MaxSea TimeZero v1.9

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Introduction

MaxSea Time Zero is a nautical navigation software application based on the most sophisticated display technology available. MaxSea Time Zero features a full 3D operating environment with unparalleled speed of zooming, powerful tools and an intuitive easy to use interface. The 3D environment of MaxSea Time Zero combines nautical charts, 3D data, and satellite photographs that provides the best maritime navigation information and situational awareness for the navigator that has ever been achieved by a nautical navigation software application.

<u>Standard Features:</u>

- o Seamless electronic chart display in 2D or 3D

- o Unlimited Marks & Routes

- o Active and Historic Track

- o Free Weather Service and Weather Overlay

- o Navigation Logbook

- o AIS and ARPA Targets display

- o Loran TD support

- o USA Tidal Current

- o Worldwide Tidal Height Data

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Getting Started

MaxSea Time Zero can be used in two modes. Upon starting the software choose "Home Planning" or "Navigation" mode.

Home Planning

Choose the "Home Planning" mode when planning on shore. In "Home Planning" mode, the vessel icon is not displayed on the chart, the alarms are disabled and routes cannot be activated. All the other functions such as creating marks, planning routes, or updating and viewing weather files are available.

The Status Bar (Title Bar) appears in yellow when MaxSea is used in "Home Planning" mode.

Navigation

Choose the "Navigation" mode when the computer is physically connected to sensors and instruments (GPS, AIS, NavNet...)
In this mode, the sensors and instrument data are displayed, alarms are enabled, and a route can be activated.

Note: The "Home Planning" and "Navigation" start-up mode are independent from the WorkSpaces (which can be used to plan a route while in the navigation mode)

Chart Compatibility

MaxSea Time Zero is compatible with Mapmedia "MM3D" charts. Mapmedia .mm3d charts are available in Raster Chart format or in Vector Chart format. Mapmedia Raster Charts are scanned from official hydrographic office and private sourced paper charts. Mapmedia Vector Charts are manufactured from official hydrographic office (called S-57) or from privately furnished vector charts from Navionics known as "Datacore by Navionics" or from Jeppesen known as "C-Map by Jeppesen"

Note: Jeppesen and Navionics are the world's leading specialists in nautical vector charts. Mapmedia .mm3d vector charts combine the comprehensive data from Jeppesen and Navionics, with the expertise of Mapmedia.

MaxSea Time Zero is furnished in North America with the complete NOAA library of Raster charts (RNC), S-57 Vector charts (ENC) and 3D Bathymetry in the Mapmedia .mm3D chart format. This data is provided on five DVDs: one DVD containing the Vector Charts and four DVDs containing the Raster Charts. Additionally, free USA Satellite Photographs are downloadable from the "My MaxSea" section of http://www.maxsea.com. To access the "My MaxSea" section, first register your copy of MaxSea Time Zero; and then, click on the "Download" link.

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1. **Note:** Fishing Charts and Satellite Pictures can also be downloaded from the Mapmedia Catalog under the "NOAA (USA)" tab.

2. Outside of North America, Mapmedia offers a complete range of nautical charts for purchase.

Each .mm3d Charts Pack includes:

- o *Raster* or *vector* charts

- o 3D Data

- o Satellite Pictures

Read more and get the latest Mapmedia data updates on MaxSea Time Zero Web site

Installing Charts

Chart DVD(s) are provided with MaxSea Time Zero or when a Chart Pack is ordered. Mapmedia .mm3 charts and data can also be downloaded online from the Mapmedia Catalog or from the e-mail that was sent just after your order (if you are registered)

Note: MaxSea Time Zero needs to be installed and correctly activated on the computer **prior** to installing charts

Charts Installation from DVD(s):

1. Insert the first "Chart" DVD into the computer's DVD drive. If MaxSea does not start automatically, use Microsoft Windows Explorer to browse to the file "ClickMeToInstall.mm3d" on the DVD and double-click on it.

2. If the Charts need to be activated, MaxSea will prompt you to enter a 22 digits Unlock Code beginning with "UC". The Unlock Code for the Charts can be retrieved online at http://www.maxsea.com under the "My Products" section of "My MaxSea" or by contacting the Technical Support.

3. The charts are then copied automatically from the DVD to the correct location on the computer's Hard Drive.

4. Repeat the same process with every DVD provided

1. Note: If the computer is connected to the Internet, the chart activation codes are automatically loaded for the charts upon installation.

Charts Installation from file(s) (on-line download):

Every Chart Pack can be downloaded online from the Mapmedia Catalog or from the e-mail that was sent after your order was processed (if you are registered). The Charts consist of multiple files that are downloaded individually. Chart and data files are stored as .zip files.

Explanation of file extensions:

- File ending with a ".dbv" extension are Vector type charts
- File ending with a ".dbr" extension are Raster type charts
- File ending with a ".dbb" extension are Fishing type charts
- File ending with a ".dba" extension are Satellite Pictures

- File ending with a ".dbt" extension are 3D files
- File ending with a ".dbc" extension are Tidal Currents files

<u>There are two ways to install the charts from file(s):</u>

1. Unzip the file you downloaded and double click on it. This will launch MaxSea (if it is not already open) then transfer the chart to the correct location. Repeat this process with all the files you downloaded.

   Note: MaxSea will not erase the original files when installing the charts in this way

1. To install multiple files at once, it is recommended to close MaxSea and move the ZIP files in "**My Documents |My MaxSea| Downloaded Charts**". The next time you open MaxSea, it will scan this folder and prompt you if you want to install the charts (MaxSea will automatically unzip the files then transfer them to the correct location)

   Note: When the installation is over the files are automatically removed from the "**Downloaded Charts**" folder.

MaxSea Time Zero can utilize information from many different instruments on your boat. A GPS will be the most common type of instrument, but depth sounders, speed sensors, wind vanes, and AIS receiver can supply information to MaxSea Time Zero.
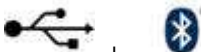
These instruments can be connected to the PC through an NMEA0183 interface, through the network (if a Furuno NavNet MFD/sensor is used) or through USB (for Garmin GPS).

Connection Overview

MaxSea can be connected to instruments using the following methods:

o <u>Serial port</u> :

In most cases, connecting a GPS to a computer is straightforward, and is accomplished by simply connecting the serial cable supplied by the GPS manufacturer to the serial port on the PC. The serial port is a nine-pin male port on the back of the computer often identified by an IO or COM symbol.

o <u>Serial-to-USB adapter:</u>

Newer computers – especially notebooks – may not include a serial port. One can be added by using a serial-to-USB adapter, which can be obtained from most MaxSea resellers or computer stores. A Serial-to-USB adapter requires a driver (that need to be installed before connecting the adapter to the computer. This driver will create a "virtual COM port" on your computer that can be viewed in the "COM and Ports" section of the Device Manager.

o <u>Active GPS antenna</u>: |

Active USB or Bluetooth GPS antenna are an easy way to provide MaxSea with a vessel's position. To be recognized by MaxSea make sure the driver of the GPS antenna creates a virtual COM port.

o <u>Ethernet</u>:

If the boat is equipped with a NavNet series Furuno Chart Plotter (NavNet1, NavNetVx2, NavNet3D) or AIS (FA30 AIS, FA50 AIS), you're computer can be connected to the

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NavNet   network   using   a   standard   Ethernet   Cable.
Assign a fixed IP address to the computer connected to the NavNet network such as
172.31.3.50 with a subnet mask of 255.255.0.0.

Automatic Instrument Configuration

Once the instruments are connected to the computer, MaxSea Time Zero can
automatically locate them if they are turned ON. To use this feature, start MaxSea in
"Navigation" mode to enable sensor and instrument connections. To launch the
Automatic Configuration Wizard:

- Click on the MaxSea Button located on the top left of the screen:

- Click on "Connection Wizard"

- Select the "Automatic Ports Configuration"; and then, click "Next".

- Follow the on screen instructions

To manually select the correct port and configuration or to setup a Pilot , refer to the
"Connection Wizard" paragraph.

Note: The Connection Wizard option will not appear in "**Home Planning**".

User interface

1. **MaxSea Button**: Click on this button to access the Menus and Options of MaxSea Time Zero.

2. **Status Bar**: This area provides access to the "**Undo/Redo**" functions and displays the general status of the software; Gray for regular Navigation Mode, Yellow when MaxSea is running in Home Planning mode, and Red when an Alarm is active (as shown in the picture). The minimize button (minus sign) can be found on the far right of the Status Bar.

3. **WorkSpace & ribbons**: The Ribbons display a series of buttons according to the selected window and WorkSpace. When a button has a little yellow down arrow (on the bottom right) you can right click on it to access sub-categories.

4. **NavData**: The NavData displays the data received from external instruments such as the GPS, wind sensor, depth sounder etc… It also displays the cursor position and the range and bearing of the cursor from the vessel icon. Route information including Course to Steer, Range to Waypoint, ETA and other graphic data can also be displayed.

5. **ship icon**: The Ship Icon displays the vessel's position and course from the connected GPS data. When an Heading Sensor such as a fluxgate compass is also connected, the heading data is used to orient the Ship Icon.

6. **Chart Scale and distance** : This displays Scale and Range of the chart. When the chart display is Over-zoomed, the scale is displayed in red.

7. **Compass** : The Compass displays the orientation of the top of the screen in relation to North. A simple Click on it allows you to quickly change the orientation by switching between available modes (North UP and Head Up).

8. **Configure tools**: This button displays the configuration window providing for the addition or removal of icons for the ToolBar and Ribbons. The configuration is independent for each Workspace.

9. **Tools bar** : The ToolBar groups all the tools that can be used with the current WorkSpace. Once a Tool is selected, an action with the cursor on the chart is required such as creating a Waypoint, for example. The first button of the ToolBar centers the display on the vessel icon on the chart display.

On the right corner of the status bar you have a button , **MINIMIZE** (minus sign) to reduce your MaxSea Software's window.

Full screen

When MaxSea is not used (no mouse or keyboard activity), the user interface (Tools, WorkSpaces, etc…) is automatically hidden after a few seconds to maximize the chart real estate. As soon as you move the mouse, the interface will appear again. You can configure this feature in the options menu.

Normal Display

Full screen Display

Save UI as (available by clicking on the MaxSea button) allows you to save your own MaxSea Interface (WorkSpaces configuration, NavData selection, etc). To reset the MaxSea interface to your default settings, simply open MaxSea by double clicking on the User Configuration file. Note that you can make multiple User Configuration files for multiple users or various uses of the software.

Workspaces

MaxSea Time Zero is designed to perform multiple navigation tasks. These tasks include planning a voyage, navigating to that plan, downloading weather information, viewing and controlling the NavNet3D Radar (MaxSea Time Zero Explorer only). These activities require different tools, so MaxSea Time Zero has introduced the concept of "WorkSpaces". The WorkSpaces help to simplify the User Interface by only showing the tools that are required for a specific task at a specific moment.

To change WorkSpace, click on the corresponding tab under the Status Bar.

Note : The WorkSpaces configuration varies according to the product configuration, the module available, and sensors connected.

1. **Navigation Workspace:** The Navigation WorkSpace is selected by default when MaxSea Time Zero is started in "Navigation" mode. This WorkSpace intentionally has limited functionality available to simplify operation while underway. To access more advanced planning functions such as animation or managing a list of object, select the Planning WorkSpace.

2. **Planning Workspace:** The Planning WorkSpace is selected by default when MaxSea Time Zero is started in "Home Planning" mode. This WorkSpace provides for the planning of routes, the display of weather forecast, animations of tidal height and currents and certain weather patterns. The Planning WorkSpace is also used to display the route details information (allowing to perform simulation) as well as to launch the weather routing (if the module is enabled).

3. **Dual Nav Workspace:** The Dual Navigation WorkSpace allows you to display two Plotter windows side by side. Each Plotter window can be managed independently. For example, one Plotter could be set up in 3D with Satellite Pictures while the second Plotter could display a more traditional 2D view. The Dual Navigation WorkSpace shares the same configuration settings as the Navigation WorkSpace.

4. **Updates Workspace :** The Update Workspace allows you to request and download Weather Forecast. It also allows to update the ActiveCaptain database (when registered to the service). This WorkSpace has an "Update Area" tool in the ToolBar that allows the definition of the Weather Forecast area. The "Weather Update" button located in the Ribbons allows retrieval of the updated file.

If the Weather Routing Module is enable in MaxSea, a new workspace will be available:

Polar : The polar WorkSpace provides a graphic display of the polar data. It also allows you to edit and modifying the polar data as well as the sailset configuration.

When MaxSea Time Zero Explorer is connected to a NavNet3D Radar system two additional WorkSpaces will be available

radar : The Radar WorkSpace allows the display and control of a NavNet3D Radar. This WorkSpace provides all the Radar tools and controls such as Gain, Sea Clutter and Rain Clutter.

Nav & Radar : The Navigation & Radar WorkSpace allows to display a Radar and Plotter screen side-by-side. The tools available vary according to whether the Radar or Plotter window is selected.

Tips: The ToolBar and Ribbons can be customized independently for each WorkSpace. Click on this button available in the ToolBar and Ribbons to display the Configuration Windows.

Working with Charts

Thanks to Time Zero, MaxSea offers a new ultra fast cartographic engine with unparalleled speed and realism. Because scrolling and zooming are so important, MaxSea Time Zero provides you with several ways of doing them both using the mouse or keyboard.

Scrolling the Charts


Panning Tool

Left click on the Panning tool (hand) located on the ToolBar and move the cursor over the chart to the center of the screen.

   o Press and hold the left mouse button while moving the cursor to scroll the chart around

   o Double-click with the hand tool on a chart point to center automatically on that point

Note: The panning tool is automatically selected by default after every action. This feature can be disable from the "General" menu.

Using the keyboard

The Arrow Keys on the keyboard can also be used to scroll the chart. Holding down an Arrow Key moves the displayed chart area in the direction of the arrow.
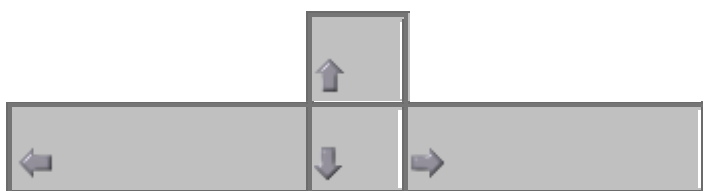
Note: This method allows retention of the Full Screen mode while scrolling the chart.

Zooming the Charts

MaxSea Time Zero allows you to seamlessly zoom in or out to the exact magnification level you like without steps or limitations.

Using the mouse Scroll Wheel

If the mouse has a wheel, roll the wheel up and down to zoom in and out. By default, the chart will be zoomed at the location of the cursor. This can be changed to the center of the screen by enabling this option in the General Menu.

Note: This method is recommended to change the chart scale without having to change the active tool.

Using Zoom tools and buttons

If the mouse does not have a wheel, use the Zoom In / Zoom Out button or the Zoom Tool.

Zoom Buttons (Zoom "+" and Zoom "-"):

By default, the Zoom In and Zoom Out buttons are available just below the "Center Ship" button in the ToolBar. Simply left click on the corresponding button to Zoom In or Zoom Out by fixed increment.

Note: The Zoom buttons will not change the current active tool selection, so you can use these buttons while making a route or using the Divider tool.

Zoom Tool:

The Zoom Tool is hidden by default. Click on the "Configure" button (at the very end of the toolbar) to add it to the configuration. The Zoom Tool is very powerful to zoom and pan the chart at the same time (if your mouse has no scrolling wheel). Select the tool by clicking on it then move the cursor over the chart:

- o   Left click to Zoom In on cursor position.

- o   Right Click to Zoom Out on cursor position

Using the keyboard

Use the Page Up or Page Down key to zoom in or out.

- o   "**Page up**"‡ = Zoom In on the center of the chart

- o   "**Page Down**" ‡ =Zoom Out on the center of the chart

Note: This method allows retention of the Full Screen mode while zooming.

Scale value

The Scale and Range of the chart is displayed on the bottom left of your screen. When the chart display is *Overzoomed* , the scale is written in red.

Setting Up TDs (hyperbolic Networks)

MaxSea allows to adjust GPS Lat/Long to Loran TD's according to the nearest station.

1.   Read more in the related topic : Setting up the TDs hyperbolics networks from "MaxSea | Options| General".

2D & 3D Chart Orientation

MaxSea Time Zero operates in a fully rendered 3D environment. You can switch from the traditional 2D view to the impressive 3D perspective at the click of a mouse for a true perspective and wider area of view around the ship.

2D Chart Orientation

In 2D mode, the chart can be displayed in North Up or in Head Up.

Change the 2D chart orientation by using the 2D button available in the Ribbon. A simple left click on the 2D button will cycle the various modes (North Up and Head Up) while a right click on the button will allow you to directly pick and choose a mode.

	2D North Up	This mode displays the North at the top of the screen.
	2D Head Up	This mode orients the bow of the vessel to the top of the screen. The chart rotates as the vessel's bow is always pointed toward the top of the screen.

Note: The Head Up mode is only available in Navigation Mode (when a valid Heading or Course over Ground data is received)

In Head up mode, pay close attention to the Compass icon (on the bottom right). It provides information about the direction of the North.

3D Chart Orientation

In 3D, the chart can be displayed in North up, Head Up or "Unlimited View".

Change the 3D chart orientation by using the 3D button available in the Ribbon. A simple left click on the 3D button will cycle the various modes while a right click on the button will allow you to directly pick and choose a mode.

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- o ![3D North Up icon] **3D North Up**: In this mode, the azimuth is fixed pointing toward the North. The pitch or inclination is adjusted by holding the middle click button and moving the mouse. If the mouse does not have a middle button, press and hold the Shift key of the keyboard while moving the cursor.

- o ![3D Head up icon] **3D Head up**: In this mode, the azimuth is fixed pointing along the current Heading. The pitch or inclination is adjusted by holding the middle click button and moving the mouse. If the mouse does not have a middle button, press and hold the Shift key of the keyboard while moving the cursor. Note that this mode is only available in Navigation Mode (valid Heading or Course over Ground data required)

- o ![3D Unlimited icon] **3D Unlimited**: In this mode, the azimuth and pitch can be freely adjusted by holding the middle click button and moving the mouse. If the mouse does not have a middle button, press and hold the Shift key of the keyboard while moving the cursor.

- o ![Orientation icon] **Orientation**: This tool (hidden by default) allows moving and changing the chart orientation in the 3D unlimited mode.

Note: 2D and 3D mode will cancel each other (exclusive)

To enable the Bathymetry view in 3D, the Depth Shading must be turned ON. Please refer to **Selecting Chart Types.**

Selecting Chart Types and Overlays

MaxSea's Time Zero powerful graphics engine adds new chart presentation options to the conventional method of electronic chart plotting. MaxSea Time Zero can display vector, raster or fishing charts and merge them with satellite pictures and depth shading. With 3D charts and our new Satellite PhotoFusion, satellite imagery blends with critical chart data in an easy to understand, useful way that greatly enhances situation awareness. These new presentation options aid identifying the exact position of the vessel while navigating near land, together with information about the surrounding area.

Charts:

Vector **Charts** : right click on the Vector Chart button to roll down the menu and choose the vector chart type you wish to display. You can also click successively on the button to switch between the various vector chart format:

![S-57 icon] MapMedia mm3d **S-57** vector charts format

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MapMedia mm3d "CMap by **Jeppesen"** vector charts format

MapMedia mm3d "Datacore by **Navionics"** vector charts format

> **Note:** The vector chart button will be grey out (unavailable) if the corresponding vector chart type has not been installed.

Raster **Charts :**

Click on this button to display the *Raster* Charts.

Fishing **Charts :**

Click on this button to display the *Fishing* Charts. The Fishing Charts Button is hidden by default. Click on the Configure button to add it to the WorkSpace configuration. This button will be grey out (unavailable) if no fishing charts are installed.

> When the "Chart Boundaries" option is selected from the Plotter Display menu, Purple boundaries outlines are displayed where chart detail is available.

Grid: Click on this button (hidden by default) to display the geographical grid on chart.

Satellite Pictures:

Satellite pictures can now be fused with raster or vector charts by a method called PhotoFusion. Land areas are completely opaque, so that these areas are displayed as high-resolution satellite photos on the chart. As the depth increases, the satellite photography becomes more transparent so that the shallows areas are displayed along with the chart information. As the deeper water begins, the photograph disappears leaving the raster or vector chart. High-resolution satellite photography aids in seabed classification enabling easier identification of sand, rock, coral or other obstructions.

Sat Photo : Click on this button to overlay Satellite pictures over the Charts. This button will be grey out (unavailable) if no Satellite Photos are installed.

> Note: PhotoFusion is only displayed where 3D Bathymetry data is available. If no 3D data is available for a particular area, the Satellite pictures can be manually adjusted from the Plotter Display menu.

> When the "Chart Boundaries" option is selected from the Plotter Display menu, Green boundaries outlines are displayed where Satellite picture is available

Depth Shading:

A depth color scale can be applied on vector, raster or fishing charts. This unique feature allows you to view water depths at-a-glance with vibrant colors. The transparency levels can be adjusted from the Plotter Display menu so that the chart data is visible beneath the color shading. By default the color scale is set automatically but you can manually adjust it (set a specific range) from the Plotter Display menu. This button will be grey out (unavailable) if no 3D Bathymetry data is installed.

Click on this button to overlay Depth Shading over the Charts. The Depth Shading is only available where 3D Bathymetry data is available.

To enable the Bathymetry view in 3D, the Depth Shading must be turned ON

Adjusting Vector Charts Display

Unlike Raster charts, Vector charts can provide control over the level of displayed information. Vector charts are made up of individual objects and data layers such as navigations aids, spot soundings and land features that can be displayed or hidden. These adjustments are made from the **Vector Chart** and **S-52 Display** **Option menu.**

Vector Chart Menu:

The **Chart Color Palette** allows you to change the colors (or "theme") of the Charts.

The **Chart Symbol** allows you to change the symbols (for buoys) to either the "S52" or "International" representation.

The **Shallow/Safety/Deep Contour** parameters are used to color the various depth area of the Vector Chart. The transition between colors are based upon the depth contour lines of the vector chart. If no contour line (corresponding to the exact value you selected) is available on the vector charts, the color transition will happen at the next (deeper) contour line available.

In addition to these screen rendering parameters, the Vector Chart Menu allows you to turn ON or OFF the display of specific object (such as Buoys Name or Light Description).

S-52 Display Menu:

This menu allows fine tuning of the vector charts objects that are displayed on the screen.

The **S52 Vector Chart Display Mode** provides quick access to five different levels of detail for vector charts:
* "base" shows the minimum set of objects necessary for planning.
* "standard" adds other objects that are necessary for safe navigation
* "Other"
* "Fishing"
* "Custom" uses the custom settings defined under the **S-52 Custom** menu (checked boxes)

Note: The "Base", "Standard", "Other" and "Fishing" preset are based upon the official S52 rules

Marks / Routes & Waypoints

Mark and Route tools

MaxSea Time Zero includes several tools to add routes and marks:

Mark tool: to create a Mark on the chart.

Route tool: to build a planning route on the chart.

Go To tool: to create an quick active Waypoint by clicking anywhere on the chart. This tool can also be used to activate a planning route by clicking on it (this tool is only available when MaxSea is started in "Navigation" mode)

Note: MaxSea Time Zero allows for the creation of an unlimited number of routes, but only one route can be activated at a time. An active route displays in red and has a special priority in the navigation system. When a route is activated, the first Waypoint also becomes active and is surrounded in yellow.

Show/Hide Routes and Marks

Marks and Routes can be hidden or displayed using the corresponding layer buttons located in the ribbon. Please note that these buttons are hidden by default. To display these buttons in the ribbon, click on the "Configure" button; and then, add them to the list of available buttons.

Click to show or hide all marks

Click to show or hide all planning routes. Note that the Active Route will always be displayed.

Note: If the Routes or Marks are hidden, they are automatically displayed when a Mark or Route is created.
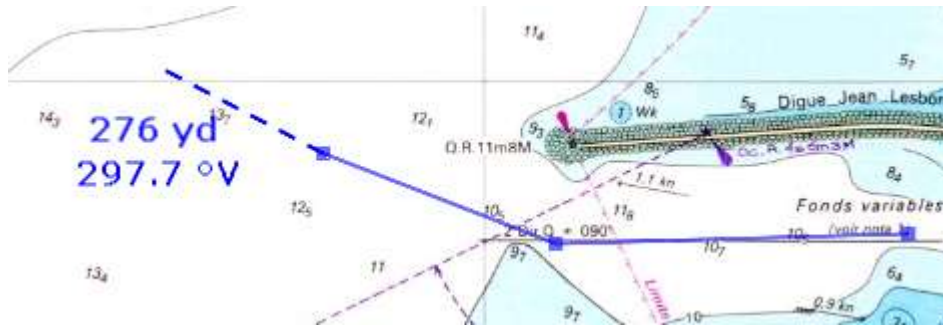
Creating a route

When creating or editing a routes, it is recommended to use the Planning WorkSpace. This WorkSpace allows you to access advanced features such as displaying advanced route details or making simulations and animations.

To create a new planning *route* :

1. Click on the Route Tool located in the *ToolBar*

2. Place the cursor at the starting point and click on the chart; This sets the location of the first Waypoint

3. Move the cursor to the next desired destination and click on the chart. Continue with this procedure to add additional Waypoint

4. When all of the desired Waypoints are added, right click to create the last Waypoint and choose "End Route" or press the Esc key on the Keyboard. Alternatively, double click at the creation of the last Waypoint.

While in route creation mode, the mouse cursor will display a small plus sign to indicate that a Waypoint will be added when the mouse is clicked. After the creation of the first Waypoint, a dashed line will be drawn between the last Waypoint and the cursor. This line represents the leg-line that is about to be created. In addition, the distance and bearing of the leg-line from the previous Waypoint is also displayed near the mouse cursor.

While creating a route the chart will moves automatically to follow the route. To move the chart manually, move the cursor to the edge of the screen where you want the chart to scroll to. The arrow keys on the keyboard can also be used to scroll the chart while building a route.

When clicking on an existing Waypoint or Mark while creating a route, the route will use that Waypoint or Mark instead of creating a new Waypoint sharing it with any other routes that might be using it, too. Moving, deleting, and changing a shared Waypoint or Mark will affect all of the routes that share it.

Right click in the selected route and select "**FlyOver**" under the menu to move and follow the route on the chart.

Great Circle Route:

MaxSea Time Zero is capable of displaying great circle or rhumb line routes. The great-circle route is the shortest path between two points on a sphere, like the Earth. A rhumb line route crosses all meridians of longitude at the same angle. Since the charts displayed by MaxSea Time Zero are Mercator projections, rhumb line routes appear as straight lines and great-circle routes appear as curved lines.

When the "Great Circle Navigation" option is enabled, MaxSea Time Zero divides the route into shorter rhumb line segments that follow the great circle path. You can adjust the minimal distance at which MaxSea will start to divide the route into shorter rhumb line segments in the "Marks & routes" option of MaxSea's menu . The length of the segments themselves is fixed at 150 NM.

Route Detail

The Route Detail displays the selected planning route in a tabular format together with information about the route as a whole. The Route Detail can also be used to calculate an ETA for each Waypoint along the route and make simulation. **Note that the Route Detail is only available in the Planning WorkSpace.**

Open the Route Detail

To open the Route Detail, select the Planning WorkSpace, right click on a leg-line of the route you want to see and then select "Show Route Detail". Double-clicking on any leg-line of the route will also display the detail.

Note: If the lists are already open, click on the "Route Detail" button on the left panel to display it.

Close the Route Detail

To close the Route Detail, Click the **X** button on the right side of the top of the route detail list or click on the Lists button located in the Ribbon.

Using Route Detail

The top part of the Route Detail displays information about time of departure and ETA (Estimated Time of Arrival). The time of departure can be selected as the present time (by clicking on the "Now" button) or another selected date. When a time of departure is selected, MaxSea will calculate the ETA according to the parameters available in the table (speed, current,...). If you want to change the speed of all legs, click on the "Actions" menu (on the right side title bar of the list) and select "Set Speed of all Legs...".
MaxSea Time Zero also allows a date of arrival instead of date of departure to be set. This is useful when you need to arrive at a specific time (because of tidal currents for example). In this case, MaxSea Time Zero will calculate the time of departure.

The information appearing in Bold in the table can be edited by double clicking on the cell to be edited. After changing the value, press the Enter key, or click outside the value to accept the new value, or press the Esc key to cancel the change. Values that can be changed include: the Waypoint name, the intended speed for the corresponding leg and the routing option (only available with the Sailing Routing module). The other values are calculated by MaxSea Time Zero, so cannot be changed directly.

The Route Detail information (columns) can be edited from the "Actions" menu. Below is a description of some of the columns that are displayed by default:

- Leg To: Sequence number of the Waypoint. Each line of the list give you information about the leg allowing you to reach a specific Waypoint. The "Leg To" is the number of that Waypoint.

- COG: Direction of the route leg.

- SOG: Speed over Ground being calculated based upon the surface Speed

- CTS: Course to Steer. This value can be different from the COG if currents are available.

- Speed: Intended speed of the boat (this value can be edited individually for each leg)

- Routing: The constraint that will be use when performing a Weather Routing over the route (only available with the Sailing Routing module)

- TTG: The time to navigate on the leg

- ETA: The Estimated Date of Arrival to that Waypoint

The Route Detail "Action" menu provides quick access to main functions and parameters. It can be found on the right side title bar of the list. It includes the following options:

- Activate Route: To activate the planning route and start navigating. Note that this option is not available when MaxSea is started in Home Planning mode

- Reverse Route: To reverse the direction of the planning route.

- Set Speed of all legs: To adjust the intended speed for all the legs of the planning route.

- Configure List: To add or remove columns of the Route Detail table

- Copy list to clipboard: To copy the list information as displayed on your screen. You can paste this information in a text editor or Excel for further editing

- Export list in text file format: To export the list information as displayed on your screen. Each field are separated by a Tab.

Tips: Double click on a non-editable cell (for example the "Leg To" cell) to center the chart on the selected Waypoint.

Note: When the Route is activated, the line corresponding to the Active Waypoint becomes red and waypoints that were passed become gray. A new line corresponding to the Own Ship Position will appear and will be name "Ship". When a route is activated, the "Speed" cells will be replace by the real boat speed as received by the instruments.

Route Simulation

When a line of the Route Detail list is selected, the virtual time will change to match the ETA at the selected Waypoint and a virtual boat (blue icon) will appear. This function is very useful when Weather Data or Tidal information is displayed because they will automatically adjust to the predicted time. Additionally, you can use the Play functions or scroll the time line to predict the position of the ship at any time.

As soon as you adjust the Departure (or Arrival) date and you change the speed (either the speed of all legs or the speed of each leg individually), MaxSea will compute the simulation with the new parameters taking into account the currents (if available).

> **Note:** The Route Simulation is not the same thing as the route optimization (Weather Routing). When using the route simulation, the user fixes the route path then adjust some parameters. The route optimization (Weather Routing) automatically computes and creates the best route possible according to the Weather and the performance of the boat ("Polars")

Navigating a Route

Activating a Route

Once a route is created and checked for obstacles and other hazards, the route can be activated for navigation. This section describes the process and tools MaxSea Time Zero provides to do this.

> Note: MaxSea Time Zero needs to be started in "Navigation" mode with a valid GPS fix for the route activation to be available.

First, select the "Navigation" workspace. Right click on the desired route to navigate; then choose "Activate Route". A route can also be activated by right clicking on a Waypoint and choosing "Activate Route from this Point". This automatically skips all previous Waypoints from activation.

The "Go To" tool may also be used to activate a specific route:

Select this tool from the ToolBar and click on the route to activate for navigation. The route will be activated at the location of the cursor, allowing you to skip previous Waypoints or Legs.

When a Route is activated:

WORD
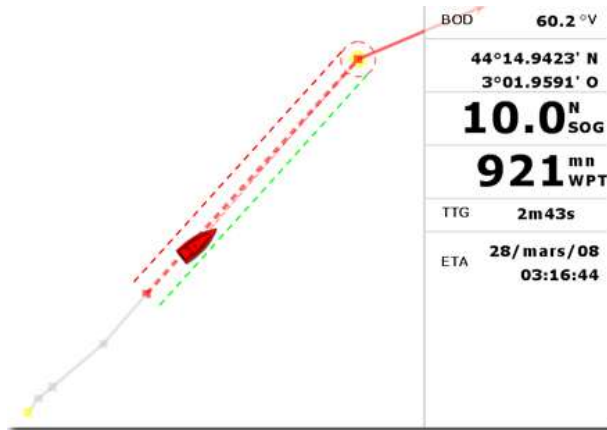
o The Active Route is displayed in red

o The Active Leg is drawn with dashed lines

o The *Active Waypoint* is surrounded in yellow

o When the "Display *XTE* Alarm lines" option is checked from the "Marks and Routes" menu, the Cross Track Limit Area appears delimited with two colored dashed lines: green on the starboard of the Ship icon, red on the port of the Ship icon. This value can be adjusted from the "Alarm" menu ("XTE Alarm Value").

o The Active Route information such as *Bearing* , distance to next Waypoint, ETA, etc ... are displayed in the NavData ("Route NavData").

o The Waypoint Arrival Circle is drawn with a red dashed line.

o The Active Waypoint Distance and Bearing information are transmitted to the Pilot, if connected and configured.

If the cross-track-error gets large enough to start causing alerts, right click on the route or on the boat and choose "Restart Route" from the drop down menu. This realigns the intended course and head directly to the active Waypoint without reverting to the original course.

If the vessel is off course, the next Waypoint can be activated by right clicking on the active route or on the boat and choose "Skip Next Waypoint" from the drop down menu.

Quick Go To (Instant Active Waypoint)

To create a quick Go To Waypoint:

o Select the **Go To** tool

o Click on the chart or on an existing *Waypoint*

This will create an Instant Active Waypoint for navigation.

Tips : An Instant Active Waypoint can also be created by a right clicking anywhere on the chart and selecting the "GoTo" option from the drop down menu.

> **Note**: Any Instant Active Waypoint created with the Go To tool will be erased when the Active Route is canceled. To save the destination drop a Waypoint using the Waypoint Tool onto the Active Instant Waypoint.

Waypoint Switching Mode

Upon arrival at a Waypoint, an audible alarm is sound (if enabled from the "Marks and Routes" menu) and the bearing to the next Waypoint is displayed. Waypoint arrival parameters are determined by the "Waypoint Switching Mode" selected:

CIRCLE:
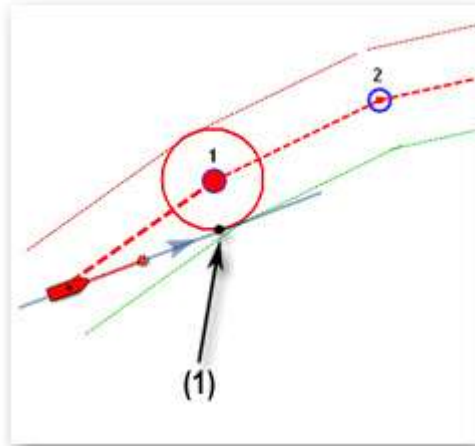
In this mode, the next Waypoint is automatically switched when your boat icon enters the active Waypoint's arrival circle.

CROSS LINE:
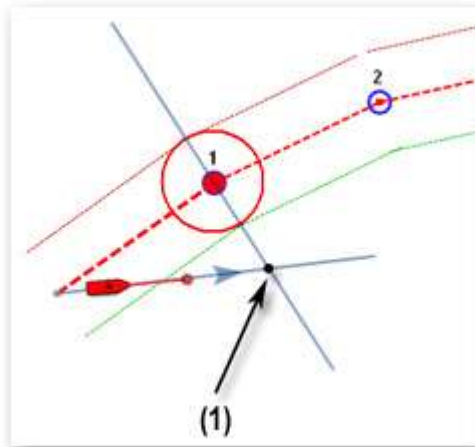
In this mode, the next Waypoint is automatically switched when your boat crosses the line through the Waypoint that is perpendicular to the leg line.

CIRCLE AND CROSS LINE :

This is the default selection. In this mode, the next Waypoint is automatically switched when the boat enters the active Waypoint's arrival circle or crosses the line through the Waypoint that is perpendicular to the leg line.

The "Waypoint Switching Mode" parameters are changed from the "Marks and Routes" menu.

Note: Upon arrival at the last Waypoint of the route, it will deactivate automatically.

Cancelling the Active Route

To deactivate or stop the navigation, right click on the Route and Choose "Cancel Route"

When a Route is deactivated, it reverts to a Planning Route.

Note: An Active Route is automatically cancelled when reaching the last Waypoint of the route

Manipulating Route

Most of the advanced route editing operations can be performed by right clicking directly on any leg of a route and selecting the appropriate option from the drop-down menu. To move a Waypoint, place the cursor on top of it, then click and drag the Waypoint to the new location.

MaxSea Time Zero offers a very powerful unlimited Undo/Redo function. Every editing operation can be Undone or Redone multiple times by clicking the arrows in the status bar: . The corresponding keyboard shortcuts (CTRL-Z, CTRL-Y) can also be used.

Extend a Route

To add Waypoints to the end of a route, Right Click on any leg of the route and choose "Extend Route". MaxSea Time Zero will automatically center the display on the last Waypoint and enter into Route Building mode.

Insert Waypoint

To insert a new Waypoint in the middle of a route, to avoid an obstacle, for example, Right Click on any leg of the route and choose "Insert Waypoint". Move the cursor to the position desired to insert the Waypoint, and then, left click.
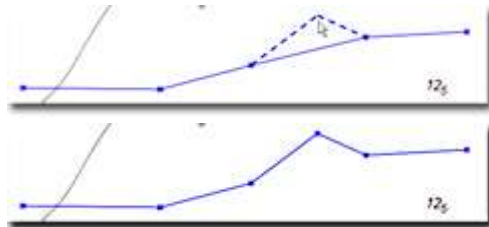
Reverse Route

To reverse the direction of a route, click on any leg of the route, and then, choose "Reverse Route".

Delete Route

To delete a Route, Right Click on any leg of the route and choose "Delete Route".

Note: An Active Route cannot be deleted; it must be deactivated first.

Split Route

To split a route into two parts, Right Click on any leg of the route; and then, choose "Split Route". This will turn the route into two routes by removing the leg-line that was right clicked on.

Rename Route

To rename a Route, Right Click on any leg of the route and choose "**Rename Route**".

Lock and Unlock Route

Right click anywhere on a leg or a Waypoint and choose "**Lock Route**" (or "**Lock Waypoint**") to lock a route or Waypoint. When a route or Waypoint is locked, you will not be able to move it or delete it (a dialog box will appear if you try to erase an object which is locked). Use the same process to unlock a Route or a Waypoint.

Route List

All Routes are displayed in the Routes List.

To access it, click on the "Lists" button   available in the Planning Workspace.

The lists window appears at the bottom of the screen.

Click on the "Route List" button on the left Panel to display the routes list.

Click on a line to select the route and center it on the screen.

A double-click a line will display the Route Detail of the corresponding Route

The information displayed in the table can be customized by clicking on "Action" (on the right of the List Title Bar) and choosing "Configure List".

This information can be exported in a file text format or copied to clipboard by clicking on the corresponding item under the "Action" menu.

Note: The fields in the text file are delimited using Tabs. It is recommended to use Windows Excel to open the file (for proper formatting).

Creating Marks

Marks are used to plot specific locations such as fishing spots, harbors or preferred anchorages. All Marks are displayed in the Marks List. Marks can be created graphically

by placing the cursor at the desired location on the chart and clicking the left mouse button or manually by entering the Latitude/Longitude.

Note: Waypoints (Marks created using the Route Building tool) will not appear in the Marks List. Only the Marks created with the Mark Tool will. The Waypoint list is available in the Route Detail table when the corresponding route is selected.

Creating Marks graphically :

Click on the Mark Tool located in the ToolBar   and click on the Chart to drop a Mark.

You can also right click anywhere on the Chart and choose "Create Mark".

The default icon and color defined in the "Marks & Routes" menu will be used. To modify individually the icon and color of a mark, double click on the Waypoint or right click and choose "Mark Properties" to open the Marks Properties dialog box.

Note: by default, MaxSea Time Zero will automatically select the Panning Tool (Hand) when a Waypoint is dropped using the Waypoint Tool. To add several Waypoints without having to select the Waypoint Tool each time, deselect "Enable Auto Hand Tool Selection" in the "General" menu. When in this mode and finished creating Waypoints, the Panning Toll must then be manually selected.

Creating Marks Manually:

To create a Mark by entering the Latitude/Longitude, double click on the Mark Tool located in the ToolBar. This will display a window to enter the Latitude/Longitude numerically (you may also right click anywhere on the Chart and choose "Create Mark by Lat/Long").

The Manual Input box is "smart": you can enter the Latitude/Longitude using various format and MaxSea will automatically convert it to the position format that has been selected in the "Units" menu. When entering a number, a space is used a separator and the   dot   for   decimal.

Examples:
Enter "N 46 17 50.2" for 46 Degrees 17 minutes 50 seconds and decimal seconds (2) North
Enter "W 124 01.345" for 124 Degrees 1 minute and decimal minutes (345) West
Enter "S 46.2345" for 46 Degrees and decimal degrees (2345) South

Note: If the Position Unit is set to "**Loran-C**" (in the "**Units**" Options MaxSea menu), you will be able to enter Marks by TDs.

Add Picture to a Mark

- Right click on a mark and choose **Marks properties** in the drop down menu

- Select the Notes tab in the"Marks properties" dialog and click on the Picture button to add a personal picture

- When the cursor is moved over the mark, the picture will be displayed on the screen

Note: The "Note" tab offer Rich Text Editing (you can change the color, the font size, add external links, etc...). Click on the Pen icon to enter in the editing mode.

Delete or Rename Mark

Right click on a mark and choose the corresponding option (**Rename Mark** or **Delete Mark)** from the drop down menu.

Lock and Unlock Mark

Right click on a Mark and choose "**Lock Mark**" to lock a Mark. When a Mark is locked, you will not be able to move it or delete it (a dialog box will appear if you try to erase it). Use the same process to unlock a Mark.

Mark List

All marks created with the Mark Tool or entered manually are displayed in the Mark List.

Click on the "Lists" button in the Planning Workspace.

The list window appears at the bottom of the screen.

Click on the "Marks" button on the left Panel to display the Mark list.

A simple-click on a line will select the Mark and center it on the screen.

The information displayed in the table can be customized by clicking on "Action" (on the right of the List Title Bar) and choosing "Configure List".

This information can be exported in a file (text format) or copied to the clipboard by clicking on the corresponding item under the "Action" menu. The fields in the text file are delimited using Tabs. It is recommended to use Windows Excel to open the file (for proper formatting).

Note: Waypoints (created using the Route tool) will not appear in the Mark List. Only the Marks created with the Mark Tool will. The Waypoint list is available in the Route Detail list when the corresponding route is selected.

Bearing & Distance

 MaxSea provides the **Divider Tool** to show bearings and distances. This tool offers multiple option:

1. **Bearing and distance between two points**

To display the bearing and distance between two points, click the divider tool and place the cursor on the first point, click then drag the mouse over the second point (then release the mouse button):
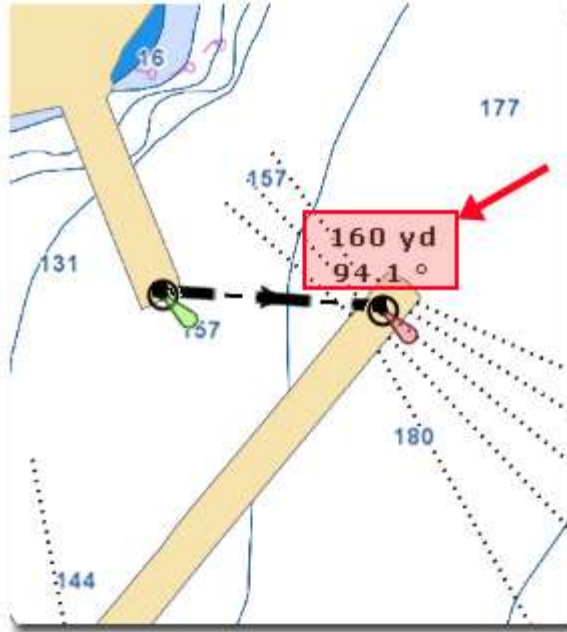
Note: You can also click twice instead of clicking and dragging (click once with the divider tool selected, move the cursor then click a second time)

2. Multiple Bearing and distance from own ship position

Double click with the **Divider tool** on one or several points on the chart to display the Bearing and Distance from the ship.
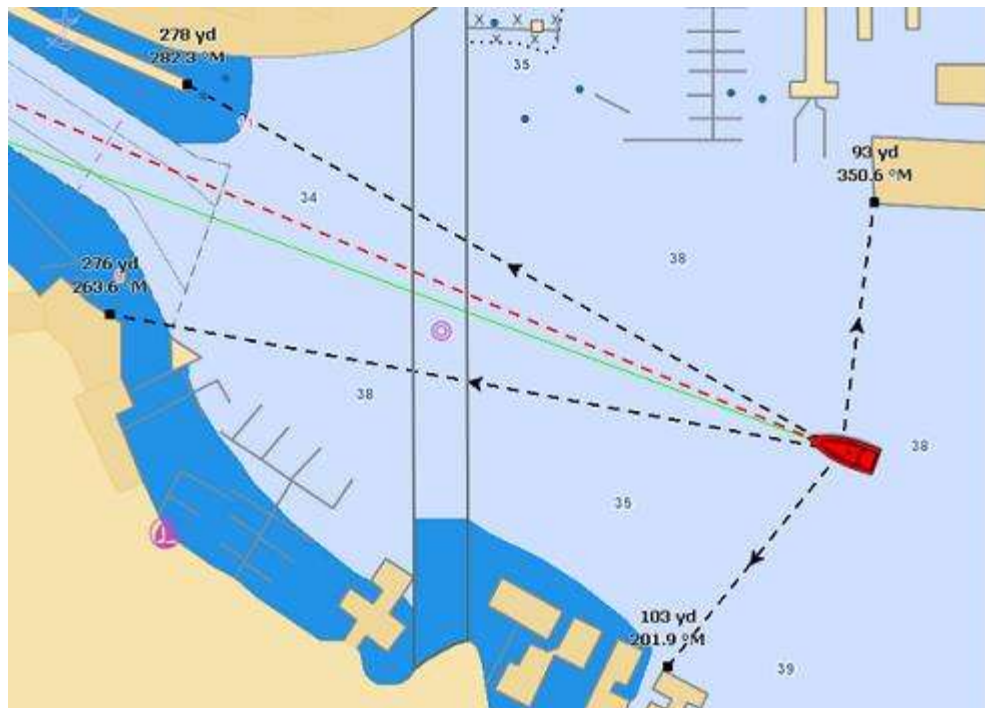
Note: As the boat moves, the Bearing and Distance value will be updated in real time

2. **Manipulating divider lines drawn on chart**

Double click on the Divider tool in the Toolbar to erase all the divider lines from the chart.

Right Click on a Divider line to erase the selected or all divider lines

To move a divider anchor point, simply select it then drag it to another location.

Importing & Exporting Marks and Routes

The "Import/Export" option available under the MaxSea Button will allow you to Import or Export navigation objects to a file.

MaxSea Time Zero can Export or Import information in various formats:

- GPX (GPS eXchange Format) is an XML format designed for describing GPS data between software applications. This is the native format used by MaxSea Time Zero. You should use this format to make backup of your Routes and Waypoints.

- KML or Keyhole Markup Language is an XML-based language format for expressing geographic annotation and visualization on existing or future Web application such as Google Earth.

- CSV or Comma separated values is a text format structured in a table of lists form. The CSV format used by MaxSea Time Zero was designed to be directly compatible with NavNet3D.

Note: Only the GPX format will transfer data with complete integrity. When other formats are used, some information might be lost during the transfer. To share routes and waypoints with other MaxSea TimeZero users, use the GPX format.

To Import or Export data, click on the **MaxSea menu button** , then select the **Import/Export** option

Ship & Track

Ship Icon

When MaxSea Time Zero is started in Navigation mode and is receiving a valid position, a boat icon is displayed on the chart:

Note: If the icon does not appear on the chart, click on the "Center On" button in the ToolBar to center the charts on own ship position

The icon in red represents the boat and indicates its position and heading (or course if heading data is not available).

Note: If the position source is lost the Ship icon is displayed in black at the last known position value and the GPS alarm is triggered

Icon Size

The size of the icon can be selected from the "General" menu ("Size of Static Icon").

When sufficiently zoomed in on the chart, the ship icon will be displayed in real size according to the scale of the chart and the "Boat Length" parameter.

When the Plotter is displayed in 3D, a three dimensional model of the vessel icon is displayed. The model can be customized from the same menu ("Boat Icon").

Course & heading Vector

The Heading and/or Course vector can be displayed. To do so, right click on the Ship Icon and enable or disable the corresponding option.

The COG vector (displayed in red dashes) is calculated by the GPS and indicates the direction of movement relative to a ground position. The length of the COG vector varies according to the speed of the boat and can be configured to show the predicted position in a specified amount of time. This setting is available in the "Ship and Track" menu.

The Heading Line (displayed as a green line) is sent by an Electronic Compass and shows the direction of the bow of boat.

WORD
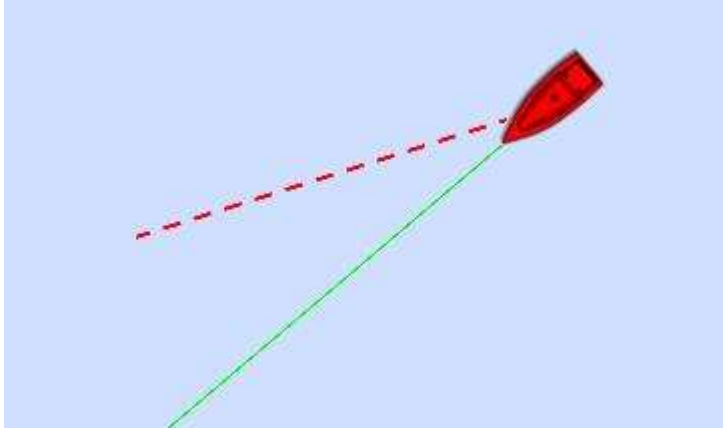
Display Parameters

Right click on the **Around Me** button in the ribbon to access the Display Parameters:

1. **COG/SOG predictor:** Turn ON or OFF the COG vector (red dashed line)

2. **Heading Line:** Turn ON or OFF the Heading line (green line)

3. **Camera:** Turn ON or OFF the FLIR Camera Field of View. This button is only available with MaxSea Time Zero Explorer when a FLIR M-Series Camera is properly configured (Read more)

4. **Laylines:** Turn ON or OFF the Laylines. This button is only available with the Routing Module. ([Read more](#))

Note: You can also right click on the Own Ship icon to turn ON or OFF the COG Vector and Heading Line.

Centering on the Boat

Click on the "Center On" button in the ToolBar to center the charts on own ship

position:

Relative Motion Circle
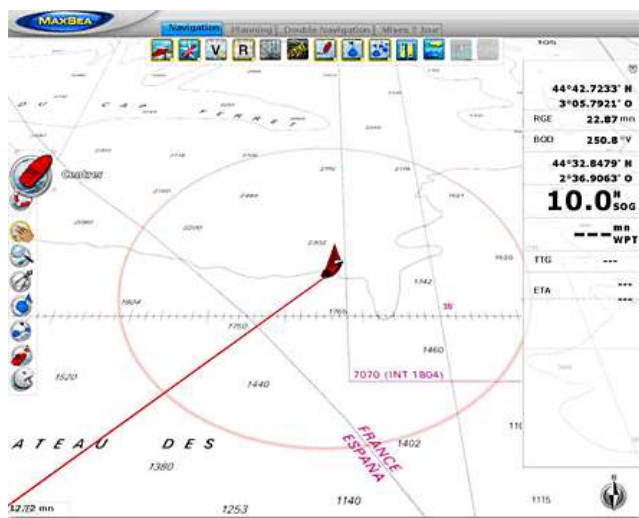
When your boat is on the screen and the chart is scrolled or zoomed, a red circle appears in the middle of the screen. This is the "Relative Motion Circle", a new and intuitive way to control the Relative/True motion as well as the Shift and Look ahead mode.

When the Ship icon is inside the Relative Motion Circle, the chart will scroll on the screen and the Ship icon will always stay at the same relative position inside the circle (Relative motion mode). When the Ship icon is outside the Relative Motion Circle, the screen will not scroll (True motion mode).

To shift the position of the relative motion mode, scroll the charts using the Panning Tool or the Keyboard arrows until the Ship icon is at the desired location on the screen, making sure to keep the Ship icon inside the Relative Motion Circle.

Track

MaxSea Time Zero introduces a new innovative way to manage your tracks. The track of your boat is always recorded in the background (you don't need to turn the track recording ON or OFF anymore).

To avoid cluttering the screen, MaxSea offers two different ways to access or filter the track data.

Active Track

The "Active Track" is a line that is displayed behind the boat indicating the actual track of the vessel through the water. The track is displayed or hidden by clicking on the "Track" button located in the Ribbon:

The Active Track parameters (color, thickness) and duration (amount of track you want to have displayed behind your boat) is available in the "Ship and Track" menu.

The Active Track is very useful for short trip when you want to follow your track back to return to your point of origin. Note that you can convert your track into an Active Route (that will give you ETA and will be able to steer the Pilot) by right clicking on the Track and choosing "Trackback"

Historic Track

The "**Historic Track**" is a very powerful feature that enables the display of a "chunk" of track at any specified date and time. To display a Historic Track, right click on the "Track" button located in the Ribbon and choose the Calendar. This will open a dialog box prompting for the following parameters:

- Time and Date: Select the desired time and date to see the Historic Track around

- Historic Track Start: Select the time for the Historic Track to start. Note this time is relative from the date and time selected above

- Historic Track End: Select the desired time for the Historic Track to end. Note this time is relative from the date and time selected above

The days that appear in bold in the calendar indicate days that contain track information. Additionally, the calendar window background turns yellow if the selection contains any track information. Note that the chart will automatically scroll and zoom in real time to preview the location and length of the track (making it easy to fine tuning the parameters).

After clicking "OK", the Historic Track is displayed on the chart in the same color and thickness as the Active Track.

Right click on the Historic Track to convert it into a route.

The Historic Track is very useful to recall a specific passage of a trip. If you use the logbook, the Historic Track can be displayed by clicking on the logbook events directly on the chart or by opening and selecting the logbook table.

Note: To reset the track database, click on "Reset Active and Historic Track" from the "Ship and Track" menu.

Man Over Board

The "Man Over Board" button is hidden by default. To make it available in the ToolBar, click on the "Configure" button and add it to the WorkSpace configuration.

Click once on this button to save an "Event" (creating a Mark at the current boat location). Double-click on the **MOB** button to activate the MOB function.

When the MOB is activated:

1. An instant Waypoint is created at the current ship position and the Route is activated

2. The chart is automatically zoomed and centered on the MOB location

3. The MOB alarm is activated in the status bar.

Note: When a MOB is triggered, the Waypoint Switching parameters are disabled and the MOB Waypoint remains active until manually cancelled

To return to Normal Mode

Right Click on the Active Route (yellow leg) and choose "**Cancel Route**" from the drop down menu.

Note: To right click on the route, you may have to zoom in on the chart until the yellow leg appears

Tides & Tidal Currents

Getting Tide Prediction

MaxSea Time Zero can predict the tide level for thousands of tide stations around the world. These predictions can be displayed as graphs over time or for a particular instant directly on the chart.

Tide Icon

To show and hide the tidal height stations on the chart, click on the Tide button located in the Ribbon:

The tides icons are dynamic and show you a preview of the tide level:
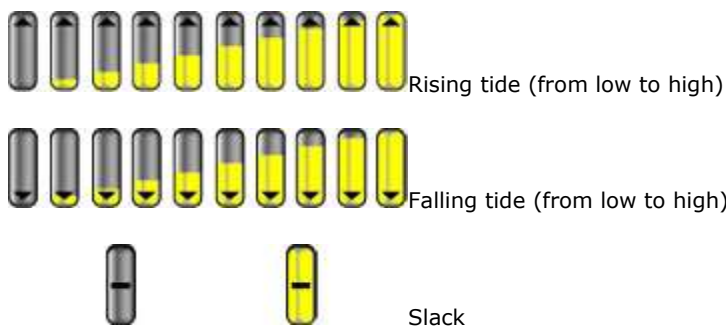
Rising tide (from low to high)

Falling tide (from low to high)

 Slack

> **Note:** All tidal height prediction times are adjusted for the local time currently selected for your computer. To change the computer's time zone or daylight savings time setting, use the "Date and Time" option in the Windows Control Panel.

If you are in the Navigation WorkSpace, only the current tide can be displayed (current time of your computer). If you are in the Planning WorkSpace, you can change the time and date (virtual time) by using the "Play" or "Calendar" button in the Ribbon.

The Tide Station name and Tide Height can be viewed by rolling over the tide icon with the cursor or by clicking once on it.

Tide Graph

WORD

To display a Tide Graph, double click on the Tide Station or right click and choose "Open Tide Graph":
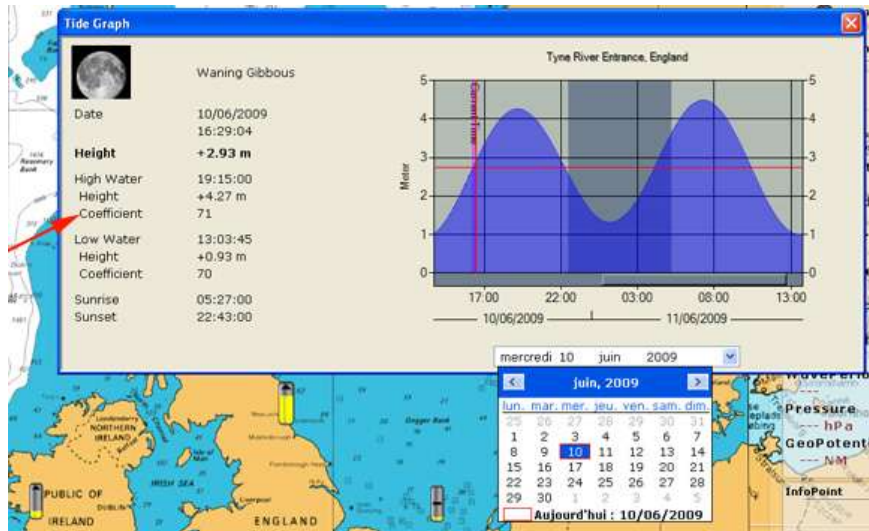
Click on the Date pop-up menu on the bottom of the window to change the prediction date.

Tide and Current NavData

You can display a Tide and Current NavData. This will always give you the information of the nearest Tide and Current station from your boat. Simply display the NavData, click on the "plus" sign to add a new NavData and select the Tide and Current NavData.
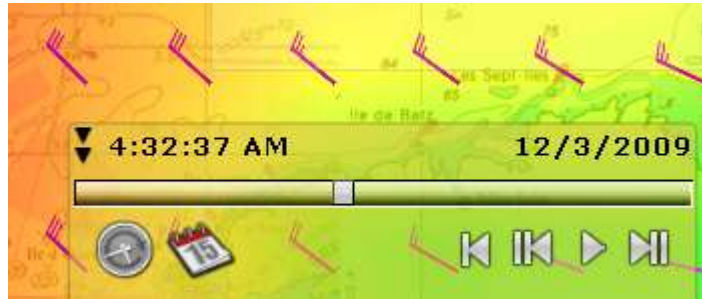

Getting Tidal Current Prediction

MaxSea Time Zero can predict the tidal current set and drift for thousands of location around the USA. In Europe, high density tidal currents are available as an option for some areas.

Note: Tidal currents appear in yellow while Oceanic currents (providing offshore with Weather Data) appear in blue

Tidal Current Icon

To show and hide the tidal current stations on the chart, click on the Currents button located in the Ribbon:

> **Note:** All tidal height prediction times are adjusted for the local time currently selected for your computer. To change the computer's time zone or daylight savings time setting, use the "Date and Time" option in the Windows Control Panel.

When in the Navigation WorkSpace, only the current tidal current can be displayed according to the current time of the computer. In the Planning WorkSpace, a different time and date of the tidal current can be displayed by utilizing the "Play" or "Calendar" button in the Ribbon.

The Tidal Current name, direction and speed can be viewed by rolling over the icon with the cursor:
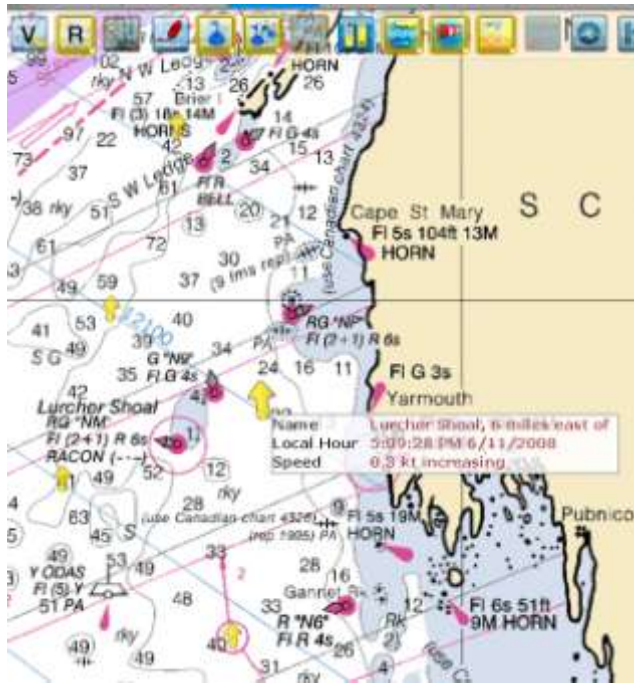
Tide and Current NavData

You can display a Tide and Current NavData. This will always give you the information of the nearest Tide and Current station from your boat. Simply display the NavData, click on the "plus" sign to add a new NavData and select the Tide and Current NavData
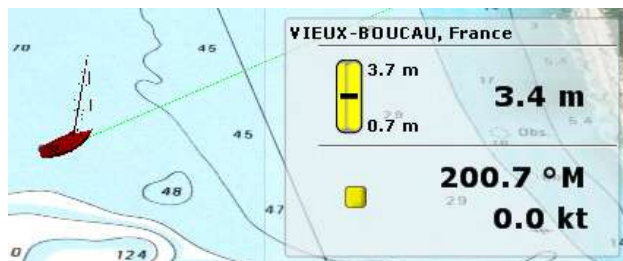
Play tides & Tidal Currents Animation

The Planning workspace allows playing of time-lapse movies of Tides and Tidal currents.

In order to make an animation,

- Display the **Tide Height** and/or **Tidal Currents** information on the chart

- Click the Up Arrows ▲ to expend the Virtual Time player (if previously collapsed)

- Click on the "Play" button to start a 24H time lapse movie from the current time:

You can change the start date of the animation by clicking on the "Calendar" button.

To reset the virtual time back to the current time, click on the "Actual Time" button:

	Actual Time	Click to return to the current time
	Calendar	Click to choose a specific date from the calendar
▷ and ❚❚	**Play / Pause**	Click on the "Play/Pause" button to start or pause an animation
◁|	**File start**	Click on this button to go back at the start time of the weather file (if no weather file is loaded, this button set the virtual time to the current time)
◁||	**Step Back**	Click on these buttons to step forward or backward. If a weather file is loaded, the steps will match the weather forecasts. The step will use the "Tide Steps" parameter of the General menu if only the Tide and/or Tidal current are displayed.
||▷	**Step Forward**	

ℹ **If you put your cursor over the Virtual Time box (on the lower right), you can use the scroll wheel to change the virtual time**

Weather Forecast

Requesting a Weather file

In order to be able to request a weather file, you have to register your copy of MaxSea at www.maxsea.com.

You can request a Weather file from the "Update" WorkSpace. This WorkSpace offers dedicated buttons and tools that allows you to define an area and request a weather file. If you have a direct Internet connection, the Weather file can be downloaded directly from MaxSea. If you are using a Satellite Phone or low-bandwith connection, you can request the file by E-mail.

To request a weather file:

- Select the "Update" workspace then pan and zoom the chart to display roughly the area where you want to receive a weather forecast

- Select the **Update Area** Tool from the ToolBar

- Click and drag the cursor on chart to draw an area

- Click on the **Weather Update** button in the Ribbon to launch the Wizard that will help you to configure and retrieve your weather file.

- Follow the on screen instructions to select the type of data you want to receive and the forecast length

Note: Selecting "Accurate Data" will generate a weather file with the best grid accuracy available. Selecting "Normal Data" will generate a weather file with a lower grid accuracy reducing its file size (and download time)

- When you choose to retrieve the Weather file by e-mail or when subscribing to a request, you can select the type of compression used. Some e-mail providers will only allow to transfer attachment file that are compressed or have a specific extension.

  - "No Compression": No compression will be used and the plain GRIB file (.grb) will be sent

  - "ZIP Compression": A ZIP compression will be used

  - "BZ2 Compression": A BZ2 compression will be used

- When you choose to subscribe to a request, e-mails with an updated weather file will be sent automatically on a specific schedule that you can define. To cancel a subscription before the scheduled ending, log in to "My MaxSea" on www.maxsea.com

WORD

Note: When subscribing, the parameters used to create the request will be used for every weather file. To cancel a subscription before its schedule ending, you can log on to My MaxSea and click on "Weather".

Tips: When requesting a Weather File by e-mail or when subscribing to a request, MaxSea will use the default e-mail client. To change the default e-mail client of the computer, open Internet Explorer, select the TOOLS menu, INTERNET OPTIONS, PROGRAMS.

Opening a weather file

When you download a Weather File from the Update WorkSpace, MaxSea automatically opens the file and display it on the screen.

When receiving the GRIB file by e-mail or from a third party provider, you need to open the GRIB file in MaxSea

Open a GRIB file from MaxSea

- Click on the MaxSea Button and select "Open Weather File"

- Browse and select the GRIB file then click on "Open"

Open a GRIB file from the E-mail Client

When receiving an e-mail with the weather file attached, open the attachment (double click on it) to open and load the file in MaxSea

Note: The weather files that are automatically downloaded from the "Update" WorkSpace are stored in the "Weather" folder located in "My MaxSea"

Viewing Weather Data

Display Weather Overlay on the Charts

Select the "**Planning**" WorkSpace to access the full weather functions.

Use the Weather Layer Buttons in the Ribbons to show/hide the various weather data:

Weather as Arrows **:**

Click on this button to Show / Hide selected weather data as arrows (feather for wind and Arrow for Oceanic Current and Waves). Right click to select the data you want to appear on the chart (between Wind, Waves and Oceanic Currents)

Weather in Color:

This mode is exclusive: only one type of weather data can be displayed in color at the same time.

Left Click to display or hide the selected forecast data in color.

Right click to select the data you want to appear on the chart:

1. **Air Temperature**

2. **Cloud**

3. **Rain Snow**

4. **Wind**

5. **Surface Pressure**,

6. **500mB pressure**.

7. **Waves**,

8. **Current**,

9. **Sea Surface Temperature** (only available with MaxSea Time Zero Explorer),

10. **Altimetry** or Sea Height Anomalies (only available with MaxSea Time Zero Explorer),

11. **Sea Color** or Biomass density (only available with MaxSea Time Zero Explorer)

A color scale is available at the bottom left of the screen when a Weather Layer is displayed in color.

Weather in Lines

This mode is exclusive: only one type of weather data can be displayed in isoline at the same time.

Left Click to display or hide the selected forecast data using isolines.

Right click to select the data you want to appear on the chart:

1. **Pressure in Lines**

2. **500mb Pressure in lines**

Note: When a specific data is not available, the corresponding button will be grey out. Request a new weather file including the corresponding data you want to display on the chart.

Displaying Numerical Value

Rollover the cursor on any wind feather to access Wind Speed and Wind Direction.

To display every other Weather Data using numerical value, display the Weather NavData, click on "+" to add a NavData and select "Weather Information". The "Weather Information" NavData will display the weather condition under the Cursor (even if the weather is not displayed on the charts). If you right click on this Weather NavData, you choose which data it displays.

Play Weather Animation

The Planning workspace allows you to play time-lapse movies of Weather Forecast.

In order to make an animation:

- Display Weather Information on the chart

- Click the Up Arrows ▲ to expend the Virtual Time player (if previously collapsed)

- Click on the "Play" button to start a 24H time lapse movie from the current time:

You can change the start date of the animation by clicking on the "Calendar" button.

To reset the virtual time back to the current time, click on the "Actual Time" button:

	Actual Time	Click to return to the current time

	Calendar	Click to choose a specific date from the calendar
and	Play / Pause	Click on the "Play/Pause" button to start or pause an animation
	File start	Click on this button to go back at the start time of the weather file
	Step Back	Click on these buttons to step forward or backward. The steps will match the weather forecasts.
	Step Forward	

Using Navimail

Navimail is a subscription based Weather download service provided by Meteo France. If you want to use this service, you will have to download the Navimail software and install it on your computer. Click here for more information and download the program.

Once the Navimail software has been installed on your computer, you can configure MaxSea to use Navimail directly from the Update WorkSpace.

1. Select the Update WorkSpace and click on the **Configure** button to add the NaviMail button
2. The first time you will click on the Navimail button, MaxSea will ask for the location of the Navimail software.

Note: MaxSea does not handle the subscription to the Navimail service. Please contact Meteo France if you want to subscribe to this service.

Online Services

Points of Interests ("POI")

MaxSea provides innovative functions to display and manage points of interest on the chart:

MaxSea allows you to display and update "ActiveCaptain" POI and Panoramio Pictures. MaxSea also allows you to import your own picture or save Panoramio's picture for off line viewing.

 POI: click on this button to show or hide the selected POI layer(s).

Note: the POI button is displayed by default in the "Planning" WorkSpace.

To customize the POI layers, right click on the POI button:

 PANORAMIO: This function is only available when the PC is connected to the Internet. When this layer is activated, MaxSea will automatically download and display points of interest (as pictures) from google PANORAMIO. Note that you can right click on any Panoramio picture icons on the chart to save them in your "My Photo" database (allowing you offline access to them)

WORD

"My photos": Click on this button to display the photos that you have imported in MaxSea.

Import Photos

Manual Import: To manually import a picture in MaxSea, move the cursor at the desired location on the chart, right click and choose "**Add photo**".

Automatic Import: If you have multiple pictures to import, you can try the innovative picture import function of MaxSea. Select "Import/Export" under the MaxSea menu then choose "Import Photos".
When importing photos from the Wizard, MaxSea will look for any GPS tag information that are embedded in the EXIF metadata when using a Digital Camera with a GPS. If no GPS tag is available, MaxSea will look at the date/time tag (available with most of Digital Cameras) and try to cross reference it with the track information. This will allow MaxSea to position automatically the pictures on the Chart (geo-tagging).

Note: If MaxSea was not able to geo-tagg the picture (either by GPS or Date/Time tag), you will have to manually import the pictures

"ActiveCaptain" POI:

ActiveCaptain POI's information contains specific port, marinas and other valuable information that will help you planning your navigation. Unlike other "static" (and usually outdated) POI databases, the ActiveCaptain database is created and updated by thousands of users. MaxSea comes preloaded with the ActiveCaptain database that you can update at any time when you are a registered ActiveCaptain user (creating an account is free!). The data is available for offline viewing and consultation at anytime (only the update requires an Internet connection).
If you are a registered user of ActiveCaptain, you will be able to access the full content of the database (including Marinas Reviews). If you are not registered, you will have access to basic information (such as Name, Phone Number,...).

Right Click on the "POI" button to access the various ActiveCaptain (AC) Markers:

AC Marinas and facilities: This will turn ON/OFF the Marina Markers on the charts (red markers)

AC Anchorage: This will turn ON/OFF the Anchorage Markers on the charts (green markers)

AC Local Knowledge: This will turn ON/OFF the Local Knowledge Markers on the charts (blue markers)

AC Hazards: This will turn ON/OFF the Hazards Markers on the charts (yellow markers)

> **Note:** Additional filters are available under the ActiveCaptain menu.

In addition to provide Marinas' location and reviews, the ActiveCaptain service will provide "Co-Ops" (discounts posted by Marinas). The "Co-Ops" discount are only valid for a specific time (Marina marker with active "Co-Ops" will appears bigger with a star next to them). When a Marina posted a "Co-Op" open the details information of the Marina and click on the "Co-Op" link provided (to access the coupon code).

Register to be an "ActiveCaptain":

To register to the ActiveCaptain service (free!) visit the following website: www.activecaptain.com.

Once you are registered, enter your login/password information under **MaxSea menu | Options | Active Captain.** As soon as the account is validated in MaxSea (Internet Connection required), you will have access to the full ActiveCaptain information as well as the Update feature**.**

Updating the Active Captain Database:

In order to have the latest information available (and latest "Co-Ops"), we recommend to update the database often. Simply click on the "**ActiveCaptain Update**" button

which is available in the "Update" Workspace.

> **Note**: This button is grey out if the account has not been validated.

AIS Online

If the PC is connected to the Internet, MaxSea can display AIS information from the www.marinetraffic.com website. It provides free real-time information, about ship movements and ports, mainly across the coast-lines of Europe and N.America.

By default, the AIS online layer is turned OFF in MaxSea. To display it, add the "Targets" button to the Ribbon configuration (either in the "Navigation" or "Planning" workspace) by clicking on the "Configure Ribbons" button.
Once the Targets button is available, right click on it and select "AIS Online". If you have started MaxSea in "Home Planning" mode, the AIS online will appear everywhere. If you have started MaxSea in "Navigation" mode, the AIS filter parameters applies (such as "Hide AIS targets Farther than..."). To change the filter settings, select the "Target" MaxSea's options menu.

The AIS Online, appear in orange ("real" AIS targets appear in green).

To access an AIS Online target information, rollover the AIS icon with your cursor or left click on it. In addition to basic data (such as speed, course, MMSI,..), the AIS online displays a picture of the ship (when available).

Search and localize geographical places

If the PC is connected to Internet, you can use the "Find" option to search among millions of places around the world.

- Select **Find** under the **MaxSea** Menu, enter the name of the place and type ENTER

- A list of several places is displayed (you can sort the list by double clicking on the column title)

- When you select a name in the list, MaxSea will automatically scroll the charts to the location and display a Pin symbol.

- If you want to save this location, right click on the Pin and select "**Create Mark**".
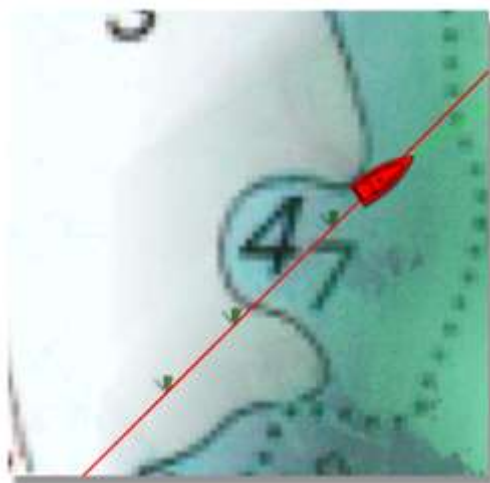
Logbook

How to use the logbook

The logbook allows you to record events (either automatically or manually) during your trip.
You can customize any events and add notes and pictures. The logbook is also very useful to recall track history information (as discuss in this chapter). For example, you could create an event corresponding to a difficult passage. This would male it very easy to recall the Track History around that point in case you would need to go back.

To display the Logbook events on the chart, click on the LogBook buttons available in the Ribbons. The logbook events are the green pin that appears on the chart:

A Pin is displayed each time a logbook event is created. You can manually create a Logbook event using the "Add to Logbook" tool in the ToolBar. Note that this tool is hidden by default. You can add it to the ToolBar configuration (either in the Navigation or Planning WorkSpace) by clicking on the "Configure Tools" (at the bottom of the ToolBar).
You can also configure MaxSea to trigger automatic Logbook events based upon:

- Interval: Useful to record recurring events

- Heading: Useful when you want to record Tack

- Wind Direction: Useful to record Wind Shift

- Wind Force: Useful to record passage with strong wind

- Depth Alarm: Useful to record shallow water (settings based upon the Depth Alarm Settings)

These settings can be configured from the "Logbook" option menu

When a logbook event is created, any data received by the computer (such as Wind Speed, SOG, Date and time,...) are automatically recorded with the event.

To display Logbook information :

1. Move the cursor over a Logbook event (wait for the pop up) or click on it

2. Use the Logbook list available from the Planning workspace

Add Note and Comments in the logbook

To add a note or a comment, double click on a Logbook event to open the Event Properties windows.

The "Values" tab allows you to enter basic text information (such as a name and a comment).
Select the "Notes" tab to access a Rich Text Editor. Click on the Pen icon (on the left) to enter in edition mode (the frame of the window turns red).
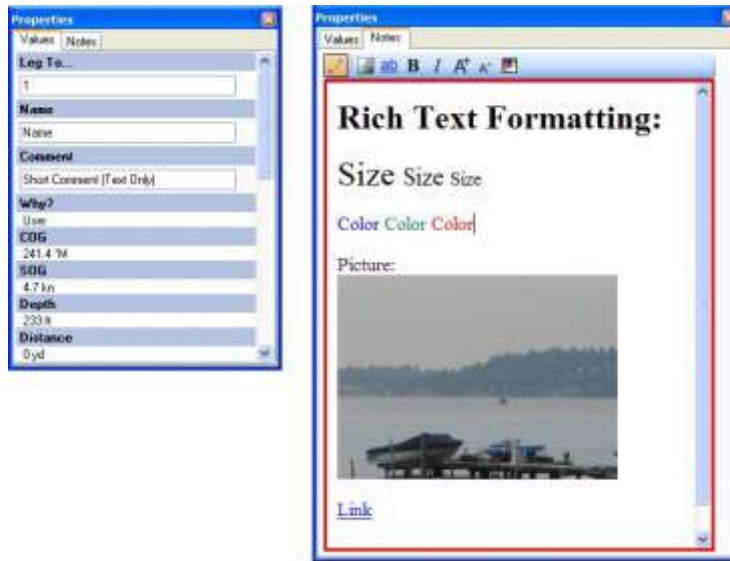
Access Historic Track from the logbook

The Historic Track is very useful to recall a specific passage of a trip. If you use the logbook, the Historic Track can be displayed by directly clicking on the logbook events.
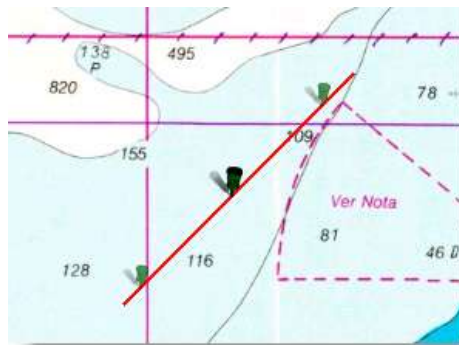
The historic track will be displayed on both sides of the selected logbook event. By default the interval is defined to be +6h and -6h around the logbook event. You can change this setting from the "Ship & Track" option menu. Once the track is displayed, you can right click on it to convert it into a route.

Logbook List

The Logbook list displays all the logbook information in a table. To open the Logbook list, select the Planning WorkSpace and click on the "Lists" button (in the Ribbons). Select "Logbook" on the bottom left corner.

This list can be exported and saved as a text file, click on the "Export list" from the "Action" menu and choose the path where you want to save the file. You can then open this text file using Excel to make further adjustment and print the information.
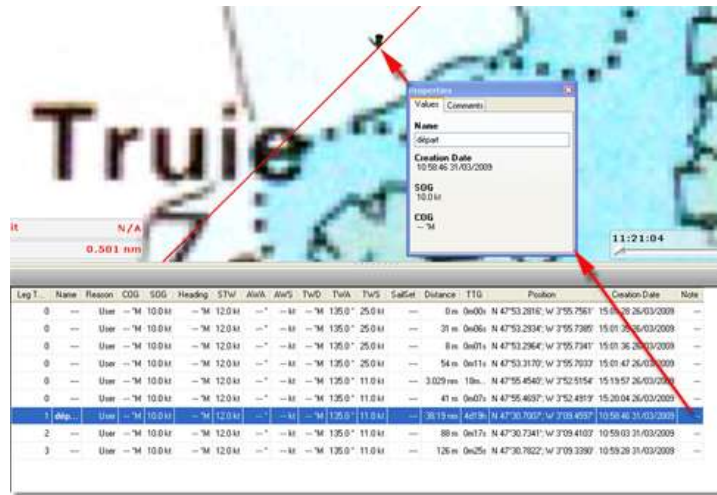
To import / export logbook information

To archive a Logbook, select the "Import/Export" function from the MaxSea Menu. Select "Export Marks, Routes and/or Logbook points", click on "Next", select the "GPX" format, click on "Next" then give a name to the file.

Once the Logbook is saved, you can go to the "Logbook" option menu and select "Delete ENTIRE Logbook" to start a new Logbook file.

To recall a previous logbook, import it using the same process.

Targets

AIS Targets

After connecting and configuring the AIS receiver, MaxSea will display the AIS targets directly on the chart.

MaxSea categorizes the AIS targets in three groups that can be turned ON or OFF by right clicking on the Targets button in the Ribbons (note that the Targets button is hidden by default: use the "Configure Ribbons" button to add it to the WorkSpace configuration)

 Click on the Targets buttons in the ribbon to show/hide the categories selected and right click to access the menu which allows you to select the categories:

 AIS Class A: click to show/hide "class A" AIS targets (usually cargo and large ship)

 Other AIS: click to show /hide "class B" AIS targets (usually recreational users) and AIS Stations

 Online AIS: click to show /hide AIS Online targets

AIS target's symbols:

Regular AIS Symbol (Class A or Class B)

Online AIS Symbol

AIS symbol with rate of turn displayed (turning port in this example)

Lost AIS Targets (usually out of range)

WORD

AIS targets with one (or multiple) important data missing:heading, COG or SOG

AIS breaking an alarm condition (either CPA/TCPA or proximity alarm)

⊠ AIS Base station

Lost AIS Base station

SAR AIS Targets (Search and Rescue Aircraft)

Note: The AIS refresh rate varies according to multiple parameters (class of AIS transmitter, Speed of the target,...). MaxSea interpolates the AIS position every second (this is particularly valuable with class B AIS targets). The "Time" field (available in the Property Window or from the AIS list) indicates the time elapsed since the last received position.

To Get More details on a target:

Move the cursor over a targets (and wait for the pop-up) or left click to display basic information.
If you need more information, double click on the target to display the Properties Windows (that shows the full details of the target).

If you need to keep updated information on the screen about a specific target, you can use the "Target Information" NavData.
Open the NavData and click on the "+" to add the "Target Information" to the NavData configuration. Once the Target Information NavData is displayed, click on any target (the target will be surrounded by a square selection icon indicating the reference target of the NavData) .

AIS Targets List:

Select the Planning WorkSpace and click on the "Lists" buttons in the Ribbon. Select "AIS" on the bottom left.
To customize the column that are displayed in the list, click on the "Action" menu and select "Configure List".

You can sort the AIS target list by double clicking on any column (for example, you could sort by CPA, Range or speed)

ARPA Targets

If you have a Radar with the ARPA function, MaxSea can display the ARPA targets (sent by the radar) directly on the chart.

To display the ARPA Targets, right click on the **Targets** button, and make sure that the ARPA

category is selected: .
Then make sure that the "Targets" button itself is selected.

ARPA target's symbols:

The ARPA target is being acquired.

The ARPA target is acquired and correctly tracked

The ARPA Target is lost (right click and choose "Acknowledge Lost ARPA" to remove the icon from the chart)

The ARPA Target is breaking an alarm condition (CPA/TCPA alarm)

To Get More details on a target:

Move the cursor over a targets (and wait for the pop-up) or left click to display basic information.
If you need more information, double click on the target to display the Properties Windows (that shows the full details of the target).

If you need to keep updated information on the screen about a specific target, you can use the "Target Information" NavData.
Open the NavData and click on the "+" to add the "Target Information" to the NavData configuration. Once the Target Information NavData is displayed, click on any target (the target will be surrounded by a square selection icon indicating the reference target of the NavData) .

ARPA Targets List:

Select the Planning WorkSpace and click on the "Lists" buttons in the Ribbon. Select "ARPA" on the bottom left.
To customize the column that are displayed in the list, click on the "Action" menu and select "Configure List".

You can sort the ARPA target list by double clicking on any column (for example, you could sort by CPA, Range or Speed)

DSC targets

You can connect a VHF radio with the DSC function to MaxSea. Each time MaxSea receives a DSC position it will display it on the chart.

Note : Unlike AIS or ARPA targets, DSC targets are saved even if you reboot MaxSea. To remove a DSC target from the chart, right click on it and choose Delete

WORD

Right Click on the "Targets" icon in the ribbons to access the DSC Category:

Make sure both buttons are selected if you want to see DSC targets on the chart.

When a "Distress Calls" DSC message is received, the target will be displayed in red (on the chart and on the corresponding line of the DSC list).

Using the DSC directory

The **DSC directory** in **MaxSea | Options | Targets** menu allows you to enter NickNames (referenced to specific MMSI Numbers). When a DSC target is received, the NickName will be used for the Target ID instead of the MMSI number.

To Get More details on a target:

Move the cursor over a targets (and wait for the pop-up) or left click to display basic information.
If you need more information, double click on the target to display the Properties Windows (that shows the full details of the target).

DSC Targets List:

Select the Planning WorkSpace and click on the "Lists" buttons in the Ribbon. Select "DSC"   on   the   bottom   left.
To customize the column that are displayed in the list, click on the "Action" menu and select "Configure List".

You can sort the DSC target list by double clicking on any column (for example, you could sort by CPA, Range or speed)

Target Alarms

You can setup a CPA/TCPA and/or a Proximity alarm under the Alarm Option Menu.

The CPA/TCPA alarm can be used to detect possible threat even if the targets are far away. The CPA/TCPA alarm uses the speed and course of both the target and your own ship to make the calculation.

The proximity alarm is only used in close range situation. Usually, it is used as a "tier 2" alarm to raise attention about immediate threat.

Note that even if the CPA/TCPA or Proximity alarm are unchecked from the Alarm menu, the dangerous target icons (red) will be used when the targets are breaking the alarm conditions.

| **Note:** The alarm will be raised even if the targets are not displayed on the screen. |
| --- |

Weather Routing

Introduction

The unique Routing algorithm developed by MaxSea uses the isochrons method (displayed on the charts using yellow and purple curves). Each isochron represents a group of points that can be reached in the same amount of time. The calculation of the isochrones take into account the weather forecast (wind, Waves), currents and the boat characteristics. The boat characteristics are factored into the equation from a polar curve diagram (called "Wind Polar") which relate boat speed to wind speed at a given wind-angle. One of the most important factor involved in achieving the optimum course is the weather forecast: make sure to use the most up to date weather forecast available when launching a routing. Another important factor are the polars file loaded in MaxSea. While the default Wave Polar can be use with great result in most of the case, the Wind Polar should be adapted to each sailing boat. At minimum, it is recommended to use a Wind Polar file from a boat of the same category. You can download various Wind Polar files from the maxsea website (Log In to "My MaxSea" and select "Download").

Before Launching a Routing :

1. Select the Planning WorkSpace.

2. Download or Open a Weather File in MaxSea. Make sure the weather file covers the same geographic location as your departure and arrival points.
3. Select a Departure Date from the Virtual Time box on the lower right (if you want to start the routing now, click on the "Actual Time" button)
4. Launch the Routing Calculation using the "Launch Routing" tool from the ToolBar (refer to next chapters)
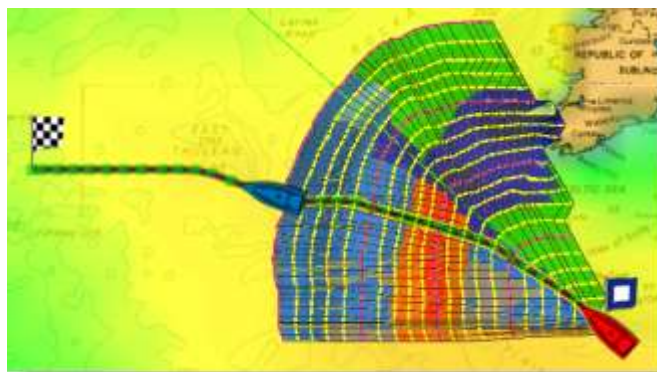
Weather Routing Between Two Points

Between two points

If you have no GPS position (at home for example) or want to launch a routing from a specific point (competitor's position for example), follow the instructions below:

- o Select the "Launch Routing" tool ![icon] from the ToolBar.

- o Move the cursor over the charts (at the departure location) and click once to set the starting point

- o Move the cursor over the charts (a rubber line will appears) and click a second time to set the arrival point:
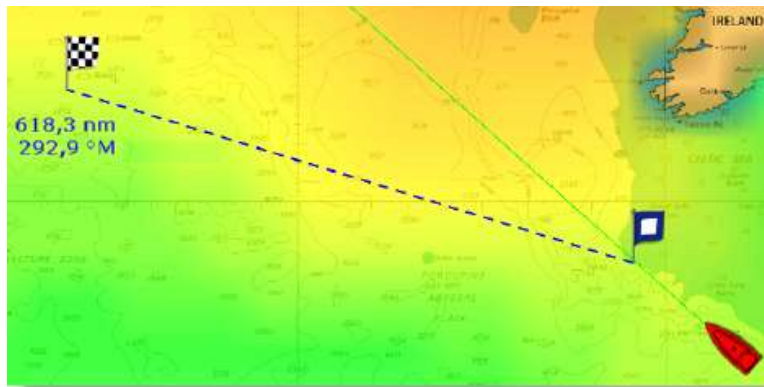
- o MaxSea will launch the Routing Calculation and automatically play an animation at the end.

From Boat Position

If you have a valid GPS position, you can launch the Routing from your own ship position by following the instructions below:

- o Select the "Launch Routing" tool ![icon] from the ToolBar.

- o Move the cursor over the charts and double click on the arrival location

IMPORTANT - The departure date should be between the time boundaries of the weather forecast. A red flag appears if this is not the case: ![icon] (or if you have no weather file loaded). Also, the amount of forecast should cover the entire time required for the trip. If this is not possible (very long cruise), MaxSea will use the latest forecast available as an estimation and display the isochrones in semi-transparent. In the following example,

MaxSea is using the same weather forecast (latest available) from the location pointed by the red arrow:
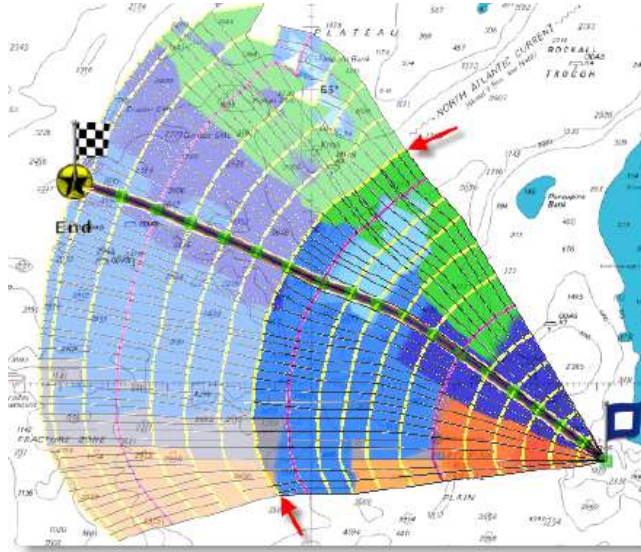
Weather Routing displayed on the Chart
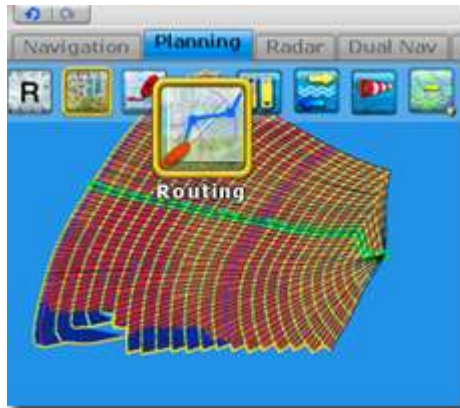
By default, the isochrones and SailSets are displayed on the charts with any Optimized Route. To customize the apearance, you can use the "Routing" button available in the Ribbons. Note that this button is hidden by default. To add it to the Ribbons configuration, click on the "Configures Ribbons" button.

o Right click on the Routing Button and click on to show / hide the isochrons on the chart.

Note: The steps in between each isochrons vary according to the length of the trip (in automatic mode). The isochrons step is available on the Routing List header. Every 24H, a purple isochrons is drawn.

o   Right click on the Routing Button and click on to show / hide the SailSets

Play a Weather Routing Animation

MaxSea automatically launches an Animation as soon as the Routing Calculation is done. If you want to replay the animation, make sure that the Optimized Route is selected (click on one of the Waypoints) then click on the Play button.
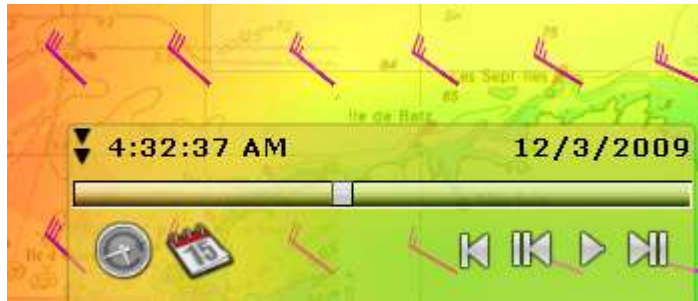
You can also use the Rewind or Step button as well as the mouse wheel (when the cursor is over the Virtual Time box)

Note: To stop an Animation, you can hit the ESC key

Displaying the Routing List

To display the Optimized Route in a tabular format, double click on the Optimized Route

or click on the List button and select the Optimized Route (by clicking on it):

Alternative Weather Routing

All route plans drawing in black in between each isochrons are optimal routes (they allow to reach the corresponding location in the minimum amount of time). Sometimes, it can be better to adopt an alternative strategy and choose an Alternative Weather Routing. Simply right click on any Route Plan (black leg) and choose "Launch Alternative Routing".

Note: It is sometimes easier to zoom in on the chart in order to be able to right click on a specific Route Plan
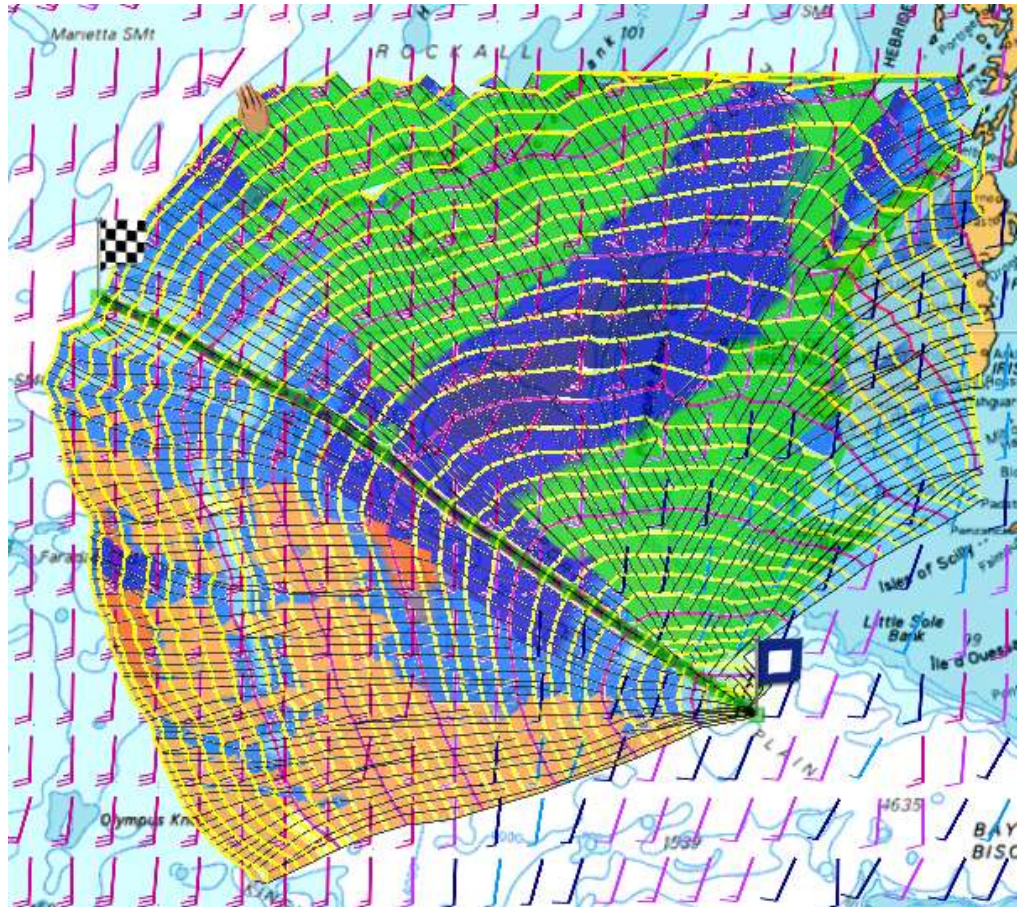
Laylines

Show/Hide Laylines

Upwind and downwind lay-lines can be displayed on your chart.

Right click on the "**Arround Me"** button in the ribbon and choose the Laylines button to show or hide the laylines on the chart. Note that for the Laylines to appears, an Active Route and the True Wind Direction/Speed values are needed.

WORD

You can also display a Layline NavData that will groups all layline information
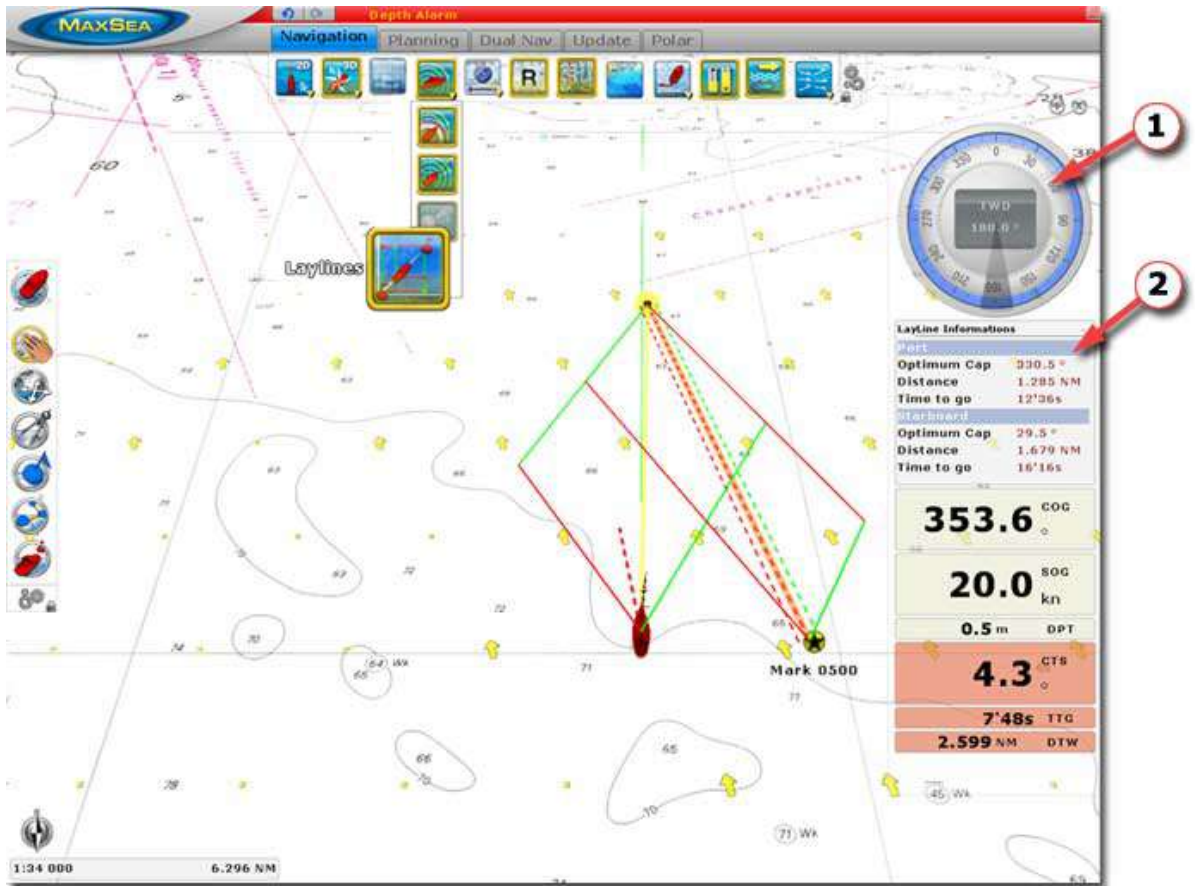
Open the NavData, click on the "+" and select the "LayLine Information" NavData:

Polar Files

Polar Files

When The Routing module is configured in MaxSea, the Polar Workspace is added.

The two most important factors involved in achieving optimum courses are the weather forecast and speed of the sailboat. Other influences include tidal, ocean currents and waves that may cause the boat to drift significantly.

Getting the most from your boat starts with understanding the various relationships between true wind angles, true wind speeds, and boat speed.

The unique Routing algorithm developed by MaxSea uses the isochrons method. Each isochron represents a group of points that the selected sailboat can reach in a fixed amount of time, dependent upon the weather forecast and the boat speed.

The Polar files 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, Polar files stored by default in "**My Document | My MaxSea** " folder are automatically opened and add-on functions are available in the dedicated Polar workspace.

The polar axes for boat are different and your boat's potential performances are saved as speed polars.

Data in the polar file is a collection of triples, **TWS** (True Wind Speed), **TWA** (True Wind Angle), and the optimum sailing boat speed. MaxSea uses this data to calculate optimal Weather Routes. The polar file used with MaxSea should reflect the boat's actual average performance. MaxSea allows you to set up your polar files simply and directly in the Polar workspace by using tools to create your own polar file according to the state of sea or strength of wind or the combinations of SailSet.

There are several major sources of polar data, you can download polar files depending on your boat directly from our webste: "www.masea.com in My MaxSea private area".

The Polar Workspace

The polar WorkSpace provides a graphic of the polar data and allows you to edit the value using a table.

Your boat's performances and characteristics are saved in polar files. MaxSea Time Zero uses 3 type of polars:

1. **Wind_Polar** file contains the **TWS** (True Wind Speed), **TWA** (True Wind Angle), and the optimum sailing boat speed.

2. **Wave_Polar** file contains values which are used to make relative adjustment of the wind data polar values according to the wave information (height, length, and direction of the Waves).

3. **SailSet_Polar** file contains the different values of Sail Set which allow adjusting MainSail and FrontSail configuration according to True Wind angle and speed.

Note : all Polar files are located in "**My Document/My MaxSea/Polar"** Folder.

The Polar workspace is divided in two parts:

1. The Polar graphic

2. The Polar lists
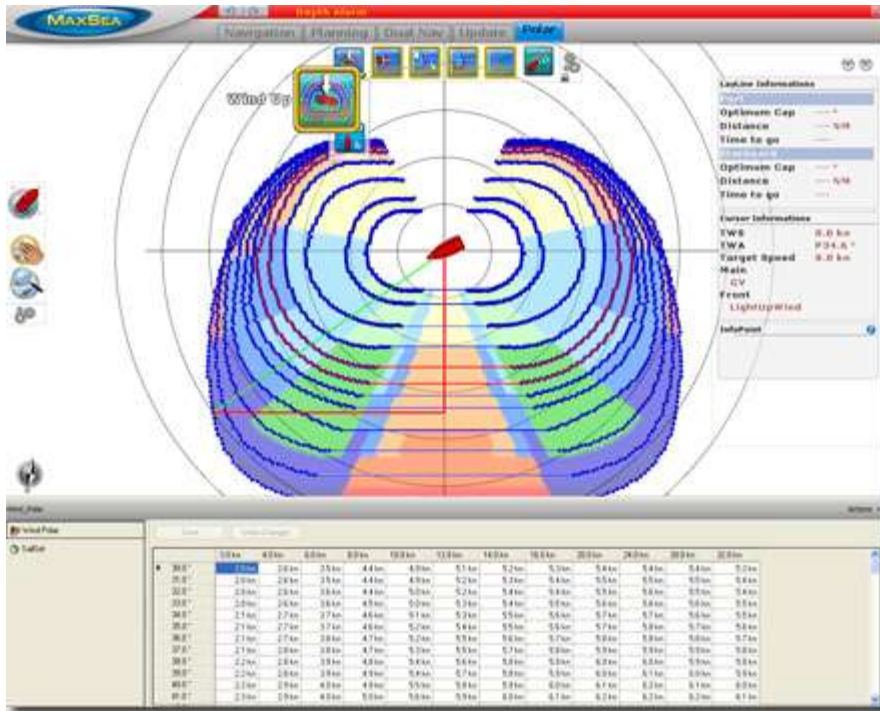
The polar graph gives you an immediate representation of the speed of your boat according to the wind angle as well as the SailSet configuration

To change the Polar Graph Orientation, click to switch from one to the other "**2D Head Up**" or "**Wind Up**"

2D Head UP : In this mode, the azimuth is fixed pointing along the current Heading.

Wind UP : this mode allows to center the graph on the boat position and align its axis with the wind direction.

Tools are grayed, they are not available when lost position or Heading is not transmitted from connected equipment (such as Compass) or COG.

Wind Polar, click to show/hide all calculated optimum routes. To quickly understand the nature of the optimum route is to display the forward and reverse isochrones. The polar graph consists to a series of curves (isochrones) depending on values of **TWS** (True Wind Speed), **TWA** (True Wind Angle), and the optimum sailing boat speed.

SailSet Polar, click to show/hide distribution of colors on the graph which corresponds to different combinations of sail set depending on weather conditions.

Live Polar, click to show/hide the live polar (red curve). The Live polar 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.

Rings, click to show/hide Polar Rings.

Heading Line, click to show/hide the direction of the bow of boat representation.

Get More detail

Move the cursor with the Hand Tool anywhere over a point of a chosen optimum route in the polar graph, information will simultaneously be displayed together in the tool tip and in the Info point NavData.

NavNet3D

RADAR Workspace

	2D Orientation Mode	Click to switch from one to the other and Right Click to display menu. Switch from **2D North Up** to **2D Head UP**
	Heading Line	show /hide Heading line on the chart
	Rings	Show hide Radar Rings displayed on Chart
	Targets	Show / hide available targets on the Radar Overlay
	Waypoints	Click to display or hide Waypoints.
	Routes	Click to display or hide routes
	Gain level	Left click on the button to select automatic Gain Level settings. This action cancels manual settings. 1. Right click on the button to display the slide. 2. Adjust the range from 0 to 100% using the wheel of the mouse or the finger left border of the track pad.
	Sea level	Left click on the button to select automatic AC Sea level settings. This action cancels manual settings.

		1. Right click on the button to display the slide.
		2. Adjust the range from 0 to 100% using the wheel of the mouse or the finger left border of the track pad.
		Left click on the button to adjust the AC Rain level value automatically
	Rain Level	
		1. Right click on the button to display the slide.
		2. Adjust the range from 0 to 100% using the wheel of the mouse or the finger left border of the track pad.
	Transmit	Click on to transmit to get signal transmitted from Radar.
	Track	Click to display or hide ship's track and right-click to select track's historic.
	Point Of Interest	click to show or hide selected category picture on chart.

Available tools in toolbar of the Radar Workspace

	Center On Ship	Auto Center activation button toggles on/off chart auto-centering, placing the vessel in the center of the chart screen.
	Range Minus	the [R-] expands the chart range. When the Range function is operated in MaxSea, the Range key is simultaneously applied in NavNet
	Range plus	the [R+] the chart range. When the Range function is operated in MaxSea, the Range key is simultaneously applied in NavNet
	Pan	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.
	Divider	To measure distances and true headings to and from any point to another on the chart in 2D. Click a chosen position to start measure and drag to the end position.

	Waypoint	To create Waypoints, which are stored in data base and displayed on charts
	Logbook	Click to plot punctually events on the chart.
	Range Synchronisation	The Range Synchronisation, when clicking on this tool an order is sent to the Radar to adjust its range according to MaxSea chosen Range

More available tools

	MOB	Single click on Man Over Board button to activate the "Man Over Board" function.
	Route	This tool provides a simple method to draw a route consisting on series of connected route points.
	Pacman	To remove unwanted objects. Select the tool, and then click on the object you want to delete.

Displaying Radar Image Overlay on Chart

Select the Navigation WorkSpace

1. Click On Radar Button to display the Echo overlay over the chart.

Sharing Charts between MaxSea and NavNet

This function is only available with MaxSea Explorer when connected to a NavNet 3D network.

The NN3D Charts Server option allows to share charts that are available in MaxSea with NavNet3D.

Go to **MaxSea Menu's Options** and choose **NN3D Charts Server**

Click on "Enable" to activate the NN3D Chart Server and select the type of data that will be shared with NavNet 3D.

Routes & Waypoints Synchronization

This function is only available with MaxSea Explorer when connected to a NavNet 3D network.

The Active Route is automatically synchronized:

- The active route is automatically synchronized in real time between MaxSea and every NavNet 3D MFDs.

Planning Routes and Marks are not automatically synchronized but MaxSea offers the following option to exchange this data over the network:

1. Click on **MaxSea Menu's Options** and choose **NN3D Synchronization.** This option will overwrite the Route and Waypoint database of the receiver (MaxSea or NavNet3D)

2. Right click on any routes or marks and choose "Send to NavNet3D". This will merge the selected route or marks with the NavNet3D database.

Connecting Instruments

Connection Wizard

Automatic Port Configuration

Rather choose this option to launch an automatic search for serial ports and data received.

Choose **Automatic Port Configuration** option to have MaxSea search automatically for your GPS and click Next.

A new window is displayed asking you to check following to prepare your GPS before starting the "AUTODETECTION":

- o   All *NMEA* devices (GPS, Etc..) are powered on.

- o   All cables are securely connected (Serial cable and/or Network cable if connected to NavNet)

- o   NMEA sentences are enabled on your GPS.

- o   When everything seems to be OK, click "**Next"** to start Autodetection.

At the end all data are listed :

Check each data getting on port com3, next screen will display reporting data table

- o   If data were detected, click "**Next**" to display a connections report. Report gives detail on current connections (data list and its actual status).

- o   If MaxSea could not find any GPS sending data, nor NavNet network, click "back" or "Cancel", and verify everything is correctly connected and configured as indicated in the previous Step.

Note : for USB to serial adapter, verify that drivers are up to date and recognized by the operating system.

NavNet Network Connection

All MaxSea Time Zero versions can automatically received NMEA data from NavNet network (NavNet vx1, NavNet vx2 or NavNet 3D).

Before starting check following : **NavNet 3D equipment is powered on** / **NavNat3D Network cables are securely connected** / **NMEA sentences are enabled on your NavNet3D**.

The computer on which MaxSea is installed has an IP to communicate with the NavNet system. The NavNet system uses a TCP/IP computer protocol through an Ethernet. This protocol is an open architecture that allows for multiple ways of connecting the NavNet system.

Instruments (GPS, etc..) connected to the NavNet network also communicate between them via Ethernet TCP/IP. So It is necessary to supply an IP address and host's name for every instrument to identify them separately.

To quickly control TCP/IP parameters, double click on the "**Network status**" icon located on the Windows Taskbar as it is shown in following picture.

Network Status Dialog is displayed and follow each step:

1. Click on Properties

2. Select Internet Protocol TCP/IP line and click on the Properties button.

3. Click on Alternate Configuration Tab

4. IP addresses must be assigned as following :

5. IP Address : 172.031.xxx.xxx

6. Subnet mask : 255.255.000.000

When everything seems to be OK

- Choose **NavNet Network Connection** option to automatically configure your NavNet connection.

- Click **Next** to start.

- When MaxSea has detected NavNet Network Connection a message warns you that check Data are completed.

- Click **Next** to display report of Data results (Data list and its status)

- Click **Finish** to validate NavNet Network Connection.

Manual Serial Port Configuration

This option allows you to:

o Choose **Manual Serial port configuration** option to manually configure your communication ports. Select a configuration function depending to the connected instrument between the following ones:

- Add/Configure Serial Port

Select from the pop-up menu, the COM port which is used to connect equipment.

Select a **Baud Rate** value (refer to the instrument configuration),

Click **Next** to get Data report.

Click **Next** to display the connections report that gives you detail on each data and its status.

Click **Finish** to validate connections settings

- Add/Configure NavNet Connection. This function can be used if a NavNet system is connected to the network. Check one or all boxes to select data information that you want to receive in MaxSea.

NMEA & AIS

Fast Heading

ARPA

- Add/Configure UDP connection (advanced configuration). This function can be used with a MaxSea configured as a data network repeater.

Select the address of the **Network adapter** and the **UDP port** used for transmitting data.

All receiving data are listed in the frame below, click on pause to analyze with sentences

Click Next.

Select **UDP** and check each box for getting the chosen data in MaxSea.

Last step allows you to choose the master instrument for each chosen data.

- Add/Configure a Garmin USB connection. This function can be used if a Garmin USB GPS is used for receiving position and COG/SOG..

Note: At the end a table report lists all available COM ports identified by your system. "**N/A**" indicates that data is not available , "**-**" indicates that data is not checked and the cross "**X**" indicates that data is available and transmitted.

Auto pilot Connection

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

- Check the **Auto-Pilot** option to manually add an auto-pilot connection and click "**Next**"

- Select from **COM port** Pop-Up menu, the COM Port which is used to connect the auto-pilot,

- **Three ways :**

1. **The COM Port is used from the Data come in** , the Baud Rate is automatically selected and a message warns you that the baud rate cannot be changed. (as it is shown in following picture)

2. **The COM Port selected is different from the Port used for data come in,** Choose a **Baud Rate** value and click Next, to get connection report. Click Finnish to validate and close the wizard.

3. **The COM Port is busy**, a message warns you that access is denied.
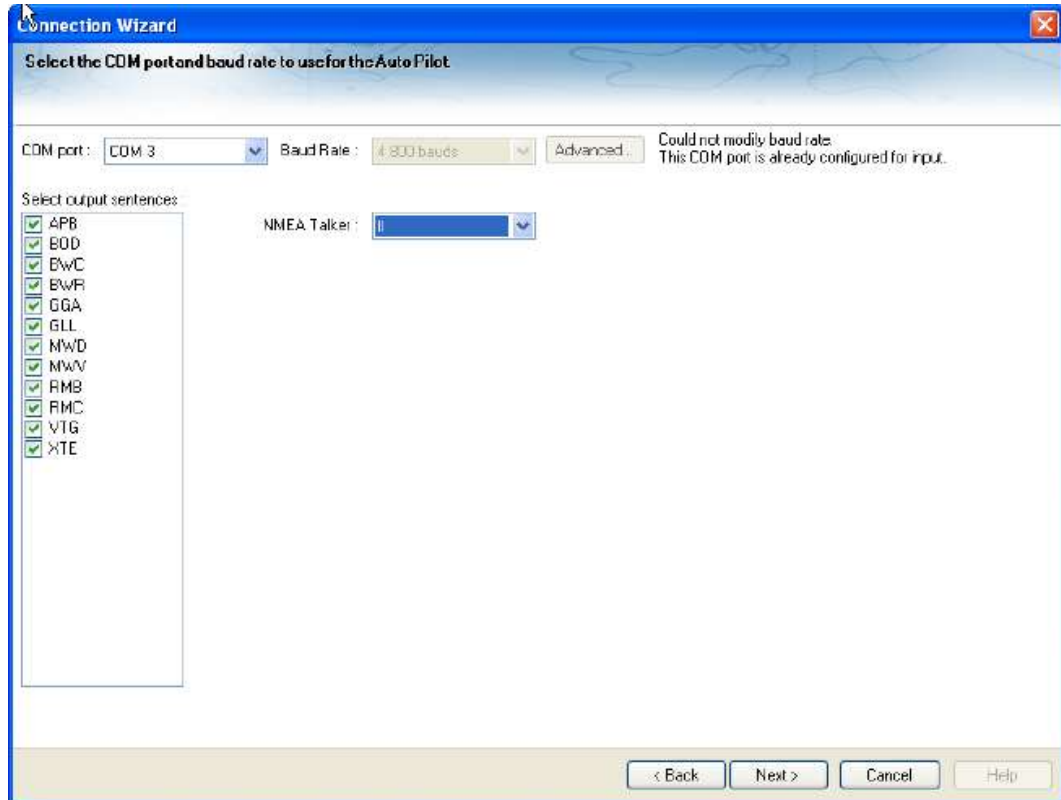
1.

Connection Man Over Board (MOB)

This option allows to add a MOB connection for receiving and transmitting the MOB information to **NMEA** equipment compatible and also to **NKE** equipment connected to a serial COM Port.

Choose the COM Port in the list and the corresponding baud rate value.

If the COM Port is used to receive another data information else than MOB, you will not be allowed to choose a baud rate value. This value depends to the present connection configuration.

Note : it is impossible to have MOB and autopilot connected to the same COM Port.

Port Monitor

Note : this option will appear in grey when connection is not detected.

The Port Monitor option allows you to view and troubleshoot NMEA sentence.

- o Check Data to verify data sentence received by each port connected as well as the physical connection the electronic equipment and the computer.

- o Choose either **Serial connection** or **Autopilot, click next.**

- o Select from the Pop-up the port for which you want to verify data received.

- o when connection is established, transmitting NMEA sentences will be displayed in the dialog.

- o **(1 in following picture)** - "**Clear Log**" used for initializing sentences displayed in the dialog and "**Save Log"** is helpful for support if wrong data are received in MaxSea, just save and send the file text to our technical support.
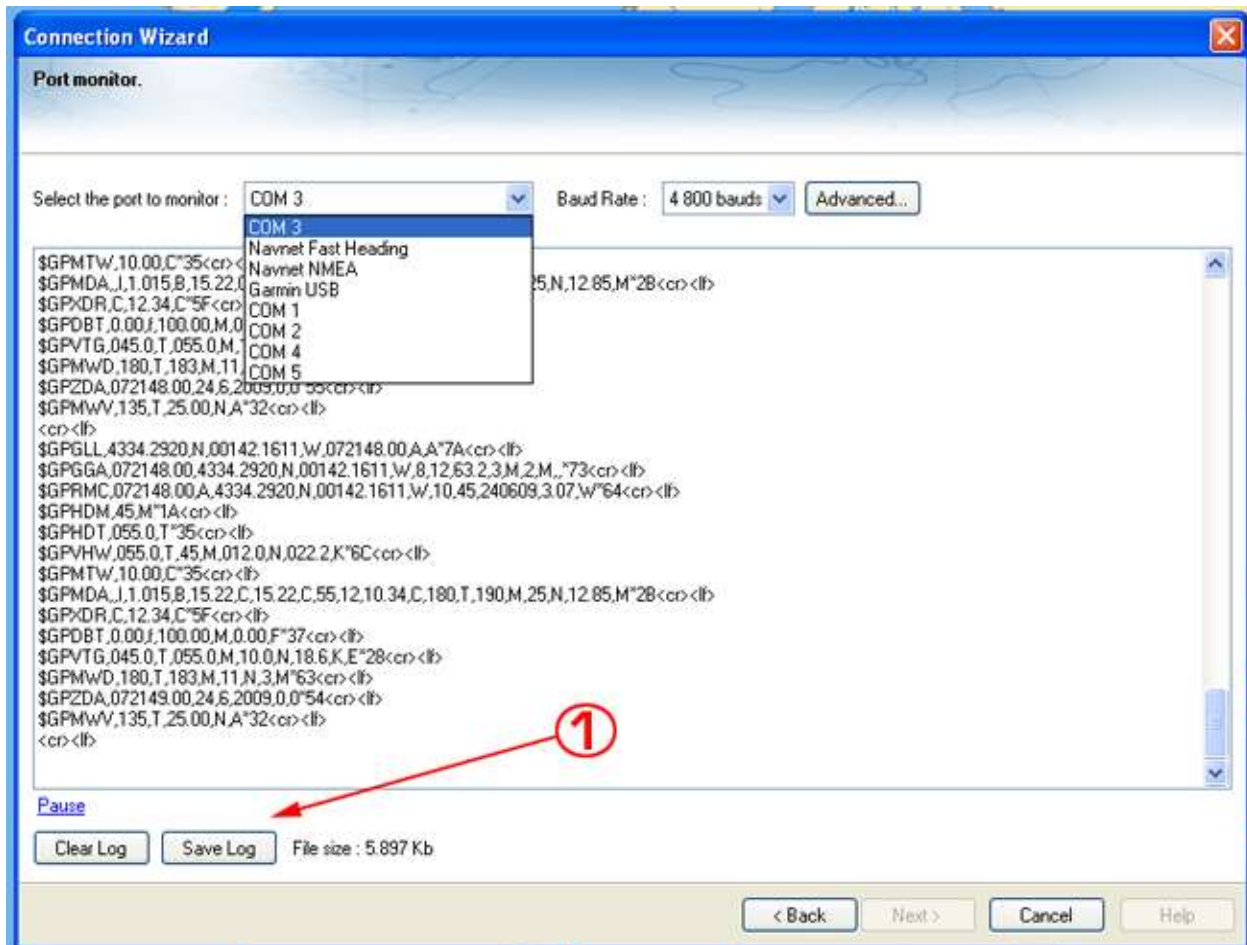
Data Source

Note : this option will appear in grey when connection is not detected.

WORD

This option allows you to view and choose the Data Source being used by each COM Port configured .

When a connection is configured, all Data Source are listed as checked or unchecked boxes.

Select corresponding case information that you wish to acquire and Click Next.

Choose Master Selection:

1. If the same information is provide by several instruments, you need to select one as your master source.

2. Pull down the Port COM list in the Master column and choose the Port COM that you will want to be the master for selected Data source.
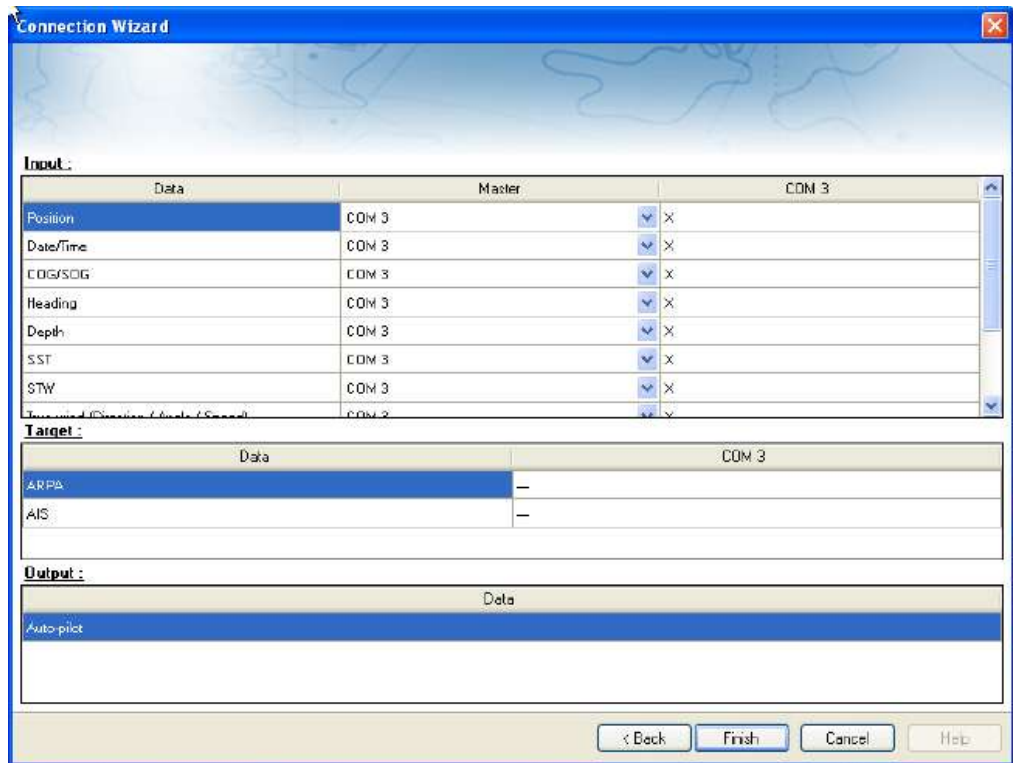
Clear All

The "**Clear all to remove all existing connections**" option allows you to restore factory settings and erase all previous configuration to restart connection configuration.

Getting More Help

My MaxSea Area

MaxSea has created a club for all users of MaxSea Time Zero. This privileged area called "**My MaxSea**" .

To join the club, all you have to do is register on the web site.

Just visit www.maxsea.com and click on the Register section. you will need your software serial number.

This information can be found in MaxSea info screen (go to **MaxSea** menu and choose"**About MaxSea**") or on your "MyMaxSea" privileged card that came with your original software package.

The Privileged Area My MaxSea allows you to gain access to numerous services (weather, support, online training, Newsletter, etc.) and to an online download service for upgrading your software.

Upgrading your Software

1. If you are already running a version of MaxSea, you can upgrade on line your software in your dedicated "**MyMaxSea**" space.

2. You will find latest upgrade you have requested, please read carefully all instructions step by step to ensure your software upgrade.

Technical Support

In the uSA and Canada, you can contact the Furuno USA technical support

- o   East Coast: 410-479-4420

- o   West Coast: 360-834-9300

- o   By Email, support@maxsea.fr

- o   On Our WEB Site www.maxsea.com