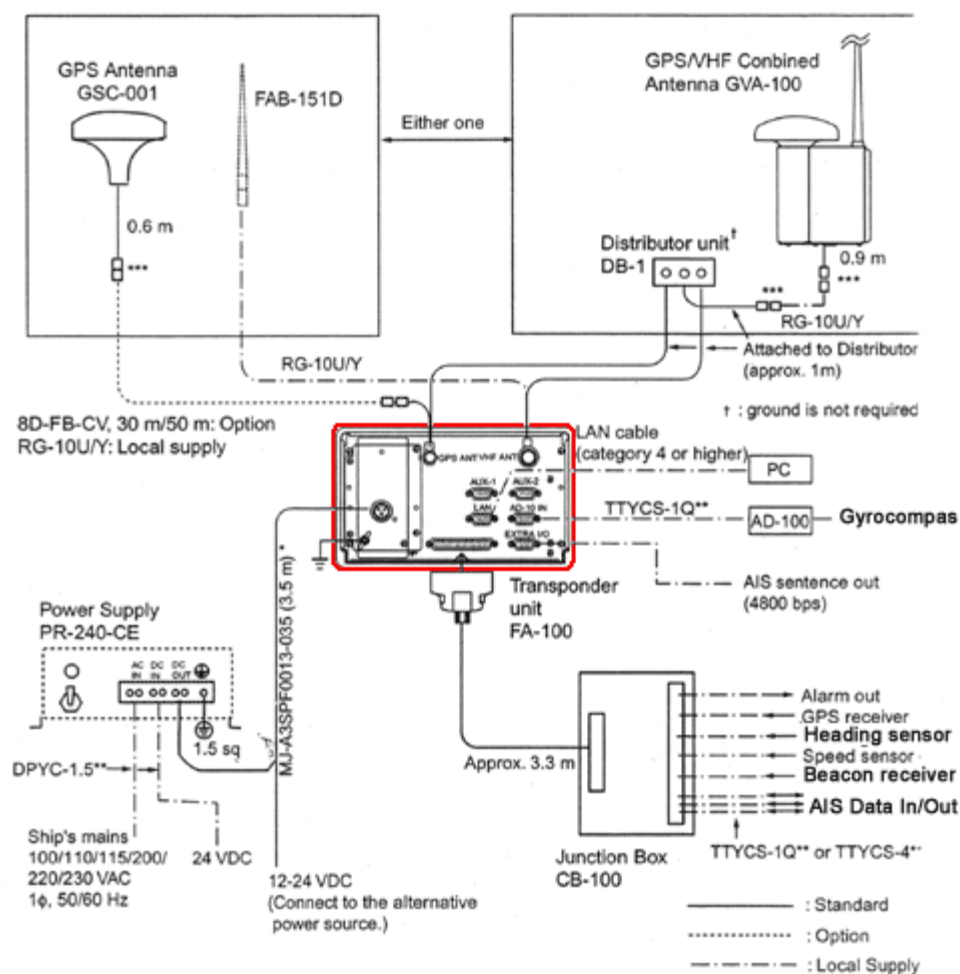
1. Open the lid of the junction box and fix the junction box with the four tapping screws (5X20). Avoid bundling the 3.3 m cable of the junction box together with any power cable. This causes malfunction.
2. Connect cables to the terminal board (referring the cable connection below)
3. Fix the lid after connecting external equipment.
4. Clamp the cable with several U-type cable clamps (local supply) at suitable intervals.



- (1) - Fixing holes (5X20 tapping screws)
- (2) - Cable entry
- (3) - Cable clamp
- (4) - Clamp the cable with U-type cable clamp

General Wiring

Connect the equipment, referring to the following interconnection diagram.

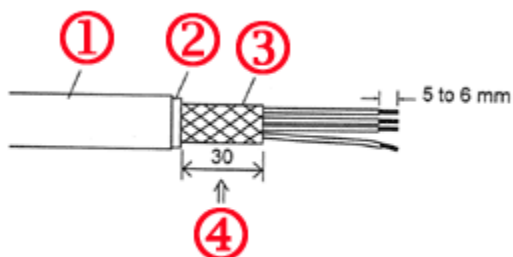


EXTRA IO port : outputs AIS sentence (4800 bps)

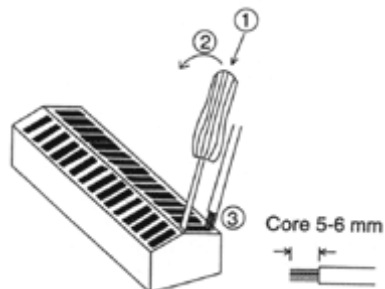
AUX-1, AUX-2 port: not used

Cable connection at Junction Box

Cable fabrication



Connection



Procedure:

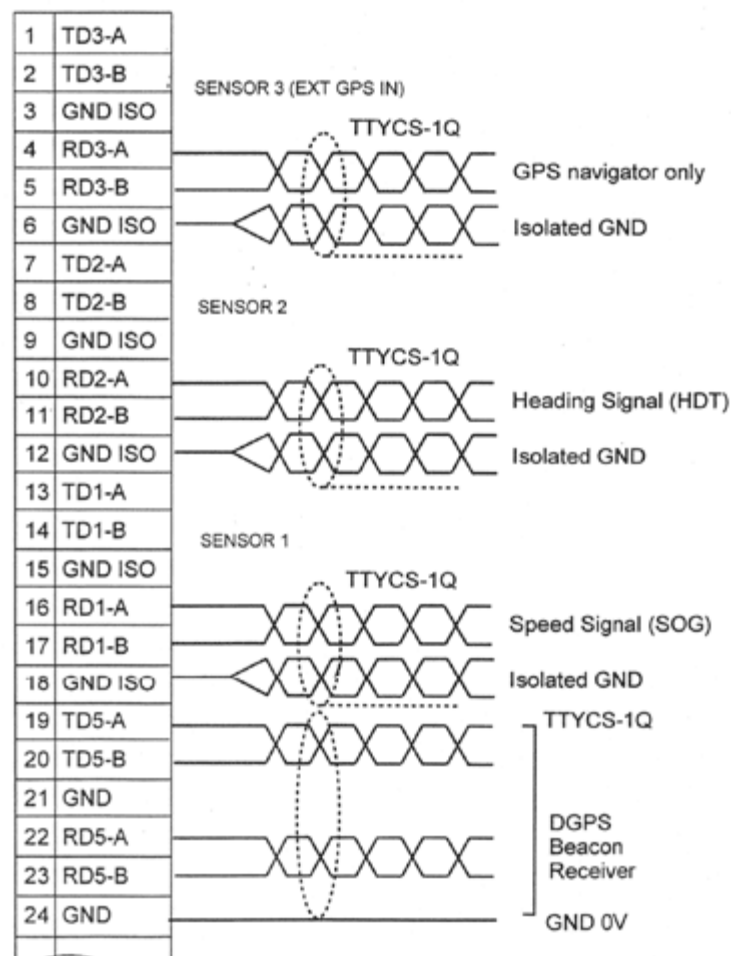
1. Insert driver from direction **(1)**
2. Tilt slightly toward **(2)**
3. Insert cable core to **(3)**

Input / Output signal

Inputs from sensors

There are three input ports (SENSOR 1, 2 and 3) which are based on the IEC 61162-1/2. The protocol is RS422. If there is no HDT signal from a gyrocompass, connect the gyrocompass signal (Synchro or step signal) to the "AD-10 IN" port (D-sub 9 pins) of the transponder unit via the FURUNO A/D Converter AD-100.

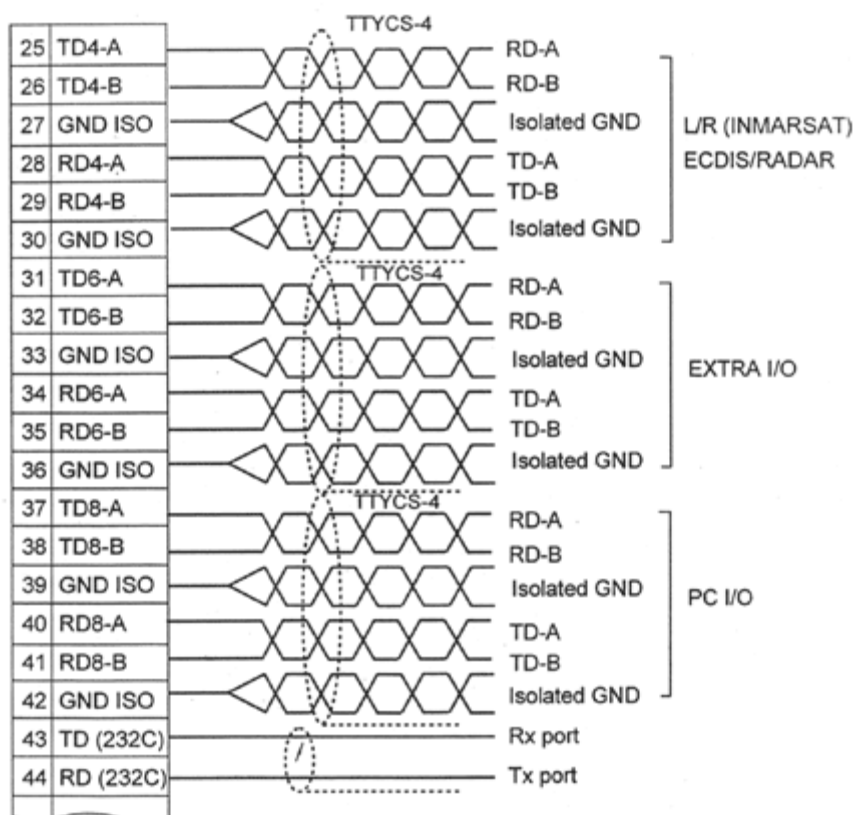
TB1 in the junction box



Input / Output of AIS signal

Three input/output ports are provided for RS-422 protocol, based on the IEC 61162-1/2. Data transmission rate is selectable from 4800 bps and 38.kbps. Normally, Radar / ECDIS / PC, etc. are connected to these ports to exchange data with the AIS. PC standard protocol RS-232C is also provided in the D-sub port of the transponder unit.

TB1 in the junction box



Note: For TD(232C) and RD (232C), use one twisted pair for TD and one twisted pair for RD, separately.

Buoys

Buoys Following Overview

Buoys tracked on Electronic Charts

In various fisheries buoys report their position and other data back to the vessel. Some fishing buoys report via satellite, and others, such as the Australian **LINEMASTER buoys** communicate their own GPS position and other data directly and automatically to the vessel via radio.

MaxSea can display the positions of widely used **RYOKUSEISHA**, and **LINEMASTER** buoys directly on the chart.

The program tracks their movement over time, similarly to the way the vessel's own track is recorded. Each track point stores the date, time, position, drift rate and temperature of the buoy. A vector shows the direction to which the buoy is heading.

Different colors can be allocated to aid identification of each buoy tracked.

The temperature is clearly displayed at the latest position.

Data received from a LineMaster buoys:

1. COG (Course Over Ground)
2. HDOP (Horizontal Dilution Of Position)
3. Latitude
4. Longitude
5. Satellite number
6. Sea surface temperature
7. SOG (Speed Over Ground)
8. Battery voltage

Data received from a Ryokuseisha buoys:

1. Latitude
2. Longitude
3. Sea surface temperature

Related topics:

1. [How to configure Follow up buoys system with MaxSea](#)
2. [Buoy targets displayed on the chart](#)

How to configure Follow up buoys system with MaxSea

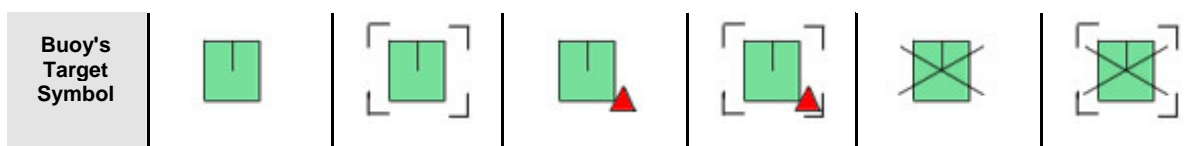
After connecting the System, you just need to configure the corresponding serial port at the corresponding Norm.

1. Go to **[Utilities]** menu and select **[Input Output data settings]**
2. Click on the **Radar** tab to set the corresponding port and its norm.
3. Click on **Add instrument**.
4. Select the port COM where the system is connected.
5. Choose the norm between LineMaster buoys, Buoys (SERPE, MLR,...), Ryokuseisha buoys or others...

Buoy targets displayed on the chart

Buoy target symbol representation displayed on chart

Target outside the security circle		Target nearest or inside the security circle		Target lost	
Unselected	Selected	Unselected	Selected	Unselected	Selected



Activating the track :

1. Select a Buoy target using the **Select tool**.
2. either RIGHT CLICK to bring up the context menu and choose the **Track On**
3. or go to the **[Targets]** menu and select **[Track on]**.

Track parameters settings

You can define the Track buoy color according to the sea surface temperature :

Get received information from a buoy

1. Using the **Select tool** double click on the target symbol to bring up the **Targets properties** dialog box.
2. Right-click on an Buoy target to call up the context menu and choose "**Properties**"

Get received information from a ryokuseisha buoy

At any time you can call a Ryokuseisha target to get the latest information on it:

1. Select Using the **Select tool** click the Ryokuseisha buoy target
2. Display the Buoy Center by choosing it in the **[Centers]** option from the **[Targets]** menu.
3. Click **Action** in Buoy Center toolbar and choose **[Call Target..]**.

Note: if your buoy target is not a ryokuseisha buoy the **Call Target** option is not available.

Fleet tracking

Fleet tracking overview

By means of a modem and a communication software, the user has access to a server which supplies him with all the latest positions of targets to be followed. This communication utility then records a file containing the positions.

Any software can send position reports to MaxSea and after, using the **PosMaxSea** database.

As for example, the fleet tracking software which is named **Std C Detect**, can read and translate files as PosMaxSea (*.txt) or Volvo or ARGOS format into the **PosMaxSea** database which is a Microsoft Access 2000 type.

MaxSea reads new records from this database. If a position date is earlier than the Mobile date from MaxSea, it will be automatically updated in Maxsea.

MaxSea never deletes records from the database. This can only be done from the software of the position records which writes new positions and replaces the previous. It detects the presence of such file and has all the targets positions displayed on the chart.

You will learn in this section:

1. [Install the Fleet tracking program](#)
2. [Activate the Fleet tracking](#)
3. [Choose the Fleet tracking options](#)
4. [Configure the Fleet tracking parameters](#)
5. [Fleet Tracking, targets displayed on the chart](#)

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Installing the Fleet tracking program

Caution

We assume that **MaxSea** is properly installed on your hard disk. If not, please refer to the **MaxSea** installation manual.

It is absolutely necessary to install the fleet tracking software by means of the MaxSea's installation CD-ROM.

In order to do so, insert this CD-ROM and choose "**Other products**" and then "**Fleet positioner**".

Activating the Fleet tracking

To activate the Fleet tracking function:

Click the Windows start button, point to **[Programs]** choose **[StartUp]** and click on **[Std C Detect]**

This has two consequences:

1. The Help about "STD-C detect" appears.
2. The "STD-C detect" program is launched and the STD-C icon symbol appears near the clock in Windows taskbar. This shows you that the "STD-C detect" server is available.

Choosing the Fleet tracking options

How to access the "STD-C detect " functions :

1. right click on the "STD-C detect" icon symbol in the taskbar.
2. A list of options appears.

Pick up a task:

1. Change parameters.
2. Check now
3. Reporting
4. Choose French language
5. Choose English language
6. Display help
7. Get more information about STD-C detect.
8. Stop the communication

Setting Fleet tracking parameters

Fleet tracking software reads file in a specific directory at a given frequency. Users are warned when new data are provided.

The setting dialog box of STD-C detect parameters consists in five parts:

Part1 - Parameters tab allows you to:

- Choose reading "check mail" frequency.
- Set means of the warning.

Part2 - Folder and Message tab allows you to:

- Choose different directories in which "Fleet tracking software" reads files.

- Define for each mail the path.

Part3 - Weather tab allows you to:

1. Choose the directory path in which you wish to receive automatically the weather forecast files.
2. Choose the forecast file format between GRIB, BZ2 or ZIP
3. Click the first Folder button to select MaxSea's folder
4. Click the second Folder button to select the folder in which you wish store the forecast file received .

Part4 - Fleet tracking tab allows you to:

1. Choose the precision of target 's position code in MaxSea either encoding with 3 digits or 4 digits.

Part5 - Advanced tab allows you to:

1. Re-initialize POSMAXSEA target in MaxSea by clicking the "Init" button.
2. Update Targets in MaxSea v11 by clicking the "Update" button.

Fleet Tracking, targets displayed on the chart



Fleet tracking target
symbol

Fleet Tracking in MaxSea is shown and displayed as "**INSTANT_STDC**" mobile. It is always available. The symbol representation of a Fleet tracking target is the same as Buoys target:

It works like the others type of mobiles, except that you don't have to change any parameters in the "data input/output settings" dialog box.

To show / hide INSTANT_STDC targets, check or uncheck the appropriate box in the Mobiles zone information list (situated in the Chart toolbar).

Each time, you will receive a data file stored in the corresponding folder, **Std C detect** translates data and writes them into **POSMAXSEA.mdb** database.

Then this database is used to display targets on chart and allows you to easily follow up the fleet tracking in MaxSea.

Radar OVERLAY

Radar Overlay Overview



- This function is included in MaxSea depending on your own software version. Before using it, the hardware installation has to be done.

Radar Solutions are an optional add-on to MaxSea which allow users to interface Radar Antenna to the software.

MaxSea can display in real time, radar overlay image at any scale on the cartography. It can display as well, targets coming from NavNet Radar or other FURUNO Radar using network for transferring in MaxSea.

Each radar is a little different but the basics are the same for each radar.

There are three steps required:

1. Connect your system unit to an Ethernet network for transmitting data information to MaxSea. Go to the related chapter to read more on **"Installation & Configuration"** of Radar equipment.
2. Set up Transmitting data information in your MaxSea software from reading related topics : ["Setting Up Data Source Input"](#) and ["Setting Up Radar System"](#).
3. The next step is getting started with Radar Overlay in MaxSea.

When First running MaxSea the Radar overlay button is turning on by default and the Radar palette settings appears in the chart toolbar.

If the Radar is power off, **"No Radar Source"** warning will appear on the chart.

You will learn in this section :

1. [Setting up NavNet Radar Overlay in MaxSea](#)
2. [Setting Up FURUNO Radar Overlay in MaxSea](#)
3. [Using MaxSea with Radar Image Overlay on Chart](#)

See Also Related Topics:

1. How to connect NavNet Radar system
2. How to connect and configure Furuno Radar System.
3. [Setting up Radar parameters under "Option: Radar..." dialog.](#)

Setting Up NavNet Radar Overlay in MaxSea

Setting Up NavNet Radar Overlay in MaxSea



- Following documentation is dedicated to MaxSea working with NavNet System unit connected.



To display NavNet Radar Overlay on the chart :

- Click the "Radar Overlay" information button in the chart toolbar to toggle Radar display on/off
- When Radar Overlay is on, **NavNet Radar toolbar** appears in the Chart toolbar. See also related topic to use [NavNet Radar Palette](#).
- This tool also allows you to display available Radar options :
 1. Choose **Trails** to display moving historic (second trace echo).
 2. Choose **Rings** to display them on the chart.

If the Radar unit is turned on and is properly connected to the computer. The Radar image provides on the opened chart is automatically displayed in the radar operating area.

You will learn in this section how to adjust Radar Overlay with MaxSea. Choose [Option: Radar...] from the [Utilities] menu to call up the dialog box in which you can:


1. [Adjust the NavNet Radar Gain](#)
2. [Adjust the NavNet Radar Display](#)
3. [Adjust the NavNet Radar Signal Processing](#)
4. [Adjust the NavNet Radar ARPA Display](#)








NavNet Radar Toolbar

To call up the "Radar" palette go to the **[Display]** menu and select **[Radar]**.



The NavNet Radar control palette includes all settings for choosing the best display according to sea and working conditions.

Settings	User Interface	Range
Stdby/Tx		Standby

		Transmit
Gain Status		Manual
		Rough
		Moderate
		Calm
Gain		Slide 0- 100
AC Sea		Slide 0 - 100





Note: the intensity of the color displayed varies according to the echo power.

See also related topics for :

1. Setting up [Radar Gain](#): Interactive functions
2. Setting up [Radar Overlay Display](#): only for MaxSea display
3. Setting up [Radar Signal Processing](#): Interactive functions
4. Setting up [Radar ARPA](#) : Interactive functions

NavNet Radar Gain Settings

GAIN	Option	Range	Operation
	Gain Auto/Manual	- manual, - Rough, - Moderate , - Calm	<p>To adjust the gain sensitivity of the radar receiver:</p> <ol style="list-style-type: none"> 1. Click on the Gain Status line to display the Pop-up menu 2. Choose Low, Medium, or High as appropriate Gain Status Automatic or Manual to adjust it manually. 3. Press [ENTER] to validate. <p>The proper setting is such that the background noise is just visible on the screen. If your gain setting is too low, weak echoes may be missed. On the other hand, excessive gain yields too much background noise; strong targets may be missed because of the poor contrast between desired echoes and the background noise on the display.</p>
	Gain Level	% 0-100	<p>To adjust the Gain value when working with Manual Gain Status:</p> <ol style="list-style-type: none"> 1. Click on the Gain line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate.
	AC Sea Auto/Manual	- manual, - Rough, - Moderate , - Calm	<p>To adjust the AC Sea Status of the radar receiver:</p> <ol style="list-style-type: none"> 1. Click on the AC Sea Status line to display the Pop-up menu 2. Choose a range according to the sea state ROUGH, RATE, CALM, as appropriate or manual MODE to adjust it manually 3. Press [ENTER] to validate. <p>More info...</p>

			<div>Sea clutter at screen center</div> 
			<div>A/C Sea adjusted; sea clutter suppressed</div> 
			<p>Echoes from waves can be troublesome, covering the central part of the display with random signals known as sea clutter. The higher the waves and the higher the antenna above the water, the further the clutter will extend. Sea clutter may affect radar performance because real targets are sometimes hidden by the echoes of small waves. When sea clutter masks the picture, adjust the A/C SEA to reduce the clutter.</p> <p>The A/C SEA reduces the amplification of echoes at short ranges (where clutter is the greatest) and progressively increases amplification as the range increases, so amplification will be normal at those ranges where there is no sea clutter.</p>
	AC Sea Level	% 0-100	<p>For manual AC Sea status, to Adjust the AC Sea Gain value :</p> <ol style="list-style-type: none"> 1. Click on the Gain line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate. <p>Note: Do not overadjust weak echoes may be missed.</p> <p>A/C SEA should be adjusted so that the clutter is broken up into small dots, and small targets become distinguishable.</p>
	AC Auto	On - Off	<p>Sea clutter and rain clutter can be automatically rejected.</p> <ol style="list-style-type: none"> 1. Check the box to start the automatic reject. 2. Press [ENTER] to validate. <p>Note: When turned on, it overrides A/C SEA and A/C RAIN settings.</p>
	AC Rain level	% 0-100	<p>To adjust the AC Rain Gain value :</p> <ol style="list-style-type: none"> 1. Click on the AC Rain line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value Reducing Precipitation Clutter <p>The vertical beamwidth of the antenna is designed to see surface targets even when the ship is rolling. However, by this design the unit will also detect precipitation clutter (rain, snow, hail, etc.) in the same manner as normal targets. Precipitation clutter shows as random dots on the screen.</p> <p>Adjusting the A/C RAIN</p> <p>When echoes from precipitation mask solid targets, adjust the A/C RAIN to split up these unwanted echoes into a speckled pattern, making recognition of solid targets easier.</p>

NavNet Radar Display Settings

Display settings allows to adjust Radar Overlay image configuration. Display settings information is not interactive with other NavNet equipment connected on the network.

Display	Option	Range	Operation
	Echo Color	<ul style="list-style-type: none"> - GREEN (default) - Yellow, - Red, - Multi-Color 	<p>To modify echo color.</p> <ol style="list-style-type: none"> 1. Click on the Echo color line to display the Pop-up menu 2. Choose Red, Yellow, Green or Multi-color as desired <p>Note: Multi-color shows echoes in red, yellow or green in order of descending strength</p>
	Animated Echo Sweep	On - Off	<ol style="list-style-type: none"> 1. Check the Box to start the Radar Scan in real time 2. Press [ENTER] to validate.
	Trail Color	<ul style="list-style-type: none"> - GREEN (default) - Yellow - Red 	<p>To modify Trail color.</p> <ol style="list-style-type: none"> 1. Click on the Trail Color line to display the Pop-up menu 2. Choose Red, Yellow, Green as desired 3. Press [ENTER] to validate. <p>Echo trails are simulated afterglow of target echoes that represent their movements relative or true to own ship. This function is useful for alerting you past possible collision situations.</p>
	Trail Time	Value in second	<p>To define duration of trail track, in second:</p> <ol style="list-style-type: none"> 1. Click on the Trail Time line to display the Pop-up menu 2. Enter duration value in second 3. Press [ENTER] to validate.

Notes :

display --d--h--s

If (**Trail Time = 0 sec**), NavNet Radar will turn OFF.

			<p>invalid values are not transmitted to NavNet.</p> <p>If (Trail Time > 15 sec), NavNet Radar will receive all duration values which are superior to 15 sec.</p>
	Radar / Chart Offset Direction	0-360	<p>To define the Chart offset heading:</p> <ol style="list-style-type: none"> 1. Click on the Radar / Chart Offset Heading line to display the Pop-up menu 2. Enter the desired heading offset from 0 to 360 using arrows or modify it directly by entering the desired heading correction value 3. Press [ENTER] to validate. <p>In some instances position may be off by a few seconds. For example, the position of the ship is shown to be at sea while it is in fact moored at a pier. You can compensate for this error by offsetting chart position</p>
	Radar / Chart Offset Distance	0-100	<p>To define the Chart offset Distance:</p> <ol style="list-style-type: none"> 1. Click on the Radar / Chart Offset Distance line to display the Pop-up menu 2. Enter the desired distance offset from 0 to 100 using arrows or modify it directly by entering the desired distance correction value 3. Press [ENTER] to validate.

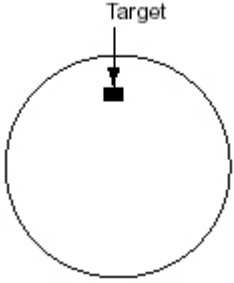
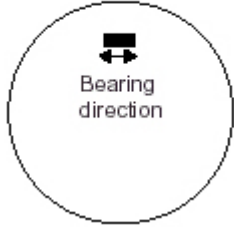
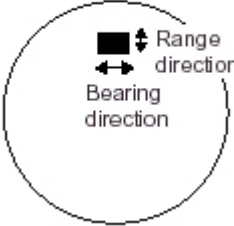
NavNet Radar Signal Processing Settings

SIGNAL PROCESSING	Option	Range	Operation
	Echo Stretch	Off Low High.	<p>To set the Echo Stretch type:</p> <ol style="list-style-type: none"> 1. Click on the Echo stretch line to display the Pop-up menu 2. Choose HIGH, LOW as appropriate or OFF for no Echo Stretch 3. Press [ENTER] to validate. <p>Normally, the reflected echoes from long range targets appear on the display as weaker and smaller blips even though they are compensated by the radars internal circuitry. The echo stretch function magnifies these small blips in all ranges. Two types of echo stretch are available: LOW which stretches echoes in bearing direction</p>

and HIGH which stretches them in both range and bearing directions.

This function magnifies not only targets but also sea clutter and radar interference. For this reason, be sure sea clutter and radar interference are properly suppressed before activating the echo stretch.

More info...

Echo Stretch OFF	
Low Echo stretch	
High Echo Stretch	

Interference Reject

- Off
- Low
- Medium
- High

To set the Rejecting Radar Interference level:

1. Click on the **Interference Reject** line to display the Pop-up menu
2. Choose Low, Medium, High as appropriate or OFF for no Reject.
3. Press [ENTER] to validate.

Radar interference may occur when near another shipborne radar that is operating in the same frequency band as your radar. Its on-screen appearance looks like many bright dots either scattered at random or in the form of dotted lines extending from the center to the edge of the display. Interference effects are distinguishable from normal echoes because they do not appear in the same place on successive rotations of the scanner.

Be sure to turn off the interference rejector when no interference exists weak targets

		may be missed.
FTC	% 0-100	<p>To adjust the FTC level:</p> <ol style="list-style-type: none"> 1. Click on the FTC line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate. <p>Note : Do not overadjust the FTC weak target echoes may be missed.</p> <p>Note: Available with Model 1700 series radar. Inoperative otherwise.</p> <p>To suppress rain clutter from heavy storms or scattered rain clutter, adjust the FTC. The FTC splits up these unwanted echoes into a speckled pattern, making recognition of solid targets easier.</p> <p>Note: In addition to reducing clutter, the FTC can be used in fine weather to clarify the picture when navigating in confined waters. However, with the circuit active the receiver is less sensitive. Therefore, turn off the FTC, by setting it for 0, when its function is not required.</p>
Noise Rejection	- Off - Low - High.	<p>To adjust the Noise Rejection level:</p> <ol style="list-style-type: none"> 1. Click on the Noise Rejection line to display the Pop-up menu 2. Choose LOW or HIGH as appropriate or Off for no rejection 3. Press [ENTER] to validate. <p>Electrical noise, appearing on the screen as speckles, may be suppressed with the noise rejector.</p> <p>Note that some forms of interference cannot be suppressed.</p>
Tune Auto/Manual	- Automatic - Manual	<p>The radar receiver can be tuned automatically or manually.</p> <p>To adjust it from MaxSea:</p> <ol style="list-style-type: none"> 1. Click on the Tune Status line to display the Pop-up menu 2. Choose receiver tuning method Automatic or Manual 3. Press [ENTER] to validate.
Tune Control	% 0-100	<p>To Adjust the Tune value when working with Manual Tune Status:</p> <ol style="list-style-type: none"> 1. Click on the Tune line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate.
2nd Echo Rejection	On - Off	<ol style="list-style-type: none"> 1. Check the Box to reject 2nd Echo signal 2. Press [ENTER] to validate.

			In certain situations, echoes from very distance targets may appear as false echoes (second-trace echoes) on the screen. This occurs when the return echo is received one transmission cycle later, or after a next radar pulse has been transmitted.
	Stby / Tx	Standby - Transmit	<p>To choose the Radar receiver transmission mode:</p> <ol style="list-style-type: none"> 1. Click on the Stdbby/Tx line to display the Pop-up menu 2. Choose transmission status Standby or transmit 3. Press [ENTER] to validate.

NavNet Radar ARPA Settings

ARPA	Option	Range	Operation
	Auto Acquisition	ON - OFF	<ol style="list-style-type: none"> 1. Check the Box to activate Auto Acquisition. 2. Press [ENTER] to validate. <p>The ARP can acquire up to ten targets automatically by setting an automatic acquisition area. When automatic acquisition is selected after acquiring targets manually, only the remaining capacity for targets may be automatically acquired. For example, if seven targets have been manually acquired, three targets may be automatically acquired after switching to automatic acquisition.</p>
	CPA Alarm Range	OFF, 0.5nm, 1nm, 2nm, 3nm, 5nm, 6nm	<p>To set the CPA alarm range:</p> <ol style="list-style-type: none"> 1. Click on the CPA line to display the Pop-up menu 2. Choose a CPA limit desired from 0.5 nm, 1 nm, 2 nm, 3 nm, 5 nm and 6 nm. 3. Press [ENTER] to validate. <p>Note Unit (nm) = miles</p>
	TCPA Alarm Limit	OFF 30 seconds 1 minute 2 minutes 3 minutes 4 minutes 5 minutes	<p>To set the TCPA alarm range:</p> <ol style="list-style-type: none"> 1. Click on the TCPA line to display the Pop-up menu 2. Choose a TCPA limit from 30 sec, 1 min, 2 min, 3 min, 4 min, 5 min, 6 min and 12 min. 3. Press [ENTER] to validate. <p>Note Unit (min) = minutes</p>

		6 minutes	
		12 minutes	

Setting Up FURUNO Radar Overlay in MaxSea

Setting Up FURUNO Radar Overlay in MaxSea



- Following documentation is dedicated to MaxSea working with FURUNO Radar connected (such as FAR21X7 equipments .)



To display FURUNO Radar Overlay on the chart :

- Click the "Radar Overlay" information button in the chart toolbar to toggle Radar display on/off
- When Radar Overlay is on, **FURUNO Radar toolbar** appears in the Chart toolbar. See also related topic to use "[FURUNO Radar Palette](#)"
- This tool also allows you to display available Radar options :
 1. Choose **Trails** to display moving historic (second trace echo).
 2. Choose **Rings** to display them on the chart.

If the Radar unit is turned on and is properly connected to the computer. The Radar image provides on the opened chart is automatically displayed in the radar operating area.

You will learn in this section how to adjust Radar Overlay with MaxSea.

Choose [Option: Radar...] from the [Utilities] menu to call up the dialog box in which you can :

1. [Adjust FURUNO Radar Gain](#)
2. [Adjust FURUNO Radar Display](#)
3. [Adjust FURUNO Radar Signal Processing](#)

Radar Toolbar





By default when you click on the Radar Button the following radar toolbar is displayed at the same time.




When signal is transmitted from radar, the TX button become activated and it is surrounded with red color as it is shown above.

To call up the "Radar" toolbar go to the **[Display]** menu and select **[Radar]**.







The Radar control toolbar includes all settings such as Range, Gain, Sea Clutter and Rain Clutter:

Settings	User Interface	Range
Stdby/Tx		Standby
		Transmit
Gain Status		Automatic
		Manual
Preset Picture Setup		
	COAST	For coastal navigation
	HARBOR	Optimum setting for short range navigation in harbor area
	SHIP (selected by default)	Optimum setting for detecting vessels
	ROUGH SEA	Optimum setting for rough weather or heavy rain
	FAR BUOY	Optimum setting for detecting navigation buoys, small vessels and other small surface objects at long range.
	NEAR BUOY	Optimum setting for detecting navigation buoys, small vessels and other small surface objects at close range.
	FAR	Optimum setting for long range detection.
	NEAR	Optimum setting for short range detection.
	PICTURE 1, PICTURE 2, PICTURE 3, PICTURE 4	Users can adjust from Picture menus (1.2.3.4) changes the original function key settings.

Gain		Slide 0- 100
AC Sea		Slide 0 - 100
AC Rain		Slide 0 - 100
Radar Source Menu		To switch between Radar Source1 (S1) to Radar Source2(S2)

FURUNO Radar Gain Settings

GA N	Option	Range	Operation
	Gain Level	% 0-100	<p>To adjust the Gain value when working with Manual Gain Status:</p> <ol style="list-style-type: none"> 1. Click on the Gain line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate.
	AC Sea Auto/Manual	- Manual - Auto	<p>To adjust the AC Sea Status of the radar receiver:</p> <ol style="list-style-type: none"> 1. Click on the AC Sea Status line to display the Pop-up menu 2. Choose a range according to the sea state ROUGH, RATE, CALM, as appropriate or manual MODE to adjust it manually 3. Press [ENTER] to validate. <p>More info...</p>

		<table><tr><td>Sea clutter at screen center</td><td></td></tr><tr><td>A/C Sea adjusted; sea clutter suppressed</td><td></td></tr></table> <p><i>Echoes from waves can be troublesome, covering the central part of the display with random signals known as sea clutter. The higher the waves and the higher the antenna above the water, the further the clutter will extend. Sea clutter may affect radar performance because real targets are sometimes hidden by the echoes of small waves. When sea clutter masks the picture, adjust the A/C SEA to reduce the clutter.</i></p> <p><i>The A/C SEA reduces the amplification of echoes at short ranges (where clutter is the greatest) and progressively increases amplification as the range increases, so amplification will be normal at those ranges where there is no sea clutter.</i></p>	Sea clutter at screen center		A/C Sea adjusted; sea clutter suppressed	
Sea clutter at screen center						
A/C Sea adjusted; sea clutter suppressed						
AC Sea Level	% 0-100	<p>For manual AC Sea status, to Adjust the AC Sea Gain value :</p> <ol style="list-style-type: none">1. Click on the Gain line to display the Pop-up menu2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value3. Press [ENTER] to validate. <p>Note:Do not overadjust weak echoes may be missed.</p> <p>A/C SEA should be adjusted so that the clutter is broken up into small dots, and small targets become distinguishable.</p>				
AC Rain level	% 0-100	<p>To adjust the AC Rain Gain value :</p> <ol style="list-style-type: none">1. Click on the AC Rain line to display the Pop-up menu2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage valueReducing Precipitation Clutter <p>The vertical beamwidth of the antenna is designed to see surface targets even when the ship is rolling. However, by this design the unit will also detect precipitation clutter (rain, snow, hail, etc.) in the same manner as normal targets. Precipitation clutter shows as random dots on the screen.</p> <p>Adjusting the A/C RAIN</p> <p>When echoes from precipitation mask solid targets, adjust the A/C RAIN to split up these unwanted echoes into a speckled pattern, making recognition of solid targets easier.</p>				

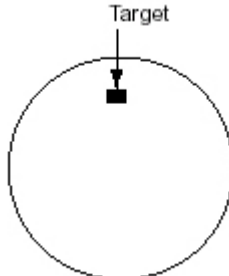
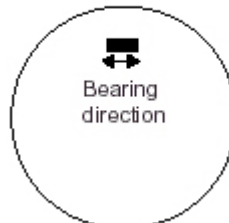
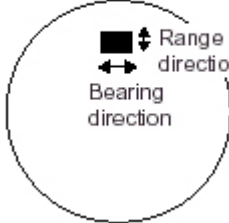
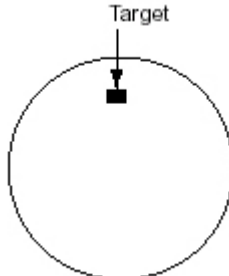
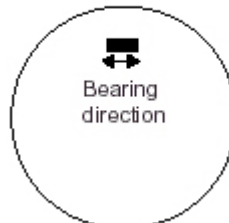
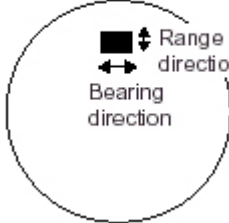
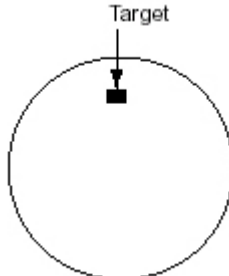
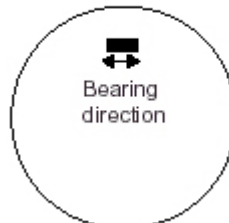
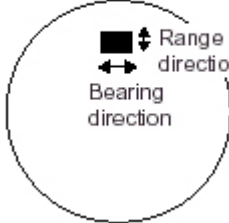
FURUNO Radar Display Settings

Display settings allows to adjust Radar Overlay image configuration. Display settings information is not interactive with other NavNet equipment connected on the network.

Display	Option	Range	Operation
	Echo Color	- GREEN (by default) - Yellow, - Red, - Multi-Color	To modify echo color. 1. Click on the Echo color line to display the Pop-up menu 2. Choose Red, Yellow, Green or Multi-color as desired Note: Multi-color shows echoes in red, yellow or green in order of descending strength
	Animated Echo Sweep	On - Off (by default)	1. Check the Box to start the Radar Scan in real time 2. Press [ENTER] to validate.
	Radar / Chart Offset Direction	0-360 (0° T by default)	To define the Chart offset heading: 1. Click on the Radar / Chart Offset Heading line to display the Pop-up menu 2. Enter the desired heading offset from 0 to 360 using arrows or modify it directly by entering the desired heading correction value 3. Press [ENTER] to validate. In some instances position may be off by a few seconds. For example, the position of the ship is shown to be at sea while it is in fact moored at a pier. You can compensate for this error by offsetting chart position
	Radar / Chart Offset Distance	0-100 Nm (0Nm by default)	To define the Chart offset Distance: 1. Click on the Radar / Chart Offset Distance line to display the Pop-up menu 2. Enter the desired distance offset from 0 to 100 using arrows or modify it directly by entering the desired distance correction value 3. Press [ENTER] to validate.

FURUNO Radar Signal Processing Settings

SIGNAL PROCESSING	Option	Range	Operation
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	Echo Stretch	2 by default	<p>To set the Echo Stretch type:</p> <ol style="list-style-type: none">1. Click on the Echo stretch line to display the Pop-up menu2. Choose HIGH, LOW as appropriate or OFF for no Echo Stretch3. Press [ENTER] to validate. <p>Normally, the reflected echoes from long range targets appear on the display as weaker and smaller blips even though they are compensated by the radars internal circuitry. The echo stretch function magnifies these small blips in all ranges. Two types of echo stretch are available: LOW which stretches echoes in bearing direction and HIGH which stretches them in both range and bearing directions.</p> <p>This function magnifies not only targets but also sea clutter and radar interference. For this reason, be sure sea clutter and radar interference are properly suppressed before activating the echo stretch.</p> <p>More info...</p> <table><tr><td>Echo Stretch OFF</td><td></td></tr><tr><td>Low Echo stretch</td><td></td></tr><tr><td>High Echo Stretch</td><td></td></tr></table>	Echo Stretch OFF		Low Echo stretch		High Echo Stretch	
Echo Stretch OFF									
Low Echo stretch									
High Echo Stretch									
	Interference Reject	2 (by default)	<p>To set the Rejecting Radar Interference level:</p> <ol style="list-style-type: none">1. Click on the Interference Reject line to display the Pop-up menu						

		<p>2. Choose Low, Medium, High as appropriate or OFF for no Reject.</p> <p>3. Press [ENTER] to validate.</p> <p>Radar interference may occur when near another shipborne radar that is operating in the same frequency band as your radar. Its on-screen appearance looks like many bright dots either scattered at random or in the form of dotted lines extending from the center to the edge of the display. Interference effects are distinguishable from normal echoes because they do not appear in the same place on successive rotations of the scanner.</p> <p>Be sure to turn off the interference rejector when no interference exists weak targets may be missed.</p>
Noise Rejection	<p>- Off (by default)</p> <p>- Low</p> <p>- High.</p>	<p>To adjust the Noise Rejection level:</p> <ol style="list-style-type: none"> 1. Click on the Noise Rejection line to display the Pop-up menu 2. Choose LOW or HIGH as appropriate or Off for no rejection 3. Press [ENTER] to validate. <p>Electrical noise, appearing on the screen as speckles, may be suppressed with the noise rejector.</p> <p>Note that some forms of interference cannot be suppressed.</p>
Tune Auto/Manual	<p>- Automatic (by default)</p> <p>- Manual</p>	<p>The radar receiver can be tuned automatically or manually.</p> <p>To adjust it from MaxSea:</p> <ol style="list-style-type: none"> 1. Click on the Tune Status line to display the Pop-up menu 2. Choose receiver tuning method Automatic or Manual 3. Press [ENTER] to validate.
Tune Control	<p>% 0-100</p> <p>(48% by default)</p>	<p>To Adjust the Tune value when working with Manual Tune Status:</p> <ol style="list-style-type: none"> 1. Click on the Tune line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate.
2nd Echo Rejection	<p>Off (by default)</p> <p>On</p>	<ol style="list-style-type: none"> 1. Check the Box to reject 2nd Echo signal 2. Press [ENTER] to validate. <p>In certain situations, echoes from very distance targets may appear as false echoes (second-trace echoes) on the screen. This occurs when the return echo is received one transmission cycle later, or after a next radar pulse has been transmitted.</p>
Stby / Tx	<p>Standby</p> <p>Transmit (by default)</p>	<p>To choose the Radar receiver transmission mode:</p> <ol style="list-style-type: none"> 1. Click on the Stdbby/Tx line to display the Pop-up menu 2. Choose transmission status Standby or transmit

			3. Press [ENTER] to validate.
--	--	--	-------------------------------

Radar Image Overlay on Chart

Displaying Radar Image Overlay on Chart

There are several ways to use Radar with your MaxSea including radar overlay.

You can display several windows and choose one of them to show your radar overlay. Radar overlay is when the radar image is viewed on the top of the chart.



When First running MaxSea the Radar overlay button is turning on by default: and the Radar overlay palette settings appears in the chart toolbar.

If the Radar is power off or the , the "**No Radar Source**" warning will appear on the chart.

To display the radar overlay on the chart :

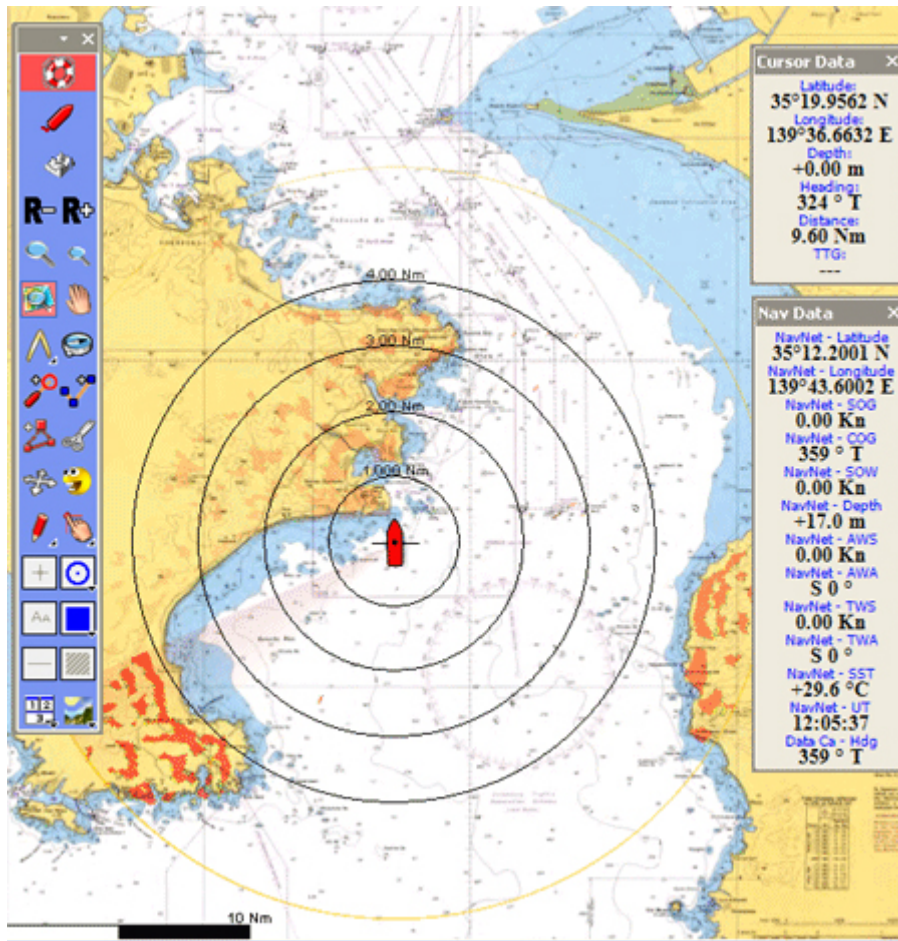
- Click the "Radar Overlay" information button in the chart toolbar to toggle Radar display



on/off :

- Click the down arrow to its right will show the drop down list of available Radar display:
 - Choose **Trails** to display moving historic (second trace echo).
 - Choose **Rings** to display them on the chart.

If the Radar unit is turned on and is properly connected to the computer. The Radar image provides on the opened chart is automatically displayed in the radar operating area as shown below:

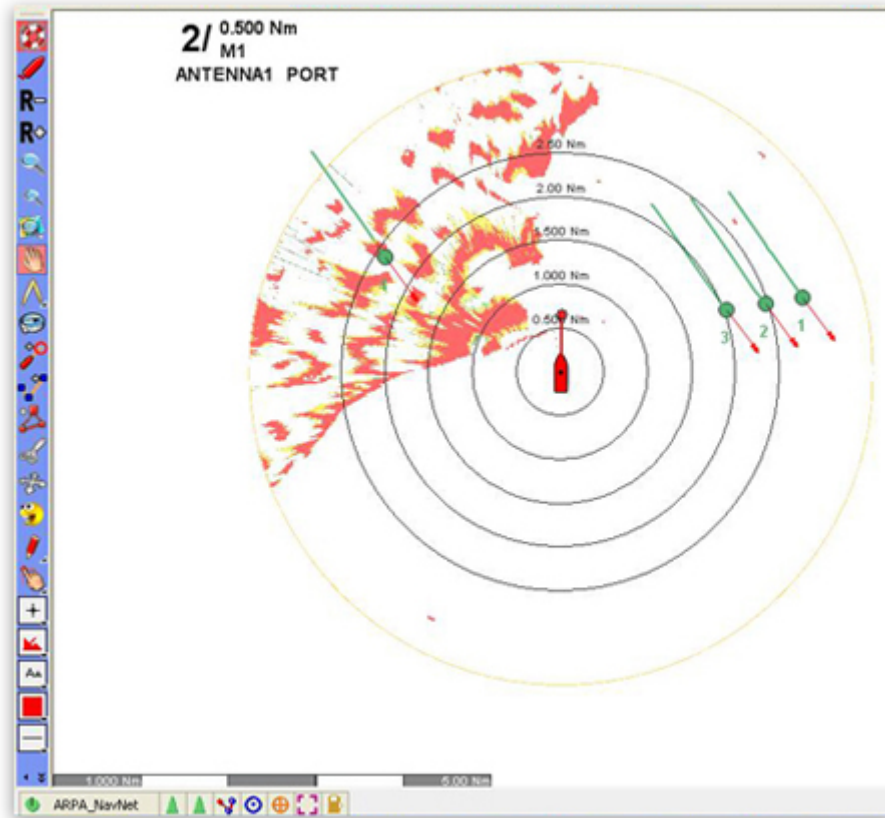


To center on the chart in the radar operating zone, simply click the "Auto center" button in the Chart toolbar and choose "NavNet Radar" in the drop down list.



Depending on your Radar you can configure Radar overlay with MaxSea to:

1. Get the best radar picture by changing the gain for example.
2. Modify the radar picture display by changing the echo color for example.
3. Set up the signal processing.
4. Set up the guard alarm
5. Receive Radar [ARPA](#) or [AIS](#) Data information in MaxSea



You will learn in this section how to :

1. [Acquire Radar Targets in MaxSea](#)
2. [Display Radar Target's Vectors and History](#)
3. [Obtain Information on a Radar Target](#)
4. [To Free a Radar Target](#)

See also related Topics for getting more information:

1. [Setting Up Data Source Input](#)
2. [Setting Up Radar System](#)
3. [Targets Overview](#)

Radar Range

Range control

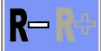
The range defined the Maximum distance from the GPS position to the Radar echo displayed on chart.

Radar Overlay Range controls can be directly set from Tools Bar **[R+]** and **[R-]**

Click on the corresponding button to adjust the radar range setup



When the Minimum or Maximum Range is reached the button is then off and displayed in Grey color



Minimum and maximum ranges

Minimum range

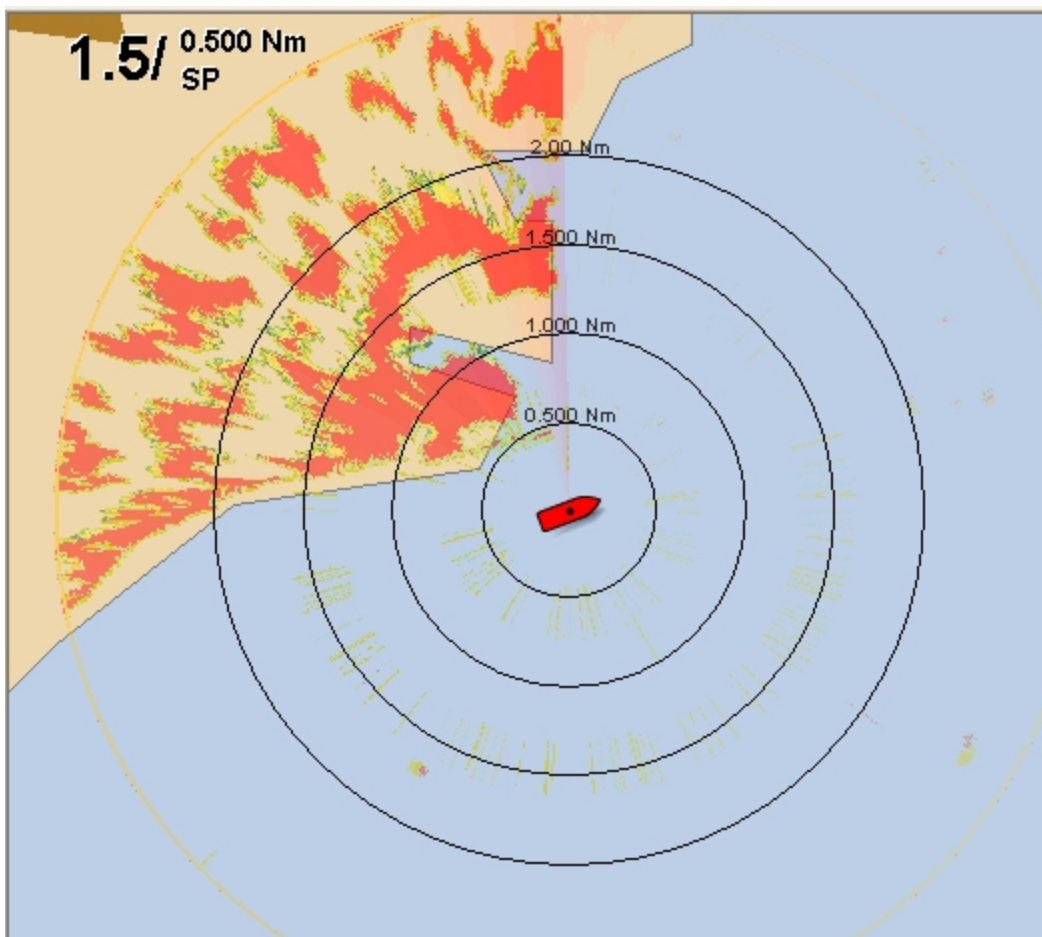
The minimum range is defined by the shortest distance at which, using a scale of 1.5 or 0.75 nm, a target having an echoing area of 10 m² is still shown separate from the point representing the antenna position. It is best to use the shortest possible range as long as the clarity and definition of the picture remain good.

Maximum range

The maximum detecting range of the radar, R_{max}, varies considerably depending on several factors such as the height of the antenna above the waterline, the height of the target above the sea, the size, shape and material of the target, and atmospheric conditions.

Range information

Range information is displayed on top left of the chart windows.



Displayed information format :

Range/**Range Interval****Pulselength****Pulse length**

The pulse length in use is displayed at the upper left corner of the chart windows.

- **SP** : Short pulse,
- **MP** : Medium Pulse,
- **LP** : Long Pulse

Appropriate pulselengths are preset to individual range scales.


Note :If you are not satisfied with the current pulselength setting it is possible to change it on Radar equipment.

Directly set up the radar display by using the Range controls:

When the NavNet Radar Auto centering is activated, Range controls enables the radar picture to be viewed at varying scales.

This is also known as the zoom in and zoom out functions.



To center on the chart in the radar operating zone, simple click the Radar Center on button  in the chart toolbar.

1. Click the **Range +** button to provide the best overview of your boat's relationship to land, large ship targets in or beyond view. This corresponds to long range scales or zoom out tool in the Toolbar.
2. Click the **Range -** button to provide greater detail of the radar echoes close to your boat, and should be used as you approach coastlines, harbors or boats in area. This corresponds to short range scales or Zoom in the Toolbar.

Range/RI/Number of Rings and chart scales correspondences table (samples):

Range (nm)	0.125	0.25	0.5	0.75	...	12	16	24	36	48
Range Ring Interval (RI)(nm)	0.0625	0.125	0.125	0.25	...	3	4	6	12	12
Number of Rings	2	2	5	4	...	5	5	5	4	5
Chart Scale	1:1000	1:2500	1:5000	1:10000	...	1:250000	1:25000	1:500000	1:500000	1:1M

Note : Maximum range depend on Radar model

Acquiring Radar Targets

Acquiring Radar targets function permits the display of the symbol, number and motion vector of an manually or automatically acquired tracked target visible on screen.

Ten targets may be acquired and tracked either manually or automatically.

Manual acquisition

1. Right click anywhere on the chart to call up the context menu
2. Choose "**Acquire a target**".

If the radar overlay contains a point at this place, it will be stored as a target.

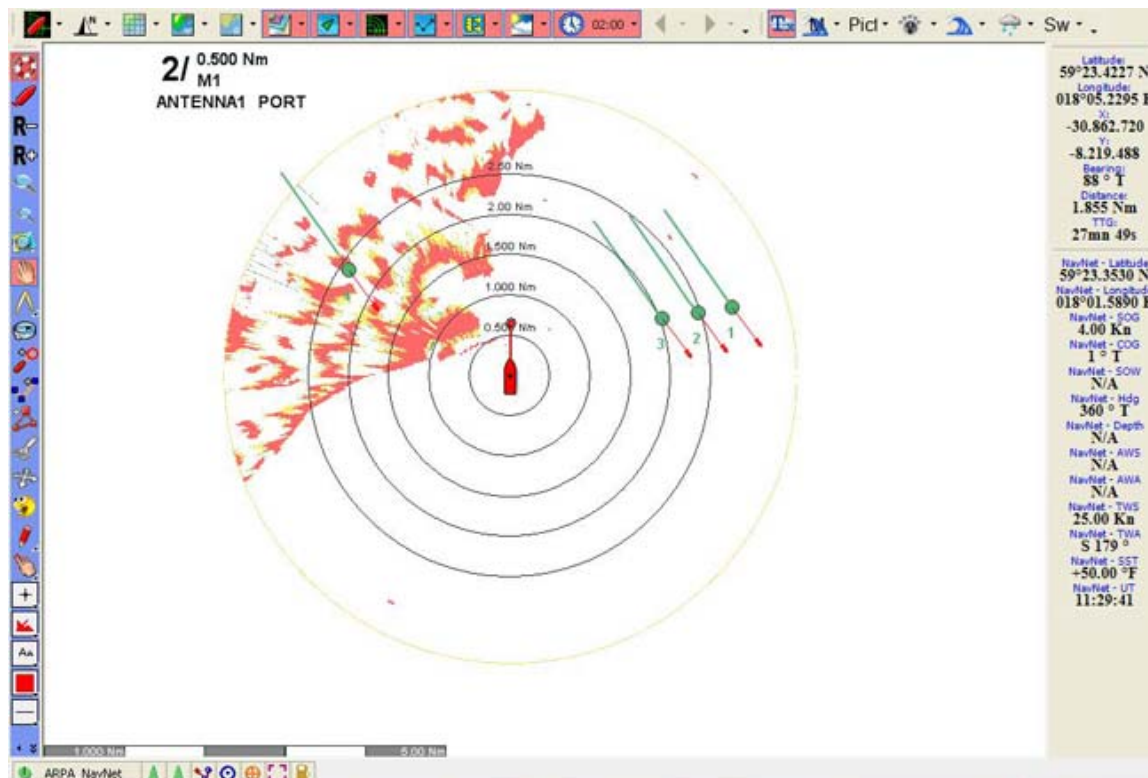
When you attempt to acquire an 11th target, the **[Acquire a Target]** choice is become unavailable. (Grey color)

Automatic acquisition

The ARP can acquire up to ten targets automatically by setting an automatic acquisition area. When automatic acquisition is selected after acquiring targets manually, only the remaining capacity for targets may be automatically acquired.

For example, if seven targets have been manually acquired, three targets may be automatically acquired after switching to automatic acquisition.

The automatic acquisition can be activated from NavNet equipment or directly from [\[Option: Radar...\] \[Utilities\] Arpa section.](#)



See also related topics :

1. [All different categories of Mobile targets](#)
2. [Mobile target's display](#)
3. [Mobile layer's center](#)
4. [Tracking Mobile targets](#)
5. [Mobile Trails](#)

Radar Target's Vectors and History

You can display targets vectors line showing where they will be at a certain time in the future assuming their present course and speed.

The Radar overlay target's history appears as a trail of dots left by the target as it moves. You can change the color's display of it as you want (by default the trail is drawn in green color).

To change target vectors and history

1. Select **[Option]** from the **[Targets]** menu.
2. Choose the ARPA layer.
3. Enter the **Trail observation delay**.
4. Click OK to validate.

Obtain Information on a Radar Target

Depending on the Radar system unit connected to MaxSea, MaxSea is you will receive ARPA and / or AIS targets will appear on screen

Two ways for accessing Information about Radar Overlay Target:

Using the Select tool

double click a target to display the Targets properties window for this target which shows the parameters received.

Using the context menu

1. Right click on a target to call up the context menu
2. Select "**properties**" to bring up the target properties window.

The **Target track** box is used to stop the display and record the target track exactly as you would for your own ship. If desired, you can modify the name of the target and add a comment.

To Free a Radar Target

When ten targets have been acquired, no more acquisition occurs unless targets are automatically cancelled. If you need to free target

To free an Overlay radar target:

1. Select an Overlay target by right clicking it
2. Choose Erase in the menu list.

Notes:

- (1) - the target erasing can take a certain time, according to the refreshing and validating time of information.
- (2) - a target already free or lost by the radar can not be free.

Performance

Performance Module Overview



- Following documentation is available depending on your own software version. Performance solutions are an optional add-on to MaxSea (such as Polar file, Lay Lines, Wind Sensor and Data Trend Center.)

By using data received from the navigation center as well as stored information, MaxSea enables you to carry out sophisticated calculations which optimize the sailing boat's performance.

These functions are only available if you have program's **PERFORMANCE** module.

In this section you will learn on:

1. What is a [polar file](#), [opening it](#), [modifying a polar file](#), [creating a new polar file](#) and [displaying the Polar Window in MaxSea](#)
2. The [LayLines palette](#) and [displaying it on the chart](#)
3. [Using MaxSea Wind Sensor](#)
4. [Using the "Tend Data Center" function](#)

Note:

(1) - the **Performance** module requires a [speed polar](#) file pertaining to your vessel. **MaxSea** has produced a library of polars in addition to software which allows you to analyze your ship's performance to modify them or create your own.

(2) - this module's functions are found under the **Performance** menu.

Polar file

MaxSea polar file

The polar axes for boat are different and MaxSea will calculate the best route.

These polar are very useful for the knowledge of its sailing boat and MaxSea puts at your disposal a whole library of polar files in reference to one Category of boat.

These polar files are to list by default in " My Documents |My MaxSea| Polar" repertory.

When starting MaxSea for the first time, you will open the polar file stored by default in "My Document | My MaxSea " folder.

If you have a professional MaxSea version you can create automatically your own polar file.

You will learn in this section:

1. [How to open an existing file](#)
2. [How to create a Polar file to use with MaxSea](#)
3. [How to automatically create your own polar file](#)

4. [How to display the polar window](#)
5. [Polar window overview](#)

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Opening a polar file

Your boat's potential performances are saved as speed polars.

The first time the program is launched you are asked to select a polar file; this is the file, which will subsequently be automatically loaded when the program is re-launched.

- If you wish to change the polar file select **[Open]** from the **[File]** menu.
- Then, choose the polar file which has for extension **(*.pol)** from the **"Polar"** folder from **"My documents"** folder.

Note: to show only the polar files, click on the **Files of type** pop-up menu and select **"Utils: Polar(*.pol)"** item .

- Lastly select the desired file from the list and click on **Open**.

Note: you may create as many polar files as you wish (a "choppy sea" one, a "calm sea" one, etc.). The **Open** function allows you to select which one the calculations should be based on at any given moment.

IMPORTANT - The Race function presupposes that information concerning your ship's course are known to the program. The Race module is only relevant if your computer is connected to a navigation system (such as Brookes & Gatehouse, NKE, etc.) which supplies information as to the actual and supposed wind direction and force, the
--

ship's course and speed, the **VMG**, etc...

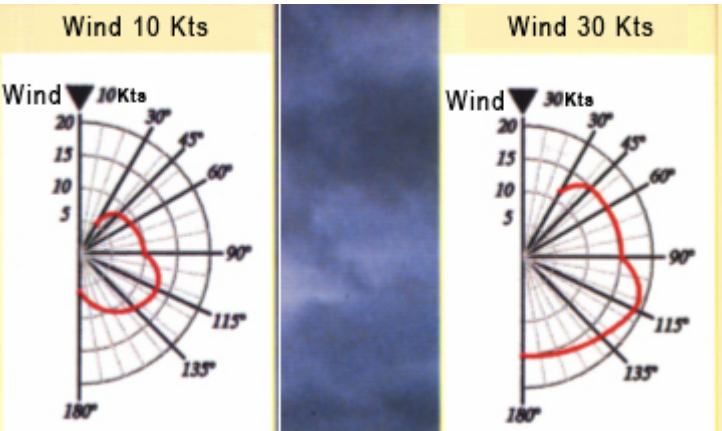
Note: in order to guarantee the reliability of data displayed on board the ship, the program always gives priority to receive from the navigation system; it only calculates data (for example, the **VMG**), which the navigation system has not sent.

How to create a Polar file



MaxSea simply allows you to activate and deactivate this function from the performance menu when you leave and return to port.

Professional racers and serious sailors will still be able to modify the appropriate file manually at a later date should they feel the need to do so.

These instructions will show you how to create a MaxSea Polar file using basic information provided by the boat manufacturer (2 polar graphs at 2 different wind speeds.)

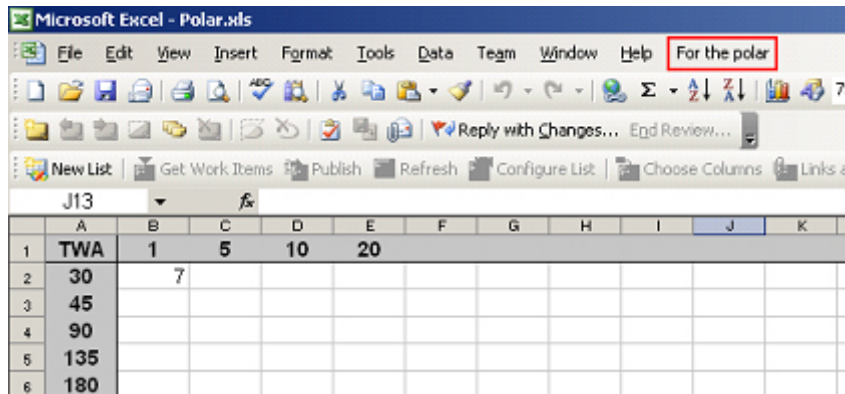


Note that Microsoft Excel must be installed on the computer.

	Polar.pol	13 KB	Polar	9/28/2005 1:53 AM
	Polar.txt	13 KB	Text Document	9/28/2005 1:53 AM
	Polar.xls	1,185 KB	Microsoft Excel Wor...	4/30/2006 12:26 PM

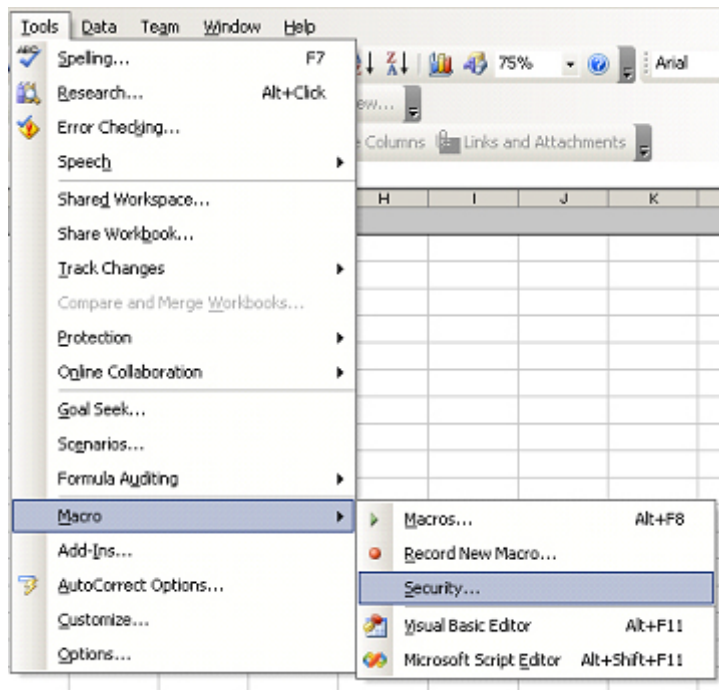
In the **"My MaxSea"** folder in **"My Documents"** locate the file **"Polar.xls"** (Excel file). Open this file

This file contains a **Macro**. Macros must be turned ON to correctly convert the Excel spreadsheet to the Polar file. If you do not see a menu item called **"For the Polar"** on the upper right corner of Excel, Macros are not enabled

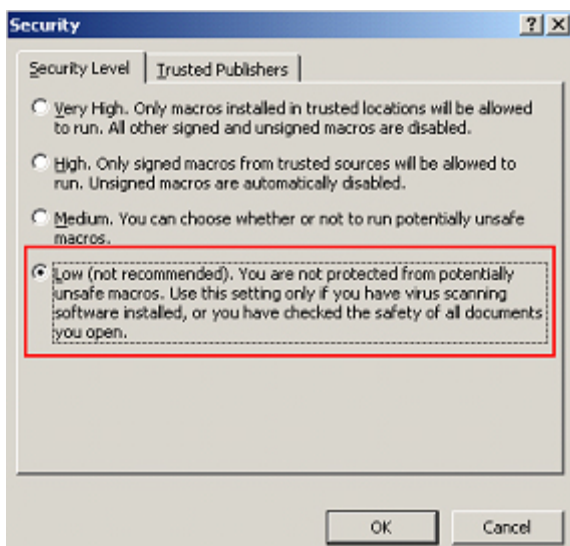


	A	B	C	D	E	F	G	H	I	J	K
1	TWA	1	5	10	20						
2	30	7									
3	45										
4	90										
5	135										
6	180										

To enable the **Macro**, select the **"Tools"** menu, then **"Macro;"** and then, **"Security."**



Set the security level to **medium** or **low**



Restart Excel. If a prompted to enable the Macro, answer “Yes.”

Now you should see a menu item called “**For the polar.**”

In the lower part of Excel, choose the tab called “**Mini Polar.**”

Note that you can choose another tab that better matches your boat.

	A	B	C	D	E	F
1	TWA	5	10	15	20	
2	30	2.0	5.4	7.2	7.8	
3	90	4.7	9.5	11.5	12.8	
4	150	2.9	7.4	10.6	13.0	
5						
6						
7						
8						

The first row defines the True Wind Speed.

The first column defines the True Wind Angle

In the example above, the theoretical hull speed for various wind velocities and wind angles is in the cells.

Modify the True Wind Speed values in the first row. The example below uses 10 and 30 Kts. Enter these values in the first row and delete the other columns.

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - Polar.xls". The menu bar includes File, Edit, View, Insert, Format, Tools, Data, and T. The toolbar contains various icons for file operations and data manipulation. The active sheet is "Mini polar". The data is organized in a table with columns A through E and rows 1 through 13. The first row (row 1) has headers: A1 is "TWA", B1 is "10", and C1 is "30". The subsequent rows (rows 2-7) contain numerical data in columns B and C, with column A containing labels. The data is as follows:

	A	B	C	D	E
1	TWA	10	30		
2	30	5.0	12.0		
3	60	8.0	15.0		
4	90	10.0	15.5		
5	115	13.0	19.0		
6	135	12.0	17.5		
7	180	6.0	15.0		
8					
9					
10					
11					
12					
13					

Now add 2 rows and add additional wind angles.

Enter wind angles approximately every 30 degrees. Note that you should add additional rows or columns; for example, you add rows in increments of 15 degrees or less and columns in increments of 5 or less.

After you have defined the first line and first column, enter the data in the cells according to the polar graphs or tables provided by the boat manufacturer.

When finished, select the menu **"For the Polar"** and choose **"Save as Polar."**

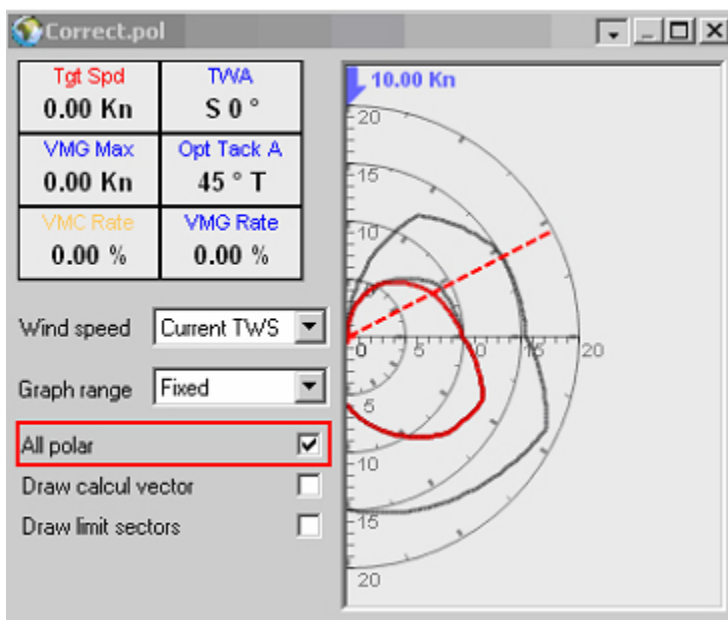
Name the Polar file and press **"Save."** The new Polar file will be created in the **"My Documents"** folder.

Open **MaxSea**, and choose **[File]** and **[Open.]** Open the Polar file you just created.

If you have the Performance Module of MaxSea, choose **"Performance;"** and then, **"Polar Curves Center."**

Performance	
	Data Trend Center
	Polar Curves Center
	Display LayLines on Chart...
	LayLines Data

Select **"All polar"** and make sure that the polar curves are coherent



MaxSea will interpolate the data for all the missing wind speed and wind angle values; although, the more precise the data steps you enter, the more accurate the polar curve display will be.

If you have the Performance module, MaxSea will update the polar data in real time. MaxSea will reject values that are 30% OFF from the polar data entered. It is, therefore, important the polar spreadsheet you create is within this parameter.

TIP

Create your Polar File without a spreadsheet program such as Microsoft Excel, but use a simple text program such as Notepad.

Table headers contain:

- in the first column all True wind angle (**TWA**) theoretic values (cells under first column)
- in the first line all True wind Speed (**TWS**) theoretic values (cells under first line)
- following columns correspond to the optimum sailing boat speed according to True Wind Angle and True Wind Speed values.

that you don't have to fill-in every field of the spreadsheet. MaxSea interpolates values that are not available.

```

PolarTEST.pol - Notepad
File Edit Format Help
TWA 4 5 6 7 8
30 1.2 2.0 2.8 3.6 4.2
32 1.4 2.2 3.1 3.9 4.6
34 1.5 2.4 3.4 4.2 4.9
It is a commentary
36 1.6 2.6 3.6 4.5 5.3
38 1.8 2.8 3.8 4.7 5.6
40 1.9 3.0 4.1 4.9 5.8
42 2.0 3.1 4.3 5.2 6.1
44 2.1 3.3 4.5 5.4 6.3
46 2.2 3.4 4.6 5.6 6.6
48 2.3 3.6 4.8 5.8 6.8
50 2.4 3.9 5.0 6.0 6.9
52 2.5 4.1 5.2 6.2 7.1
54 2.6 4.3 5.4 6.3 7.3
56 2.6 4.0 5.4 6.3 7.4
58 2.7 4.1 5.5 6.6 7.5
60 2.8 4.2 5.6 6.7 7.6
62 2.8 4.3 5.7 6.8 7.7

```

Example of Polar file

(1) -Comments preceded by quotation marks (")

(2) - Acceptable empty fields

Line that does not have an angle in the "zero" column, is unknown.

Columns which do not have wind speed in the "Zero" line, are unknown.

You can put comments into the spreadsheet but don't forget to include characters before writing the comments.

Characters which are identified as comments:

(**REM**) ou (**rem**) ou (//) ou (;) ou (/*) ou (")

Create Automatically Polar File

This function is only available when your software configuration is a professional version and you also have the Routing and Performance modules.

It is often difficult to obtain the polar tables for your own boat necessary to optimize MaxSea's weather routing performance. MaxSea can automatically create these polar tables for you as you sail your boat.

Then you can change stored values if needed, to learn more on this see related topic : [How to modify a Polar file](#)

To activate this command :

1. The information about the Wind Direction (TWA) and strength (TWS) coming from wind sensor as well as the speed of your boat (SOW) are necessary otherwise a message error will appear to warn you about missing data.
2. Select **[Start Polar Generation]** from the **[Performance]** menu.
3. When estimated time is sufficient, select the **[Stop Polar Generation]** option from the **[Performance]** menu
4. At this time a temporary file is created and it is named (MX_Polar.pol), all new useful information are stored inside.
5. To add definitively the new polar select the **[Validate Generated Polar]** from the **[Performance]** menu.

IMPORTANT - occasional problems may occur when using this command. In following found Message list that can appear:

1. Message warns you that Generated Polar file needs to be validate
2. Miscellaneously problems during generated polar file
3. Message asking you to validate generated polar
4. If data for calculation are missing
5. When Polar file can not be opened for writing
6. Unable to write the log file
7. The Polar File is corrupted for different problems

Display the polar window

Activate the function **[Polar curve window]** from the **[Performance]** menu to display the ship's polar.

By default the full configuration Polar curve window is displayed on middle of the screen.

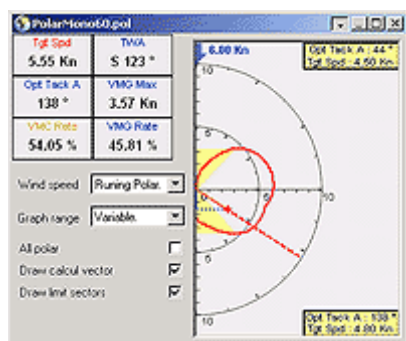
The polar window contains three parts of informations (refer you to the following paragraph):

1. on the upper left corner of the window : table of data which are given from the polar file data according to the yacht characteristics (TWA / **TWS** / Speed, refer you to the "**Polar file**" chapter).
2. down on the left of the window : pop up menu to customize the polar curve display.
3. on the right of the window : The polar curve display and data.

Four buttons on the right upper corner of the window to customize the polar window display :



to change the window polar curve window display (full & reduced mode).



Full window polar display mode

Tgt Spd	TWA
5.55 Kn	S 123 °
Opt Tack A	VMO Max
138 °	3.57 Kn
VMO Rate	VMO Rate
54.05 %	45.81 %

Reduced window polar display mode



to minimize the window polar curve.



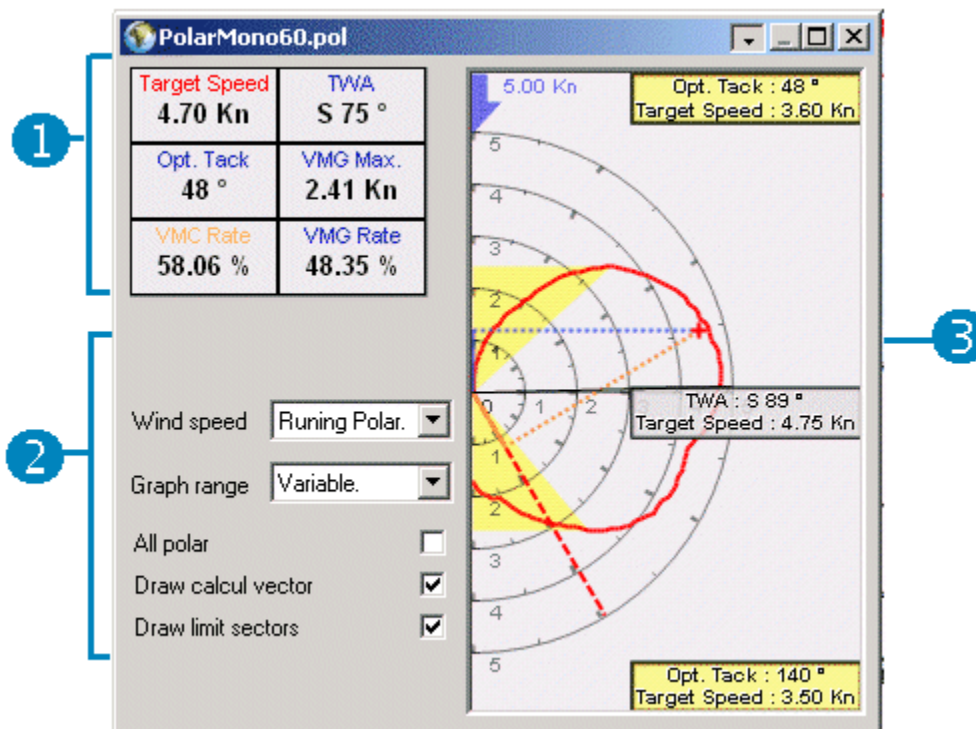
to maximize the window polar curve.



to close the window polar curve.

The Polar window

By selecting **[Polar curve window]** from the **[Performance]** menu the following Polar window is displayed and gives informations about the boat performance:



The polar Window appears on middle of the screen and it's divided in three parts of information :

1 First part of the window shows you a table which contains characteristic values:

- **Target Speed:** the target speed is equal to the theoretic speed of the yacht, as suggested by the polar file (dependent on the wind force and the boat's course), and with the actual current wind **bearing** taken into account.
- **TWA:** True Wind Angle
- **VMG Max.:** VMG when heading into the wind close-hauled and when heading downwind.
- **Opt. Tack:** the optimum tack angle (close-hauled), together with its corresponding speed
- **VMC Rate:** this value is equivalent to the current speed towards the **waypoint** in comparison to the potential speed (as protracted by the current polar).
- **VMG Rate:** efficiency, measured as a percentage and this value equals the measured VMG (near or tail wind) in comparison to the target VMG (as protracted by the polar values).

2 Second part of the window gives you a table which contains characteristic values:

According to the Wind speed :

Wind speed pop-up menu allows you to swap between a manual display (where the wind force value is specified by the user) and an automated display of the polar, taking account of wind force measurements the running polar is selected by default.

- When the running polar is active, the program displays and regularly updates the polar in accordance with the wind speed measured (the running polar). The speed value is displayed in the upper left corner of the polar graph written in blue (third part of the window).
- When the running is not selected the software displays the polar which corresponds to the wind speed as defined by the user.

According to the Graph range :

Allows you to choose a range for the axis of the polar graph display. The variable option is selected by default. This option allows to change the range of the polar graph.

The **“All polar”** check box when it's selected all polar from the file are displayed on the graph.

The **“Draw calcul”** check box when it's selected displays the actual position (red cross) of the boat on the graph and the **vector** projections on the VMG axis and the VMC axis.

The **“drawn limit sectors”** check box to allow the drawn limit sectors on the polar graph.

3

Third part of the polar window corresponds to the polar graph and the following informations are displayed

:

- Respectively, in the upper and lower right-hand corners of the window, the VMG when heading into the wind close-hauled and when heading downwind.
- In the upper right corner of the polar window graph, the optimum tack angle (close-hauled), together with its corresponding speed.
- In the lower right corner of the polar window graph the optimum reach angle (heading downwind), together with its corresponding speed.
- In the upper left corner the Wind speed value is displayed.
- Where relevant, the values of the sector limit between the fore sail and the spinnaker, together with their corresponding speeds (drawn in yellow).
- The boat's location on the current polar is shown by a cross which serves to give an immediate idea of the boat's efficiency (when the cross is situated inside the polar efficiency is inferior to 100%, when the cross is on the polar itself efficiency is equal to 100% and when the cross is outside the polar efficiency is greater than 100%) and the wind bearing (too strong at the near windward, too casting before the wind, within the prohibited sector between before sails and spinnaker).
- By moving the cursor on one of the points of the polar the following information may be obtained theoretic speed of the boat with the actual wind bearing indicated.

Note: it is possible, by moving continuously along the polar curve, to run through different bearings on the polar.

Efficiency values

The **Efficiency Values** indicate the boat's potential speed in accordance with the running polar.

The **efficiency** measured as a percentage is equal to the theoretic speed of the boat, as suggested by the running polar (dependent on the wind force and the ship's course), and with the actual current wind bearing taken into account.

Efficiency on VMG is equal to the value of the theoretic VMG of the running polar (dependent on the wind force).

Note: the program automatically chooses to work on the close hauled VMG or before the wind, according to the real measured wind bearing (close hauled for a real wind bearing below 90°, before the wind for a real wind bearing above 90°).

Efficiency on Waypoint is equivalent to the current speed towards the mark in comparison to the potential speed (as protracted by the current polar) when on a direct course towards the mark.

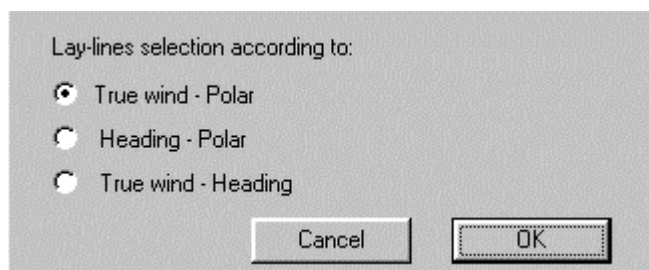
Note: in certain conditions the Waypoint output may be greater than the pure speed output. If this is the case the ship is following a different course to the mark to the direct one, and in doing so it is achieving greater speeds.

Lay-lines

Displaying laylines

Select the function **Display Laylines**

The program asks you first to select the type of lay-lines type to be used:



You have three choices of laylines types, and each time you ask for laylines to be displayed you will need to decide which of the three are preferred.

- **True wind - Polar**

This is the most common mode; the laylines are displayed using the actual measured true wind direction taking into account values indicated by the loaded polar.

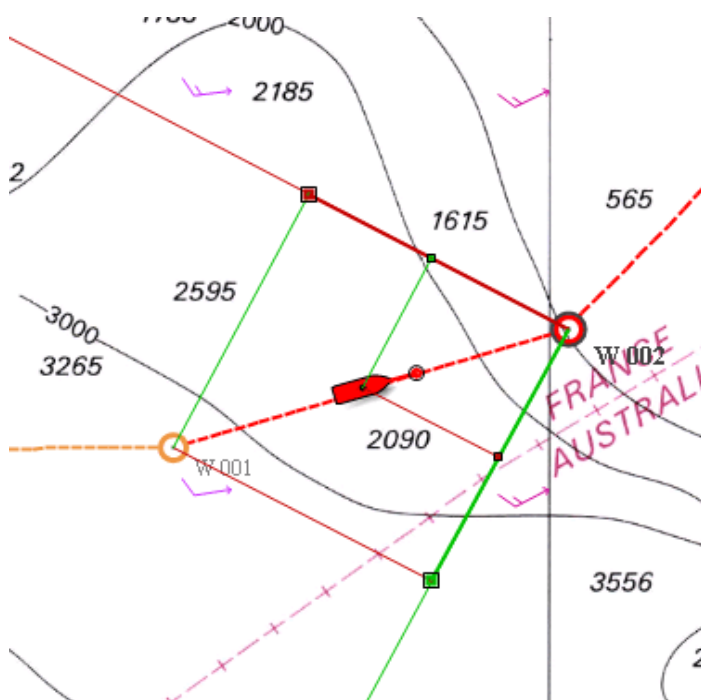
- **Heading - Polar**

This mode can be used when the actual measured true wind does not show direction (the direction at the top of the mast, where the measurement is taken is very different from the average wind direction).

Lay-lines are displayed with based upon the ship's protracted heading, and the values as indicated by the loaded polar.

- **True wind - Heading**

This mode does not take into account the theoretic information contained in the speed polar but instead uses actual measured true wind direction values and the ship's effective heading. This mode should be used when abnormal sea conditions are being experienced.



Lay-lines are then displayed in **color** from:

- Previous Waypoint ,
- Next Waypoint,
- Ship.

Notes:

- Laylines are constantly modified as the wind changes.
- once active, the function **[Display laylines]**, under the **[Performance]** menu, is replaced by the function **Erase lay-lines**.
- laylines are displayed with respect to the active waypoint (i.e. that to which the ship is headed), thus the function is only available if a course has been captured.
- the program automatically displays near or tail wind laylines in accordance with the current true wind (near wind for actual wind bearings of less than 90°, tail wind for real wind bearings greater than 90°).

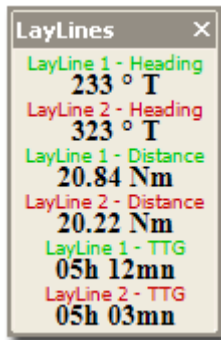
IMPORTANT

The following data is needed for the laylines calculation:

- One of the following : **Course over ground** or **True heading** or **Magnetic heading**
- **Speed over ground**

Lay-lines palette


Activate the function **Lay-lines help** to display the relevant palette.



In the lay-lines assistance palette the following variables are displayed for each lay-line.

- LayLines direction (LayLine1 - Heading and LayLine 2 - Heading)
- Distance between LayLines and the ship's position (LayLine1 - Distance and LayLine 2 - Distance)
- Time required to reach LayLines (LayLine1 - TTG and LayLine 2 -TTG), calculated on the boat's present optimum speed (taken from the current polar).

LayLines Palette layout display's control:

- To show and hide the LayLines palette go to **[Performance]** on the menu bar and choose **[LayLines Data]**.
- To obtain the **LayLines** information in a form of "Menu bar" mode just double left-click in its title bar.
- To return in a form of floating palette, just left-click on the "customizing bar"  and then drag to new position on the screen.
- To resize the palette horizontally or vertically hold down the left mouse button while moving the mouse in whatever direction.
- Right-click in its title bar to change the palette display's mode. Three avamodes of display are proposed in the menu:
 1. The **Degree of transparency** ("Not transparent" or 10% or 20% or 30% or 40% or 50% or Text outline).
 2. The **Font size** (from smallest or smaller or medium or bigger and biggest).

Layout

Right-click in its title bar for changing the layout, different types of layout are proposed in a menu:

1. degree of transparency choosing from "Not transparent" or 10% or 20% or 30% or 40% or 50% or Text outline.
2. font size choosing from smallest or smaller or medium or bigger and biggest.

Note: to change the presentation of this palette (in the horizontal or the vertical sense) click on the button situated in the right hand corner of the menu bar; hold down the Shift key while clicking on this button to swap between horizontal and vertical layout.

Wind sensor

Modify the wind sensor

Lay-lines can be displayed even if you have no compass using a wind sensor, or enter a value manually.

To define Wind sensor data parameters you have to activate the new menu

[Modify wind sensor] from **[Performance]**

The following dialog appears:

Choose:

Sensor Wind

To use receive data from Wind Sensor

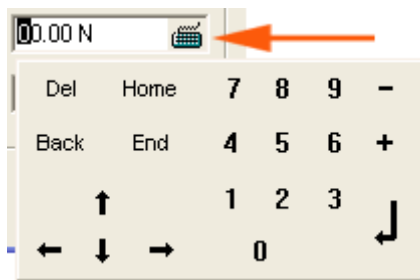
Constant Wind

To enter manually a constant value for Speed and Direction.

Change Constant wind value

To change one value you can either:

1. Directly enter values using numeric Keyboard
2. Or click on the corresponding button for using the "Virtual keyboard"



The "virtual keyboard" contains three parts:

1. Part 1 where you can reset number by clicking on DEL, select the first number by clicking on HOME, select the last number by clicking on END and to select the previous number by clicking on BACK.
2. Part 2 is dedicated to navigational arrows (left, right, up and down).
3. Part 3 click on each number for typing the number value. Click on the Entered arrow before quitting.

Modifying Wind Forecast

It is possible to adjust the wind forecast data values, in order, for example, to take into account the hours or wind direction or wind speed, which has been prevailing in the zone for several days.

In such a case, the program replaces the values which you have selected in the corresponding input text.

Activate the function **Modify Wind Forecast**, under the **Weather** menu, to access the modify Wind Forecast dialog box.

Go to the **[Weather]** menu and choose **[Modify Wind Forecast]**

A dialog box appears and allows you to modify parameters as:

1. Wind forecast hours value from + or - 24 hours .
2. Wind angle enter + or - 180 °.
3. The strength of the wind from + or - 50.

IMPORTANT - this function will only be available in case if your software is a professional version and it has Routing and Performance modules.

Data Trend Center

What "Data Trend Center" function is?

The "Data Trend Center" function is only available if you have program's **PERFORMANCE** module.

By using data received from the navigation center, MaxSea is able to carry out a graph in the form of curves and deducts a tendency from it of variation. This graphic representation can help you to choose quickly a strategy of navigation to be adopted in the time according to the studied parameters.

IMPORTANT - In the case of an analysis made on a short duration, the inaccuracy of certain data does not allow to refer to it, MaxSea calculates the values of prediction from a sample of historic data, these data can be interpolated calculation. The curve of prediction is not thus faithful to that of the sample of the history, it is only the interpretation of what could be.
--

The data analyzed graphically are the following ones:

- True Wind Direction (**TWD**)
- True Wind speed (**TWS**)
- Barometric pressure
- Polar rate (return in %)

Note that two data among the four can be simultaneously represented on the graph.

This function is to be found under the **[Performance]** menu of MaxSea.

Modifying "Data Trend Center" parameters

Select **[Option: Data Trend Center...]** from the **[Performance]** menu to call up the dialog box detailing the parameter settings of the "Data Trend Center" graph.

A dialog box appears and offers you the possibility of modifying parameters of the sample study and the tendency of prediction as well as the graph display characteristics.

For that purpose, select one or two data to analyze, then enter the study parameters as well as the graph display parameters.

Choosing data to be studied:

1. Define the number of data to be studied (2 at most if the check box **"Study second data"** is selected).
2. Select from the pop-up menu the type of data among the four data which are proposed (Barometric pressure, True Wind Direction, True Wind Speed or Polar rate).
3. Then choose a "Confidence interval" so that the values displayed on the graph are included in this interval (by default it is equal to 95 %, the value should be defined between 85 % and 97,5 % if you chose a value outside this interval a warning reminds you the limits).

Defining study characteristics :

"Study time" is determining for historic and prediction analysis. The stored data number is important all the more as the study duration is long. If it is the case The step of sampling will be bigger and the graph precision more true (all the seconds MaxSea records data).

1. Select a **"Study time"** value which can be defined from three minutes to one day (maximum value 23. 59). In case the selected values are inconsistent a warning reminds you the limits.

2. By proceeding in the same way as above select a "**Prediction time**" value. This value is going to depend on that of the "Study time" value and can be superior to the defined "Time study" but should stay in limits of coherence. (If the studied values are not enough to define a sampling prediction then a warning appears and reminds you the setting parameters).

Example: "Prediction time" depends on the value chosen as the study so, if the duration of study is defined between 10 minutes and 33 minutes (with a step of 5 seconds for the data recording) the prediction time should not exceed the 30 minutes.

Display Characteristics

Select the corresponding check box to decide which curve will be displayed on the "Data Trend Graph".

The different curves displayed on the graph are :

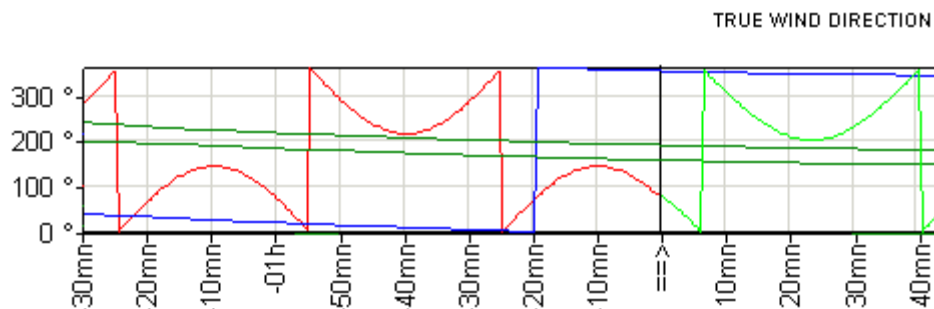
- "**Data Curve**" drawn in red on the graph and which corresponds to a sample of historic data graphic.
- "**Approximations**" curve drawn in blue on the graph.
- "**Prediction**" curve drawn in light green on the graph and which corresponds to the tendency of variation. From the sample historic data MaxSea is able to carry out the "Prediction curve" on the graph.
- "**Trust interval**" curve drawn in dark green.

To change the curve color you should click the pop-up menu situated next to the color, then a color palette appears:

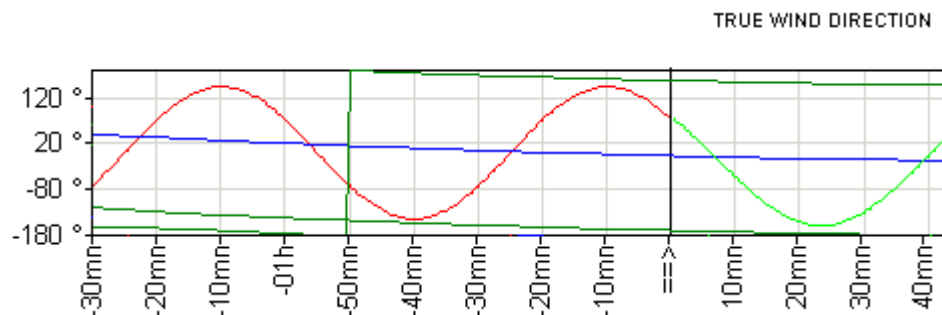


Selecting the "Confidence interval"

In case the curve of "Angle" data displayed between 0 and 360 ° (trust interval selected by default) appears in the following way:



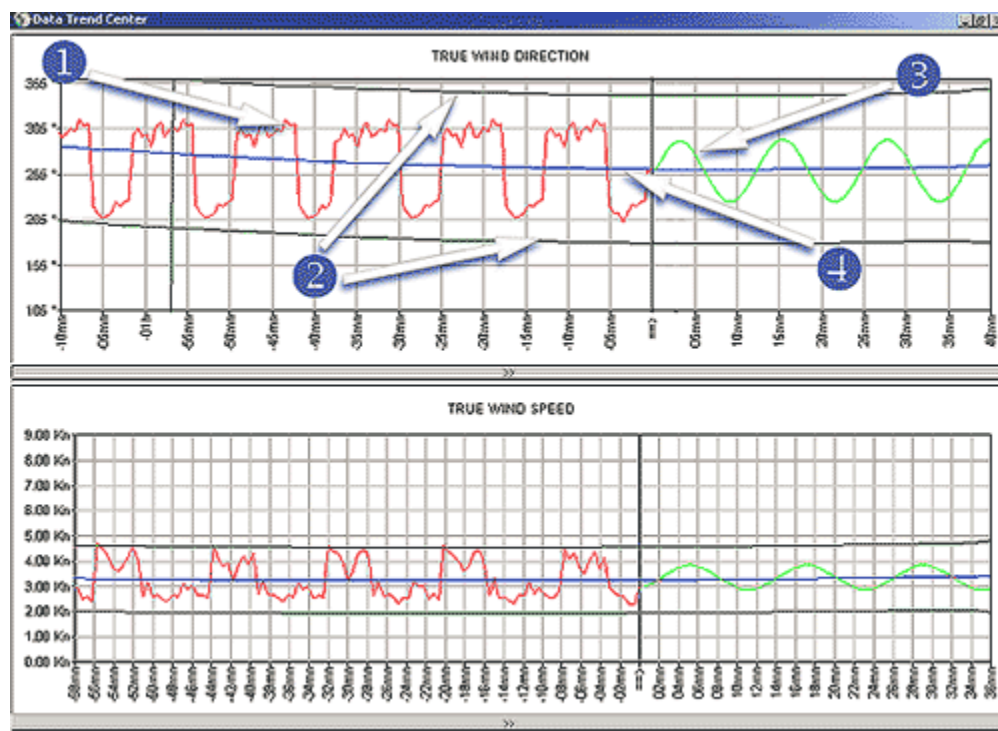
You can select The $[-180^{\circ}, +180^{\circ}]$ item to improve the curve display inside the trust interval and will appear in the following way:



The "Data Trend Center" graph

To display the "Data Trend Center" graph please, select the [\[Data Trend Center\]](#) item from the [\[Performance\]](#) menu.

According to the parameters defined beforehand, the window " **Data Trend Center**" graph appears under one or two graphs.



Description of one of a "Data Trend Center" graph above :

- 1 The first part of the curve (drawn in red) corresponds to the representation of a sample calculated from the data history, then it goes on by a curve drawn in light green which is the tendency of variation representation.

- 2 The historic data sample and the prediction curves are drawn inside the trust interval which is drawn in dark green on the graph.
- 3 The curve drawn in light green, corresponds to the prediction calculated from the historic data sample.
- 4 The approximations curve is drawn in blue on the graph.

In the present example the parameters chosen are:

Two types of data to be studied:

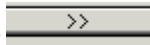
TWD (True Wind Direction) data are represented on the first graph with a confidence interval equal to 96 % (curve situated upper into the "Data Trend Center" graph window)

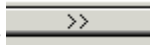
TWS (True Wind Speed) data are represented on the second graph with a confidence interval equal to 94 % (curve situated at the bottom of the graph)

Study Parameters:

"**Study Time**" duration is defined to **2 hours and 10 minutes** (all values put back on the left of the times axis before the arrow are negative values. The arrow indicates the axis zero point of times).

"**Prediction time**" duration is defined to **35 minutes** (all values put back on the right of the times axis after the arrow are positive values to the right of the arrow)



The arrow  situated on the middle of the horizontal bar allows to select a zone to be studied with more precision.

(Please, refer to the "Customize paragraph " according to Options of posting " for more information)

Remarks

In the sampling MaxSea does not store the data which are lower than the minute.

MaxSea can be unable to calculate a prediction when several history data from the sample are missing and when this absence does not appear in a evident way on the curve.

The prediction curve can start before the "zero" point of the times axis :

This will happen in case the received data stop, at this moment MaxSea calculates the prediction from the last successful data.

(Please, refer to the paragraph " **Input / Output port configuration**" paragraph from the "**Connect equipment to MaxSea**" chapter to verify your instruments connection)

Customize the display

To activate a selection zone on the "Data Trend Center" graph click on the arrow  button.

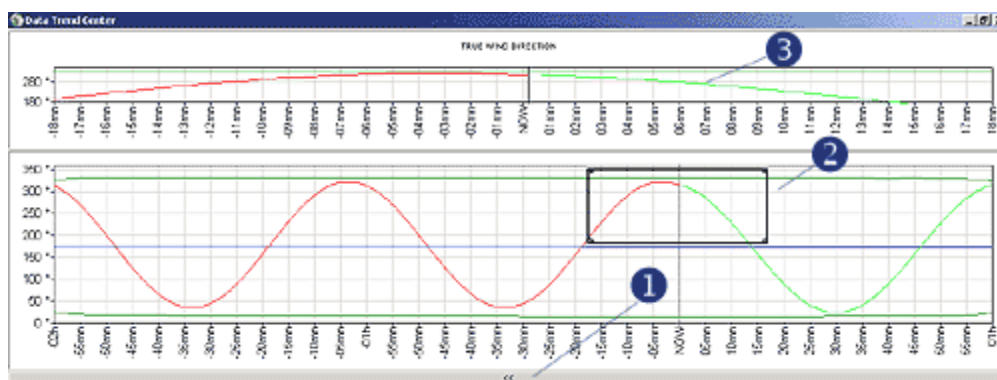
Then a selection area is drawn on the graph and allows to zoom in or to zoom out on a very precise part of the curve.

In case it's the first time using the "zoom in / zoom out" button:

- To select a part of the curve which needs to be study precisely, click on a corner of the selection and drag the mouse held down to the desired size.
- Then click again on the arrow to validate the display.

Note first using all the curve is selected by default .

To change the zoom view on the curve you have to click again on the arrow and the following window appears :



1 the "Arrow" button which allows to activate the zoom in / back zoom out function on the curve.

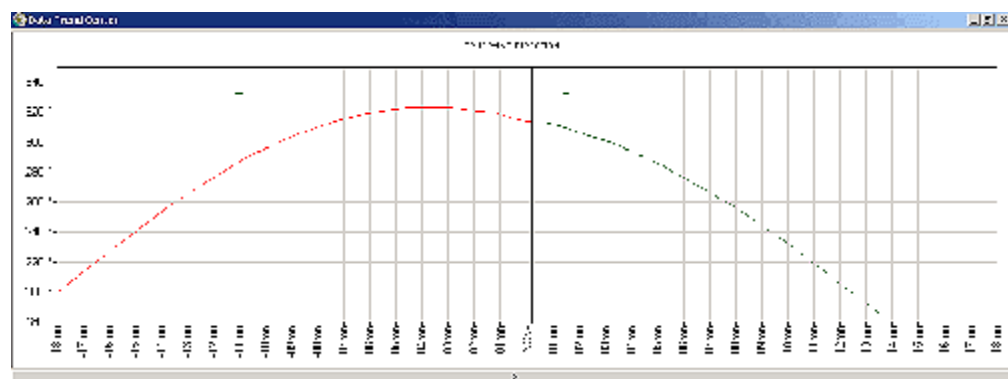
2 the selection zone which moves as you move the mouse on the curve.

To define a new selection on the curve:

- By moving the selection on the curve. As the selection moves the upper preview window is updated in a simultaneous way.
- By resizing the selection area on the curve.

3 Preview selection zone window.

To validate the display click again on the arrow button.



Weather Routing

What Weather Routing is ?

The two most important factors involved in achieving the optimum course are the weather forecast and speed of the sailboat.

The Weather Routing functions are only available if you have program's **Weather Routing** module is using a weather forecast and a Polar file together.

The program incorporates routing functions, which allow you to calculate, with the help of **weather forecast** files and **Tidal current**, the optimum course for your sailing boat to follow in the forecasted conditions.

The Weather Routing requires a weather forecast file and a polar file opened.

You will learn in this section:

1. [How to open a Polar File](#)
2. [How to open a Weather Forecast File](#)
3. [How to plot the waypoint to reach](#)
4. [How to calculate a Weather Routing](#)
5. [How to calculate a Weather Routing from a selected point](#)
6. [Displaying the Weather Routing on the chart](#)
7. [The Weather Routing Center](#)
8. [Editing and Modifying the Weather Routing](#)
9. [How to Create "Routing Areas" Layer PTF file](#)
10. [Create and Play a Wether Routing Animation](#)

Note: Weather Routing's functions can be found under the **[Performance]** menu.

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Note: Weather Routing's functions can be found under the **[Performance]** menu.

Open a Weather Forecast File

Your ship's potential performances are saved as speed polars.

The first time the program is launched you are asked to select a polar file; this is the file, which will subsequently be automatically loaded when the program is re-launched.

- If you wish to change the polar file select **[Open]** from the **[File]** menu.
- Then, choose from **"My documents"** folder the polar file which has for extension **(* .pol)**.

Note: to show only the polar files, click on the **Files of type** pop-up menu and select **"Utils: Polar(*.pol)"** item .

- Lastly select the desired file from the list and click on **Open**.

Plot the Waypoint to reach

Plot a waypoint or several waypoints on the chart

1. Select the color and shape of your Waypoints in the toolbar
2. Select the Go to Tool and wherever you want on the chart to plot the waypoint to reach

To learn more see related topics :Go to a chosen Waypoint (Quick Route) or Active Route

Calculate a Weather Routing

Before launching a weather routing you firstly need to do the following:

1. [Opening a polar file](#)
2. [Open a Weather Forecast File](#)
3. Displaying Tidal Currents Data
4. **The route's start-point** is your boat's present position, so nothing needs to be done here. In this case no specific action has to be done except when you wish to plan your route from a precise position or if your GPS fails. You can calculate the [Routing from a selected point](#).
5. [Plot the Waypoint to Reach](#)

Then launching the Weather Routing

Select the function **[Calculate Routing]** from the **[Performance]** menu to launch the Routing.

By default the Routing parameters are the following:

Study angle : -60 to 60°

The leisure routing stops when :

The last waypoint is reached.

or

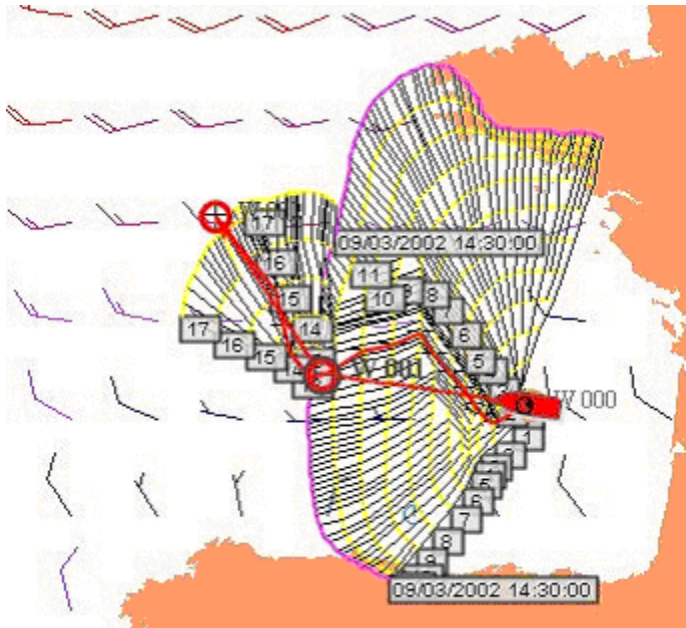
The weather file is close enough.

or

The geographic limit of the weather data is reached.

Isochron interval : 2 hours

Efficiency : 100%



Note : these parameters are fixed and can not be modified.

Calculate Routing From a Selected Point

This function will be used depending on your choice:

1. If the boat's GPS system fails and no position is coming in.
2. To choose the most comfortable and safest route depending on the current weather forecast.
3. If you want to launch a routing from a point other than your own current position for instance, from a competitor's position. (see also related topic: [Selecting an Optimal Routing](#))

You must firstly plot an isolated waypoint or mark indicating a chosen position on the chart (refer to the paragraph Plotting isolated points in the chapter User data).

You can use the right-click menu on this point to access its information window by choosing Mark Properties. Then modify, where necessary, this point's time and date according to a competitor's position. Click in the date and/or Time corresponding fields and enter the new values.

Note: If you wish plan the route of a competitor, rather plot a mark than a waypoint because you will be able to modify date and/or time of the selected position. Repeat the process as often as you wish to calculate each competitor's routing.

IMPORTANT - The date, time and position of this point should not be out with the geographical and time zones of the open weather file.

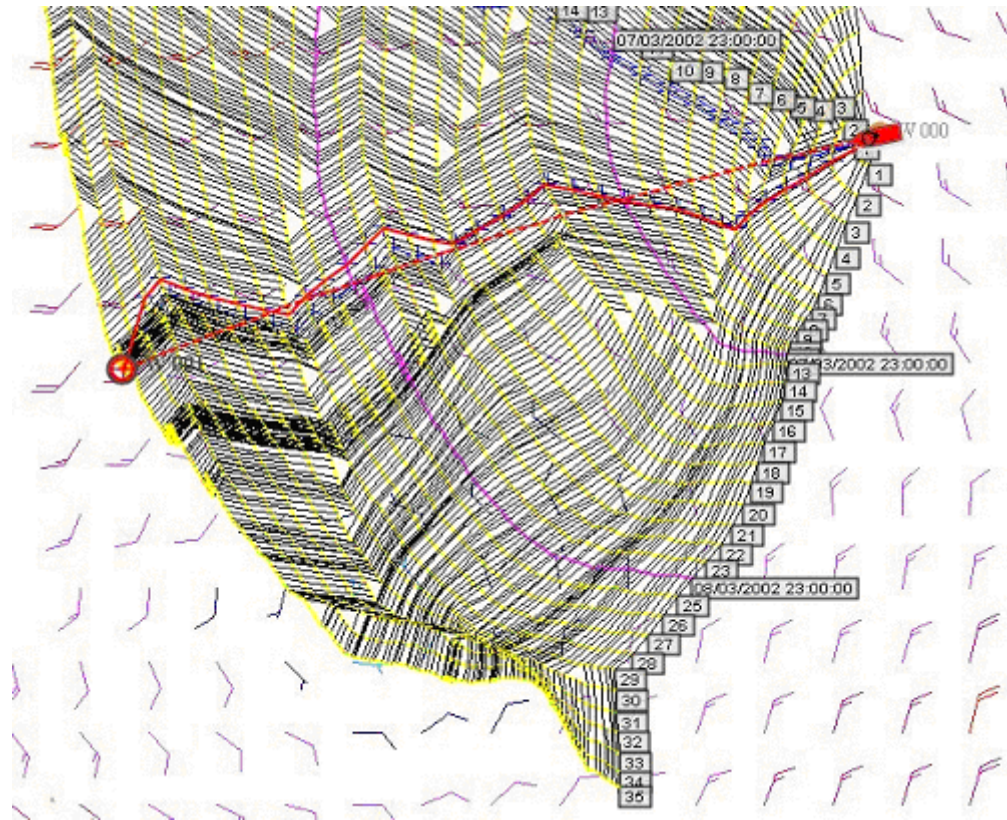
Lastly, select the function from the Performance menu for the isochrons to be calculated. Launching a competitor's routing is not different from launching a routing from your own position, you can refer to the other paragraphs of this chapter to find out how to manage competitor routings (displaying the route list, alternative routings, etc.)

Weather Routing displayed on the Chart

Weather Routing is displayed on the chart along with the isochrons.

From a waypoint

- Isochrons are displayed on the chart as alternate **yellow and purple curves**. Each numbered isochron is drawn in yellow every 2 hours on the chart and purple every 24 hours.
- All route plans indicated by isochrons are **optimal** route plans (**drawing in black**); they show route plans according to the varying criteria (**bearing** more to the north, more to the south, etc.) with varying distances from the target **waypoint** .
- Once the last isochron has been drawn the program calculates the optimum route plan (**drawing in red**) for reaching the selected waypoint.



The routing is calculated by the program using a set of powerful and sophisticated algorithms. It also takes into account any open tide or ocean current files.

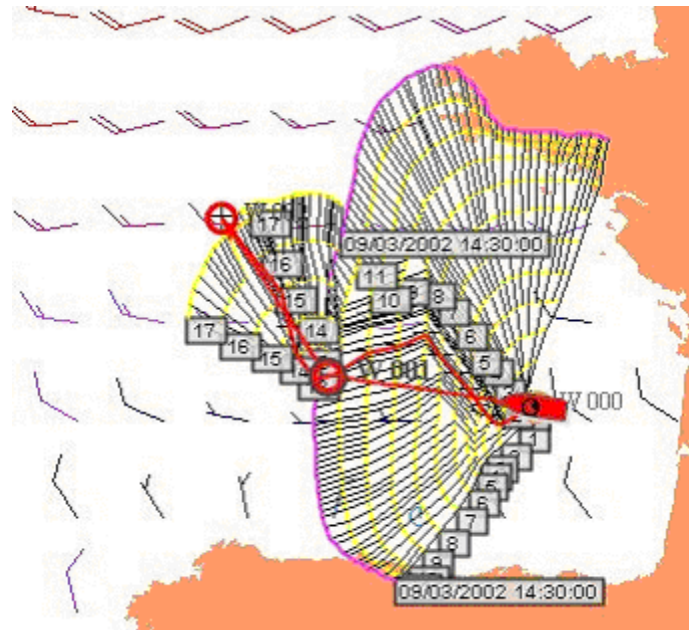
The form of the isochron displayed is particularly important for an overall evaluation of both **options** and **risk**. For example, an isochron which is swollen in the north and fleeing in the south means that options in the north are generally favorable; an isochron with a pronounced tip indicates a very favorable route plan, but one which must be followed strictly (thus having a high risk factor); a flat form on the other hand indicates that the chosen route is not particularly favorable.

Note: to calculate the routing, the program uses the active polar. You can choose to use another polar file and recalculate the routing.

From several Waypoints

If you have plotted several waypoints and have launched the Routing module:

MaxSea's multi-waypoint routing allows you to define an optimal route plan from the boat position to the active waypoint then from this waypoint to each subsequent waypoint to the end of the course.



Note :

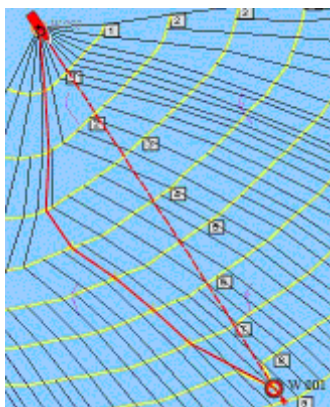
- (1) - If the last waypoint is outside the geographic zone weather file, the route plan will stop at the end of the weather file.
- (2) - isochrons can be displayed or hidden in order to improve the legibility of the chart; click on [\[isochrons\]](#) to check the option and click again to uncheck the option , as appropriate, from the [\[Performance\]](#) menu.

Edit and Modify the Weather Routing

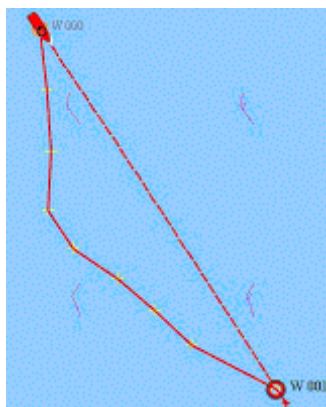
Show & Hide isochrons on the chart

Isochrons may be displayed and removed at your will in order to improve the legibility of the chart:

simply choose [\[Isochrons\]](#) from the [\[Performance\]](#) menu to show isochrons ("**Display isochrons**" item is checked) or, as appropriate choose again this option to hide isochrons ("**Display isochrons**" item is unchecked).



"Display isochrons" item selected



"Display isochrons" item is unselected).

If the Weather Routing is invisible, the Weather Routing still exists but the layer may be hide to enable the Routing track visible on the chart. If not click the Layer Information button in the chart palette.

Delete a Route plan

To delete the optimal route plan and its corresponded isochrons, you have to simply hide the weather file by clicking on the weather button , at this moment the program saves the **track** in the active layer file which corresponds to the initial routing and which contains all its parameters (times at certain points in the passage, wind force and direction, etc.).



Refer to the **User data chapter** for the management of such data (for example, how to remove a track) and access information at any point on the plotted course (by double-clicking at the desired point with the **Finger** tool).

Launch a new Route plan

If a routing has been plotted and you then decide to launch a second routing (once you have changed the weather file or opened a different polar, etc.), the program will use the current parameters to calculate the optimum course.

Change color to make difference between Routing Tracks

1. Select a chosen routing track drawn on the chart with the Select Tool
2. When each point along the Weather Routing track appears selected, click on the Plotting Color tool in the Toolbar.
3. The color palette is displayed, click on a color and the track is simultaneously colored with the chosen color. This allows you to make difference between different type of routing.

Convert the route plan to an Active Route

If you wish to follow the optimum course which is calculated by the program, you can transform this routing into " **Active Route** ".

1. Double-click between two points in the Weather Routing with the Select Tool.
2. All the points will appear selected.
3. To convert a Weather Routing to Planning Route, choose the **[Import Selection To Route...]** from the **[Route]** menu.
4. Double click the new Planning Route with the Route Tool to activate it.

"**Active Route**" chapter for more information).

Displaying the Routing Center

Select the function **[Routing Center]** from the menu **[Performance]** to display it.

The "**Routing center**" window allows to obtain three types of information:

1. Information on the route.
2. The navigation attributes of a waypoint on the route
3. The accumulated values

For every section of the route, Maxsea gives navigational information, to get from one point, on the route, to another one:

1. Name of the waypoint to be reached,
2. Position in latitude and longitude,
3. Heading to be followed to reach the following or previous point,
4. Distance between two points on the route,
5. Running time, with polar speed, from the beginning of the trip,
6. Speed reference: from the beginning of the trip, with a calculation for wind taken into account (wind at the beginning of the trip).
7. This indicates, depending on the isochron interval selected (6 hours in this case), routing points, hours, vessel speeds, headings, true and apparent wind at these points.

In each point of the route contains:

1. A passage date (column from the table " **ETA** ")
2. A state of the current at this date: direction and speed. These parameters are represented in the table by columns "**Dir. Current**" for the direction of the current and by " **Current Speed** " for the speed of the current.
3. A state of the wind at this date: direction and speed. These parameters are represented in the table by columns " Dir. Wind " for the direction and by "**Speed True, Apparent**" For the wind speed.
4. Apparent wind and close to a point, these parameters are represented in the table by the columns "**AWA**" For the apparent angle of the wind, "**App. Wind Sp**" for the apparent wind speed and " **Rel. Wd. Ang.** " for the relative angle of the wind.

The **Route List** shows the coordinates, together with time, yacht's speed, heading, actual and apparent wind for each isochron at the intervals specified (of 6 hours in this case)

Note: as well as giving important help in predicting changes in wind direction and force, the route list also allows you to pin-point any differences between the forecast weather conditions (from the weather file) and those actually being experienced. The software offers you tools to modify the weather file (refer to the next paragraph, [Modifying the weather file](#)) if necessary to make your navigation more accurate.

The **Routing center** window shows the coordinates, together with time, yacht's speed, heading, actual and apparent wind for each isochron at the intervals specified (of 6 hours in this case).

Note: as well as giving important help in predicting changes in wind direction and force, the route list also allows you to pin-point any differences between the forecast weather conditions (from the weather file) and those actually being experienced.

Related topic for selecting the Routing Center table : [Setting the display parameters for center tables...](#)

Calculating Weather Routing with Tidal current

If there are Tidal Currents data in your navigation zone area, the software will calculate the Weather Routing with selected Tidal Currents data.

When you have plotted the point on the chart to reach, opened Weather forecast and polar files, you may activate the tidal current layer to calculate the weather routing with the Tidal current data.



Click on the Tides and Tidal Currents button to turn on its menu list and choose under the "**Active Current Data**" item which Tidal current you want to activate in calculating the Weather Routing.(learn more on the "Tides and Tidal Currents" section.)

Then go to the [\[Calculate Routing...\]](#) from the [\[Performance\]](#) menu.

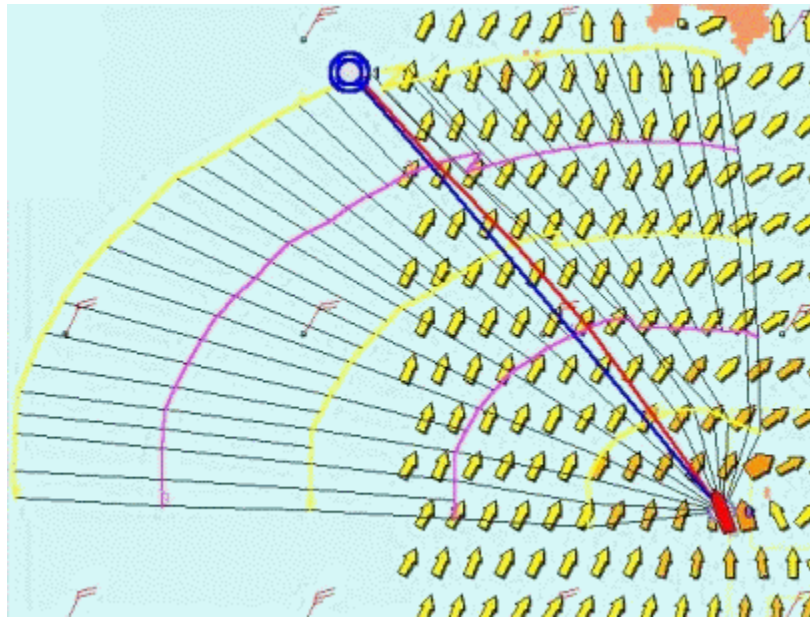


Fig.1

As it is shown in the Fig.1 the weather routing is automatically generated according to the direction and speed of tidal current data.

Create and Choose "Routing Area" Layer File

MaxSea allows you to plot specific areas on the chart and save them onto a layer PTF. You can after select this file under the Routing Initialization dialog when activating the **[Calculate Routing]** function under the **[Performance]** menu. This will improve the safety of your navigation and when the boat approaches areas limit plotted on the chart the route plan will be avoided.

Create a Layer PTF and Draw Areas on the Chart

1. Create a new layer PTF and activate it before drawing
2. Click on the plotting tool and choose the new layer to activate it
3. Set up the plotting tool by choosing area, color, shape types depending to your choice
4. Draw all area you wish and save the layer when you have finished.

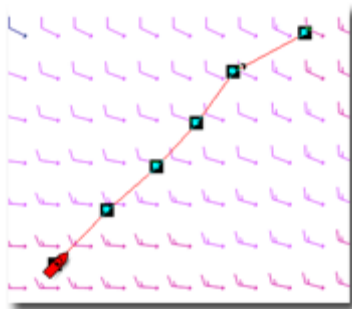
Choose the Routing Area file

1. Select the **[Calculate Routing]** under the **[Performance]** menu and the Routing Initialization appears.
2. Check the "Activating area exclusion" box in the bottom of the dialog (unchecked by default)
3. Choose an approach for controlling area exclusion either from inside or outside.
4. Click on Browse to search and select corresponding Routing Area layer PTF

IMPORTANT - a message will warn you when activating the routing calculation will avoid because you navigate in a target monitoring zone activated for avoiding

Create and Play a Weather Routing Animation

Movie below was created in MaxSea with a selected Weather Routing, it shows you how the boat will move according to the wind data speed in MaxSea. A ship icon follows this route in parallel with changes in the weather. This tool is particularly powerful as it correlates your route forecasts with changes in the weather.



Select the Weather Routing before creating the movie, Right-click any where in the Weather Routing track and choose "Select /Line" in the menu list.

Note: the movie can be played outside MaxSea using Window Media Player .

Weather Routing Properties

All values listed in the Weather Routing Center are momentarily displayed when calculating a routing. This enables to easily follow

The Weather Routing history is

Label	Definitions	Value by default	Default column displayed in the following Order
COG	Course Over Ground - the direction, reported in true or magnetic north values, in which a GPS receiver and the person operating it are moving with respect to the earth.		<input checked="" type="checkbox"/>

SOG	Speed Over Ground - it is the actual fixed geographic speed of a vessel. It is essentially the Speed over Water (SOW), plus the cumulative effect of wind and current.		<input checked="" type="checkbox"/>
ETA	Estimation Time Arrival - Software calculation with present date and speed of the vessel.	Software calculation with present date and speed..	<input checked="" type="checkbox"/>
Current Dir	Current Direction		<input checked="" type="checkbox"/>
Current Speed	Current Speed		<input checked="" type="checkbox"/>
TWD	True Wind Direction - In order to overcome the effects of drift and wind, a vessel which is trying to reach a given waypoint may not bear straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD).		<input checked="" type="checkbox"/>
TWS	True Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (TWS).		<input checked="" type="checkbox"/>
TWA	True Wind Angle		<input checked="" type="checkbox"/>
AWA	Apparent Wind Angle		<input checked="" type="checkbox"/>

AWS	Apparent Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (True Wind Speed, or TWS). Your product derives TWS from AWS by taking the vessel's motion into account.		<input checked="" type="checkbox"/>
Leg Dist	Leg Distance - distance between two waypoints.		<input checked="" type="checkbox"/>
Tot Dist	Total Distance - additional distance between the first waypoint and the last waypoint.		<input checked="" type="checkbox"/>
Pos	Geographical position drawn by a point on your chart.		<input checked="" type="checkbox"/>

Professional Weather Routing

What is a Professional Weather Routing is ?

Routing functions are only available the software is configured as professional version and have the **PERFORMANCE OR ROUTING** modules.

Routing is the calculation of the optimum course. The two most important factors involved in achieving the optimum course are the weather forecast and speed of the sailboat. Other influences include tidal and ocean currents that may cause the boat to drift significantly, depending upon the strength of the current.

MaxSea offers "true routing", which uses an algorithmic method to determine the optimum route

The program incorporates routing functions that which allow you to calculate the optimum course for your yacht given the forecasted conditions.

Note: the Routing functions are to be found under the **[Performance]** menu.

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The program incorporates routing functions that which allow you to calculate the optimum course for your yacht given the forecasted conditions.

Note: the Routing functions are to be found under the **[Performance]** menu.

Before Calculating a Professional Weather Routing

To use the Routing function you must do the following:

1 - Opening a polar file

Your ship's potential performances are saved as speed polars. Contact your MaxSea distributor for information on how to obtain polars for your particular boat.

The first time the program is launched, you are asked to select a polar file; this is the file that will loaded automatically each time MaxSea is started.

- If you wish to change the polar file select **[Open Polar Curves File]** from the **[Performance]** menu.
- Select the desired file from the list and click on **Open**.

2 - Opening a weather file

see entitled Weather module to learn how to manage weather files.

You should select a weather file which covers both the start-point for the routing (the ship's present position) and the desired course.

The start date for the routing must also fall within the dates covered by the weather file.

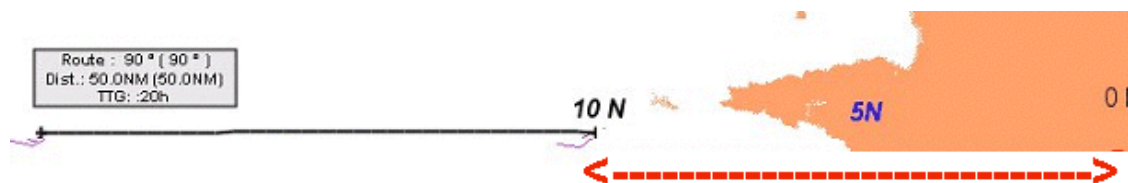
If the weather dates are outside the current date, a dialog box appears and warns you that the present route plan will start precisely at the first weather file's date.

In the case the start waypoint is situated outside the geographic zone covered by the weather file two possibilities:

1. **The start waypoint is too far from the last weather file point.** A dialog box appears and warns you that the last waypoint is outside the geographic zone weather file. The routing can not be launched at this time.
2. **The start waypoint is situated in an interval close enough to the last available weather file point.** The routing is launched from an interpolation of the nearest weather data. The interpolation interval data depends of the weather file data precision.

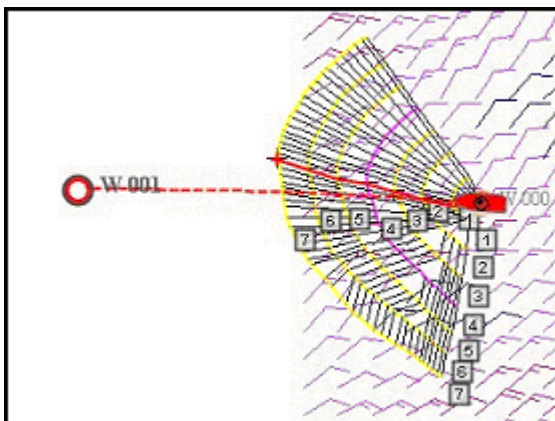
The following example shows you how the interpolation calculation is done:

In case the distance between two data points from the weather data file is equal in 50M, the interpolation calculation will be done on the last available weather data. The values will decrease since this last value (10 N from the following example) until 0 N.



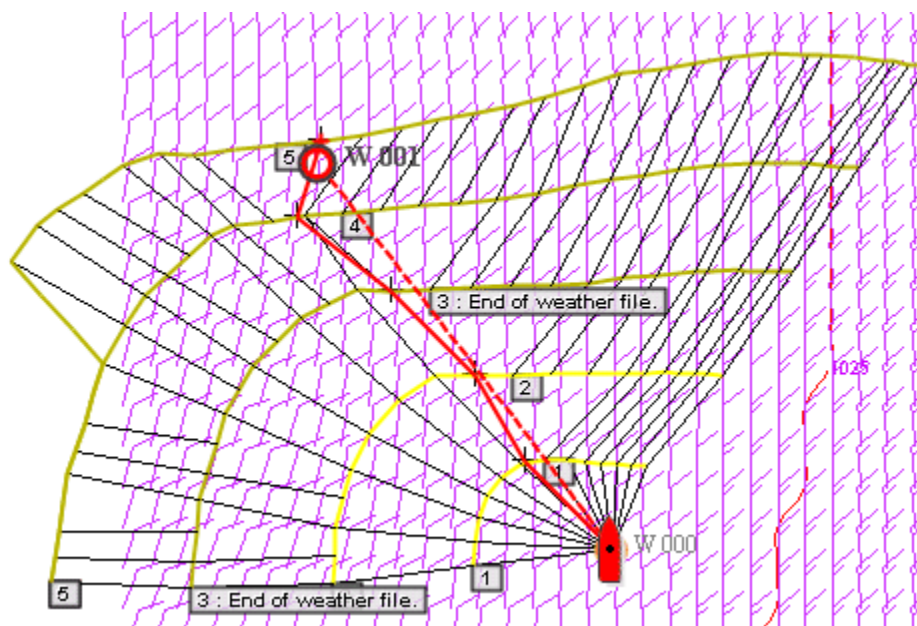
In the case the arrival waypoint is situated outside the geographic zone covered by the weather file:

At this moment the routing will stop at the end of weather file data.



In the case the arrival waypoint is situated outside the weather file's data:

The Route plan will reach to the target waypoint and a label is displayed on the chart which indicates the end of weather file's data. The isochron curves will be drawn in different colors to show the difference.



3 - Displaying tidal current

Display and activate the Tidal current layer on the chart if needed (by clicking on **Tidal Current** button, select Active Current Data and choose which Tidal Current layer you want to add in your routing calculation).



4 - Choosing the course start-point

This is your yacht's present position, so nothing needs to be done here.

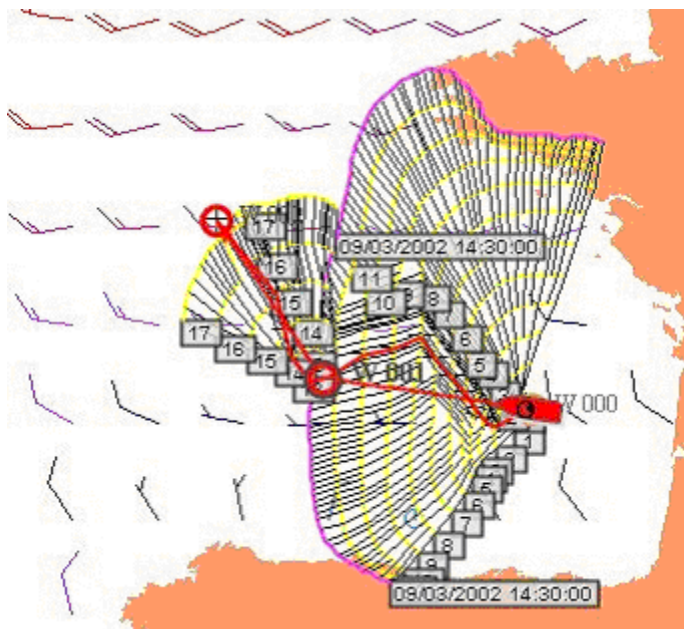
Note: it is possible to display your competitor's yacht as well as your own (refer to the next paragraph, [Launching a competitor's routing](#)).

5 - Choosing a target waypoint or several waypoints (MaxSea allows routing on several waypoints)

Plot a waypoint or several waypoints on the chart (refer you to the "Active Route" chapter for more information)

Calculating a Route

Once you have plotted an **active route** and opened the corresponding files , select the **[Calculate Routing]** from the **[Performance]** menu.



A dialog box appears and allows you to configure the Routing parameters (refer to the next paragraph [Modifying routing parameters](#)).

By default the Routing parameters are the following:

Study angle : -60 to 60°

Number of isochrons to display : 60

Isochron interval : 2 hours

Efficiency : 100%

Displaying Pro Routing on the Chart

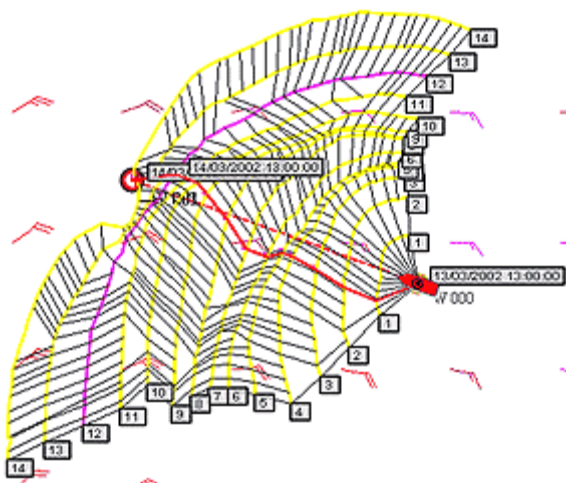
The routing's start- and finish-points, together with its start-date, will be displayed as well as some additional parameters which can be modified in the different input texts (refer you to the following "Modifying routing parameters" paragraph).

Then Click on **OK** to validate the parameters shown and launch the routing.

Isochrons will be displayed on the chart and **note** that you can interrupt the display of isochrons at any point by clicking the mouse button.

Once the last isochron has been drawn (the total number having been determined in the routing parameters, as outlined in the next paragraph [Modifying routing parameters](#) to change it), the program calculates the **optimum course** for reaching or getting nearer to the selected **waypoint**.

From a waypoint



- Isochrons are displayed on the chart as alternate **yellow and purple curves**. Each numbered isochron is drawn every 2 hours (this parameter value is defined by default) on the chart (**yellow drawing lines**) and in the case the routing is calculated on several days the date is displayed for each 24 hours on the chart (**purple drawing lines**).
- All route plans indicated by isochrons are **optimal** route plans (**drawing in black**); they simply show route plans in accordance with varying criteria (**bearing** more to the north, more to the south, etc.) and thus with varying proximities to the target waypoint.
- Once the last isochron has been drawn the program calculates the optimum route plan (**drawing in red**) for reaching the selected waypoint.

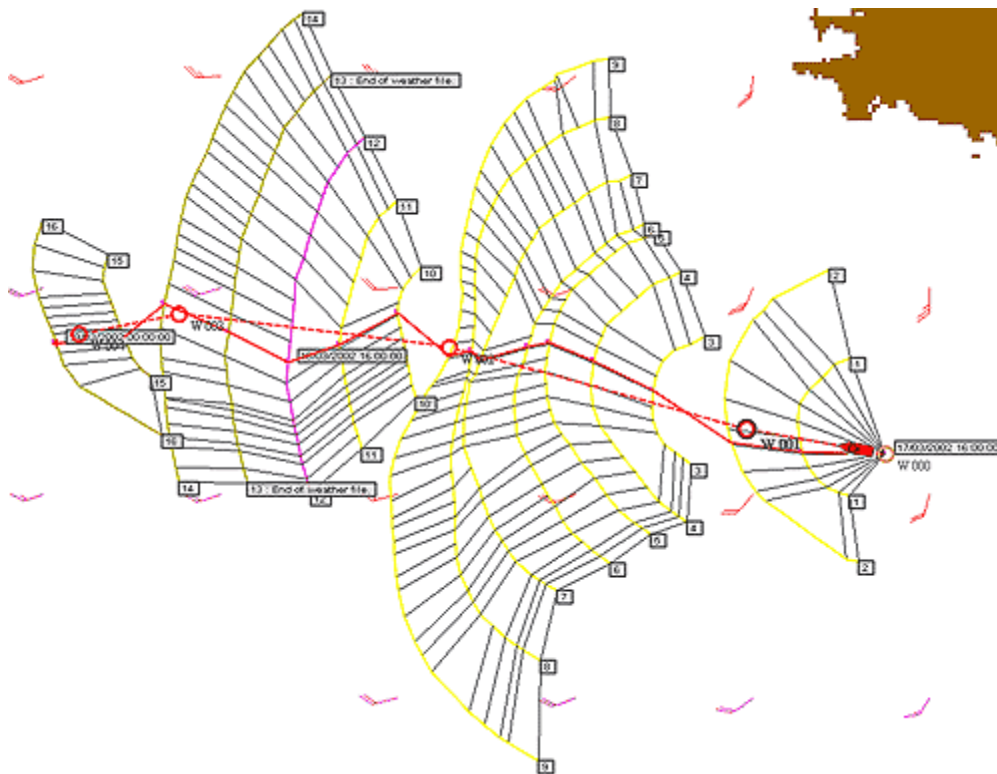
From several waypoints (multi-waypoint routing)

If you have plotted several waypoints on the chart and launched the Routing.

The multi-waypoint routing allows to define an optimal route plan of from the boat position to the active waypoint then from this waypoint to the following waypoint and so till the end of the course.

In this case the arrival waypoint is situated outside the weather file's data:

At this moment the Route plan reaches to the target waypoint and a label is displayed on the chart which indicates the end of weather file's data. The isochron curves are drawn in different colors make the difference. (the yellow color becomes a green color) to



The routing is calculated by the program using a set of extremely powerful algorithms. It allows you to display the general options. It also takes into account any current file which is subsequently opened (tide or ocean current).

The form of the displayed isochrons is particularly important for an overall evaluation of both **options** and **risk**. For example, an isochron which is swollen in the north and fleeing in the south means that options in the north are generally favorable; an isochron with a pronounced tip indicates a very favorable course, but one which must be followed strictly (thus having a high risk factor); a flat form, on the other hand, indicates that the chosen route is not particularly favorable.

These elements can all be taken into account when deciding on tactics (with regards to other competitors) as you can choose both where to position the yacht in comparison with the optimum route and the risk to be taken, for example by noting the position of a competitor (refer to the next paragraph, [Optimal routing](#)).

Notes:

- 1 - it is possible to display your competitor's yacht as well as your own (refer to the next paragraph, [Launching a competitor's routing](#)).
- 2 - to calculate the routing, the program uses the polar which is currently active. However, you can choose to use another polar file and re-launch the routing. (Related topic: [Opening a polar](#) in the **performance module** chapter).
- 3 - isochrons can be displayed or hidden in order to improve the legibility of the chart; click on **[isochrons]** to check the option and click again to uncheck the option, as appropriate, from the **[Performance]** menu.

4 - all courses indicated by isochrons are **optimal** courses; they simply show courses in accordance with varying criteria (bearing more to the north, more to the south, etc.) and thus with varying proximities to the target waypoint.

If a routing has been plotted and you then decide to launch a second routing (once you have changed the weather file or opened a different polar, or to plot the course of one or more competitors, etc.), the program saves a **track** in the User file which corresponds to the initial routing and which contains all its parameters (times at certain points in the passage, wind force and direction, etc.). see **User data** and **High level functions** for the management of such data (for example, how to remove a track) and access information at any point on the plotted course (by double-clicking at the desired point with the **Finger** tool).

Initializing Weather Routing

To access to the modifying routing parameters select the **[Calculate Routing]** function from the **[Performance]** menu

The Initialization Dialog is displayed and allows you to enter the desired parameters in the corresponding input texts.

1 - Position and Date zone: allows you to change the date study

2 - Graph zone allows you to define your graph Depending on :

The Angle Study : Routing is carried out either side of the great circle; you can specify, to the nearest 10°, the minimum angle (to be shown as a negative figure to the left of the great circle) and the maximum angle (a positive figure to the right of the great circle). Values of -60° and +60° are adequate in most cases (default value.)

Isochron Number : The program will display the number of isochrons specified in accordance with steps entered in the routing parameters. The length (in time) of the study you are going to make will be equal (in hours) to the number of steps multiplied by the interval between isochrons (see the next paragraph).

Interval between Isochrons: The time interval specified dictates the level of accuracy of your study; a value which is half the value specified for time intervals in the weather file should be correct (4 or 6 hours in the case of typical files based on 12 hour intervals). The time interval is unlimited till the end of the weather file and the isochron interval can be reduced down to 1 minute. "00 **d** 02 **h** 00 **mn**" by default the interval number is equal to 2 hours. In very changeable weather conditions you may need to use a value which is a quarter of the one specified in the weather file in order to obtain a very precise study.

Efficiency: The efficiency can be modified to take into account speeds which are different from those contained in the speed polar (in the case of a sea which is particularly hard to navigate, problems with the sails, the crew being tired, equipment not working properly, etc.)

3 - Calculation Zone: allows you to choose which

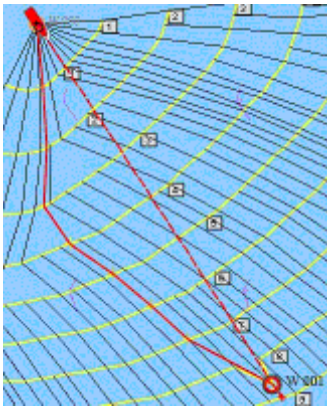
Click on the OK button once you have made your modifications to launch the routing (see the previous paragraph [Launching a routing](#)).

Customizing Routing

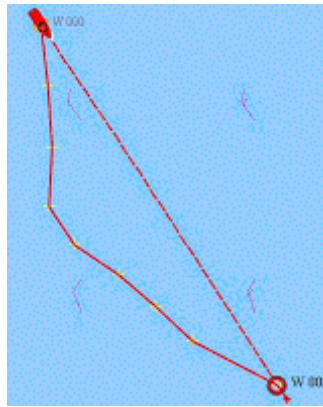
Show & Hide isochrons on the chart

Isochrons may be displayed and removed at your will in order to improve the legibility of the chart:

simply choose **[Display isochrons]** from the **[Performance]** menu to show isochrons ("**Display isochrons**" item is checked) or, as appropriate choose again this option to hide isochrons ("**Display isochrons**" item is unchecked).



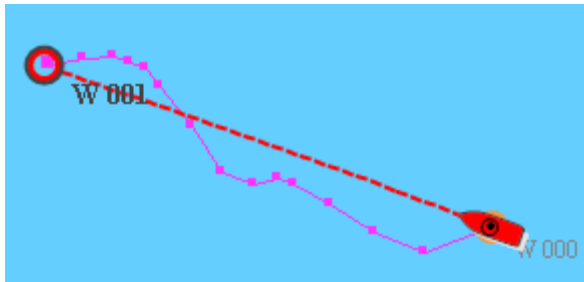
"Display isochrons" item selected



"Display isochrons" item is unselected)

Plot a color to a route plan

Before launching a route plan select a color from the Toolbar and then launch a routing. The routing **track** will be drawn with the selected colors.



In this case Pink color was selected before launching a routing.

Delete a Route plan

To delete the optimal route plan and its corresponded isochrons, you have to simply hide the weather file by clicking on



the weather button, at this moment the program saves the track in the active Layer(PDF) file which corresponds to the initial routing and which contains all its parameters (times at certain points in the passage, wind force and direction, etc.).



Refer to the **User data chapter** for the management of such data (for example, how to remove a track) and access information at any point on the plotted course (by double-clicking at the desired point with the **Finger** tool).

Launch a new Route plan

If a routing has been plotted and you then decide to launch a second routing (once you have changed the weather file or opened a different polar, etc.), the program will use the current parameters to calculate the optimum course.

Change color to make difference between Routing Tracks

1. Select a chosen routing track drawn on the chart with the Select Tool
2. When each point along the Weather Routing track appears selected, click on the Plotting Color tool in the Toolbar.
3. The color palette is displayed, click on a color and the track is simultaneously colored with the chosen color. This allows you to make difference between different type of routing.

Convert the route plan to an Active Route

If you wish to follow the optimum course which is calculated by the program, you can transform this routing into " **Active Route** ". you select the course with the Arrow tool from the Toolbar and then select **[Convert to Active Route]** from the **[Navigation]** menu ("Activating a list of points" paragraph from the "Active Route" chapter for more information).

Displaying the Routing Center

Select the function **[Routing Center]** from the menu **[Performance]** to display it.

The "Routing center" window allows to obtain three types of information:

1. Information on the route.
2. The navigation attributes of a waypoint on the route
3. The accumulated values
 - For every section of the route, Maxsea gives navigational information, to get from one point, on the route, to another one:
 - Name of the waypoint to be reached,
 - Position in latitude and longitude,
 - Heading to be followed to reach the following or previous point,

- Distance between two points on the route,
- Running time, with polar speed, from the beginning of the trip,
- Speed reference: from the beginning of the trip, with a calculation for wind taken into account (wind at the beginning of the trip).
- This indicates, depending on the isochron interval selected (6 hours in this case), routing points, hours, vessel speeds, headings, true and apparent wind at these points.

In each point of the route contains:

- A passage date (column from the table " **ETA** ")
- A state of the current at this date: direction and speed. These parameters are represented in the table by columns "**Dir. Current**" for the direction of the current and by " **Current Speed** " for the speed of the current.
- A state of the wind at this date: direction and speed. These parameters are represented in the table by columns " Dir. Wind " for the direction and by "**Speed True, Apparent**" For the wind speed.
- Apparent wind and close to a point, these parameters are represented in the table by the columns "**Ang. App. Wind**" For the apparent angle of the wind, "**App. Wind Sp**" for the apparent wind speed and " **Rel. Wd. Ang.** " for the relative angle of the wind.

The **Route List** shows the coordinates, together with time, yacht's speed, heading, actual and apparent wind for each isochron at the intervals specified (of 6 hours in this case)

Note: as well as giving important help in predicting changes in wind direction and force, the route list also allows you to pin-point any differences between the forecast weather conditions (from the weather file) and those actually being experienced. The software offers you tools to modify the weather file (refer to the next paragraph, [Modifying the weather file](#)) if necessary to make your navigation more accurate.

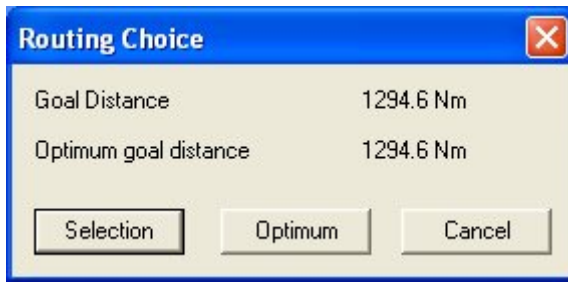
Related topic for selecting the Routing Center table: [Setting the display parameters for center tables...](#)

Selecting an optimal routing

You may want to select a course other than the optimum route which the program has calculated (in order to monitor a competitor, or to maintain a position favorable to predicted changes in weather conditions).

Go to the **[Performance]** menu and choose **[Select Alternate Routing]** ; the **Finger** tool will automatically be activated.

Use the **Finger** tool to click at the desired point on the isochron (the isochrons need to be displayed on the chart); after a couple of seconds the following dialog box will be displayed:



The remaining distance (Goal distance) to the next **waypoint** is shown (from the last isochron to be displayed) together with the total distance (Optimum goal distance) remaining if the optimum course is followed.

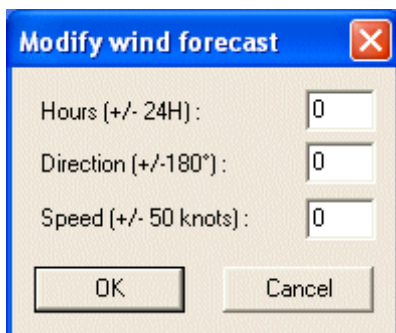
Note: you can also calculate any **loss** caused by following this course rather than the optimum course. This value is particularly useful for calculating the **risk** you are taking compared to other competitors.

Click on the **Selection** button to choose the new course (the route list will be modified to take into account the newly-chosen course).

Click on the **Optimum** button to return to the optimum course calculated by the software.

Modifying the Weather Forecast

Go to the **[Weather]** menu and choose **[Modify Wind forecast....]**



Enter each values that you wish modify (Hour, direction, Speed) inside the weather file forecast.

IMPORTANT

Any modifications you make will be applied globally to the weather file (for the entire zone, all time intervals, etc.).

Logbook

Navigation logbook

The Navigation logbook functions are located under the **Logbook** menu in Maxsea.

MaxSea automatically creates a **navigation logbook** similar to the one normally hand-written by the navigator himself.

To do this the software generates logbook entries at regular time intervals (to be determined by the user).

Moreover, you can specify a further criteria so that an additional entry may be made automatically in the logbook (when the ship's course is modified by more than 15°, for example).

Lastly, it is also possible to manually generate a logbook entry by using the **Event** function.

When a logbook entry is made the software saves all known information for that point in the ship's route (date, position, route, speed, weather information, etc.).

There are two types of logbook:

- The current logbook, where all events relevant to navigating the vessel are automatically stored. Only one of these exists.
- Archived logbooks which have been previously saved onto disk in "**My Documents**" folder as "**LogBook.mdb**".

This file is saved in Microsoft ® Access 97 format with out password.

Displaying the logbook on the chart

At first launch of MaxSea a logbook is automatically created.

Select **[Logbook Displayed On Charts]** from the **[Logbook]** to display the current logbook, as well as any archived logbooks which have been opened, on the chart; a marker will be shown against **[Logbook Displayed On Charts]** under the **[Logbook]** menu

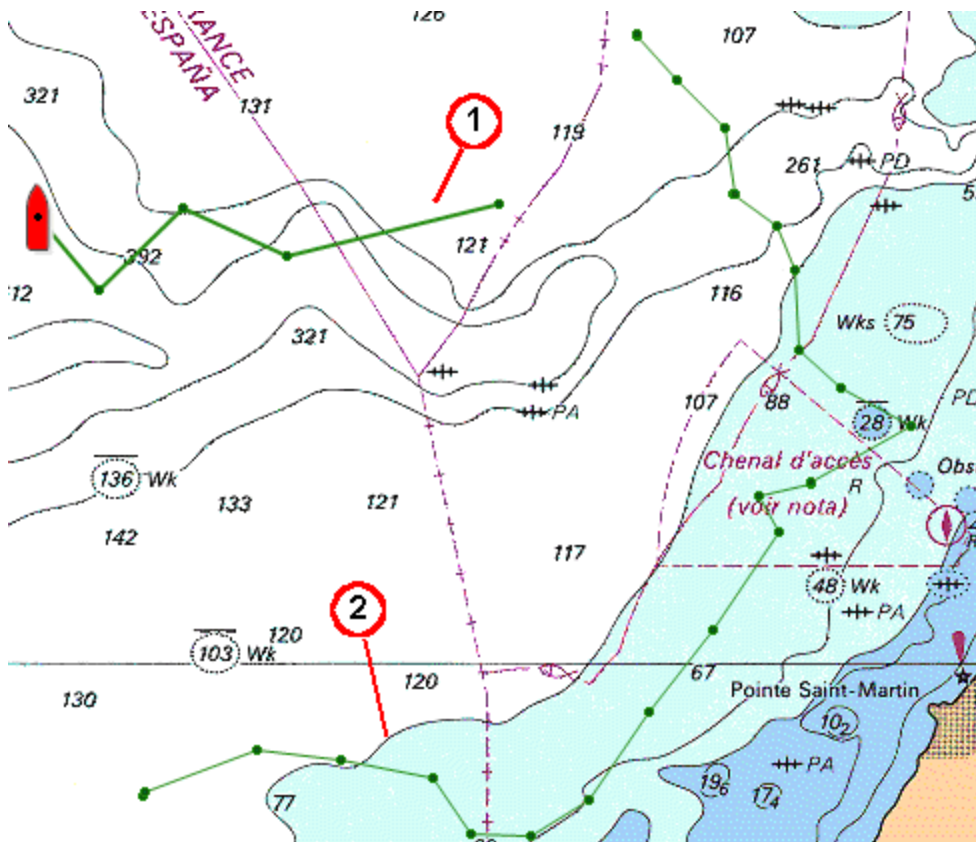
Related topic:

[Displaying the logbook window](#)

Note: before displaying an archived logbook select the opening archived logbook. (See the paragraph "[Opening archived Logbook](#) ")

They are drawn on the chart:

- In **dark green 1** (thick track on the chart) for the active logbook
- In **light green 2** (thin track on the chart) for an archived logbook.

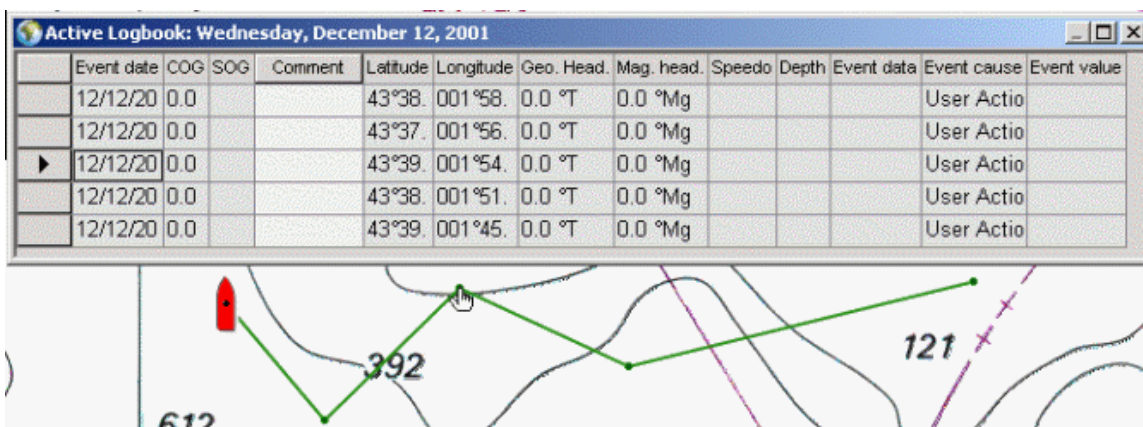


Re-select [\[Logbook Displayed On charts\]](#) to erase the current logbook.

To erase an archived logbook select [\[Close Logbook file\]](#).

Displaying the logbook center

Display the logbook on the chart by selecting [\[Trip Logbook Center\]](#) from the [\[Logbook\]](#) menu.



Two manners to display a logbook window:

Display the Active Logbook information

Using the Finger tool , access an entry in the logbook by double-clicking on it.

Or select **[Trip Logbook Center]** from the **[Logbook]** menu, a marker will be shown against Active logbook window under the Logbook menu.

Note: to display an archived logbook window which is opened do as above using the finger tool or select **[Logbook File]** item from the **[Logbook]**.

- ☐ Click on the close window key to hide the logbook window or select again **[Trip Logbook Center]** from the **[Logbook]** menu.

Trip Logbook Center

You can obtain more information concerning your Logbook track by displaying the logbook window. Every line of the table describes an event.

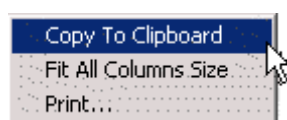
The Logbook window:

- ☐ Select **[Trip logbook center]** from the **[Logbook]** menu.

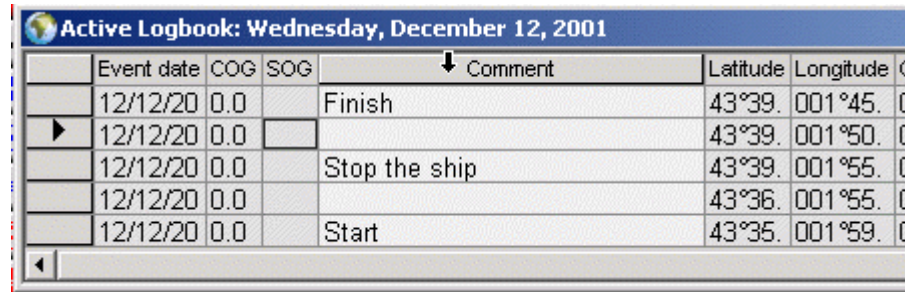
Or

- ☐ Double-clicking with the finger tool will activate the logbook window and a cursor in the first column will be shown against a sequence line of the table.

- ☐ A simple right click on a column of the table will display a contextual menu which allows you to:

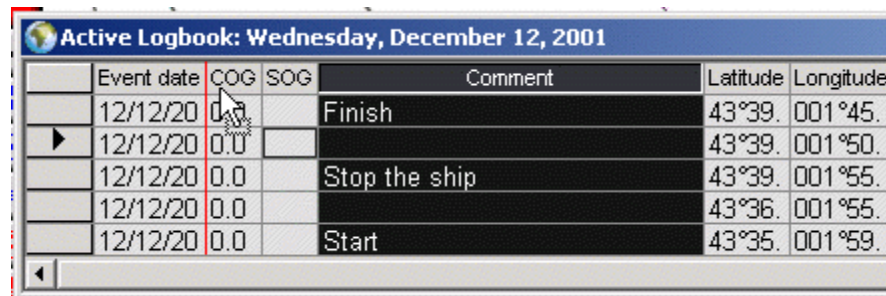


- ...You can change the table display configuration by simply moving columns in the window using the drag and drop function:



	Event date	COG	SOG	Comment	Latitude	Longitude
	12/12/20	0.0		Finish	43°39.	001°45.
▶	12/12/20	0.0			43°39.	001°50.
	12/12/20	0.0		Stop the ship	43°39.	001°55.
	12/12/20	0.0			43°36.	001°55.
	12/12/20	0.0		Start	43°35.	001°59.

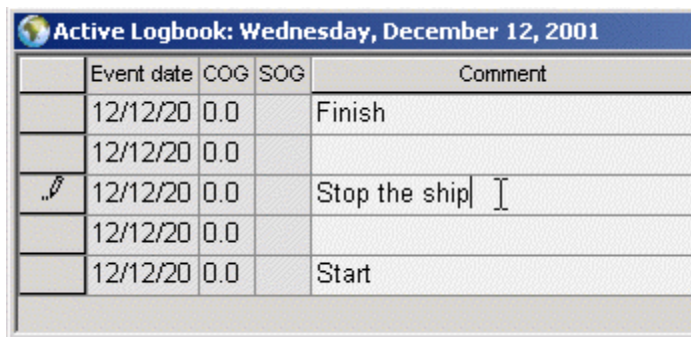
1 Select the column



	Event date	COG	SOG	Comment	Latitude	Longitude
	12/12/20	0.0		Finish	43°39.	001°45.
▶	12/12/20	0.0			43°39.	001°50.
	12/12/20	0.0		Stop the ship	43°39.	001°55.
	12/12/20	0.0			43°36.	001°55.
	12/12/20	0.0		Start	43°35.	001°59.

2 Then drag and drop the selected column

- ...A commentary may be added to this Logbook



	Event date	COG	SOG	Comment
	12/12/20	0.0		Finish
	12/12/20	0.0		
✎	12/12/20	0.0		Stop the ship
	12/12/20	0.0		
	12/12/20	0.0		Start

Note: if you have the program's **Race** module a column will be added into the active logbook window and will inform about the **Rate polar percent**.

Creating an event

Select **[Create a logbook entry]** from the **[Logbook]** menu (shortcut **F6**).

A logbook entry is stored in the navigation logbook.

We would advise you to use this function when experiencing excessive changes in conditions (notable increase in wind force factor, for example) or an unprecedented event occurs.

Configuring the logbook

Activate the function **[Option: Logbook]** under the **[Logbook]** menu to access the dialog box for configuring saved information.

Logbook Properties

Add logbook line at regular intervals:

☒ Distance NM

☒ Time Min

Minimal distance between two "time" events Meters

☐ Automatic Std-C sending

Add logbook line on events:

☒ Activate conditional lines

Event	Value	For the data
-------	-------	--------------

Add Remove Modify

OK Cancel

Regular events

In the first section you can define the frequency of saves in either time or distance.

If the "Distance" check box is checked a line is added in the logbook:

- ☐...When the boat went through the distance wanted since MaxSea's launch.
- ☐...Every time the boat went through the selected distance of The last recording.

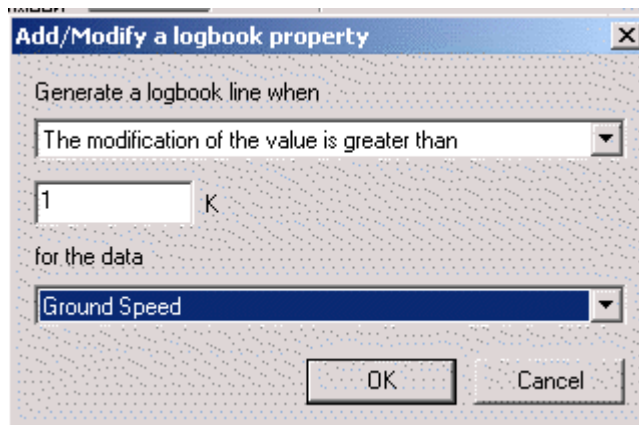
If the "Time" box is checked and a time value is defined a line is added in the Logbook:

- ☐...When the past time is equal to the selected time since MaxSea's launch.
- ☐...When the past time since the last recording is equal to the selected time.

Conditional events

In the second section you may, if you wish, enter a further save criteria.

To do so click on the "**Activate conditional lines**" check-box to activate it, then click on the Add button for the choice of a conditional event. The " Add/Modify" dialog box appears and allows you different choices of criteria:



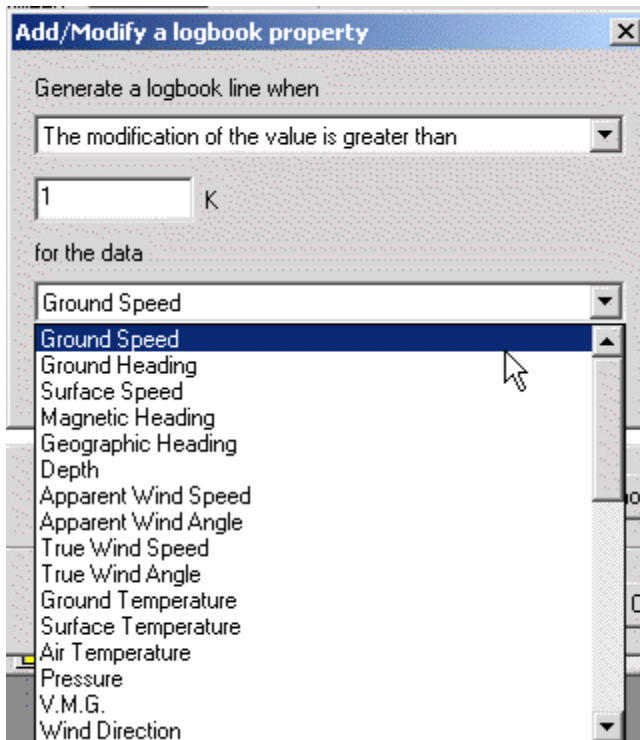
Choose the type of conditional event, this will generate a line in the logbook. Two items are proposed:

"**The modification of the value is greater than**" item is chosen, the delimiting value is defined and the type of data on which you want to apply the conditional event is selected. A line will be added in the logbook every time when the conditional event is reached. The value is compared with the last recorded value.

Or

"**The value is cross**" the delimiting value specified in the input text. A line will be added in the logbook every time when the conditional event is reached. The value is compared with the last recorded value and the comparison does not depend on the direction. For example if the value cross is [10K for the **SOG**] an event is created when the SOG value reaches from 9.9K to 10.1K but also when the SOG value reaches from 10.1K to 9.9K.

To select the data criteria from the pop-up menu



The criteria (course, speed, etc.). Lastly specify the delimiting value for this criteria (the value above which an entry should be made in the logbook (for example, if the ship's course is modified by more than 15°)).

To deactivate conditional events unchecked the "Activate conditional line" check box. This will not delete last recorded events.

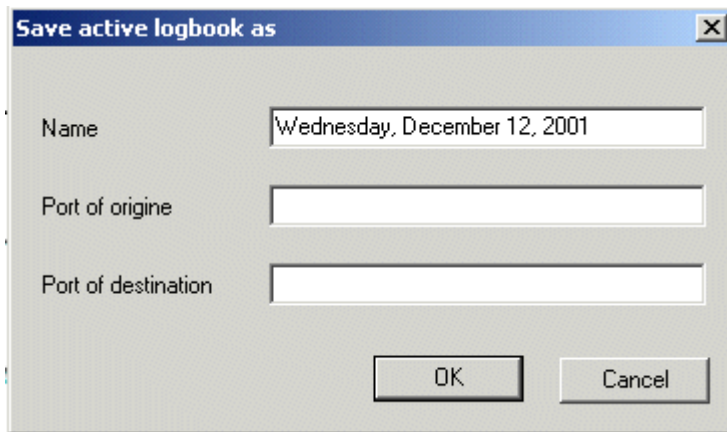
To modify conditional line event select it and click on the "modify" button to edit again the "Add/Modify event" dialog box.

Archiving the logbook

A logbook is automatically archived when a new logbook is created.

To create a logbook, select **[New Trip logbook...]** from the **[Logbook]** menu.

The save dialog box appears:



You can enter:

- A name for the archive logbook (the current date is designed for the name by default)
- The name of the port of origin.
- The name of the port of destination.

We strongly recommend that you regularly archive the current logbook (at the end of each cruise for example).

The archived logbook is added in the archived logbook table (see the Archived Logbook window)

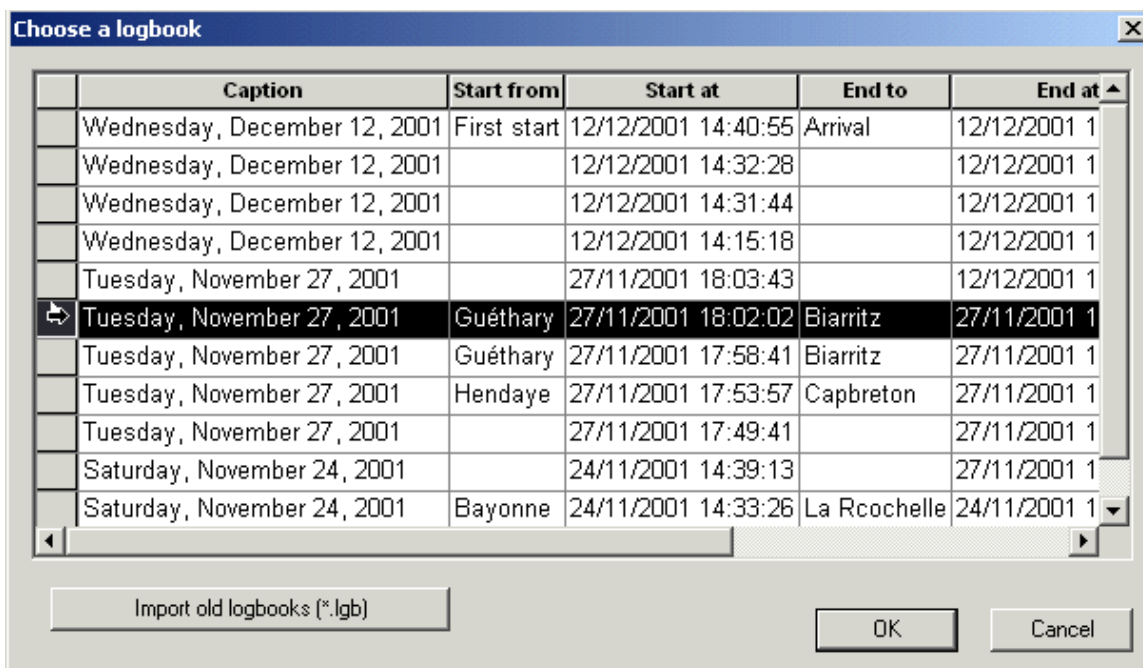
Note: navigation logbooks are saved in text format and may be opened in applications such as spreadsheets and database management programs for sorting and analyzing.

Opening an archived logbook

Archived logbooks may be opened at any time when the software is running.

You just need to activate the function **[Open logbook file]** from the **[Logbook]** menu, and to select the archived logbook from the "**Archived Logbook window**".

A logbook window like the active logbook window is displayed. Click on this window's close button to hide it from the archived logbook window.



The archived logbook is then displayed on the chart together with the current logbook when the function **Display active logbook on chart** is activated (refer to the previous paragraph [Displaying logbooks on chart](#)). If this function is not selected the archived logbook is only displayed on the chart.

Note: only one archived logbook may be opened at any one time.

Importing previous logbook

To import a logbook from a previous MaxSea version (under version 9) to this MaxSea's version, select **[open logbook file]** from the **[logbook]** menu and the archived logbook window appears.

Click on the **"Import old logbooks (*.log)"** button.

Browse all the files of the computer and select one or several logbooks to be imported.

If the import succeeds, you will see them in your list of your archived logbooks.

If an error message indicates that the date format is not compatible with your Windows environment, follow the procedure below:

Define the date format of the logbook file to be imported. , you should open the file (*.lgb) with a text editor (like notepad). Note the format of the date and the hour. (2001-11-29 => aaaa-mm-jj
29/11/01 => jj/mm/aa 12:52:23 => hh:mm:ss 12-52-23 => hh-mm-ss)

Next you have to adjust the window parameters according to the logbook parameters. , open the "configuration panel" file of your computer, then double click on the "regional options" button a dialog box appears. Select the corresponding tabs to update the date and the hour format of your computer.

Then try again the "**import old logbook**" function into MaxSea.

Note: it is possible that your old Logbooks have not all the same format, in that case, please, repeat the operation as often as it is necessary.

Closing archived logbooks

Select the function **[Close logbook file]** from the **[Logbook]** menu

(the archived logbook will remain on the hard disk and may be opened at a later stage).

Catching logbook

Tuna fishing logbook



Following documentation only available for "MaxSea Fishing"

The **Tuna fishing logbook** is adapted to tuna fishing using purse seines.

It is used to maintain the history file of purse seines and associated information (environmental conditions, etc.).

The **Tuna fishing logbook** is in text format and it can be used by other software on a PC.

Plotting a catching entry



Following documentation only available for MaxSea Fishing

Select **[Catching Entry]** from the **[Catching]** menu.

Date:	<input type="text" value="09/09/2003"/>	Apparence:	<input type="text" value="Pas d'apparence"/>	<input type="button" value="OK"/>
Heure:	<input type="text" value="17"/>		<input type="text" value="Pas d'apparence"/>	
Lat:	<input type="text" value="00°00.0000 N"/>	Comportement:	<input type="text" value="Indéterminé"/>	
Lon:	<input type="text" value="000°00.0000 E"/>	Taille du banc:	<input type="text" value="Indéterminée"/>	<input type="button" value="Annuler"/>

Résultats:	Espèces:	Taille:	Tonnage:
<input type="checkbox"/> Coup nul	<input type="text"/>	<input type="text"/>	<input type="text" value="0.0"/>
	<input type="text"/>	<input type="text"/>	<input type="text" value="0.0"/>
	<input type="text"/>	<input type="text"/>	<input type="text" value="0.0"/>

Vent force:	<input type="text" value=" < 1 nd (sans ride)"/>	Temps:	<input type="text" value="Beau"/>	Coef:	81
Vent dir:	<input type="text" value="N"/>	Lune:	<input type="text" value="1er quartier"/>		
Courant force:	<input type="text" value="0.0"/> Noeuds	Couleur eau:	<input type="text" value="Bleue"/>		
Courant dir:	<input type="text" value="N"/>	Température:	<input type="text" value="0.0"/> °		





Commentaires:	Code du bateau:	<input type="text" value="1"/>
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Fill in the text dialog boxes and the different pop-up menus with information associated to the purse seine.

Note: the date and time are automatically displayed.

Then click **OK** to confirm the recording. An icon representing the purse seine plotted is displayed on the chart at the position of the ship.

The icons are defined as follows:

-  :Total tonnage of the catch less than 50 tons.
-  :Total tonnage of the catch greater than 50 tons and less than 100 tons.
-  :Total tonnage of the catch greater than 100 tons and less than 150 tons.
-  :Total tonnage greater than 150 tons.

Icon color is defined as follows:

Red if the first species is white tuna.

Blue if the first species is listao.

Green if the species is a mix and if the catch took place on a wreck.

Yellow in other cases.

Viewing a purse seine



Following documentation only available for MaxSea Fishing

Select the **Select object** tool from the Toolbar, then double click the purse seine icon on the chart that you wish to view.

The information dialog box is displayed.

Note: you can change information about the purse seine in the dialog box which has already been entered. However, it is not possible to change the tuna ship icons on the chart using the modification tools.

Create a new catching logbook



Following documentation only available for MaxSea Fishing

Select **[New Catching logbook]** from the **[Catching]** menu to save the present tuna boat log and open a new empty log.

Enter a name for archiving the old logbook and then click **Save**.

Note: an archived **fishing logbook** can be opened to display any plan on the chart by selecting **Open** from the **File** menu.

Chart Window Controls

Configuring your Workspace

In this chapter you will learn how to organize and configure your software to adapt the screen to your requirements as customizing the screen display, displaying palettes and customizing the palettes display.

The program uses two principal interface concepts that are Context Menus and Keyboard shortcuts.

1. [Using Context Menus to get informations or quickly access commands from selected objects.](#)
2. [Using Keyboard shortcuts to quickly activate specific functions.](#)

If you are starting the software for the first time, message boxes appear each time you will close a file or when troubles happen during the use.

1. These message boxes need to be acknowledged by clicking YES. The DON'T SHOW AGAIN box may be checked so as not to be reminded of this each time you start MaxSea.
2. Show / Hide Validation Message boxes at startup.
3. To display again the Confirm Dialog, go to the **[Help]** menu and choose **[Display Hidden Warning...]**

Customizing your workspace by:

1. [Choosing the Chart Desktop Display](#)
2. [Modifying Chart Windows Location](#)

Configuring Display of:

1. [Tool Palettes](#)
2. [Data Cursor](#)
3. [Nav Data](#)
4. **Steering data**

*The **Steering data** window is automatically displayed when the track on function is activated.*

*To show or hide the **Steering data** window go to the **[Display]** menu and select the **[Steering data]** item.*

5. **Show / Hide the Steering display**

The Steering display is not shown by default.

*To show the **Steering display** window go to the **[Display]** menu and select the **[Steering display]** item.*

6. [Tide & Current palette](#)

7. **Show / Hide Events display**

*The **[Events display]** item from the **[Display]** menu brings up the "Events palette" . This option is available according to your software configuration.*

8. **Seabed Classification display**

The **[Seabed classification]** item from the **[Display]** menu brings up windows which inform you about the seabed data. This option is depending to your software configuration.

9. [Center tables for Planning Route, Active Route, Mobiles...](#)

To reset palettes to the default positions go to the **[Display]** menu and choose **[Arrange Display]**. This allows you to restore default positions at any moment.

Setting personal display parameters if needed

- 1. Create centering points
- 2. Choose the Auto Center Mode display in [North Up](#) or [Course Up](#) or [Head Up](#)
- 3. [Choosing the display screen lighting level](#)

Miscellaneous Controls:

- 1. [Virtual Keyboard](#)
- 2. [Print Charts](#)
- 3. [Saving Chart as...](#)

Modifications that you make, during this chapter, in screen presentation will be saved when you quit the software. Therefore, when the software is run again the saved presentation will appear again.

Choosing the Chart Desktop Display

You can open several charts at the same time at different scales or zones (a specific window centered on the ship and a general window for the whole of the route and the navigation zone for example).

Chart windows display individual charts by default. More than one chart window can be viewed at the same time:



Click on Chart Desktop tool in the toolbar and choose a mode as shown in Fig. 1.

Chart and Profile windows can be displayed at the same time. This means that the Profile module is added to your software configuration.

Note: only four Chart Windows can be simultaneously displayed at the same time.

	1 Chart
	1 Chart, 1 Profile - Horizontal
	1 Chart, 1 Profile - Vertical
	2 Charts
	2 Charts, 1 Profile

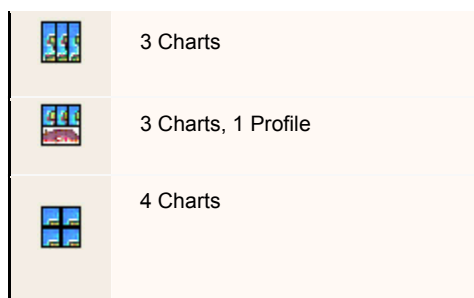


Fig. 1

The size of the windows may be adapted (to view two charts on the same screen for example) using the dimensioning key located in the lower right-hand corner of the windows. The configuration box in the right-hand corner of the title bar can be used to switch from the size that you have chosen to a maximum size and inversely.

Note: the software is compatible with using several monitors at the same time.

To change the screen display mode

1. Select **[Full Screen]** from the **[Windows]** menu and MaxSea Window may be maximized to fill the entire workspace.
2. related topic to learn more on how to [Modify Chart Windows location](#)

You select one of the chart windows and make it active by clicking it with the mouse (it is displayed in the foreground and is displayed on top of the other windows).

Note: The software displays for each charts a window in scale and centered on the previously activated chart.

Modifying Chart Windows location

To share the screen space between each different opened Chart windows, several configuration window modes are proposed under [Windows] on the menu bar:

To place side by side Chart windows

Two modes to place side-by-side chart windows

1. select **[Tile vertically]** from the **[Windows]** menu.
2. select **[Tile horizontally]** from the **[Windows]** menu.

To place Chart windows some above the others


select **[Cascade]** from the **[Windows]** menu.

Customizing Toolbars display

MaxSea possesses two categories of Toolbars:

1. The " Toolbar " which includes the tools which allow you to work directly on the digital chart.
2. The " Chart Palette" which includes buttons which allow you to display or hide the data available on the chart.

How to choose a display mode:

1. Click the close cross  situated at the upper right hand of the title bar of the palette to hide the palette.
2. To re-display the palette, check the function corresponding to the palette [Tools Palette] or [Chart Palette] from the menu [Display].
3. To move the palette; click in the title bar and drag the palette by maintaining pressure on the button of the mouse and moving it to the desired place.
4. To change from " floating palette " mode to "toolbar" mode, via two possibilities, either double click on its title bar or click on the title bar and hold down the **left button until the palette is over the active zone** And slide it to the center of screen. As you release the button of the mouse, the information of the cursor appears in a floating palette.
5. To show the palette in a long or short display box, left click, holding the button, and drag the palette to one of the borders of the screen, slide and release to validate the new arrangement.

How to modify the contents of the Toolbars

To change the contents of the Toolbars and choose to display only a certain number of buttons, click the access arrow



in Menu in the title bar of the palette, select the option " **Add / Remove** " then check the tool; select one or several tools to be displayed or to be hidden (a check indicates that it is visible). To return to the initial configuration, select the option " **Reset toolbar** ".

1. **A degree of transparency** among three possible modes: no transparency (default mode), Degrees of transparency from 10 % to 50 %. For a transparent background to be active, you must click exactly on a character.
2. **A size for buttons** (standard or wide size).


IMPORTANT:

Managing levels of transparency is only possible if you work in a **Windows** environment 2000 or **XP**.

Customizing the Data Cursor display

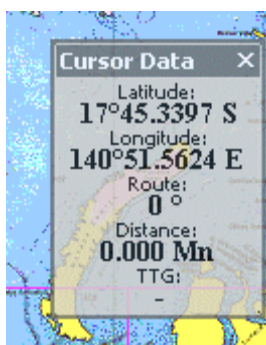
You can **hide** or **display** the cursor palette as you work by choosing [Data Cursor] from the [Display] menu.

To hide it, click the closing box located in the left-hand corner of the title bar of the display.

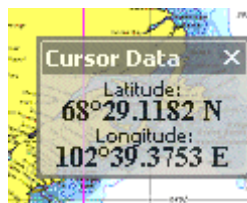
- To obtain the cursor information in a form of "**Menu bar**" mode just double left-click on the cursor title bar.
- To return in a form of "**floating palette**", just left-click on the "**customizing bar**"  and then drag to new position on the screen.
- To resize the palette horizontally or vertically hold down the left mouse button while moving the mouse in whatever direction.



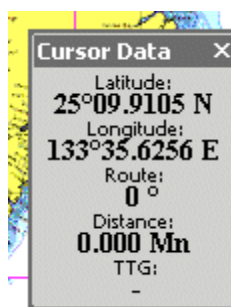
- Right-click on the title bar to change the cursor palette layout, different types of layout are proposed in a menu:
 - degree of transparency choosing from "Not transparent" or 10% or 20% or 30% or 40% or 50% or Text outline.
 - font size choosing from smallest or smaller or medium or bigger and biggest.
 - two options for the cursor palette: full mode display shows all data and reduce mode shows only the position data.



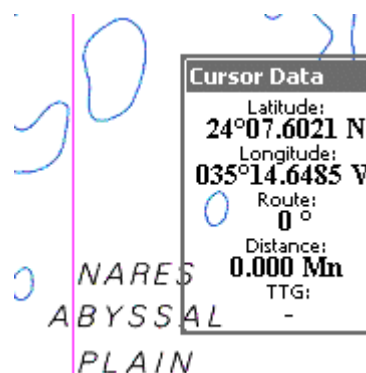
Standard display mode



Reduce display mode



No transparent display mode



Text outline display mode

Note:


Transparency layout option is available only with operating system **Windows® 2000** and **XP**.

Nav Data Palette Display

The **Nav Data palette** can be used to display information sent by electronic equipments, which are connected to the input/output port of the computer (**GPS** , central navigation equipment, etc.). The Nav Data palette regroups all data information providing to each available electronic equipment.

To connect electronic equipment refer you to the related topic : Equipment Connection .

The **Nav Data palette** is displayed, when the software is first used, in the right-hand side of the screen.

- To show and hide the Nav data palette go to **[Display]** on the menu bar and choose **[Nav data]**.
- To obtain the **Nav Data** information in a form of "**Menu bar**" mode just double left-click on the cursor title bar.
- To return in a form of floating palette, just left-click on the "customizing bar"  and then drag to new position on the screen.

- To resize the palette horizontally or vertically hold down the left mouse button while moving the mouse in whatever direction.
- Right-click on the title bar to change the palette layout. Three modes of layout are proposed in the menu:
 1. The **Degree of transparency** ("Not transparent" or 10% or 20% or 30% or 40% or 50% or Text outline).
 2. The **Font size** (from smallest or smaller or medium or bigger and biggest).
 3. **"Choose displayed data..."** brings up a dialog box in which you can choose the data to be displayed according to each instruments connected (repeat all following steps to customize the data layout according to each available instruments).
 - a) - Select first the instrument under the list on the left side of the window
 - b) - Click the Up arrow or the Down arrow to order the instrument position layout in the Nav Data palette.
 - c) - Enter a name according to each available equipment.
 - d) - Choose different color according to each data output information.
 - e) - Check the box next the data that you want to display. As above, you can change the order of the output data layout by clicking the nearest Up or Down arrows.

Note:

Transparency layout option is available only with operating system **Windows® 2000 and XP**.

Displaying Tide & Tidal Current window

The Tide & Current window indicates the value of the tide and current display based on the nearest tide station to your present location. As the boat moves the software will update the display with the closest tide station.

The Tide and Current window can be left open anywhere on the chart.

To open the Tide & current window, go to **[Display]** on the menu bar and select **[Tide & Current display]**.



This brings up a window which displays tide and current value.

The **7.6Ft** refers to the height of the tide and the current arrow indicates approximate direction of the tidal flow and strength.

GMT time is displayed at the bottom so you have one place where this time is available.

When you are keeping the cursor a few seconds on Tide, Current and GMT window zone, **MaxSea** gives you information about it.

- **Holding the mouse over on the tide gauge icon** brings up a tip screen that gives the nearest reference harbor name.
- **Holding the mouse over on the current arrow icon** brings up a tip screen that gives the exact orientation value of the current and its strength according with the ship position.

- **Holding the mouse over on the GMT hour** brings up a tip screen that gives the local time and the GMT time.

Center display and controls...

The "**Centers...**" Group together all the information concerning the routing of your navigation. It is possible to consult them at any time, simply by activating the particular function that you wish to follow:

1. Planning Route Center: choose **[Planning Route]** either from **[Centers]** of **[Display]** menu, or from **[Route]** menu (table will be filled of data when creating or selecting a planning route).
2. Active Route Center: choose **[Active Route]** either from **[Centers]** of **[Display]** menu, or from **[Route]** menu (table will be filled of data when activating a route).
3. Route Center: choose **[Route]** either from **[Centers]** of **[Display]** menu, or from **[Route]** menu (table will be filled of data when importing route or when routes exist.)
4. Waypoints Center: choose **[Active Route]** either from **[Centers]** of **[Display]** menu, or from **[Route]** menu.
5. Routing Center: choose **[Routing]** either from **[Centers]** of **[Display]** menu, or from **[Route]** menu, or from **[Performance]** (table will be filled of data when calculating a weather routing.)
6. Trip Logbook Center: choose **[Trip Logbook Center]** from the menu **[Logbook]**
7. Each available Mobile Center: choose available item according to a mobile system such as **[POS_MaxSea]** or **[ARPA_NavNet]...** either from **[Centers]** of **[Display]** menu, or from **[Mobiles]** menu.
8. C-MAP NT Chart Object Center: choose **[Chart Object Properties]** from **[Centers]** of the **[Display]** menu.
9. C-MAP NT Find Nearest Center: choose **[Find Nearest Center]** from **[Centers]** of the **[Display]** menu.

To be able to easily use the information contained in the various "**Centers**", MaxSea offers you the possibility of organizing easily your workplace according to a particular position on the screen:

A) - Default display

In the first display, the mobile center table is anchored at the bottom of the active window. This display mode can block all your workplace and hide the chart window information.

B) - Display mode " floating Palette "

If you use two screens, this mode allows to include all the palettes on a screen by separating them from the cartographic window.

C) - display in mode "Tab"

This mode allows you On one hand to free up your work space and to be able to access quickly the information contained in the table simply by passing the mouse over the tab.

Quickly and easily switch from a mode to another:

B) - Double click on the title bar of the table to display it in the mode "**Floating Palette**". To move each of the floating palettes it is enough to click in its title bar, to drag it to the desired place and to release the button of the mouse. To resize any palette vertically or horizontally, click on border of the palette, keep the left button of the mouse depressed until obtaining of the size desired for the palette.

C) - Click the on the close cross situated in the upper right-hand of the table to close it. To restore the display of a table, use the choice menu situated in the MaxSea menu bar.

D) - The pin icon situated in the title bar of the table to the left of the close cross Allows changing from **Table** mode to **Tab** mode.



The pin icon vertical Allows displaying the whole table on the screen.



The horizontal pin icon allows folding up the table at the bottom of the screen and appears in the form of a 'Tab'. This mode allows to activating several tables at the same time without blocking all the display.

Example:



Quickly and easily get and go to the information directly on the chart:

"Centers..." list all useful information concerning all your navigation. The header toolbar of each center allows you to :



1. Select all data available in the center table by clicking on (if you wish selecting only a line in the table click in it).



2. Un select all data selected in the table by clicking on



3. Center on selected data in the center table by clicking on : then selected data are shown and centered on chart.



4. Display and order data in each center columns by clicking on, a dialog appears which contains check boxes according to a Data label list . Check each boxes depending to your choice. You can also choose how you want to display and ordered your data by clicking on up and down arrows.



5. Show window properties for each selected data by clicking on



6. Enter word or value for researching details on specific data and to validate click on

7. Order contents by choosing an option in the **Sort** menu list.

8. Activate specific functions according to the selected center, under the **Action** menu.

9. Resize the Center Window in percentage of display values.

Export all data from centers to another program :

1. Right-click on a line, the contextual menu appears on screen.
2. Choose and click on the "**Copy to clipboard...**" option,

3. Paste in a spreadsheet or database program such as Microsoft® Excel®, Access®, etc...

Print directly all data from centers

1. Right-click on a line to display the contextual menu
2. Choose and click on the "**Print**" option

North Up auto center mode display

Select **[Auto Center]** from the **[Display]** menu brings up the **Auto Center** window which allows you to choose between **three Modes** :

Default

The chart is automatically scrolled when the boat goes outside of the window.

1. choose Default option.
2. select the **Display** option to show borders of centering box.

Manual

To use chart centering with manual selection:

1. select "Manual"
2. left-clicking on the "Position" slider bar brings up a series of choices, select one of them.
3. left-clicking on the "Size" slider bar brings up two choices (small or big)
4. Select the **Display** option to show borders of centering box drawn on the chart.

Boat centering zone is defined by the user according to "**Size**" and "**Position**" pop-up menus.

COG depending

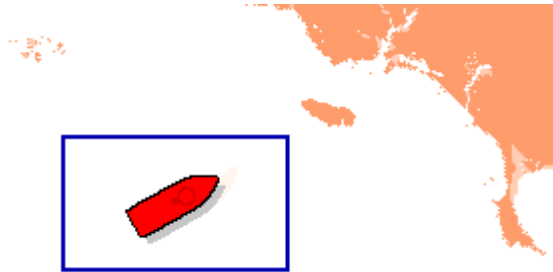
Boat centering zone is automatically dependant from **COG** . The chart is centered based on the course of the boat.

1. select COG depending option
2. Condition depending on speed (**SOG**) can be chosen. To do so, choose a minimum speed (Minimal SOG for mode activation)
3. select the **Display** option to show borders of centering box.

"**North Up**" mode is selected, then click the "**Center On/Off**" button on the charts palette to activate the "**auto center**" mode.

The "**Display**" option is activated, a blue rectangle showing borders of centering box is drawn on the chart.

When the boat moves out of this rectangle area the screen is auto centered.



Course Up auto center mode display

Select **[Auto Center]** from the **[Display]** menu brings up the **Auto Center** window .

Click the "**Course up**" tab to customize the **Auto center** display mode when the Course up mode is chosen.

Default

The chart is automatically scrolled when the boat goes outside of the window.

1. choose Default option.
2. select the **Display** option to show borders of centering box.

Manual

To use chart centering with manual selection:

1. select "Manual"
2. left-clicking on the "Position" slider bar brings up a series of choices, select one of them.
3. left-clicking on the "Size" slider bar brings up two choices (small or big)
4. select the **Display** option to show borders of centering box.
5. If you don't have a compass or a giro connected, enter a minimum SOG value to activate the Course Up mode.

Boat centering zone is defined by the user according to "**Size**" and "**Position**" pop-up menus.

As long as this speed is not exceeded, the centring zone borders are drawn in the middle of the screen and the screen does not turn any more.

If a compass or a giro is connected and whatever the speed of the boat the "**Course Up**" mode is activated.

Head Up auto center mode display

Select **[Auto Center]** from the **[Display]** menu brings up the **Auto Center** window .

Click the "**Head up**" tab to customize the **Auto center** display mode when the Head up mode is selected.

Default

The chart is automatically scrolled when the boat goes outside of the window.

1. choose Default option.
2. select the **Display** option to show borders of centering box.

Manual

To use chart centering with manual selection:

1. select "Manual"
2. left-clicking on the "Position" slider bar brings up a series of choices, select one of them.
3. left-clicking on the "Size" slider bar brings up two choices (small or big)
4. select the **Display** option to show borders of centering box.

Boat centering zone is defined by the user according to "**Size**" and "**Position**" pop-up menus.

Display screen lighting level

You should need a less bright display, in case of night navigation for example.

Day/Dusk/Night display darken the software color palette and allows you to not be dazzled in a dark cabin.

It also applies on the following charts :

- Mapmedia
- ARCS
- NDI
- Maptech
- C-Map

Three ways to call up Day/Dusk/Night option display

1. The lighting controls are found at the bottom of the palette (Sun symbol). Click the Sun symbol button and choose a display level under the pull down menu.
2. Select **[option: display]** from the **[Display]** menu and select the display option from the corresponding pop-up.
3. The short cut access : **Shift + F2** to switch between lighting level (Day/dusk/night) display.

Context Menus

In addition to the menus at the top of the screen and the usual tools, context-sensitive menus display commands relevant to a selected object. Context menus enable immediate access to commands most useful to the selected object. There are two categories of context menus, the Right-Mouse and Quick links context menus.

To display Right-Mouse context menus:

- 1 - Position the pointer over an object or a group of objects.
- 2 - Right-Click anywhere on the chart or on objects to view the appropriate right-mouse context menu.

Right-Mouse Context Menu Consists of Four Sections

Part 1 - Display commands:

- a) - **Scale** choices
- b) - **Zoom in**, current chart
- c) - **Zoom out**, current chart

Part 2 - Properties, information, function commands related to the selected object

Part 3 - Capture and modify commands related to the selected object

Part 4 - List of tools choices

To display Quick Links context menus (only available for objects stored in Center):

Position the pointer over an object for a moment (for example a waypoint, a route leg, a mobile target or a vector chart object.) A Quick Object Links (Tooltip) appears. This allows you to quickly open selected object's properties dialog box.

Note: refer to the help topics for each navigation tool and chart type displayed.

Keyboard shortcuts

Press on Keyboard	Action:
Ctrl + O	Open File in MaxSea
Ctrl + N	Create a New File
Ctrl + S	Save the Current File
Ctrl + W	Close a File active in MaxSea
Ctrl + P	Print
Ctrl + A	Select all objects from the current file
Ctrl + X	Delete a selected object from the current file
Ctrl + C	Copy a selected object from the current file

Ctrl + V	Paste a selected object from the current file
Ctrl + F	Activate On/Off Full Screen mode
Ctrl + D	Unselect all objects from the current file

MaxSea Keyboard Shortcuts

Press on Keyboard:	Action:
Ctrl + M	Activate AIS MKD
Ctrl + T	Activate AIS TX message
F1	Access the User Guide
F2	Zoom In
F3	Zoom Out
F4	Center On/Off
F5	Track On/Off
F6	Create a logbook entry
F7	Activate Next Leg
F8	Activate Previous Leg
F10	Tides and Currents display On/Off
F11	Weather display On/Off
F12	Activate Man Overboard function
Shift +F1	Select Tool (switch between tools)
Shift +F2	Switch between Day/Dusk/Night
Shift +F4	Switch NorthUp/CourseUp/LegUp

Shift +F5	Activate the PBG On/Off function
Shift +F6	Save Event
Shift +F7	Show/Hide Vector Chart
Shift +F8	Show/Hide Raster Chart
Shift +F9	Show/Hide Depth Profile Window (*)
Shift +F10	Show/Hide 2D Display (*)
Shift +F11	Show/Hide 3D Display (*)
Shift +F12	Radar Overlay On/Off (*)
Ctrl + F2	Radar Range -.(*)
Ctrl + F3	Radar Range +.(*)
Ctrl + F4	Radar Gain + (increase the Gain with jumps of 10% on integer values).(*)
Ctrl + F5	Radar Gain - (decrease the Gain with jumps of 10% on integer values).(*)
Ctrl + F6	Radar Sea Clutter + (*)
Ctrl + F7	Radar Sea Clutter –(*)
Ctrl + F8	Radar Rain Clutter + (*)
Ctrl + F9	Radar Rain Clutter – (*)
ALT + F1	Switch between Sounder HF and LF (*)
ALT + F2	Sounder Range – (*)
ALT + F3	Sounder Range + (*)
ALT + F4	Sounder Gain – (*)
ALT + F5	Sounder Gain + (*)
ALT + F6	Sounder Shift – (*)

ALT + F7	Sounder Shift + (*)
Right/Left/Up/Down Arrows	Scroll Chart function (only available if the active window is the Chart window)
The + and -	Zoom in or zoom out (only available if the active window is the Chart window)

(*)The inactive shortcut means that the corresponding module is not available in the software.

Accessibility Windows Options Keyboard Shortcuts

Press on Keyboard	Action:
Alt	Activate the MaxSea menu bar without using the mouse (then use keyboard Arrows)
RIGHT ARROW	Open the next menu to the right, or open a submenu * or move to the next right cell.
LEFT ARROW	Open the next menu to the left, or close a submenu * or move to the next left cell.
UP ARROW	Move up in the menu * or move to the next upper cell.
DOWN ARROW	Move down in the menu * or move to the next down cell.

(*) in case the **Alt** key, then use the Arrows keyboard to move in the menu bar.

TIPS - Palettes and Toolbars are accessed with the right and the left buttons of your mouse.

To select a tool, place the cursor over the tool, click the left mouse button once. The tool is selected and the cursor shows its icon.

Double-left-clicking over a given tool will erase that tool's last actions, even if a different tool is active.

Double-left-clicking in each Palettes and windows title bar will dock them around the Chart Window.

Right-clicking on a palette tool brings up the context menu with options to change transparency, button size, or toggle text labels on/off.

Virtual Keyboard

In most cases you have to use the virtual keyboard when modifying details in all specific window properties. You will use it as you do with a standard keyboard.

Click on each virtual touch and click on the virtual Enter touch to valid after each action.



Print Charts

To print the chart displayed on screen, select **[File]** on the menu bar then **[Print]**.

Select your printer and set the parameters (Landscape mode, Paper size...). Click on OK to print.

If you select **[Print Preview]** from the **[File]** menu you will be able to choose the scale of the chart.

If you want more data on the printed paper, choose a smaller scale. To close the Print Preview, click on **Close**.

Saving Chart as...

To save a computer screen as a digital image:

1. Go to **[File]** and select **[Save window chart as...]**.
2. Select the type of the picture (Bmp, jpeg, gif, tiff or png).
3. "Select "Save the picture".
4. Pick a folder in which to place the image and name the file.

Note: Files can be e-mailed or viewed / manipulated in almost any graphics program.

Software Options

Setting Up PBG/2D/3D

Choose **[Option: PBG/2D/3D]** from the **[Utilities]** menu to call up the dialog box in which you can customize either the PBG or 2D or 3D data before displaying on the chart.

Related topics:

1. [Personal Bathy Generator settings](#)
2. [Bathy 2D settings](#)
3. [3D settings](#)

Personal Bathy Generator settings

Select **[Option: PBG/2D/3D]** from the **[Utilities]** menu, click the **PBG** tab to call up the window area which allows you to configure the PBG data display.

This zone of the window consists in three parts in which you can select easily the PBG resolution before imported data:

1. Check one of each radio button to choose the **scale** resolution for the **PBG** import.
2. The second part of the dialog box informs you about the chosen resolution value.
3. The third part on the bottom of the dialog box consists to a short definition that allows you to know in which case the chosen option is to be used.

Note: these customization features must be done before activating the PBG function on.

Bathy 2D settings

To emphasize the details of your **2D display** charts, or accelerate the display speed, you can change the values of the **3D display** properties.

- To do so, select **[Option: PBG/2D/3D]** from the **[Utilities]** menu
- Click the **2D tab** index, The dialog box consists in four parts in which you can choose how to customize the 2D display on the chart.

(1) - Use data type

You can select the type of data you wish to display or not in 2D as well as the grid.

You can display one of each data type or all data types from "**User data**", "**C-map**" or "**D.E.M.**".

Note: check all boxes to display all data.

(2) - Display density

Three modes are proposed:

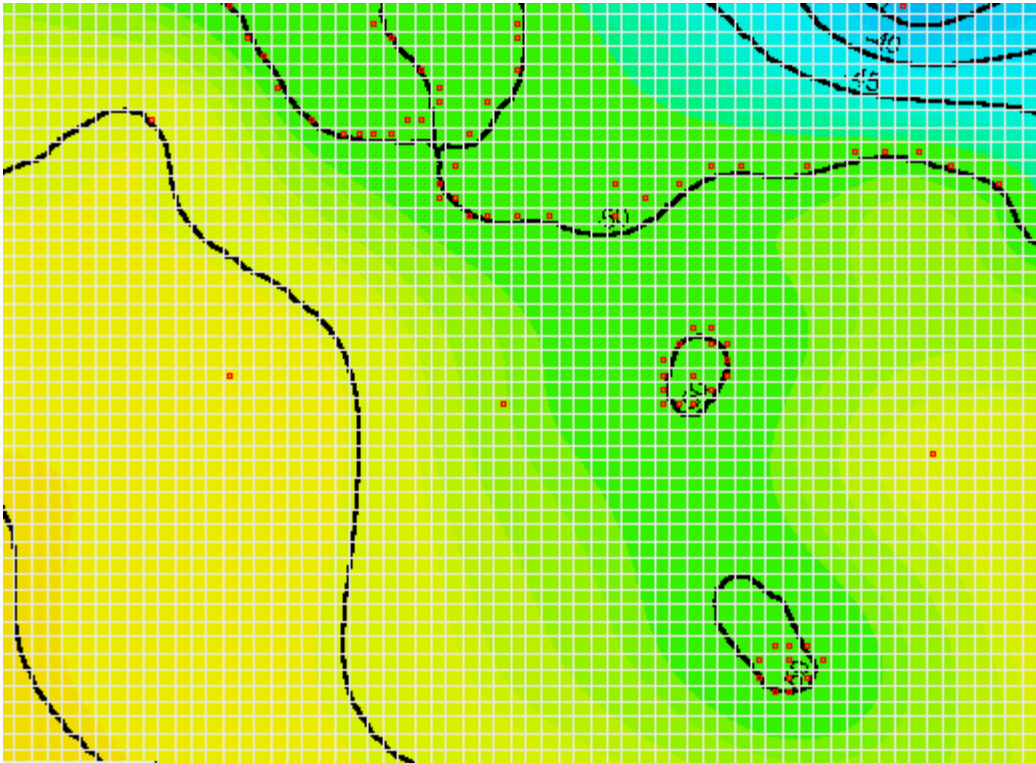
1. The **Normal density** option allows to optimize the resolution of the 2D data display resolution.
2. Select **Low density** option if you want to obtain more display speed.
3. Select **High density** option if you wish to obtain more details of the 2D data display resolution.

Note: if you have checked the GRID box under the "display" zone, the grid is drawn only in a normal mode and does not appears when either the "low density" or the "high density" mode is checked.

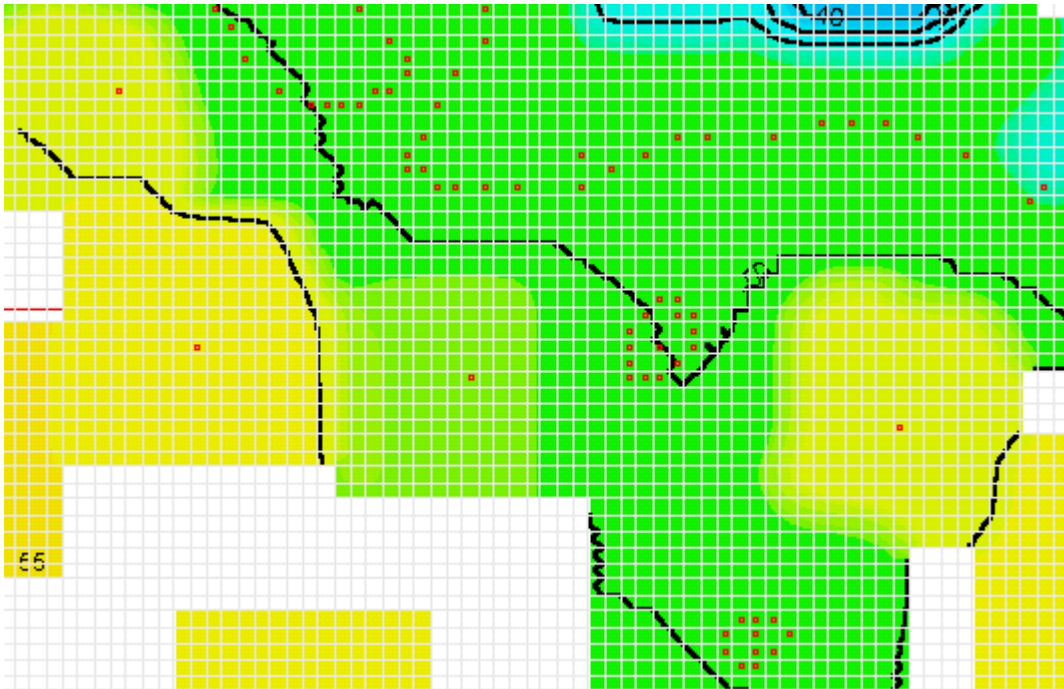
(3) - Interpolation

The interpolation check box allows you to select either **Spline** or **Dilatation algorithms** to display the data.

The **Spline** mode is a smooth mode more adapted to high scales but is slower.



The **Dilatation mode** is faster and more adapted to situations where data is grouped in a small geographical zone. There is no smoothing in this mode, only calculated data is displayed.



(4) - Display

- Check the **D.E.M.** box to display the data import grid
- And / or check the **overzoom** box to display data value for lower scales on the import value **scale** . (overzoom data value)

3D settings

You can change the values of the 3D display properties to emphasize certain chart details or improve performance.

1. Select **[Option: PBG/2D/3D]** from the **[Utilities]** menu
2. Select the 3D tab
3. Select the **"Altitude Data filter"** display by checking one of the radio buttons.
4. Several filters are available in the 3D tab as well as a check box to use hardware acceleration.

You can display:

- All data, in this case no filter is used.
- Marine data only by removing land data.
- All data except for underwater data.

Hardware

The minimum hardware configuration required is 64 Mb RAM with an 8Mb RAM video card. Better performance can be achieved with more system and video memory and a card that supports 3D acceleration.

Note : MaxSea will operate in "hardware" mode if the video card supports hardware acceleration.

Otherwise, all 3D graphics are calculated by the software.



: "Software" mode



: "Hardware" mode.

If your computer does not have a 3D video card, the mode stays in "Software" mode .

Hardware : the "Use hardware acceleration" check box is unchecked by default (the calculation is realized by the software) and check the box to allow the software to use the 3D graphic card.

3D Window Display Quality: this slider allows you to determine the display precision degree of the 3D charts. It defines the best report quality / performance depending on your equipment and your required level of detail.

Note : the slider is in Lowest "Quality/Fastest" position by default.

Setting up GPS and Track

Select **[Option: GPS/Track...]** from the **[Utilities]** menu to bring up the **GPS/Track...** window which consists in four parts of settings.

A list of mobile is shown on left-hand of the window. This list contains one or several mobiles, first choose a mobile on which you want to apply settings.

Then select one of each tab to apply settings.

Track tab

Checking boxes to define how to save your track.

1. **Enable track recording** check box to record automatically each Target's track. At least one mobile must have the track activated to enable this function.
2. **Record all input data** check box will record all data received from all mobile.
3. **Single user file for target trails** check box will record the trail of each target in a single file.

Recording accuracy

Define the precision of your track (the interval between two saved points) in either **time** or **distance**.

We would advise a frequency of between 120 and 300 seconds (2 to 5 minutes), which is sufficiently adequate for normal navigation requirements where land is in sight. The saving of tracks is generally not used in the open sea.

1. Choose either **Time** or **Distance** option.
2. left-click on each number unit to modify its value or use arrow to increase or decrease.

Note:

To set up the measurement units that you normally use go to [Option: units] under [Utilities] menu.

Track line

1. Select **line width** option to define the width of track displayed on chart.
2. left-click on the pop-up menu to pull down a menu.
3. choose one track width.

Two ways for choosing a track color :

1 -Fixed Track color

select Fixed color option.

choose a single color from the color palette.

2 - Variable Track color

You could choose a variable track color in accordance with one of the data sources recognized by the software (e.g. speed of the ship, wind force factor, etc.).

1. click on "**According to...**" , to access the color palette range.
2. choose the data from which the color track will change (for example, speed).
3. click on the "**Edit color range**" button to bring up the window color range.
4. use the keyboard to select the delimiting speed values by successively selecting text zones (for example, speed of less than knots: blue track; speed exceeding knots: red track; speed between the two: variable color).
5. click on the **Apply** button to validate the display.

Note: the data sources are dependent upon the electronic equipment installed.

Display tab

Display is checked and the boat symbol will be displayed on screen.

Click on the color zone area of the symbol to choose in which color you want to the boat symbol.

Size an type of the boat symbol

Minimum ship size unit is defined in **pixel** unit. Choose a size.

The boat symbol cannot be less small than minimum size defined by the user.

ECDIS symbol display.



Ship symbol constant size display.



Misc tab

Position alert

1. If the "**Display**" check box is enabled, a «**bip**» alert is permanently performed when no position is received by the software.
2. Unchecked it if you do not want to hear this alert anymore.

Security circle

1. check "**Display**" to show it on chart.
2. enter a value in **Size** input text to define a circle distance.

Vector

1. three check boxes allow to display vectors direction of your mobile (Ground heading, Surface heading or the drift)
2. Choose to display all vectors or one of them.
3. select in which mode you want to display vectors with a fixed length or if it moves according to the speed that you have entered.

Average input data every...

You can choose the average rate, which will be used by the navigation logbook.

Characteristics tab

Mobile size

1. enter the length and the width of the selected mobile.
2. choose from the middle of the mobile axis of the GPS antenna position

Setting Up Display

Select [**Option: display**] from the [**Display**] menu to call up the Display window that allows you to define characteristics on the chart and consists in several categories of Display Options:

Colors

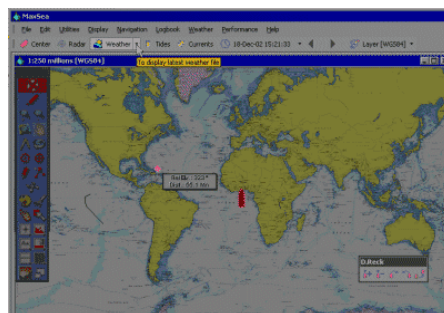
You should need a less bright display, in case of night navigation for example.

Day/Dusk/Night display darken the software color palette and allows you to not be dazzled in a dark cabin.

It also applies on the following cartographic:

- Mapmedia
- ARCS
- NDI
- Maptech
- C-Map

choose your display mode



Dusk display mode chosen

Customizing "Colors" display

Background color / Grid color / world chart color

Left-click on one of each option to bring up the corresponding color palette in which you can choose a color.

Customizing display

This part of the "Display" window allows to change the characteristics of the selection tools by changing:

1. Line color
2. Line width drawn on chart.

Choosing a "Distances Measurement" display

Two categories of Distances Measurement between the Great circle or Rhumb line calculations

The software can work in Great circle or Rhumb line on the chart. You are advised to always work in Great circle method. Great Circle is checked by default.

Customizing and choosing "Miscellaneous" display options

Palette data font size

The pop-up menu can be used to specify the character size used for text inside the displays. Smallest is chosen by default.

Display chart outlines

Display Chart Outlines is checked by default and pink rectangles are displayed on the chart and show available charts. Uncheck this box to hide contours on chart.

Antemeridian

Select the box to choose a chart display centered on the antemeridian (**longitude 180°**) which replaces the display centered on the Greenwich (longitude 0°) **meridian** .

Display geographic grid

If you select this box, the grid of lat / lon coordinates is displayed on charts.

Display TD grids

If you select this box, the hyperbolic network(s) is displayed on the chart.

Scale

Uncheck this box to hide the scale detail displayed in Chart Window lower left. (checked by default).

Antialiasing

Uncheck this box to improve the system performance (checked by default)

Setting Up Units

Select **[Option: Units]** from the **[Utilities]** menu to call up the measurement units properties window.

1. Choose the measurements units that you normally use by calling up the corresponding pop-up menus.
2. Select an item in the corresponding pop-up menus (Distance, Short distance, speed, depth or height etc....)
3. Click on OK to validate the settings parameters.
4. Click Cancel to close without taking into account the setting parameters.

List of available units

1. **Great distance** : Nautical Mile (MN) / kilometer (km) /US Mile (M)/ Meter (m).
2. **Short distance** (used for the mobiles size for example):Meter (m) / Foot (Ft) / Centimeter (cm) / Inch (In).
3. **Speed** : Knot (Kn) / Meter per second (m/s) / Kilometer per hour (km/h) / Us Mile per hour (MPH)
4. **Depth/Height** : Meter (m) / Foot (Ft) / Fathon (Fa)
5. **Volume** : Litre (L) / US Gallon (US Ga) / Canadian Gallon (Can Ga)
6. **Temperature** : Degrees Celcius (° C) / Degrees Fahrenheit (° F)
7. **Surface** : Square Nautical Mile (Mm²)/ Square meter (m²) / Square kilometer (km²) / Square US Mile (M²) / Square Foot (F²) / Hectare (Hect) / Are (Are)
8. **Pressure**: Millibar (mB) / Bar (B) / Pascal (P) / Inch of mercury (hg In) / Millimeter of mercury (hg mm)
9. **Slope**: Degree (°) / Per cent (%)

To change the distances measurement mode:

1. Go to the **[Display]** menu and choose **[Option: Display]** to call up the Display properties dialog.
2. Check either "Great Circle" or "Rhumb line"

Note: we advise you to work always with Great circle measurement.

Setting Up Coordinate System

To select a coordinate system in which you wish to work:

1. Go to the **[Utilities]** menu and select **[Option: Coordinate system...]**
2. A dialog box appears and allows you to select geographic parameters under three pull down menus :
 - **Group** : the geographic zone.
 - **System** : the coordinate system.
 - **Datum** : the datum.

Setting Up Magnetic Variation

Select **[Option: Magnetic Variation]** from the **[Utilities]** menu to bring up the Magnetic variation window which consists in three parts of setting zone.

Heading display

First choose an option to explain how you wish display headings:

1. If you wish that the headings are indicated by the software in geographical mode, check **Geographic heading** box (T is displayed against the heading field in the Cursor Data palette).
2. If you wish that the headings are indicated as magnetic headings check the **Magnetic heading** box (Mg is displayed against the heading field in the Cursor Data palette).

Note:

1. True (or geographic) headings use the geographic North pole as the reference point and refer to the north maritime chart.
2. Magnetic headings reference the magnetic North pole (this value is constantly moving very slowly) so you have to apply a correction factor to compensate for this offset.(see the following MaxSea World magnetic chart reference)
3. Compass heading is that which is indicated on steering compass. Most GPS give the option of outputting geographic or magnetic heading.

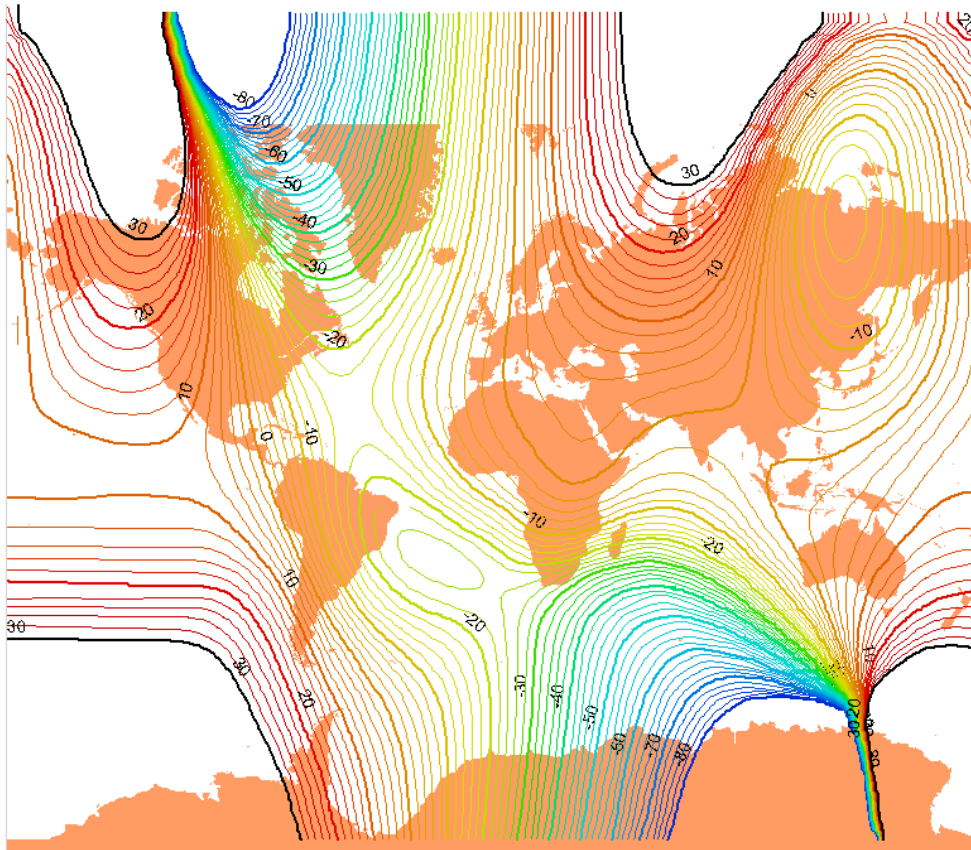
Magnetic variation

Choose a correction that is known as Magnetic variation.

1. Check the **Manual** radio button from the Magnetic variation zone and then use the keys (+) and (-) to enter the present **declination** on your navigation region, from the 0°(East).
2. Select **Auto** from the magnetic variation zone.

Note:

MaxSea refers to a world Magnetic chart reference to apply correction. This refers to *Epoch 2000 declination - Main field(D)* references.



The World magnetic chart shown above is the magnetic variation reference in MaxSea (chart not available in MaxSea)

Magnetic deviation (Curve or Table)

The **deviation** (or the boat influence) is the error of your steering compass, this is the affect of magnetic items near your compass (for example iron), this will affect the headings of your boat.

Choose the different deviation values for each ship heading. Take care to use the correct direction for the curve (East or West).

MaxSea allows you to input your deviation corrections on a permanent basis. this can be done in two ways:

1. directly from the curve, left-click a point from the curve and move according to the correction value.
2. or enter your magnetic deviation directly in a cell of the table and choose the geographic direction (East or West), left click in the cell and choose the direction from the pull-down menu.

IMPORTANT

If you have chosen **Compass heading** mode the software displays all the headings taking into account the variation (declination and deviation). However, deviation is not applied when the **bearing** lines are plotted using the **Bearing** tool (see chapter **Bearings** In effect these are generally taken using a bearing compass which is not affected by the deviation (only the correction due to declination is brought to bearing values).

Setting Up Fuel Consumption

Select **[Option: Fuel consumption]** from the **[Utilities]** menu to call up the Fuel consumption window.

- A graph is drawn in the upper of the window and represents the average of your boat fuel consumption.
- The tab in the lower part of the window allows to add a specific consumption value according to the speed.

To add or to remove a value:

1. To add a value left click on the **Add** data button.
2. To change the value click in the desired cell and then enter directly the value.
3. To remove a value just click on the **Delete** data button.
4. to validate the customize click on **OK**

Note: three values are defined by default (lower, middle and higher)

Customizing Icons

Select **[Option: Customize Icons]** from the **[Utilities]** menu to call up the **Customize Icons** properties dialog box.

You can add up to 100 icons.

1. Left-click on an icon of your choice among the "available icons" frame .
2. Click on middle left arrow to see the new icon positioning in the user palette
3. Repeat the same operation so much that it is possible.

To replace an icon

Click on an icon of your choice and drag it towards the one to be replaced.

To delete an icon

Click on an icon of your choice from the left frame and drag it towards the one to be deleted (or click on the middle right arrow).

Setting Up Route


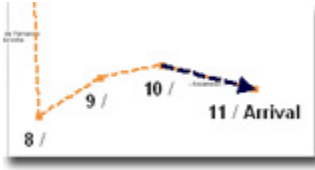
Select **[Option...]** from the **[Route]** menu to call up the route properties dialog box.

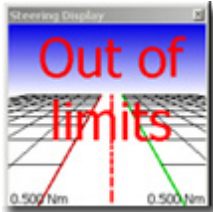
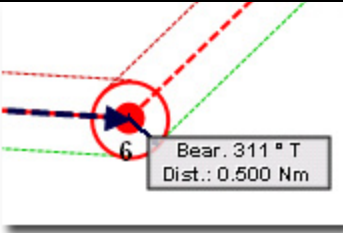
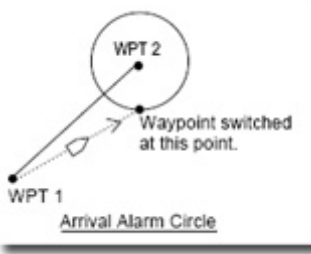
This is where you set the XTE alarm interval and for how display will change when you arrive to a waypoint.

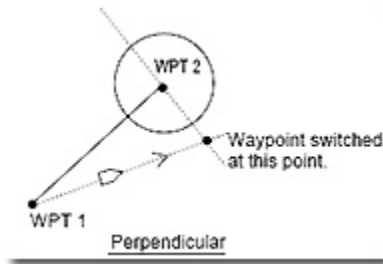
The "**Route options**" Window appears on screen and consists in a list of parameters.

First time you launch the software default values are applied but you can change all of them according to your navigation.

Following table lists all details about how to configure parameters:

Data Parameters	Description and settings	First time default value	Result and illustration
Waypoint Label Format	<p>Click on the bar for calling up the dialog which allows you to choose one or several labels you want displaying nearest a waypoint on the chart.</p> <p><u>Check boxes depending to your choice:</u></p> <p><input checked="" type="checkbox"/> Name (personal attribute)</p> <p><input type="checkbox"/> GPS ID (GPS attribute *)</p> <p><input type="checkbox"/> Color (GPS attribute *)</p> <p><input type="checkbox"/> Symbol (GPS attribute *)</p> <p><input type="checkbox"/> Comments (personal attribute)</p> <p><input checked="" type="checkbox"/> FID (Software attribute)</p> <p><input type="checkbox"/> Pos (Software attribute)</p>	Name is selected by default and its field is empty.	<p>For example if you have chosen to display FID and Name</p> 
Leg Label Format	<p>As above Click on the bar for calling up the dialog which allows you to choose one or several labels you want displaying nearest each route legs.</p> <p><u>Check boxes depending to your choice:</u></p> <p><input checked="" type="checkbox"/> Seq Number (Software attribute)</p> <p><input checked="" type="checkbox"/> Name (personal attribute)</p> <p>All navigational attributes depending to the actual route such as AWS, AWA, TWS, TWA, etc... If you have chosen a parameters between all of them and it isn't displayed on screen, this indicates that the value is not transmitted, they are software parameters.</p> <p>See the Leg Label Format glossary used in each categories of route.</p>	Seq Number	<p>In this example Seq Number and Name are chosen and displayed on chart as it is shown in the following picture:</p>  <p>Note that the Name is the same name as you have chosen for this waypoint. The selected leg starts from the "10" route point to "11" route waypoint.</p>

Display XTE	<p>The XTE alarm warns you when your GPS is off its intended course and the "OUT OF LIMITS" message appears in the "Steering display window".</p> <p>Click on the right text area for choosing an option between False or True.</p> <p>For how to set the arrival alarm to each Waypoints of a route , see the related topic "Out of limits position"</p>	On	
Set Leg Scale	<p>This option allows you to activate the Auto Scale function .</p> <p>As above Click on the right text area for choosing an option between False or True.</p>	On	<p>True is chosen the scale will change when you approach the waypoint.</p>
Default leg XTE	<p>This value is the distance from which the waypoint is considered as "passed" .</p> <p>You can modify the XTE limit value into the Default leg XTE input text.</p> <p>This value is also used for the Circle Radius(Arrival Alarm circle).</p> <p>Click on the arrow nears the input text for displaying the virtual keyboard. Enter your own default value.</p> <p>Note that this value is applied by default on all legs belonging to your active route.</p> <p>For how to set the arrival alarm to each Waypoints of a route , see the related topic "Out of limits position".</p>	0.500 Nm	 <p>As it is shown in the picture above; the Arrival Alarm Circle radius is equal to the Leg XTE limit and by default its value is equal to 0.5 Nm.</p>
<p><u>When you arrive to a waypoint on a route, you can switch to the next waypoint by one of the two methods.</u></p>			
<p>Passage Distance On/Off</p>	<p>DISTANCE: Destination waypoint is automatically switched when GPS comes within the arrival circle alarm range.</p> <p>(default leg XTE)</p>	On	 <p>When Passage Distance is chosen (TRUE)</p>

Passage perpendicular On/Off	PERPENDICULAR: Automatically switches the destination waypoint when GPS comes passes an imaginary perpendicular line passing through the center of the destination waypoint.	On	 <p>When Passage perpendicular is chosen (TRUE)</p>
Overwrite Data During Import	When this option is checked on all data will be automatically replaced during import.	Off	

Setting Up Targets

Select **[Option: Targets...]** under the menu **[Targets]** to call up the Mobile option dialog box.

Choose the type of Mobile you wish to set up parameters

In case MaxSea is connected to a mobile, you can change the setting parameters applied on :

1. Tracking

If the ☒ **Automatic Track ON** box is checked, each new mobile is automatically displayed on Tracking.

The mobile track is saved in the layer **"Target.ptf"**. If not existing yet MaxSea will create it.

Select a time (xx mn xx s) for the **Recording accuracy**. All information available concerning this mobile will be saved on its tracks at this period.

Note : This option allows at the same time to refresh the target display

2. Targets color

MaxSea displays all mobiles on the chart with same color.

In Mobile color you can select :

☐ ECDIS color (green)

or

☐ Fixed color and then choose the color you want by using the PopUp menu.

3. Track color

- If the ☒ " **variable color for temperature** " box is checked, each new mobile track is drawn in different colors according to the sea surface temperature. To associate different colors to a mobile track click on the settings button and choose a color gradient according to an interval of temperature.
- This has two effects on the display:
 - The track is drawn in different colors and the temperature appears beside the target name (23°7c)



- The temperature is also indicated in the Mobile properties windows

4. Auto saving

Check the ☒ Automatic daily saving..." box to choose how often you wish to save the mobile track (daily hour frequency).

Then select an hour in the corresponding pop-up.

When time for recording is arrived MaxSea automatically save the active target.ptf file as :
Targets_YYYY_MM_DD_hh_mm_ss.ptf (Targets_2003_03_28_10_40_55.ptf)

5. Mobile label

To define the mobile label displayed on chart select the most appropriate label under the pull down menu.

Choose a label type between the following options:

1. Name
2. Call Sign + Name
3. Name + Sea Surface Temperature.

Setting Up Text

Select **[Option: Text]** from the **[Edit]** menu to call up the Text properties window.

This gives you control over text by setting:

1. Font typography

2. **Font size**
3. **Font color**
4. **Text Justification**
5. **Highlight** check the box to display text written on white background.

Choose the font and the characteristics that you wish to apply; then click **OK** to confirm.

For more information refer to "Entering text " chapter.

Setting Up TDs (Hyperbolic Networks)

Select **[Option: TDs...]** from the **[Utilities]** menu to call up the dialog box detailing the hyperbolic networks used.

- 1 - Click the **Hyperbole 1** button, then select parameters for this network (Decca, Loran or Toran type).
- 2 - Then, call up the pop-up menu **Channel** to choose the required network.
- 3 - Finally, choose the colors or stations as well as any corrections.

Note:

- (1) - you can select simultaneously two different hyperbolic networks.
- (2) - when a hyperbolic network is selected, all of the positioning information will be indicated both in geographical mode (**latitude** , **longitude**) and in hyperbolic mode.

To display the hyperbolic network(s) on the chart:

- go to **[Display]** menu, choose **[Option: Display...]**
- Check the corresponding "**Display TD grids**" boxes.

If needed you can also store a list of specific points of correction.

Setting Loran TDs corrections

MaxSea allows you to GPS Lat/Long to Loran TD's according to the nearest station. MaxSea also allows you to enter a "correction value" to compensate the slight inaccuracies. Because Loran is not a linear function, this correction value is not a fixed value and thus changes as the boat moves. In MaxSea, you can enter your correction table once and never have to update it again only if needed. Then thus as the boat moves, MaxSea automatically references the closest correction from the table and uses that value as the correction.

Go to the **[Utilities]** menu and choose **[Option: Loan TDs corrections...]** to display the dialog box which allows you to enter relevant points of correction (by default this table is empty).

To Add points correction:

1. Click on "**Add**" button

2. Choose a the channel where the boat is (Central pacific 4990, Canadian east coast 5930, Commando lion 5970, Canadian west coast 5990, Labrador sea 7930, Gulf of Alaska 7960, Norwegian sea 7970, Southeast U.S. 7980, Mediterranean sea 7990, France 9840, Great lakes 8970, U.S. west coast 9940, Northeast U.S. 9960, Northeast pacific 9970, Icelandic 9980).
3. Enter in the corresponding text fields: Latitude value, Longitude value and the four values which must correct.
4. Click on **OK** to validate all the values into the table.

To update a Loran TD's correction value

1. Select a line according to the Loran TD's correction you wish to update.
2. Click on **"Edit"** button for updating value.
3. Click on **OK** to validate updates.

To delete a wrong correction

1. Select the line in the table you wish to erase.
2. Click on **"Delete"** button for erasing this correction.

To automatically apply the corrections in MaxSea check the **"Use this corrections list"** case.

Setting Up Events

To call up the dialog box which lets you to customize events go to the **[Utilities]** menu and select **[Option: events...]**.

The Events dialog box lets you to customize each events using the numeric keypad and to select the required parameters.

The dialog box consists in two parts:

The upper part of the dialog box is reserved for setting up automatic events (saving frequency, additional criteria, etc.).

1. Two manners to define the recording interval between two events. Two manners to define this frequency, in a value of time or in a value of distance.
2. If you wish that some of the information (SOG, COG, speed, etc.) be recorded at the same time as the event.
3. Select the **"Additional function memorization"** check box.
4. Call up the pop-up menu and choose the type of value for which the information is taken in account.
5. Enter the "Higher than" value to activate recording of additional criteria.

The lower part of the dialog box is reserved for setting recording commands.

1. Click the **"Event Short name"** check box if you wish that some of the information (depth, water temperature, etc.) be displayed on the chart at the same time as the event.
2. Call up the pop-up menu and choose the information (between Speed over ground, Course over ground, etc...) .
3. For each number key, choose the required icon and color from the corresponding pop-up menus.

Note: the software allows you to customize maximum 10 events;

Setting Up Data Source Input

Each radar unit is a little different but the basics is the same for each radar.

There are several steps required for setting up the input, like its own host Name for distinguishing them from the others in the network.

Choose **[Option : Navnet...]** from **[Utilities]** menu to define each source host name used by MaxSea:

A dialog appears and it is a little different depending on the Radar unit which is connected.

1. If you are using a NavNet system, you will use either NavNet 1 or NavNet 2 depending on your own system.

Data Source	Description	Default value for NavNet 1	Default value for NavNet vx2
Radar Source	Host name of the display unit from which the radar picture is received.	Factory default is RADAR	Factory default is NAVNET1
Sounder Source	Host name of the Sounder.	SOUNDER	Factory-default is ETRO
Host name	Host name used for MaxSea identification on the Navnet network	Default is MaxSea	NAVNET4
Chart Source 1	Chart source 1 display Host name	RADAR*	NAVNET1
Chart Source 2	Chart source 2 display Host name	PLOTTER*	NAVNET2
Chart Source 3	Chart source 3 display Host name	MCDRIVE*	NAVNET3

Note (*) Chart Source : Each NavNet display has a chart card slot. In order for MaxSea find chart information on network display, the Host name of each must be entered in Chart source fields.

1. If you are using FURUNO Radar System, FAR21x7 is selected in the pop up.

Data Source	Description	Default value for FAR21x7 Radar
Radar Source	Host name of the display unit from which one radar picture is received.	RADAR1
Radar Source 2	Host name of the display unit from which one radar picture is received.	RADAR1 if only one radar is connected or RADAR2 if a second Radar is connected
Host name	Host name used for MaxSea identification on the Navnet network	MAXSEA
Chart Source 1	Chart source 1 display Host name	MC200

Chart Source 2	Chart source 2 display Host name	
-----------------------	----------------------------------	--

IMPORTANT

1. Never set the same HOST NAME in the network.
2. The same Radar Source should be selected on the NavNet network. Never select different radar source on each Navnet or MaxSea unit if two radars and plotters are in the network.

Setting Up Radar System

Setting up Radar parameters by choosing **[Option: Radar...]** from the **[Utilities]** menu.

Depending on Radar System Unit connected to MaxSea, you will have to adjust following Radar options :

When NavNet Radar is connected to MaxSea, the Radar Options dialog will appear as it is shown in following picture.

The screenshot shows a dialog box titled "Option : Radar..." with a close button (X) in the top right corner. The dialog contains several sections of settings:

- GAIN**
 - Gain Status: Manual
 - Gain: 0.00 %
 - AC Sea Status: Manual
 - AC Sea: 0.00 %
 - AC Auto: ☐
 - AC Rain: 0.00 %
- DISPLAY**
 - Echo Color: Green
 - Realtime Display: ☐
 - Trail Color: (empty)
 - Trail Time: 14d 08h
 - Radar / Chart Offset Heading: 0 ° T
 - Radar / Chart Offset Distance: 0.000 Nm
- SIGNAL PROCESSING**
 - Echo Stretch: Off
 - Interference Reject: Off
 - FTC: 0.00 %
 - Noise Rejection: Off
 - Tune Status: Manual
 - Tune: 0.00 %
 - 2nd Echo Rejection: ☐
 - Stby/Tx: (empty)
- ARPA**
 - CPA: Off
 - TCPA: Off
 - Auto Acquisition: ☐

See also related topics for more information:

1. [NavNet Radar Gain Settings](#)

2. [NavNet Radar Display Settings](#)
3. [NavNet Radar Signal Processing Settings](#)
4. [NavNet Radar ARPA Settings](#)

When Other FURUNO Radar is connected to MaxSea, the Radar Options dialog will appear as it is shown in following picture.

Option : Radar	
- GAIN	
Gain Level	52.00 %
AC Sea Auto/Manual	Auto
AC Sea Level	38.00 %
AC Rain Level	39.00 %
- DISPLAY	
Echo Color	Multicolor
Animated Echo Sweep	Off
Radar / Chart Offset Direction	0 ° T
Radar / Chart Offset Distance	0.000 Nm
- SIGNAL PROCESSING	
Interference Reject	2
Echo Stretch	2
Noise Rejection	OFF
Tune Control	48.00 %
2nd Echo Rejection	Off
Tune Auto/Manual	Automatic
Stby/Tx	Transmit

See also related topics for more informations:




1. [Radar Gain](#): Interactive functions
2. [Radar Overlay Display](#): only for MaxSea display
3. [Radar Signal Processing](#): Interactive functions

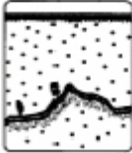

Note: Interactive functions have directly effect on Radar display system.

Option : Sounder...

IMPORTANT - Function only available when using a NavNet Unit connected to MaxSea.

This menu gives you a direct access in MaxSea to set up Sounder. All functions are interactive.

Option	Range	Operation
Gain level	% 0-100	<p>To Adjust the Gain value when working on Manual mode:</p> <ol style="list-style-type: none"> 1. Click on the Gain line to display the Pop-up menu 2. Adjust the range from 0 to 100% using arrows or modify it directly by entering the desired percentage value 3. Press [ENTER] to validate. <p><u>Adjusting the gain</u></p> <p>Normally, set the gain to the point where excessive noise does not appear on the screen. Use a higher gain setting for greater depths and a lower setting for shallow waters.</p> <p>More info...</p> <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="margin-right: 10px;">Gain to High</div>  </div> <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="margin-right: 10px;">Gain proper</div>  </div> <div style="display: flex; align-items: center; margin-top: 20px;"> <div style="margin-right: 10px;">Gain low</div>  </div>
Mode Auto/Manual	- Cruising, - Fishing, - Manual	<p>To define the auto mode:</p> <ol style="list-style-type: none"> 1. Click on the Mode Auto line to display the Pop-up menu 2. Choose the mode Cruising or Fishing as appropriate or Manual MODE to adjust it manually 3. Press [ENTER] to validate. <p><u>Automatic Sounder Operation</u></p> <p>Two types of automatic sounder modes are available:</p> <ul style="list-style-type: none"> ▪ CRUISING is for tracking the bottom, ▪ FISHING is for searching fish schools. <p>CRUISING uses a higher clutter rejection setting than FISHING therefore it is not recommended for fish detection - weak fish echoes may be erased by the clutter suppression circuit.</p>

		<p>More info...</p> <p>Automatic sounder operation is useful when you are preoccupied with other tasks and do not have the time to adjust the display. The automatic sounder function automatically selects the proper gain, range scale and clutter suppression level according to the depth. It works as follows:</p> <ul style="list-style-type: none"> • The range changes automatically to locate the bottom on the lower half of the screen. The range jumps to one step shallower range when the bottom echoes reach a half way point of the full scale from the top and to one step deeper range when they come to the lower edge of the scale. • The gain is automatically adjusted to display the bottom echo in reddish brown (default color arrangement). • Clutter, which suppresses low level noise, is automatically adjusted. <p>Manual Sounder Operation</p> <p>Manual operation is useful for observing fish schools and bottom using a fixed gain setting.</p> <p>The gain, range and range shift functions used together give you the means to select the depth you can see on the screen. The basic range can be thought of as providing a "window" into the water column and range shifting as moving the "window" to the desired depth.</p>
NOISE LIMITER	<p>- Off,</p> <p>- Level1,</p> <p>- Level2,</p> <p>- Level3</p>	<p>To adjust the Noise Limiter level:</p> <ol style="list-style-type: none"> 1. Click on the Noise Limiter line to display the Pop-up menu 2. Choose Level1, Level2 or Level3 to define the degree of suppression desired or Off for no limitation 3. Press [ENTER] to validate. <p><u>Reducing Interference</u></p> <p>Interference from other acoustic equipment operating nearby or other electronic equipment on your boat may show itself on the display.</p> <p>More info...</p> <p>Type of interference :</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Interference from other sounder</div>  </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Electrical Interference</div>  </div> <div style="border: 1px solid black; padding: 5px; margin-top: 10px; text-align: center;"> <p>Note : Turn the noise limiter circuit off when no interference exists, otherwise weak echoes may be missed.</p> </div>
CLUTTER	0 - 16	<p>When the automatic sounder mode is used, clutter is automatically adjusted. To reduce low level noise in manual sounder operation do the</p>

		<p>following:</p> <ol style="list-style-type: none"> 1. Click on the CLUTTER line to Edit the value 2. Enter the new value to adjust clutter rejection level desired; 0 (OFF) through 16. 3. Press [ENTER] to validate. <p>Note :The higher the number the higher the degree of suppression.</p> <p>Note that the clutter suppressor may erase weak echoes. Therefore, turn off the clutter when its use is not required.</p> <p><u>Reducing Low Level Noise</u></p> <p>Light-blue dots may appear over most of the screen. This is mainly due to sediment in the water, or noise. This noise can be suppressed by adjusting CLUTTER on the SOUNDER SETUP.</p>
Time Variable Gain	Level 0-9	<p>TVG (Time Varied Gain) compensates for propagation attenuation of the ultrasonic waves. It does this by equalizing echo presentation so that fish schools of the same size appear in the same density in both shallow and deep waters. In addition, it reduces surface noise.</p> <p>Not :if the TVG level is set too high short range echoes may not be displayed.</p>
Draught Offset	Depth (meter)	Transducer immersion

Glossary

A

ACK: Acknowledge

ACQ: Acquire, Acquisition

Activation: Process that grants access to the software. The user submits first his Site Code and Serial number and then receives a custom Site Key.

Activation Wizard: The Activation Wizard makes the software activation easier providing a user friendly interface made of windows and forms. Activation can be automated (through the Internet), delayed (by automatic email or manual one) or totally manual.

Active leg: is a segment of the route which is currently followed.

Active route: If an autopilot is enabled, it will steer the boat along an active route, heading for each successive waypoint as it is activated.

Active Waypoint: The active waypoint or mark is the waypoint or mark towards which you are currently traveling. An active waypoint slowly flashes to make it stand out on your screen.

ADJ: Adjust, Adjustment

AFC: Automatic Frequency Control

AGC: Automatic Gain Control

AIS: Automatic Identification System

Alarm (XTE): Cross Track Error Alarm is activated when the boat has deviated from the desired path of travel. In certain areas, deviation from the route could put the vessel in danger. If you are using a route to travel from point to point, you can select an amount of cross track error allowable before an alarm will sound.

ALT: Altitude

AM: Amplitude Modulation

ANT: Antenna

AP: Autopilot

ARPA: Automatic Radar Plotting Aid

Automatic activation: This email is automatically generated by the Activation wizard and sent to our server to be processed. If sent data are correct, the user receives an answer email enclosing the Site Key to be entered into the Activation Wizard.

Automatic Activation Email: This email is automatically generated by the Activation wizard and sent to our server to be processed. If sent data are correct, the user receives an answer email enclosing the Site Key to be entered into the Activation Wizard.

Autopilot: A self-steering device which attaches to a vessel's steering mechanism to control the vessel's bearing.

AUX: Auxiliary System/Function

AWD: Apparent Wind Direction. This is abbreviated as AWD. In order to overcome the effects of current and leeway, a vessel which is trying to reach a given waypoint may not be able to steer straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD). Your product derives TWD from AWD by taking any bearing deviation into account.

AWS: Apparent Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (True Wind Speed, or TWS). Your product derives TWS from AWS by taking the vessel's motion into account.

B

Bearing: a horizontal angle, measured from 0 to 90 degrees, fixing the direction of a line or direction of travel with respect to either a north or south direction.

Bench mark: a relatively permanent material object, natural or man-made, with a known elevation. A bench mark can be used as a reference point when navigating a route or in determining the elevation of nearby land features.

Bitmapped Image: A bitmapped image is one made from an array of dots rather than continuous lines or areas.

BMP: Bitmapped image format (Microsoft Corp.) BMP was developed by Microsoft and is the native graphics format for Windows.

BRG: Bearing

Broadcast: To simultaneously send the same message to multiple recipients. Broadcasting is a useful feature in e-mail systems.

BSB Chart: BSB Electronic Charts was a company that held the exclusive license from the U.S. Department of Commerce, NOAA to develop and license electronic versions of NOAA nautical charts. Maptech now holds this license and refers to the BSB charts as the Chart Kit format. The BSB charts are in a proprietary format. Northport Systems Inc., the creator of Fugawi, has been licensed by NOAA and BSB Electronic Charts (now Maptech) to create BSB-compatible software and BSB charts in Europe and Canada. Nautical Data International, Inc. holds the exclusive license to produce Canadian electronic nautical charts, which are also available in BSB format.

C

C-Map: Electronic Vector Charts : C-Map NT or C-Map NT+ or C-Map CM93/2 or C-Map CM93/3

C UP: Course Up

CDROM: Compact Disk Read Only Memory

ChartTiff: ChartTiff maps are collarless DRGs. ChartTiff raster images allow for easy panning from one map to another, without worrying about map overlap. The U.S. topographic maps in ChartTiff format are converted to UTM projection.

CIB: Controlled image base

CITS: Close Air Support Integrated Targeting System (CITS) is a program developed by Northport Systems Inc. for integrating the Global Positioning System (GPS) with laser target locators.

CLR: Clear

COG: Course Over Ground - the direction, reported in true or magnetic north values, in which a GPS receiver and the person operating it are moving with respect to the earth.

COM port: The interface through which your PC can communicate with peripherals.

Configuration: This word refers both to the set of features/modules available inside the software and to the action of setting them. This action is performed during the manual input of personalized codes (configuration codes) using DungleUpdate(?).

Configuration codes: They belong to a unique user and allow him to define the features/modules he is entitled to use: his configuration. They must be entered before the first use or when the functions/modules are updated whatever may be the using mode (with or without dongle).

Contour line: a line on a map that connects points of equal elevation. The vertical distance between contour lines is equal to the contour interval.

Course-up: The chart is shown with the direction of the vessel's heading always pointing upward. This orientation corresponds to the visual view from the bridge in the direction of the ship's heading.

CPA: is the abbreviation that means Closest Point of Approach.

CPU: Central Processing Unit

CRS: Course

CTS: Course To Steer - is the direction to reach the COG with taking into account the currents values.

CTW: Course Through the Water

CURS: Cursor

D

Data sentence: The unit of information sent between peripherals and your program.

Datum: a reference system for surveying which involves using a plane, level, line, etc., from which to calculate heights and depths. A vertical datum is a level surface to which heights are referred. The horizontal datum is used as a reference for position.

DDE: Dynamic Data Exchange. A Windows protocol that allows communication between applications. When information is updated in one application, related information will be updated in other applications.

Dead reckoning: A method of navigation, where known values are used to calculate unknown values. It is a convenient and versatile function since it is so crucial to the day's work in ocean navigation.

DEL: Delete

DEM: Digital Elevation Model

DEP: Departure

DEST: Destination

Dongle: This key, connected to the parallel port or to the USB one, allows the use of the software (starter key). It also provides the opportunity of using a given configuration on a second computer without previous activation: it acts as a mobile license / configuration.

DongleUpdate: A tool allowing the configuration codes manual input.

DPTH: Depth

DR: Dead Reckoning Function

Drift: The cumulative effect of wind and current on the vessel.

E

EBL: means Electronic Bearing Line: This is a bearing line from the center of your GPS position that remains constant as its position moves. You use the EBL to measure the accurate bearing from your GPS's position to a target.

ECDIS: Electronic Chart Display and Information System

ECS: Electronic Chart System

EGNOS: European Geo-Stationary Navigational Overlay System

Elevation: the vertical distance of a point above or below a reference surface, such as sea level.

ENC: Electronic Navigational Chart

Ephemerides: Data giving the location of satellites for each day of the year or for other regular intervals.

ETA: Estimation Time Arrival

ETD: Estimated Time of Departure

F

F-Band: F - Band (applies to Radar)

FIX: Fix

FLS: The Forward Looking Sonar is a system that displays on screen a scanning illustration of underwater objects such as fish or seabed.

FM: Frequency Modulation

FREQ: Frequency

G

GFS: The GFS model is a generic, worldwide model covering land as well as sea areas. This is the most common of the models, and the one other software suppliers make available.

GIF: Graphics Interchange Format. This is a format for saving graphics files with data compression.

GLL: A data sentence that is part of the NMEA protocol for transferring information between electronic devices. The GLL sentence contains position information.

GPS: Global Positioning System - a global navigation system that is based on triangulation from a constellation of 24 satellites orbiting the earth. A GPS receiver pinpoints its position on earth by measuring its distance from the satellites. It does so by calculating the time it takes for a coded radio message to pass from the satellite to the GPS unit. A GPS unit needs at least three measurements to determine its exact position.

GRIB: GRIB file is a WMO (World Meteorological Organisation) standard format for archiving and exchanging gridded data

Gulf Stream model: is a weather model which adds current information to the East Coast High Resolution model.

H

Hardware key: This key, connected to the parallel port or to the USB one, allows the use of the software (starter key). It also provides the opportunity of using a given configuration on a second computer without previous activation: it acts as a mobile license / configuration.

HDG: Heading

HDOP: Abbreviation of Horizontal Dilution Of Precision. HDOP allows one to more precisely estimate the accuracy of GPS horizontal (latitude/longitude) position fixes by adjusting the error estimates according to the geometry of the satellites used.

Head-up: The Head-up mode is useful for monitoring ship's progress towards the direction of the route. The chart is shown with the direction of the vessels course upward. The display orientation is constant until a new course direction is fed in.

I

Ionosphere: That part of the atmosphere, extending from about 70 to 500 kilometers, in which ions and free electrons exist in sufficient quantities to reflect electromagnetic waves.

J

JPG: Joint Photographic Experts Group Format - Standard format for image storage created by this group. JPG allows large images to be significantly compressed. Along with the GIF format, it is one of the most common and widely supported image formats used for raster graphics.

L

L/L: Latitude / Longitude

LAT/LON: Coordinate system of any object's, expressed in Latitude and longitude.

Latitude: the distance north or south of the equator of a point on the earth's surface. This distance is measured in degrees, minutes, and seconds. Lines (parallels) of latitude circle the earth horizontally and are parallel to one another. One minute of latitude equals one nautical mile.

Leg: is the segment of a route between two waypoints.

License: It is the proof that the use of the software is granted and it contains the data relative to the use restrictions (deadline, runs...). It is generated after a successful activation process.

LMK: means Landmark, is used to indicate a land position in a coordinate system.

Longitude: the distance east or west of the prime meridian of a point on the earth's surface. Longitude is measured in degrees, minutes and seconds. Lines (meridians) of longitude create a geographic grid around the world and are not parallel, but rather converge at the poles.

M

Magnetic north: the area to which all compass needles point, located roughly 1300 miles south of true north. Magnetic north moves west slightly each year due to the earth's rotation and the friction created between the earth's liquid center and its solid crust.

Manual Activation: It is made of a dialog box displaying to the user his Site Code and requesting for the matching Site Key. It meets two needs:- to be able of entering a Site Key after a email activation request.- To be able of performing a fully manual activation.

Manual activation email: It's one of the methods suggested by the Activation Wizard. It's a helper designed for the user to manually create an activation request email using copy & paste. This method must be applied if the automatic activation email failed.

Map projection: the systematic arrangement of the earth's spherical or geographic coordinate system onto a plane; the process of transforming a globe into a flat map with the least amount of distortion; a transformation process.

Meridian: an imaginary line that circles the earth, passing through the geographic poles and any given point on the earth's surface. All points on a given meridian have the same longitude.

mm2: Mapmedia mm2 charts are in the "the second generation" Raster format, the display quality of the text has been improved (anti aliasing effect). Mapmedia mm2 charts are in 16,7 million colors, this improvement in the quality of your charts displayed on the screen is not achieved at the expense of disk space.

MOB: Man-over-board

Modules: They must be considered as the available features offered by the software.

N

NMEA: National Maritime Electronics Association. The association sets standards for interfacing nautical electronic devices, including Global Positioning System receivers.

North-up: North (zero degree) is at the top of the display.

O

Oceanic Experimental model: is a weather model, covering only the ocean areas (and not close to shore).

Online Activation: It's the more simple activation method available for an user who has access to the Internet. The process is fully performed by the Activation Wizard.

P

Packet Messaging: Radio transmitted message system.

PBG: Personal Bathy Generator

PCMCIA Card: Personal Computer Memory Card International Association Card. A Sunnyvale, California nonprofit trade association created to standardize the connection of peripherals to portable computers. PCMCIA developed the PCMCIA card, a lightweight, removable module about the size of a credit card that adds features to a portable computer.

PCX: PCX is a graphics file format for graphics programs running on PCs. It is supported by most optical scanners, fax programs, and desktop publishing systems.

Pixel: Picture element. Definable locations (dots) on a display that are used to form images on the screen.

PNG: Portable Network Graphics. A file format for the portable, well-compressed storage of raster images.

Position fixing: determining your position on a map in terms of its coordinate system. This can be done visually, by referencing the terrain and comparing it to contour lines and other map features, by using a GPS receiver.

Protocol: An agreed-upon format for transmitting data between two devices

PTF: PTF is the extension of specific vector files which stack there transparency on displayed chart and on which user add marks and save his data.

R

RAIN: Anti Clutter Rain, Radar term

Raster: Computer graphics term describing a predetermined pattern of line that provides uniform coverage of a display space. Raster graphics are computer graphics that are composed of an array of pixels arranged in rows and columns.. Raster maps are stored as a series of pixels. Vector maps are stored as line segments.

Relief: changes in terrain; elevations or depressions in the land.

Relief shading: a technique for showing the ups and downs of the land portrayed on a topographic map. The process makes land look three-dimensional by the use of graded shadow effects. Traditionally, maps are shaded as though the light source is coming from the northwest.

RMS: Root Mean Square. The standard deviation of the error in the GPS location.

Route: A route is a desired path of travel created on a chart and consisting of two waypoints at least with a starting waypoint, and ending waypoint.

S

SAR: Search And Rescue

Scale: the distance between two points on a map as they relate to the distance between those same points on the earth.

SEA: Anti Clutter Sea, Radar term

Serial Number: It identifies the product (software) and proves the purchase act. It is requested by the Activation Wizard or from our services when you have to call them .

Sighting line: The line that you sight along to take a bearing.

Site Code: The Site Code is a critical data with regard to the Activation. It is the query part during the activation phase and identify user machine in a unique way.

Site Key: The Site Key is a critical data with regard to the Activation. It is the answer part of the activation process. It is the "Activation Code".

Slope: When land deviates from the horizontal plane it has slope. On a topographic map, the closer the contour lines are placed together, the greater the slope of the land being portrayed.

Software Key License Manager: allows you to manage your software key each time needed.

SOG: means Speed Over Ground, it is the actual fixed geographic speed of a vessel. It is essentially the Speed over Water (SOW), plus the cumulative effect of wind and current.

SOW: Speed Over Water - the speed over water as reported by a NMEA 0183 compatible GPS attached to your system. So it is the actual speed of the boat traveling.

T

TCP/IP: Abbreviation of Transmission Control Protocol, and pronounced as separate letters. TCP is one of the main protocols in TCP/IP networks. Whereas the IP protocol dealsonly with packets, TCP enables two hosts to establish a connection and exchange streamsof data. TCP guarantees delivery of data and also guarantees that packets will bedelivered in the same order in which they were sent.

TCPA: is the abbreviation that means Time to Closest Point of Approach.

Temporary License: During a dongle failure, the software automatically generates a Temporary License. This license allows the user to keep on using his software normally for a limited time while he is waiting for a dongle replacement. The temporary license is renewable if the user contact the technical support.

Tif: Tagged image file format. One of the most widely supported file formats for storing bit-mapped images on personal computers (both PCs and Macintosh computers).

Topography: relief of the land surface; the graphic portrayal of that relief in map form by the use of contour lines.

Track: An onscreen and/or logged record of a vessel's previous movements.

Troposphere: The portion of the atmosphere from the earth's surface to the stratosphere; that is, the lowest 10 to 20 kilometers of the atmosphere.

True north: the geographical North Pole.

TTG: Time To Go - The amount of time estimated until the vessel reaches an active waypoint, assuming no intervening change in course or speed.

TWA: True Wind Angle

TWD: True Wind Direction - In order to overcome the effects of drift and wind, a vessel which is trying to reach a given waypoint may not bear straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD).

TWS: True Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (TWS).

U

UDP: User Datagram Protocol connectionless protocol that, like TCP, runs on top of IP networks. Unlike TCP/IP, UDP/IP provides very few error recovery services, offering instead a direct way to send and receive datagrams over an IP network. It's used primarily for messages over network broadcast.

Upload: Method of transferring data from MaxSea to a GPS.

USGS: United States Geological Survey.

UTC: Coordinated Universal Time

UTM: Universal Transverse Mercator grid - a grid coordinate system that appears on most USGS maps. It provides a perpendicular grid with constant linear surface distance values between each of its grid lines in all directions, except near the poles. The UTM system divides the area of the earth between 84 degrees N and 80 degrees S into 60 zones. While coordinates reported in degrees, minutes, and seconds of latitude and longitude are often called true coordinates, those reported in terms of the UTM grid are referred to as false eastings and northings.

V

Vector: Images defined by sets of straight lines that are defined by the locations of the end-points. Vector graphics require much less storage space than raster or bitmapped graphics.

VMG: Velocity Made Good - The speed at which the vessel is moving toward its intended destination, regardless of the vessel's direction.

VRM: means Variable Range Marker: This tool is a user-controlled range ring that surrounds your GPS's position. The VRM is normally used to measure distances to targets. The range for the VRM is displayed in Nautical Miles and can be found in a tool tip on the chart.

W

Waypoint: A predetermined geographical position used for navigation along a route or for storing the position of a particular feature.

X

XTD: Cross Track Distance

XTE: Cross Track Error - The distance of a line drawn from the vessel perpendicularly to an active route leg. This determines to what extent the vessel is straying from the course of a route.

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