MaxSea TimeZero Recreational v2.0.3

Table of Contents

MaxSea TimeZero is a nautical navigation software application based on the most sophisticated display technology available. MaxSea TimeZero 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 TimeZero 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.

Standard Features:

- Connect your GPS and autopilot (NMEA compatible upon serial ports or Ethernet by Furuno) to your navigation software.

- Download/overlay weather updates for free and perform advanced planning.

- The navigation software operates in a fully rendered 3D environment and delivers unparalleled speed and a seamless chart plotting experience

- Exclusive MaxSea TimeZero interface combines functionality with ease of use, providing for a practical and personalized navigating experience.

- Exclusive MaxSea TimeZero PhotoFusion: fuse satellite images to the marine chart

- **Integration with FLIR M-Series Camera** (**Exclusively included in MaxSea Explorer**): MaxSea TimeZero can now control any FLIR M-Series camera and instantly add a versatile Target and Object tracking feature to your system.

- **Direct compatibility with NavNet 3D and FAR2XX7 Radar** (**Exclusively included in MaxSea Explorer**): MaxSea TimeZero can be connected directly to one (or two) FAR2XX7 radars using a simple Ethernet connection.

- **Worldwide tide database included**: display tidal data on MaxSea TimeZero to know about water depth in ports

- **Integration with the ActiveCaptain "Points of Interest" database**: MaxSea is the first Navigation software to offer ActiveCaptain Points-of-Interest (POI) integration and real-time updating.

- **Compatible with AIS**: MaxSea TimeZero can be connected to any AIS using NMEA0183 or via Ethernet.

New in this version:

- **Optional add-on Furuno Network Sounder module** (DFF1, DFF3, FCV1150)(**Exclusively included in MaxSea Explorer**)

- **Optional add-on PBG (Personal Bathymetry Generator) / Bathy Recorder** (**Exclusively included in MaxSea Explorer**)

- New File formats of import in MaxSea (read more in "Importing & Exporting")

- New Time Bar available in Planning Workspace

- Auto Chart Selection

- Set a Target color and size

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MaxSea TimeZero 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 ordering and viewing weather files are available.

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

Navigation

Choose the "Navigation" mode when the computer is physically connected to sensors and instruments. (GPS, AIS, NavNet...)

In this mode, the sensor and instrument data is 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 TimeZero 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 select private sourced paper charts. Mapmedia Vector Charts are manufactured from official hydrographic office vector charts called S-57 or from privately furnished vector charts from C-Map by Jeppesen and Navionics known as "Datacore by Navionics".

MaxSea TimeZero 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 TimeZero; and then, click on the "Download" link.

1.   **Note:** The Satellite Pictures can also be downloaded from the Mapmedia Catalog.

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 TimeZero Web site](#)

Installing Charts

Chart DVD(s) are provided with MaxSea TimeZero or when a Chart Pack is ordered. Mapmedia mm3d charts and data can also be downloaded online from the [Mapmedia Catalog](#).

Note: MaxSea TimeZero 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 code is automatically loaded for the charts upon installation.

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

Every Chart Pack can be downloaded online from the [Mapmedia Catalog](#). The Charts consist of multiple files that are downloaded individually. Chart and data files are stored as .zip files.

The zipped file can be opened directly in MaxSea without unzipped it before.

There are two ways to install the charts from file(s):

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

2. 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 TimeZero 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 TimeZero.

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:

 Serial port :

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.

 Serial-to-USB adapter:

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 will create a "virtual COM port" on your computer that can be viewed in the "COM and Ports" section of the Device Manager.

 Active GPS antenna: |
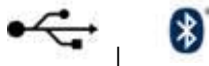
Active USB or Bluetooth GPS antenna are an easy way to provide MaxSea with a the vessel's position. To be recognized by MaxSea make sure the driver of the GPS antenna creates a virtual COM port. MaxSea TimeZero is also compatible with the proprietary Garmin USB format.

- Ethernet:

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 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

MaxSea TimeZero can automatically locate most sensors and instruments connected to the computer. To use this feature, start MaxSea in "Navigation" mode to enable sensor and instrument connections. The "Connection Wizard" window should be automatically displayed, otherwise, click on the MaxSea

Button located on the top left of the screen:

- next click on "Connection Wizard"
- Select the "Automatic Ports Configuration"; and then, click "Next". **The GPS must be connected before and transmit all needed information**.
- 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 TimeZero.

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. The minimize button (minus sign) is on the far right of the Status Bar.

3. **Worspace & 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 TimeZero 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 TimeZero Explorer only). These activities require different tools, so MaxSea TimeZero 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 Work Space:** The Navigation Work Space 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, for example, select the Planning Work Space.

2. **Planning Work Space:** The Planning Work Space is selected by default when MaxSea TimeZero 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 also is used to launch the weather routing if the module is enabled.

3. **Dual Nav Work Space:** The Dual Navigation Work Space allows you to display two Plotter windows side by side. This workspace is used to work in a traditional 2D/3D Split screen. 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 Work Space shares the same configuration settings as the Navigation Work Space.

4. **Updates Work Space :** The Update Workspace is dedicated to requesting and downloading Weather Forecast. This Work Space 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 function is enabled in MaxSea, a new work space will be available:

<u>Polar</u> : The polar Work Space 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 TimeZero Explorer is connected to a NavNet3D system two additional Work Spaces will be available

radar Work Space : The Radar Work Space allows the user to display and control the Radar. This Work Space provides all the Radar tools and controls such as Gain, Sea Clutter and Rain Clutter. Note that this Work Space will only appear when the Radar Plus Pack has been unlocked and a Radar has been detected.

Sounder Work Space : The Sounder Work Space allows the user to display and control the Sounder. This Work Space provides all of the Sounder controls. Note that this Work Space will only appear when the Sounder Plus Pack has been unlocked.

Tips: The Toolbar and Ribbons can be customized to individual preferences. Click on this button available in the ToolBar and Ribbons to display the Configuration Windows.

Working with Charts

MaxSea TimeZero offers a new ultra fast cartographic engine with unparalleled seamlessness and speed of zooming. MaxSea TimeZero will always select the best charts as you scroll around and zoom in and out. Because scrolling and zooming are so important, MaxSea TimeZero 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 or drag 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.
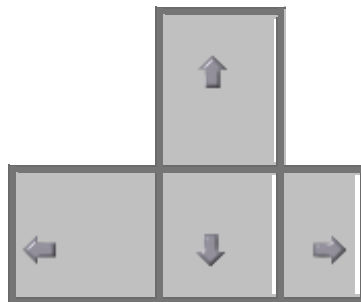
Note: This method allows retention of the Full Screen mode while scrolling the chart.

Zooming the Charts

MaxSea TimeZero 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 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.

Using the Zoom +/- Buttons :

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.

Using the 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:

- Left click to Zoom In on cursor position.

- Right Click to Zoom Out on cursor position

Using the keyboard

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

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

- "**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 and the chart's display is replaced by "overzoom" written.

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 TimeZero 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.

Click on the compass icon and the chart will be displayed in the North Up Mode.

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.

- o **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 Alt key of the keyboard while moving the cursor.

- o **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 Alt 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**: 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 Alt key of the keyboard while moving the cursor.

- o **Orientation** : This tool 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 TimeZero powerful graphics engine adds new chart presentation options to the conventional method of electronic chart plotting. MaxSea TimeZero 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.

Auto: automatic chart category that user has chosen as priority (go to MaxSea "Plotter display" options to set the chart priority as vector or raster).

Vector Charts :

right click to roll down the menu and choose the vector chart you wish display or click successively on the button to switch between different vector chart format:

HOs S-57: Vector Charts from Hydrographic Offices (NOAA, ...)

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

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

When a Vector Chart is selected (either "HOs S-57", "Jeppesen" or "Navionics"), the "S-52 Display" allows you to choose from Various Preset display configurations (Base, Standard, Fishing, Others). When set to "Custom", use the "S-52 Display" Menu to customize the configuration.

Refer to the chapter <u>Adjusting Vector Charts Display for more information</u>.

Raster Charts :

Raster : click on this button to display *Raster* Charts from hydrographic Offices (NOAA, SHOM, UKHO,...).

Fishing Charts :

Fishing Charts: click on this button to display *Fishing* Charts.

Note that the Fishing Charts Button is hidden by default. Click on the Configure button to add it to the Work Space configuration. The Fishing chart button will be grey out if fishing chart has not been installed.

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

Satellite Photos:

Sat Photo : click on this button to overlay Satellite pictures over the Charts.

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 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.

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 Options menu.

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

The chart properties

Source, issue date, etc…can be displayed by right clicking on the chart and selecting "**Chart Properties**":
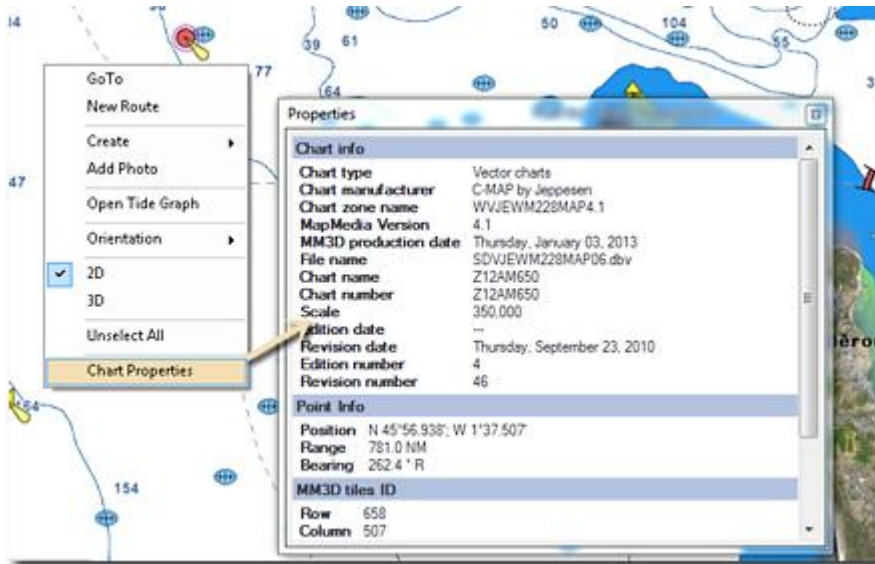
Depth Shading:

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

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 options menu so that the chart data is visible beneath the color shading.

By default the color scale is set automatically (MaxSea TimeZero scans for the deepest and shallowest point on the screen and automatically adjust the upper and lower boundary). You can disable the Automatic mode by clicking on "Auto".

Three Depth Shading modes are available, click on Auto in the depth scale to switch from one to the other: Auto or Manual or Discrete. The "Discrete Color Depth" option allows user to set his own Depth color palette range (read more in MaxSea Plotter Display options menu).

In Manual mode, you can adjust the lower and upper boundary by moving the cursor over one of the depth values and using the mouse wheel to change it. You can also double click on one of the depth value to open the Menu where you can input the numerical value using a keyboard.

If you put the cursor over the color scale and use the mouse wheel (in manual mode), it will change both the upper and lower boundary at the same time (span).

To enable the Bathymetry view in 3D, the Depth Shading must be turned ON. Depth shading transparency and color shade can be adjusted under the Plotter Display Options menu.

Geographic Grid:

Select **Grid**: click on this button to display the geographical grid on chart.

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:

"Chart object Size" is a slider that allows the user to change the size of the vector Charts depth Sounding and Objects (Buoys, Wrecks, Obstructions, etc...)

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

"Chart Symbol" allows the user to change the buoys icons 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 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

Route Introduction

MaxSea TimeZero allows for the creation of an unlimited number of routes, with only one activated at a time. An active route is displayed in red and has special priority in the navigation system. An route is activated, the first Waypoint becomes active (surrounded in yellow) and the leg to reach that Waypoint displays the Cross Track Alarm (red and green dashed lines).

On the picture below, the route on the left is activated (the route on the right in a Planning Route):
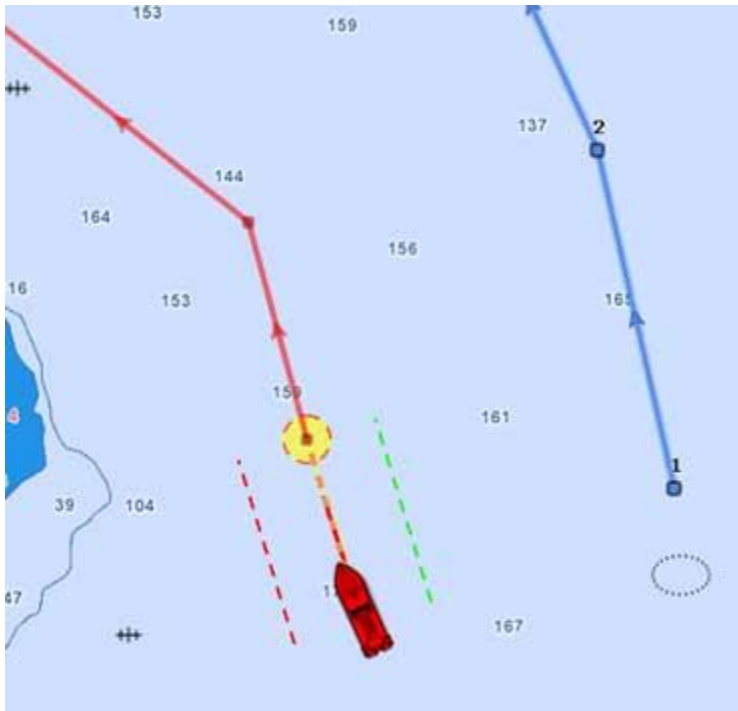
1.

Mark and Route tools

MaxSea TimeZero 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.

MaxSea TimeZero Recreational v2.0.3

Note: MaxSea TimeZero 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 route, 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.
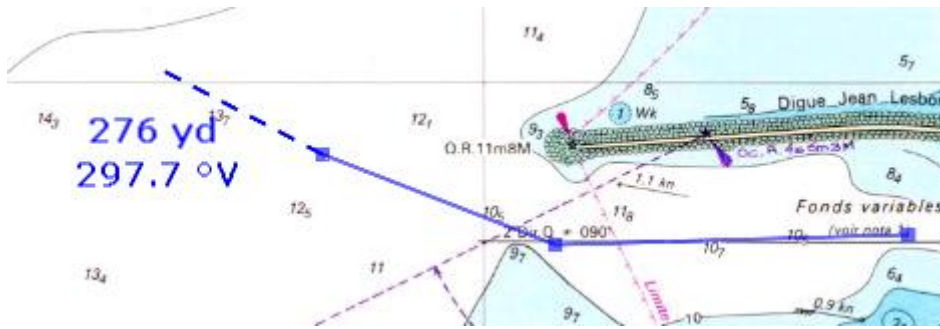
While creating a route the chart will moves automatically to follow the route. <u>To move the chart manually, hold the mouse button down and move the cursor to the edge of the screen where you want the chart to scroll to.</u> The arrow keys on the keyboard can also be used to scroll the chart while building a route.

When clicking on an existing Waypoint or Mark or Photo 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 TimeZero 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 TimeZero 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.

Editing Routes

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 TimeZero 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 the route, Right Click on any leg of the route and choose "Extend Route". MaxSea TimeZero 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 new position desired to insert the Waypoint, and then, left click.
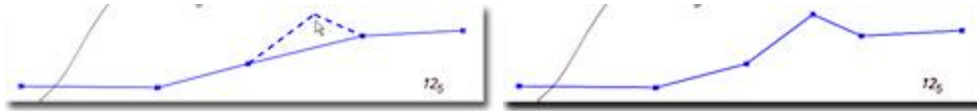
Reverse Route

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 by selecting "cancel Navigation".

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.

"Fork" Route

A route can be "forked" from any Waypoint. Simply right click on the Waypoint you want to fork the new route from and choose "Fork Route".

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.

Routes 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. **Note that the Route Detail is only available in the Planning WorkSpace.**

The route's name and number of waypoints are written in the table title of the Route Detail.

Open the Route Details

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 Details

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 Details

The top part of the Route Detail displays user configuration options about to **Start the route at the Boat Location,** to set the **Date of departure** or click **Now** to come back at the actual date or the **Date of Arrival.**

The time of departure can be selected at the actual time or another selected date. When a time of departure is selected, MaxSea will calculate the ETA (Estimated Time of Arrival) according to the parameters available in the table (speed, current,...).

MaxSea TimeZero 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 TimeZero 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 and the routing option (only available with the Sailing Routing module). The other values are calculated by MaxSea TimeZero, so cannot be changed directly.

- 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.

- Speed: Intended speed of the boat (this value can be edited individually for each leg.) You can set this value for each leg or use the Action menu.

- 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.

- 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 Details "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.

- **Optimized Departure Date**: Take the departure date of the route (or the ETA at first waypoint if the arrival date is selected instead) and iterate 12H before and after to find the best time (minimum total TTG). Set automatically the departure date to the corresponding value (switch automatically from arrival date to departure date if arrival date was selected).

  Note: If during the iteration some legs are invalid and appear in red color, for example currents too strong would cause a leg to be displayed in red. A message warns you that "Currents are too strong to complete this route". As same a message warns you when no current is available along the selected route.

- **Arrive at High Tide:** Look at the tide nearest to the last point and set automatically the arrival date to high tide (-/+12h from current arrival date). If

"departure Date" was selected, switch automatically to "Arrival Date" with corresponding   value.

Note: If no tide station available near destination a message warns you that No tidal stations were found near this route's arrival point.

- **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.

Tip: 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.

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.

To select a specific row (or line) of the Route Detail, click inside the first grey column in front of the specific line:

Play and   replay the route simulation from using VCR tools or from moving the cursor along the time line and the blue boat will move along the route.

Click on the Route mode   in the time bar to adjust the date and playback speed automatically of the animation according to the selected route.
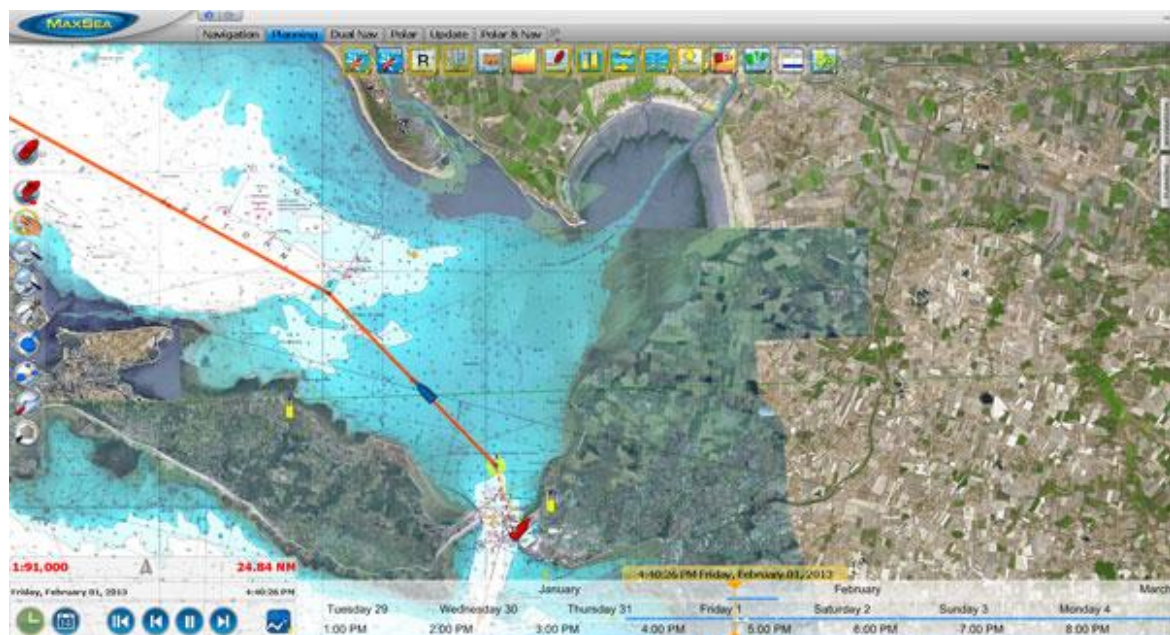
The chart will automatically center on that Waypoint and the Virtual Time Control will automatically adjust the Chart Time to that ETA. The Tides Gauges, Currents arrows and Weather (if displayed on the chart) will automatically refresh to display the conditions at that waypoint.

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).

By default, MaxSea TimeZero uses the current which is closest to the middle of the leg (surrounded in red below). If you want to assign another current station for a specific leg, right click on the leg, select "Assign Tidal Current" then click on the new current stations. Currents that have been assigned manually to a leg will not display "Auto" in the Tidal Current name column.

To determine the best time of departure (or arrival):

- Select either the departure time or the arrival time close to your intended departure or arrival

- Scroll at the very end of the Route Detail and look at the "Total TTG" of the last line

- Change the departure or arrival minutes or hours in the direction that will minimize the Total Time To Go value

- Continue until the Time To Go value just begin to increase (this means that you are very close from the best departure or arrival time)

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 TimeZero provides to do this.

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

First, select the Navigation work space. 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. If a Waypoint is clicked on, this will activate the route from this point and automatically skips all the previous Waypoints.

When a Route is activated:
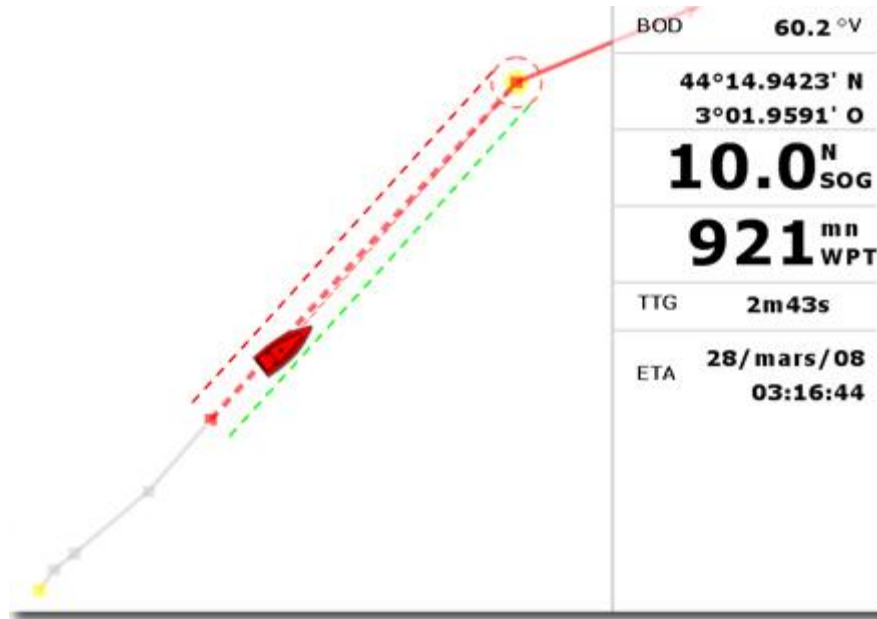
- o The Active Route is displayed in red

- 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 "Alarms" options menu ("XTE Alarm Value").

- o The Active Route information such as Bearing , distance to next Waypoint, ETA, etc ... are displayed in the 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.

If the cross-track-error gets large enough to start causing alerts, right click on the route or on the boat and choose "Restart", to realign the intended course and head directly to the active Waypoint without reverting to the original course. MaxSea TimeZero then resets the intended track from the current location to the active Waypoint.

If the vessel is off course (after avoiding an obstacle for example),), the next Waypoint can be activated by right clicking on the active Waypoint and select the "Skip Waypoint" function.

Quick Go To (Instant Active Waypoint)

To create an instant "Go To" Waypoint:

With the "Go To" Tool:

- • Select the **Go To** tool from the tool bar.

- • Click on the intended destination within the chart or on an existing Waypoint

Using the Right Click Contextual menu:

- Right Click on the chart on the intended destination

- Select "Go To"

This will create an Instant Active Waypoint for navigation.

Tips : If you want to create an Instant Active Waypoint using coordinates, double click on the "Go To" tool. This will display a window where you can enter the coordinate

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 Mark using the Mark Tool onto the Active Instant Waypoint.

Waypoint Switching Mode

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

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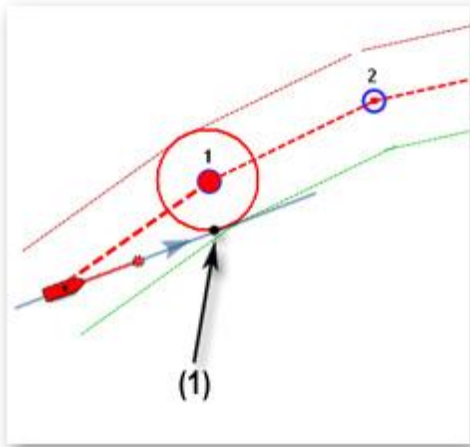
In this mode, the next Waypoint is automatically switched when your boat icon enters the active Waypoint's arrival circle.

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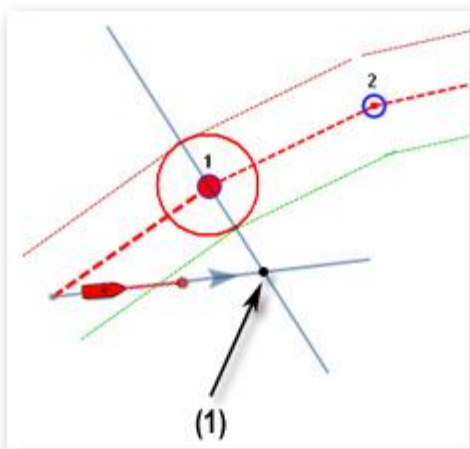
In this mode, the next Waypoint is automatically switched when your boat crosses the line through the Waypoint that is perpendicular to the leg line.

MaxSea TimeZero Recreational v2.0.3

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 "Routes and Waypoints" 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.

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).

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):
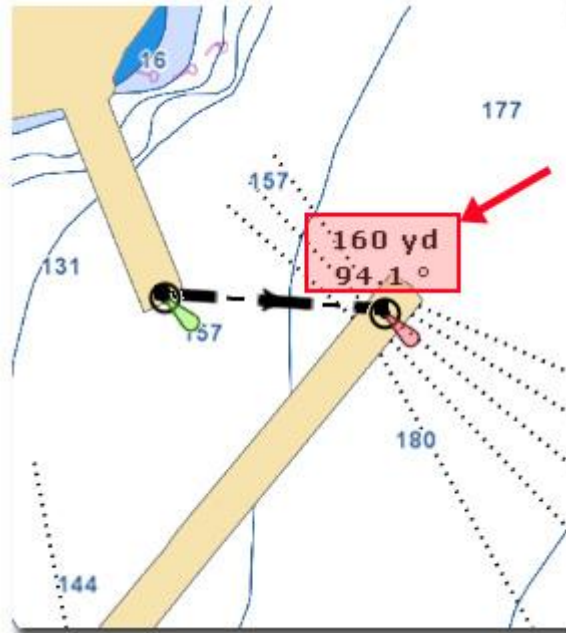
Note: You can also click twice instead of clicking and dragging (click once with the divider tool selected, move the cursor then click a second time)

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.

3. **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 is available under the MaxSea Button and will allow you to Import or Export navigation objects to a file.

MaxSea TimeZero can Export or Import information in various formats:

- **Time Zero Data (TZD files):** this format is used to exchange data in between TimeZero users. This format guaranties the full integrity of the data (it supports Route, Marks, Tracks & Objects)

  Note: Routes and Marks can now be imported/exported by using the iTunes file exchange feature under .TZD format. This allows the user to exchange data between ALL TimeZero systems (Apps, NavNet TZTouch system and **TimeZero software from version 2**)

- **GPX** (GPS eXchange Format) is an XML format designed for describing GPS data between software applications. This is the native format used by MaxSea TimeZero

- **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 TimeZero was designed to be directly compatible with NavNet3D.

-

- **ONF - Nobeltec** personal data files from Nobeltec VNS and Admiral software previous version (marks, circles, lines, areas, routes and tracks).

- **P-Sea WindPlot** files from which Marks and tracks can be imported

Import 3D data:

XYZ - PBG MaxSea v12 export text files containing geo localized depth data from Maxsea previous version v9 and v12. (unencrypted format basic and extended format only)

PTZ - MaxSea v12 PBG database the 3D Vector Charts points contained in the PTZ file will not be imported. The same data can be found in the mm3d Chart data (dbt file)

Olex Depth Database Export these files contain the user 3D data generated from olex software.

BTH - Nobeltec , files which contain the user generated 3D bathy data from Nobeltec Software.

Importer des images:

JPEG: Personal photos can be imported and geo localized on the chart in MaxSea, if you have a digital camera that has an embedded GPS and can geo tag the photos (as the Iphone for example), if you have a digital camera correctly setup with Date/Time and a matching Track or Logbook information in MaxSea. Note that Photos which don't meet one of these condition will be rejected.

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 Import or Export data, click on the **MaxSea menu button** ,

then select the **Import/Export** option

Activate Search and Rescue Function (SAR)

The Search And Rescue (SAR) is the search for and provision of aid to people who are in distress or imminent danger.

Different Tools in MaxSea are available to easily plot a SAR Route depending on the type of find:

Right-Click on the Route tool and choose the tool appropriate for the search :

SAR Star,

SAR Snail,

SAR Sector and

SAR Survey.

Left-Click anywhere on the chart a mark (or the MOB symbol), release the mouse-click, drag and move the cursor on the chart to drawn the corresponding SAR route in a wished direction. The route is simultaneously updated while dragging the cursor on the chart.

All standard parameters that were defined by default in the "Route options" tab are automatically applied when creating a SAR route.

Only the interval value for auto routing density can be modified manually by entering a value or by choosing value in a referenced table.

Refer to the related Route Options topic for how to configure the SAR_Interval

The route will be drawn on the chart as shown in the example below:
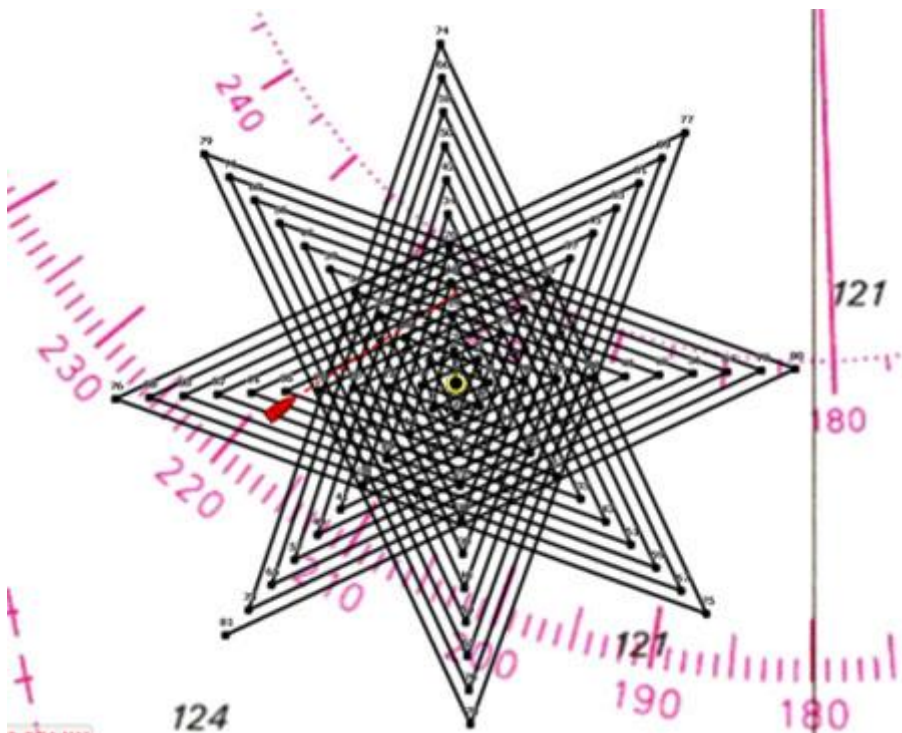
Note that once the SAR route is created, the user will be able to edit and modify the route as he does for a classic route. **(Refer to the related topic for [Editing Routes]).**

Ship Icon

When MaxSea TimeZero is started in Navigation mode and is receiving a valid position, a boat icon is displayed on the chart:
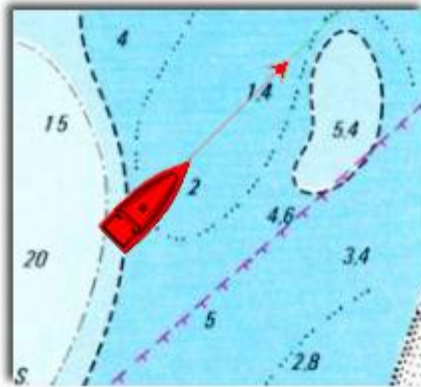
Note: If the icon does not appear on the chart, click on the "Center On" button in the ToolBar to center the charts on own ship position

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 and position on chart

The size of the icon can be selected from the "Install"of the Options 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" Options menu.

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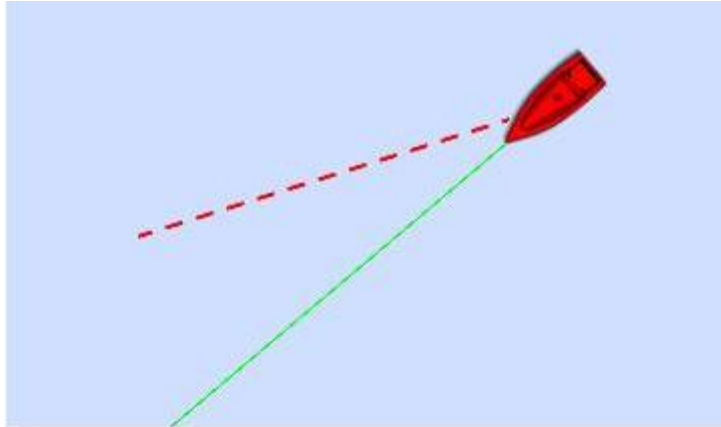
Display Parameters

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

1. **COG/SOG predictor** : to turn on or off the COG vector (red dashed line)

2. **Heading Line :** to turn on or off the Heading line (green line)

3. **Show Max Range On Route**: to turn on or off the display of the estimated maximum fuel range overlay on a Route line.
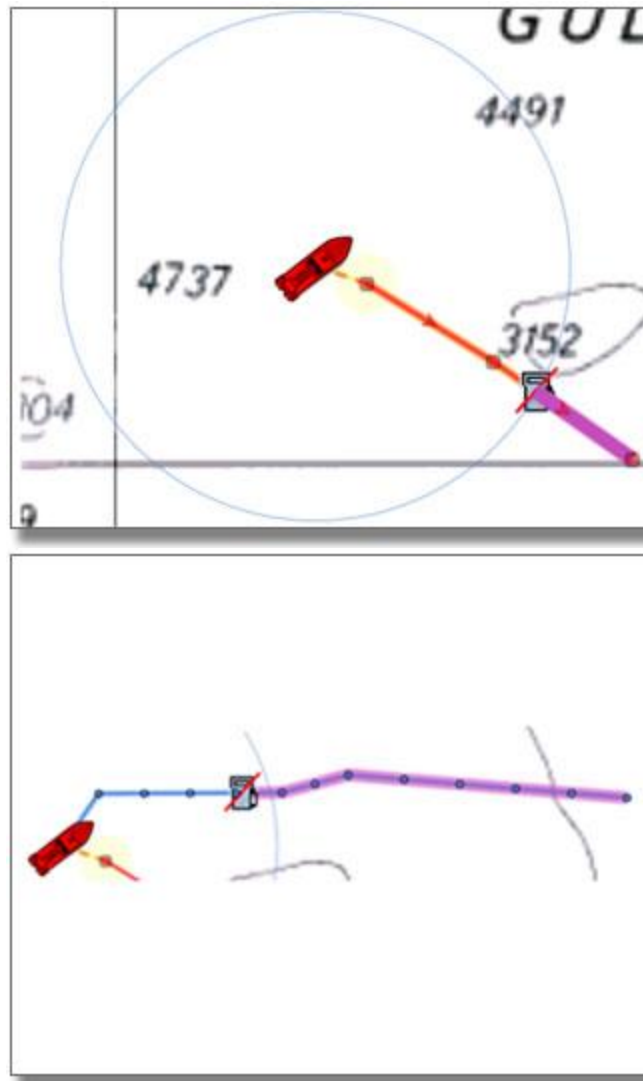
Estimated maximum fuel range can be displayed either on the active route or the planning route.

4. **Show Vessel Fuel Range Ring**: to turn on or off the display of the estimated maximum fuel range ring (a range ring centered around the vessel)
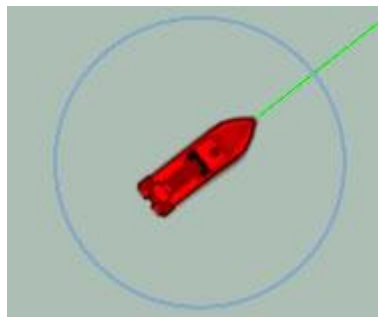
Note: Both Fuel buttons options will be available if Fuel tank levels and fuel flow information come from NMEA2000 sensors (or J1939 sensors that are converted to NMEA2000 data streams)

MaxSea TimeZero Recreational v2.0.3

5. **Laylines**: to turn on or off the Laylines. This button is only available with the Routing Module. (Read more in the Laylines related topic)

6. **Camera:** to turn on or off the FLIR Camera Field of View. This button is only available with MaxSea TimeZero Explorer when a FLIR M-Series Camera is properly configured (Read more in the FLIR Camera Advanced functions related topic))

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

Get more information from always displaying NavData:

GPS Status Navdata gives 3 useful information about the GPS Status:

1. if the GPS connection is OK or lost
2. its signal reception accuracy
3. how many satellites are detected.

Fuel Tank Level Indication in percentage

Centering on the Boat

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

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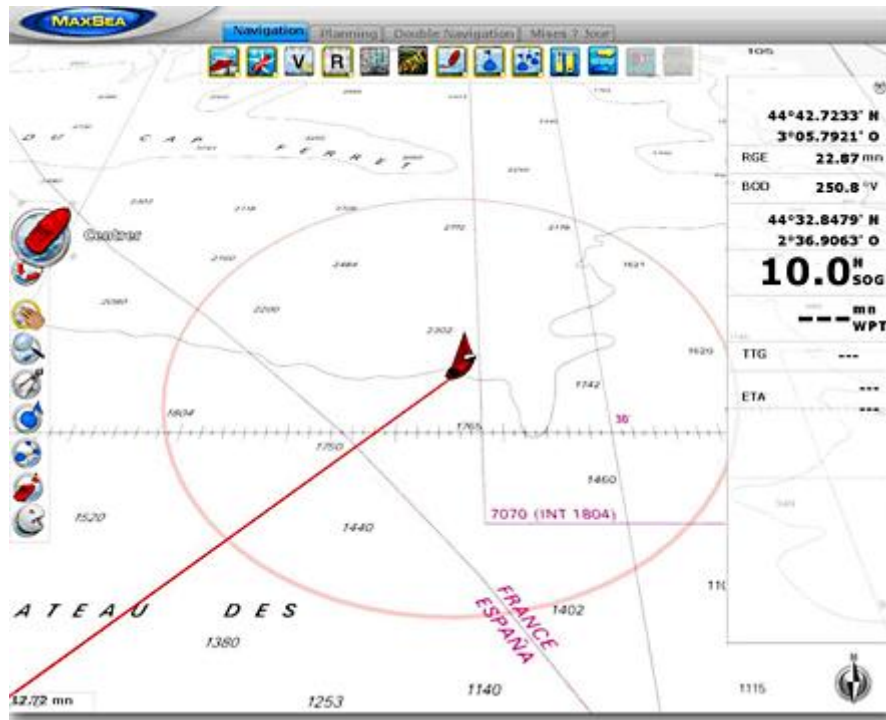
When your boat is on the screen and the chart is scrolled or zoomed, a red circle appears in the middle of the screen. This is the "Relative Motion Circle", a new and intuitive way to control the Relative/True motion as well as the Shift and Look ahead mode.

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

Enabling / Disabling Track Recording

To enable or disable the track recording, click on the "Track" Button in the ToolBar

When the track is being recorded, the "Track" Button turns yellow.

The active track is displayed on chart as a line behind the boat icon indicating the actual track of the vessel through the water. At the same time the active track is automatically stored in the Tracks database. Right click on the Track button to change the color before tracking on.

The track is displayed or hidden by clicking on the "**Track**" Ribbon Button:

Display the Track list

To display the list of all the tracks, select the "Lists" button in the "Planning" Work Space Ribbon and click on "Track List":

MaxSea TimeZero Recreational v2.0.3

To select and center a track on the Chart, click on the first column in the list that corresponding to the track you want to display.

Convert a track into a route

Right Click on a track (either on the Chart or from the Track list) and select **"Follow Track"**. The route will follow the track direction.

Note: If you right click on the track being recorded (the "Active Track"), select "**Track Back**" to convert the Track into a Route and automatically reverse it.

- Visible uncheck this option to hide

- Assign Track Layer

if you want to change the color track, to switch from Depth Range to Speed of the ship when the track color variable option has been chosen

Several options can be checked before activating the Track Under the "Ship & track" options

Recall Track

The "**Recall Track**" is a powerful feature that enables to display historic track at a specified date and time. Select this option by right clicking on the "Track" Ribbon Button and click on the calendar icon. 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

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

- **End Date**: 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.

The Historic Track is very useful to recall a specific passage of a trip. If used with the logbook, the Historic Track can be displayed with the logbook events by opening and selecting the logbook table.

Note: To reset the track database, click on "Delete All 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.

 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 Navigation Work space is automatically selected

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

4. 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

Cancel the **MOB** by double-clicking on the Go To Tool or choosing "**Cancel Route**" from the right-click menu.

Note: Simple Clicking on the MOB button will create a Waypoint at the current location (event)

Weather Forecast

When starting MaxSea for the first time, an empty folder called **WEATHER** is created under **MyMaxSea** in "**My documents**" on your computer .

WEATHER INFORMATION WARNING: The weather information is subject to service interruptions and may contain errors or inaccuracies, and consequently should not be relied upon exclusively. The service is provided "as is". You are urged to check alternate weather information sources prior to making safety related decisions. You acknowledge and agree that you shall be solely responsible for use of the information and all decision taken in respect thereto. By using this service, you release and waive any claim against MaxSea International S.A.S. with regards to this service.

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:

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

2. Select the **Update Area** Tool from the ToolBar

3. Click and drag the cursor on chart to draw an area

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

5. Follow the on screen instructions to select the type of area (Worldwide or USA when the coverage area is located in the USA), 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)

6. 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" A BZ2 compression will be used

7. 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.

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 the weather file by e-mail, you can directly open the attachment and load it in MaxSea by double clicking on it.

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

Displaying Weather Overlay on the Charts.

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

Click Use the **Weather Layer Buttons** in the Ribbon to show/hide various weather data:

Weather as Arrows:

Click Weather as arrows to roll down the menu and choose and 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)

 to show/hide Wind Direction and speed.

 to show /hide the Oceanic Currents

 to show/hide the Waves height and Direction

Weather in Lines

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

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

Right Click to select the data which appear on the chart:

1. **Pressure**

2. **500mb Pressure**

Weather in Color

This mode is exclusive, only one type of data can be displayed at same time.

Left Click to display or hide available 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 TimeZero Explorer),

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

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

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

Note: When a specific data is not available, the corresponding menu option button will be grey out. Request a new weather file including the corresponding data you want to display on the chart. Latest Custom Weather display is saved next time running MaxSea.

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.

MaxSea VCR interface

The VCR interface is displayed in the bottom of the Planning workspace. Buttons are grayed out when no information is displayed on chart such as weather, planning route or tides layer.

MaxSea TimeZero Recreational v2.0.3
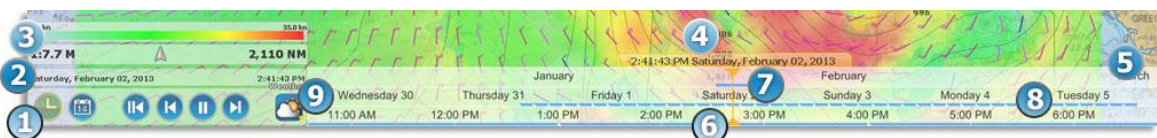
1. VCR Tool bar on the left-hand corner where user can manipulate animation

2. Virtual date and hour legend

3. Chart legend

4. VCR tool tip informs on selected animation Date and Hour.

5. Time lines: three time lines for each information on Day, month and hour.

6. VCR Guide arrow shows where the animation located in time lines

7. Straight line colored in blue shows presence of available data

8. Stripped lines indicate forecast areas

9. The Time Bar can be set in various modes (Tide, Weather or Route), adjusting the date and playback speed automatically (for animation):

Select the Weather mode　　　　: the date and playback speed is automatically adjusted according to weather forecast data. The Time Bar makes it also very easy scrolling to any time and date to check conditions such as Weather

Note first running MaxSea, the VCR date information is selected on the actual date and the VCR tooltip is colored in blue color. When user play the animation the VCR tooltip is colored in yellow color, click on the clock button to quickly return in actual date.

Note : The animation located in Real Time mode: arrow, outline and background in the time line are colored in "blue-gray" color.

In order to make an animation,

- Display Weather Information on the chart

- 　　　　clock

- Click on the "　　　　**Play" or "**　　　　**Pause**" button to start/pause a 24H time lapse movie from the current time

- To 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

- To start the animation from the beginning of the Weather Forecast, click on the "File Start" button

- To step forward and backward using the file forecast interval, click on the "Step

Back/Forward" buttons and

You can also "scrub" the weather file by clicking and moving the mouse cursor on the hour line or using the wheel.

Note: Whenever the Chart Time is different from the current computer local time, the VCR tooltip is colored in yellow. When the display's date is outside the weather file, the VCR guide, arrow and background tooltip are colored in red.

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 Work Space and clickon 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.

Marks & Objects

Creating and Editing 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 TimeZero will automatically select the Panning Tool (Hand) when a Mark is dropped using the Mark Tool. To add several marks without having to select the Mark Tool each time, deselect "Enable Auto Hand Tool Selection" in the "General" menu. When in this mode and finished creating Marks, the Panning Tool 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.

Moving a Mark:

When the option "Allow Unselected Object to be Moved" is enabled (enabled by default in the General Options), put the cursor over a mark then drag it (hold the left click mouse button and move it) to its new position. When "Allow Unselected Object to be Moved" is disabled, you have to select the mark first (left click on it) then drag it.

Note: If you have lots of marks on your screen, and you move them by mistake when panning the charts, you may want to disable "Allow Unselected Object to be Moved" from the General Options.

If you want to enter new coordinates for a mark, double click on the mark (or right click and choose "Mark Properties") to display the Property window. Enter the new coordinates in the corresponding fields.

Changing Marks Icon and Color:

Double click on a mark (or right click and choose "Mark Properties") to display the Property window. Change the color and/or icon from the corresponding fields.

Tips: If you want to assign the same color to multiple marks, use the "Select" tool to select multiple marks then right click on one of the selected mark.

Adjusting Marks Size

The Marks Size is a global setting (found under the Marks & Boundaries Options) that will affect all marks displayed on the screen.

Add Photography to a Mark

- Right click on a mark and choose **Marks properties** under the menu

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

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

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.

Hiding Marks

You can hide any mark by right clicking on it and choosing "Hide". To display a mark that has been previously "hidden", open the "Mark List" by clicking on the "List" ribbon button (available by default in the Planning Workspace) and set the corresponding mark to "Visible".

Note that all marks can be hidden by deselecting "Display Mark" from the "Marks" Ribbon Button.

Creating & Editing Boundaries

Lines, Areas and Circles can be created in Maxsea TimeZero using the corresponding tool in the Toolbar. If the Tools are not displayed, click on the "Configure Tools" button (at the lower end of the Toolbar) to add the tools you want to appear:

Click on the corresponding Boundary Tool (Area,   Circle or   Line) and click on the Chart to create the boundary. For areas and lines, double click on the last point to close the area or end the line.

You can also right click anywhere on the Chart and choose "Create" -> "Boundary".

The default color and transparency (for areas and circles) defined in the Marks & Boundaries options will be used.

Creating Boundaries Manually:

To create a Boundary by entering the Latitude/Longitude, double click on the corresponding Boundary Tool located in the Toolbar. This will display a window to enter the Latitude/Longitude numerically.

Delete or Rename Boundary

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

Note: When right clicking on a boundary to display the corresponding contextual menu, make sure that the boundary is displayed entirely on the screen. If the boundary is partially displayed (because the screen is zoomed in), the right click menu will not show options for editing the boundary. In this case, zoom out until the boundary is displayed entirely on the screen then right click on it again.

Moving a Boundary:

When the option "Allow Unselected Object to be Moved" is enabled (enabled by default in the General Options), put the cursor over a boundary then drag it (click and hold while moving) to its new position. When "Allow Unselected Object to be Moved" is disabled, you have to select the boundary first (click on it) then drag it.

> **Note**: When moving a boundary, make sure that the boundary is displayed entirely on the screen. If the boundary is partially displayed (because the screen is zoomed in), you will not be able to move it. In this case, zoom out until the boundary is displayed entirely on the screen then right click on it again.
>
> **Note**: If you have lots of boundaries on your screen and move them by mistake when panning the charts, you may want to disable "Allow Unselected Object to be Moved" from the General Options.

If you want to enter new coordinates for a boundary point, double click on one of the points to open the point's property window. To move a circle by entering new coordinates, double click on its center.

Changing Boundaries Color and Contour

Double click on a boundary (or right click and choose "Boundary "Area/Circle/Line" Properties") to display the Property window. Change the color and/or contour from the corresponding fields.

> **Tips**: If you want to assign the same color to multiple boundaries, use the "Select" tool to select multiple boundaries then right click on one of the selected boundary.

Changing Boundary Area and Circle transparency

Double click on a circle or area (or right click and choose "Boundary Properties") to display the Property window. Change the transparency from the corresponding field.

Adjusting Boundary Contour Thickness

The Boundary Contour Thickness is a global setting (found under the Marks & Boundaries Options) that will affect all boundaries displayed on the screen.

Lock and Unlock Boundary

Right click on a boundary and choose "Lock Boundary" to lock a boundary. When a boundary 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 boundary.
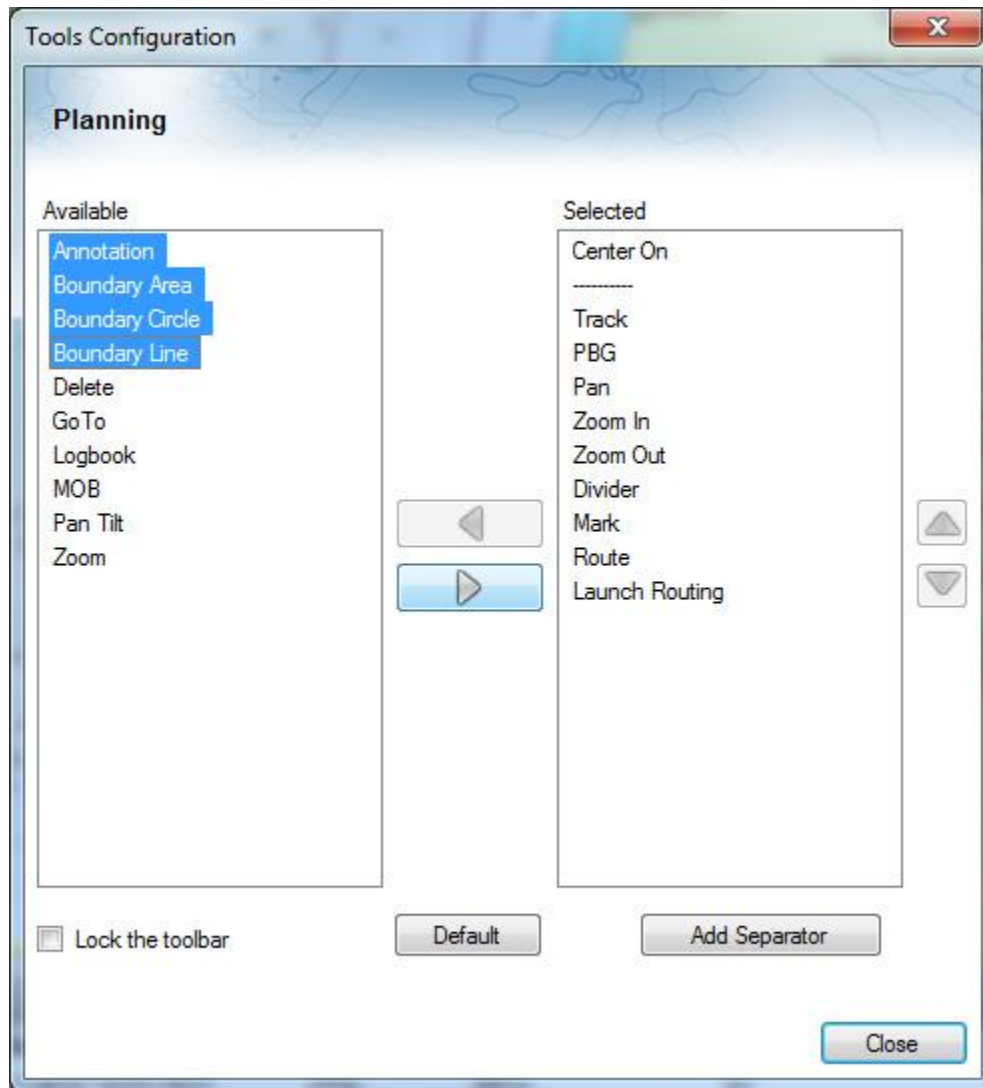
Hiding Boundaries

You can hide any boundary by right clicking on it and choosing "Hide". To display a boundary that has been previously "hidden", open the "Boundary List" by clicking on the "List" ribbon button (available by default in the Planning Workspace) and set the corresponding boundary to "Visible".

Note that all boundary can be hidden by deselecting "Marks" Ribbon Button

Annotation Tools

Select Annotation tool to enter text

- o   Right click on the Annotation tool and choose a color before typing the text.

- o   Click on the Annotation tool and place the cursor on the chart at the required position to enter the text that will appear on the chart.

- o   Double-click on the Annotation tool to add Lat/Lon label on the chart

Marks and Objects Lists

To display a list of Marks, Boundaries or Annotations, click on the "List" button in the ribbon (displayed

by default in the "Planning" Work Space)

Once the list tab is open at the bottom of the screen, you can change list category from the left pane:
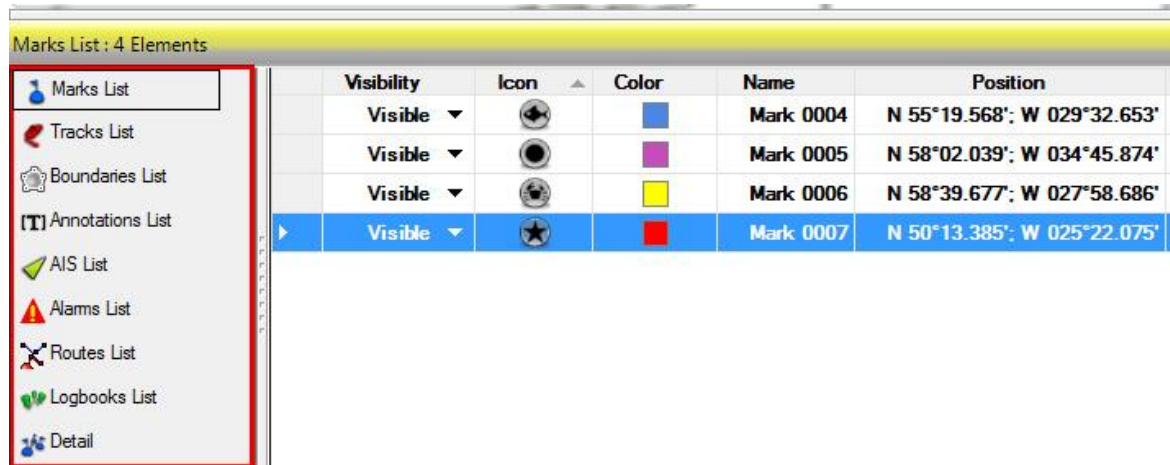
To select a specific row (or line), click inside the first grey column in front of the specific line:

When a line is selected, the chart will be centered on the corresponding object.

The information displayed in the table (rows) can be customized by clicking on "Action" (on the right side 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. We recommended using Windows Excel to open the file (for proper formatting).

The "**Filter**" button (also available on the right side of the List Title Bar) allows you to filter the Marks, Boundaries or Annotations displayed in the list using various criteria. Once the list is filtered, select an object to center the chart on it (this is particularly useful to retrieve Marks created at a specific date).

Note: The filters can affect what is displayed on the chart when the "Apply List Filter(s) on chart" Layers ribbon option is checked. Otherwise the filters will only affect what is displayed inside the list.

Show/Hide Layers

By default "My Layer" is the only one selected and activated. At a time you can show or hide it from choosing it in the Visible list under Layers in the Ribbon.

Click on the Ribbon layers to show or hide all together actual selected layer and right-click on it to select which layer you want to show or hide:

Click Marks to show or hide all marks that have been added on chart

Click Boundaries to show or hide all boundries (circle, lines or polygons) that have been plotted on the chart

Click Annotations to show or hide all annotations that have been typed on the chart

Online Services

ActiveCaptain

To understand the ActiveCaptain features one must first understand what Active Captain is and how the ActiveCaptain service is different from traditional Points of Interest (POI) or marina databases.

ActiveCaptain is what is called a "crowd sourced" data service whereby hundreds of thousands of users of a service participate in building and consuming the data. The ActiveCaptain Interactive Cruising Guidebook database is stored, maintained and synchronized in the TimeZero PC software directly. An Internet connection is not necessary to access any of the POI marina, anchorage, local knowledge, or hazard markers data. When Time Zero is installed, the ActiveCaptain data (i.e. Location, Marina Names, Phone numbers, etc) will appear with the click of a mouse. When a customer registers for a free ActiveCaptain account, access to the full data set and reviews will automatically be activated. Registered ActiveCaptain users are also able to update the ActiveCaptain database directly from MaxSea TimeZero, giving them the very latest details up to the minute.

Register to be an "ActiveCaptain":

To register and for more information about the growing ActiveCaptain POI Database and its features, make sure to visit http://www.activecaptain.com.

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

Displaying ActiveCaptain Markers on the chart

To display the ActiveCaptain Markers on the chart, click on the "POI" button and select the corresponding ActiveCaptain data layer:

1. "AC Marina",

2. "AC Anchorages",

3. "AC Local Knowledge",

4. "AC Hazards".

Note: If the "POI" button is not available in the Ribbon, click on the "Configure Ribbons" icon to add it to the workspace configuration. click on this button to show or hide the selected POI layer(s).

Tips: It is possible to setup advanced filters for some markers (Marinas and Local Knowledge) from the ActiveCaptain Options.

To display basic marker information, rollover or click on any marker. To access the full marker information, double click on any marker. This will open the Marker Property window that contains multiple tabs (sorted by category).

Updating ActiveCaptain Markers

To update the ActiveCaptain database, select the "Update" Work Space and click on the "ActiveCaptain

Update" button located in the Ribbon. This will open the ActiveCaptain Update Wizard that will guide you.

In order to have the latest information available (and latest "Co-Ops"), we recommend to update the database often.

Note: The update area is not used for ActiveCaptain (only for the Weather). When you update ActiveCaptain, the entire worldwide database is updated. This button is grey out if the account has not been validated.

Post a Marker Review

When the PC is connected to the Internet, you can post a review directly from MaxSea TimeZero . Just open the marker properties (double click on it), select the "Review" tab and click on "Rate it..."

AIS Online

IMPORTANT: THE AIS ONLINE FEATURE SHOULD NOT BE USED IN NAVIGATION. THERE IS A SIGNIFICANT DELAY (IN BETWEEN 5 MINUTES TO ONE HOUR) IN BETWEEN THE ONLINE REPORTS AND REAL TARGETS.

If the PC is connected to the Internet, MaxSea TimeZero can display AIS information from the **MarineTraffic** web site. It provides free real-time information, about ship movements and ports, mainly across the coast-lines of Europe and North America.

By default, the AIS online layer is turned OFF in MaxSea. To display it, select "**AIS Online**" from the **"Targets"** button in the Ribbon.

If you have started MaxSea TimeZero in "Home Planning" mode, the AIS online will appear everywhere. If you have started MaxSea TimeZero in "Navigation" mode, the AIS filter parameters in the Targets Options applies ("Hide AIS targets Farther than...").

 AIS Online appears in orange ("real" AIS targets appear in blue for Class A and green for Class B).

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).

▶Read more in the related **AIS targets** topic

Panoramio and Personal Photos

Panoramio is a website that enables digital photographers to geolocate, store and organize their photographs. When the PC is connected to the Internet MaxSea TimeZero automatically downloads and displays the Panoramio pictures if the "Panoramio" layer is selected from the "Points Of Interest" button in the ribbon. Rollover or click on a picture icon to display a bigger version:

MaxSea allows you to display "ActiveCaptain" POIs and Panoramio Pictures together on chart for getting a complete information.
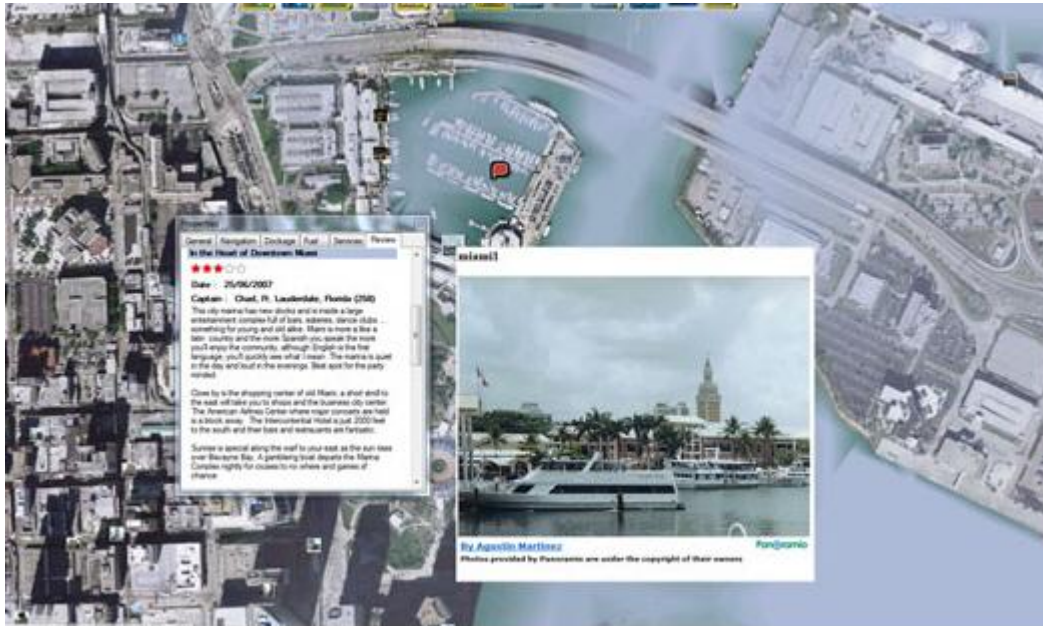
Note that you can right click on any Panoramio picture icons on the chart to save them in your "My Photo" database (allowing you offline access to them)

Import Photos in MaxSea

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

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

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

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

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

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

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

Tides & Tidal Currents

Getting Tide Prediction

MaxSea TimeZero 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:
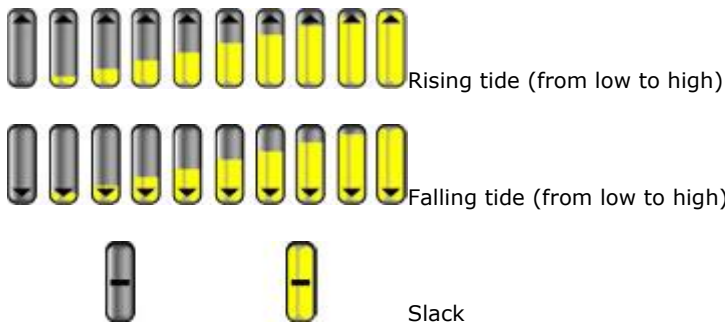
 Rising tide (from low to high)

 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

Tide Graph

To display a Tide Graph , Right click on the Tide Station and choose "Open Tide Graph":
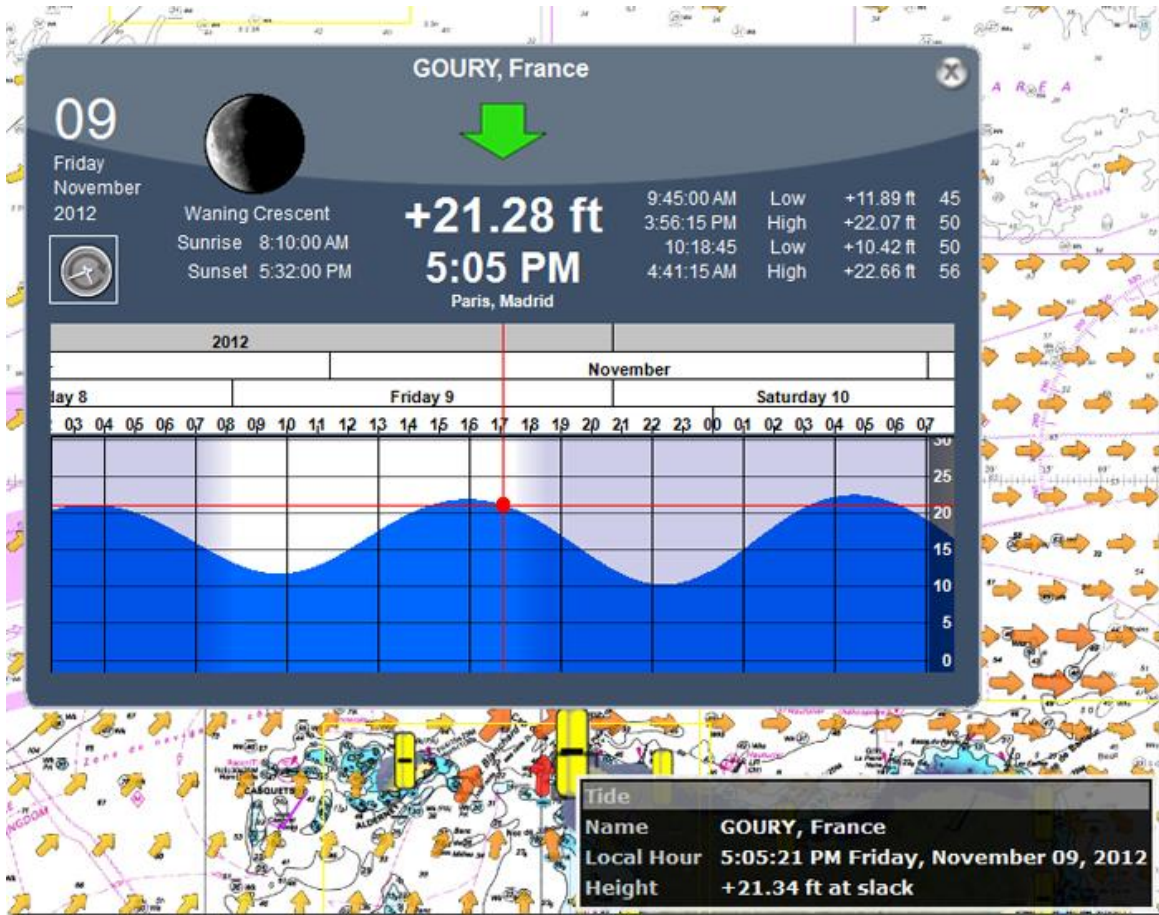
To change the prediction date, click directly on the graph and move the cursor while keeping the mouse button down from left to right or from right to left.

Click on the clock button to return to the actual 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
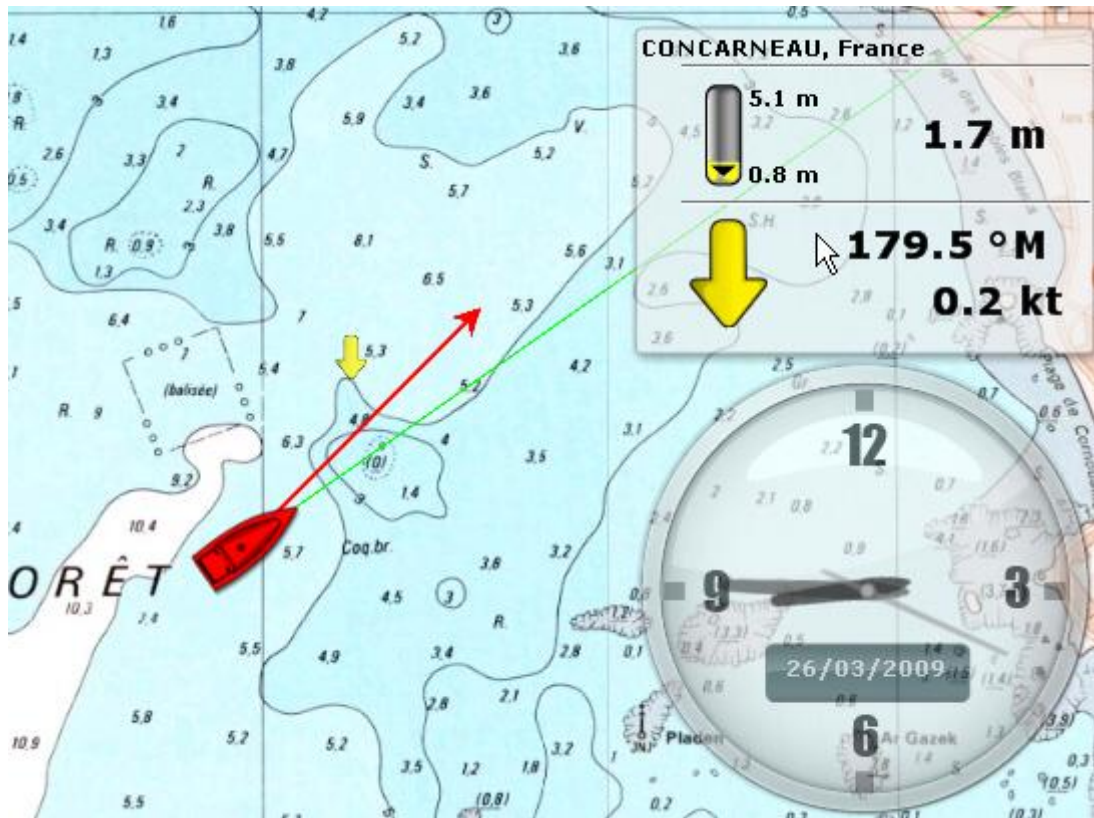
Getting Tidal Streams Prediction

MaxSea TimeZero 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 Current appear in yellow while Oceanic currents (providing offshore with Weather Data) appear in blue

Show/Hide Tidal Currents 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 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:
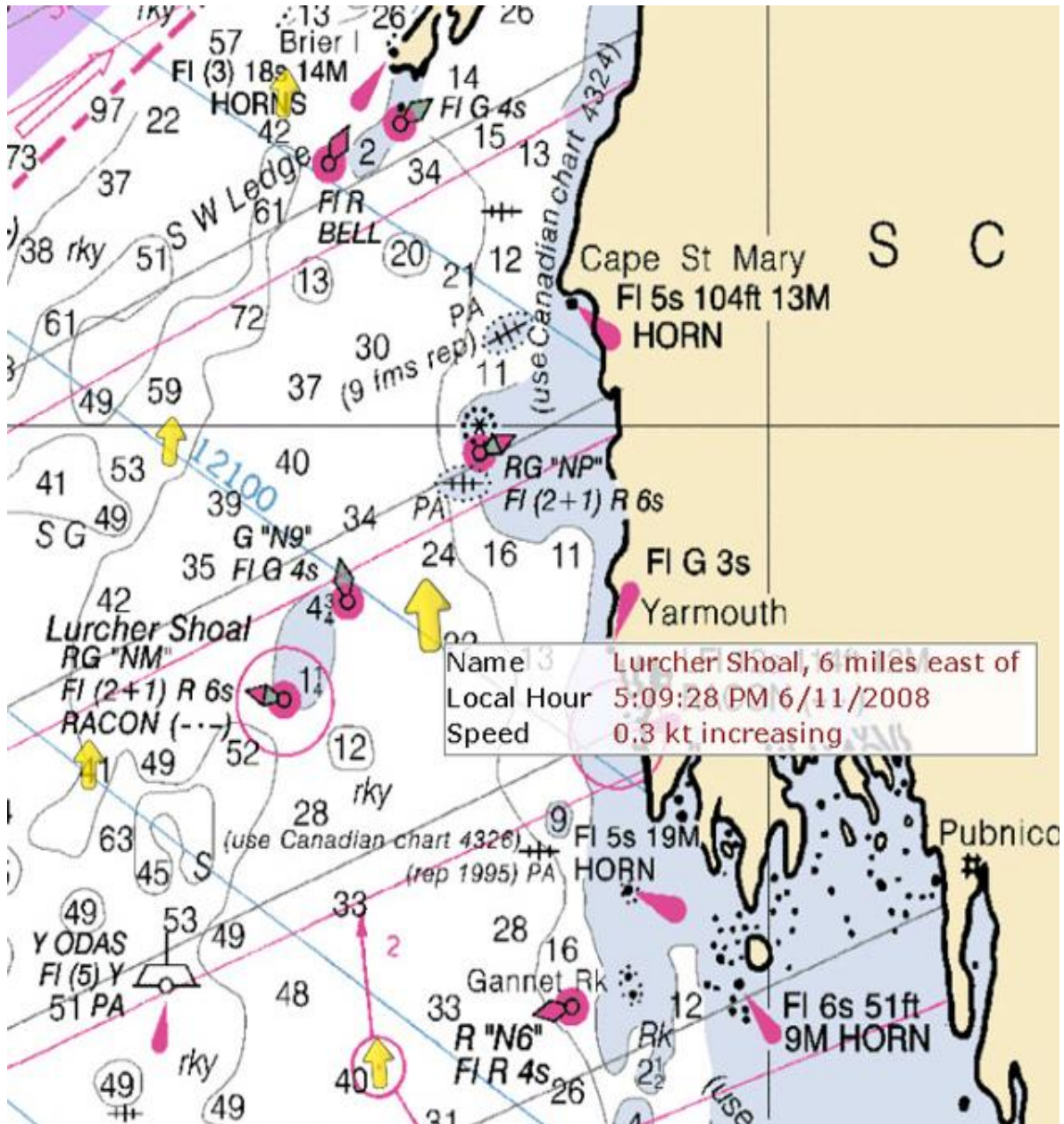
Current Graph

To display a Current Graph , Right click a Current Station Arrow on the chart and choose "Open Current Graph":
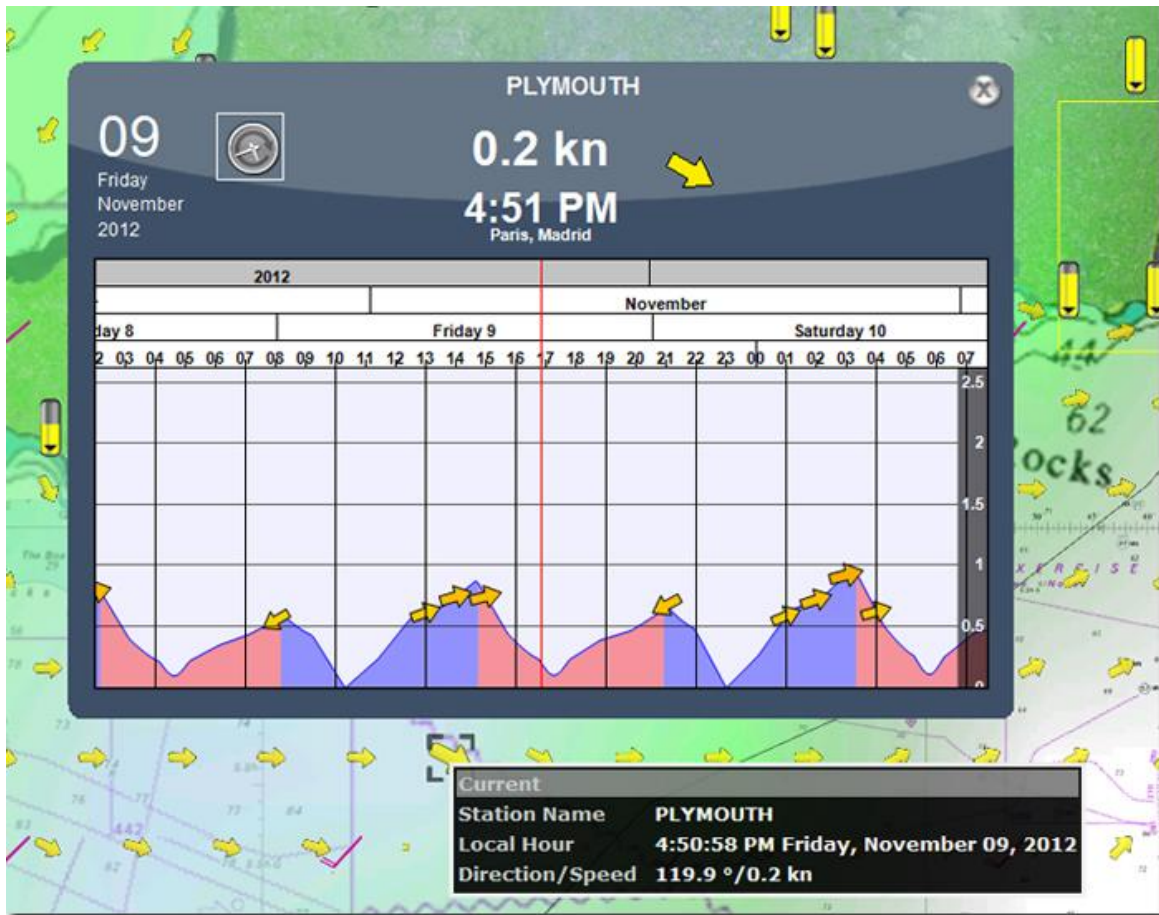
To change the prediction date, click directly on the graph and move the cursor while keeping the mouse button down from left to right or from right to left.

Click on the clock button to return to the actual 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
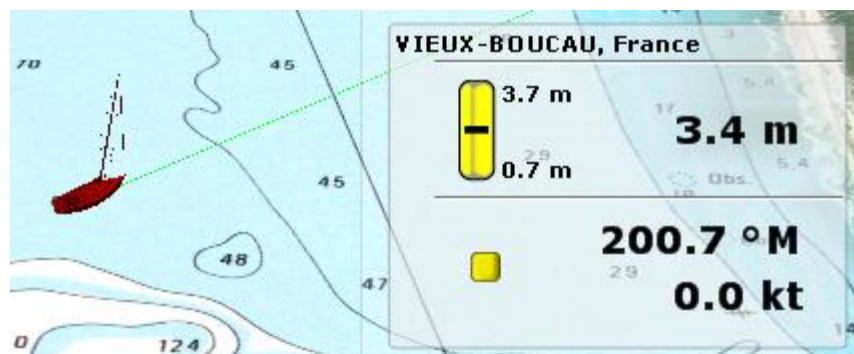
Play tides & Tidal Currents Animation

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 on the Tides Mode to set automatically the speed and playback of the animation depending on tides, the time bar is simultaneously ajusted.:

- 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 Actual 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. (The File start button is greyed and not available for the Tides mode).
	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	

ⓘ click in each time line and move the cursor mouse or the scroll wheel from left to right to change the virtual time.

Logbook

MaxSea allows to automatically creates a navigation logbook depending to the ship track. It is similar to the one normally hand-written by the navigator himself. This logbook can be used as your track historic.

Two ways for recording events in the logbook:

1. **Manual mode** option selected by default, using the Logbook to plot events on the chart.
2. **Automatic mode** can be checked in the Option menu under MaxSea's option. When this option is chosen all Events are automatically added with regular intervals of time and distance in the logbook and they can be displayed on the chart.

Click on to show or hide Logbook events on chart

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** button 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).

- **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

Create a New Logbook:

Right-click on the ⬚ Logbook Ribbon tool and select ⬚ Create a new logbook. The actual date is selected to named the logbook you can change it. The previous logbook will be automatically closed.

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

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 Right-clicking on the logbook events and selecting the "Recall Track".

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.
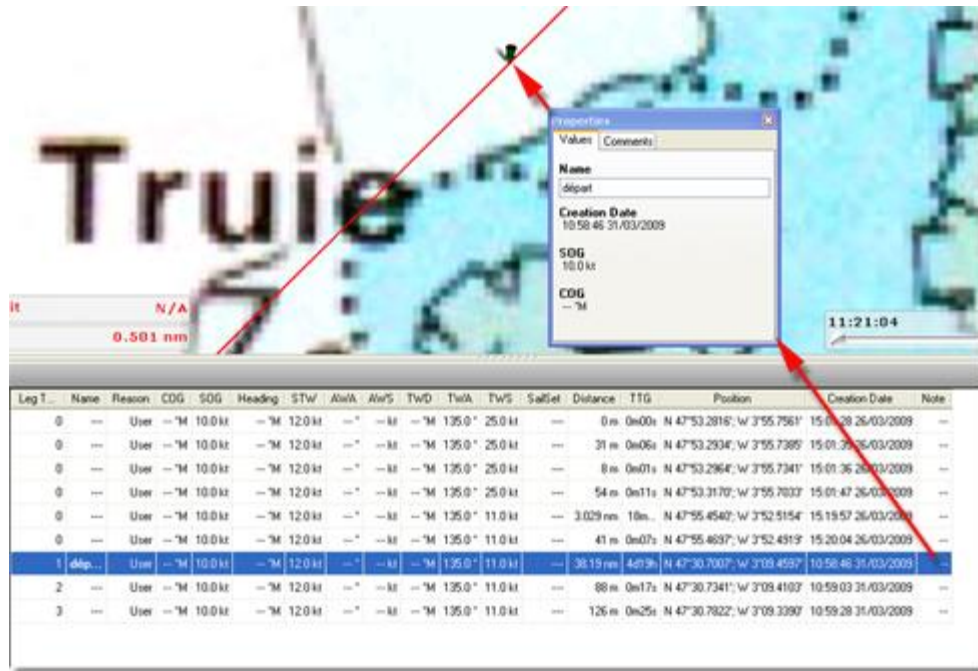
To import / export logbook information

To archive a Logbook, select the "Import/Export" function from the MaxSea Menu. Select "Export Data", click on "Next", select the "GPX" format, click on "Next" then choose objects to be exported (Marks and/or Routes and/or Logbook points), choose layers to be exported, click on "Please select the export file...", give a name to the file and click on finish to valid.

Once the Logbook is saved, you can go to the "Logbook" option menu and select "Delete ENTIRE Logbook" to start a new Logbook file right-click on Logbook in the Ribbon and select "New Logbook".

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

Targets

Targets Overview

MaxSea shall process all tracked targets reported across its interface and shall present all reported targets in accordance with the system equipment connected to MaxSea.

Depending on the system unit connected to MaxSea you can access to miscellaneous target's layer which stack there transparency on displayed chart and on which user add marks and save his data.

Targets tool in the Ribbon allows you to quickly Show/Hide all of them.

Right click on this tool and choose the Target layer that you want to display between following Targets layers:

1. AIS Targets

2. ARPA Targets

3. DSC Targets

AIS Targets displayed on chart

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 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 button 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 to show/hide "class A" AIS targets (usually cargo and large ship).

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

Online AIS to show /hide AIS Online targets

Note: by default all AIS targets farther than 84.00NM from your boat will be hidden on chart. IF you want to show all of them, choose a bigger distance under the Targets options menu.

AIS target's symbols :

Regular AIS Symbol (AIS targets Class A are colored by default in blue and AIS targets Class B are colored by default in green).

User can quickly and easily change individually the symbol color :

- Right-click on the symbol and choose a target Color in the right-click menu.

- Click in the corresponding color cell in the AIS List

Read more in the MaxSea Target Options Menu to assign default color (fixed or variable color).

Online AIS Symbol is colored in orange and the color can not be changed

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

Lost AIS Targets (usually out of range)

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.

Display and Follow up Ais target

All AIS targets locations sent to MaxSea will be analyzed and the icon symbol will be displayed in a small size to indicate the "SLEEP" status. However, if AIS target data is received in a dangerous area, the AIS icon symbol will be displayed in the ACTIVE status. The active status displays the icon symbol depending on the real vessel length of the selected AIS target

Tracking on or off status can be chosen at any time by right-clicking on a target:

- o **Target Tracking** to track on the selected target and to store its track automatically in the **default Targets layer** . The speed (**SOG**) is recorded in the AIS track and can be displayed with the track Information Point Tooltip:

Name	AIS BREEZE
Starting Time	3:29:58 PM Wednesday, February 06, 2013
Ending Time	3:38:58 PM Wednesday, February 06, 2013
Duration	8'59s
Length	4.513 NM
Depth	0.0 ft
SOG	11.1 kn

- o The SOG and COG of a selected Target appears in its Information Tooltip:
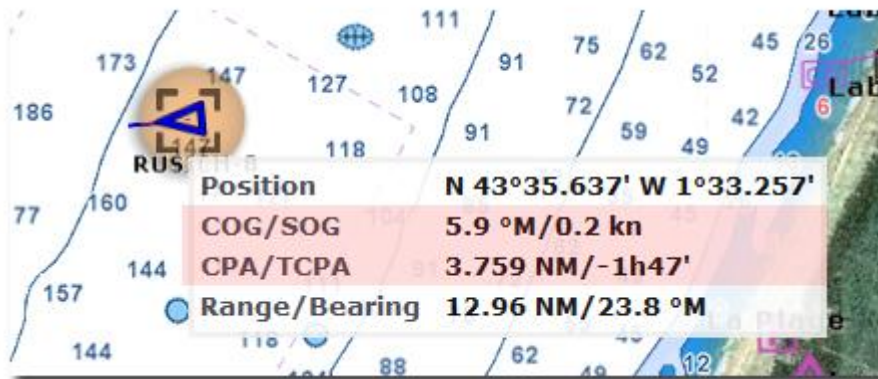
Position	N 43°35.637' W 1°33.257'
COG/SOG	5.9 °M/0.2 kn
CPA/TCPA	3.759 NM/-1h47'
Range/Bearing	12.96 NM/23.8 °M

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). You can also change the icon color (by default AIS classA and ClassB are colored in green and Online AIS targets are colored in orange) and add note.

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).

Graphic CPA line :

A line displaying the predicted passing point of an AIS target can be displayed on the chart:

By default AIS target (Class A or other) are colored in blue and the Graphic line is also colored in blue. Note that you can always overwrite the default color of a specific target by right clicking and assigning a new color:
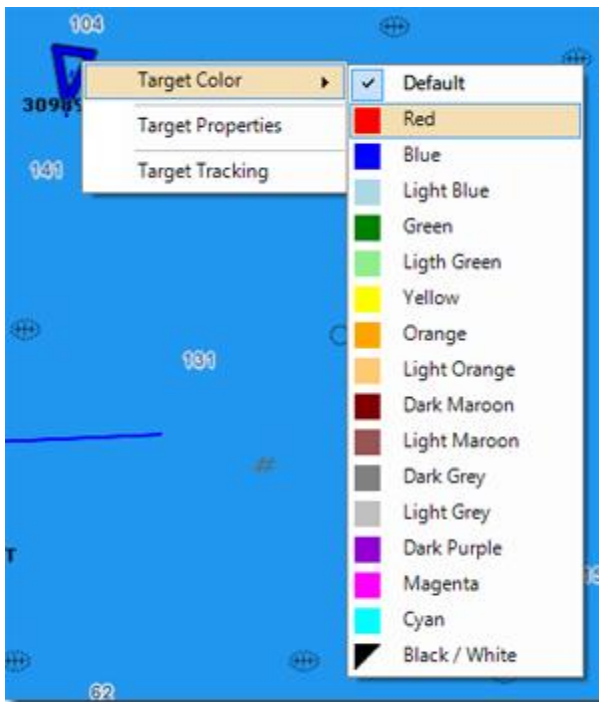
This can be useful when you want to track a fleet. TimeZero will remember the AIS color selection even after restarting the software.

AIS Targets List :

Select the Planning WorkSpace and Click on the **Lists** buttons. 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 displayed on chart

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

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

Targets 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). The target will blink in red color to indicate danger. You can set the CPA distance value considered as dangerous under the Targets Options menu. Then check the "Display Dangerous CPA" box to display the warning on chart.
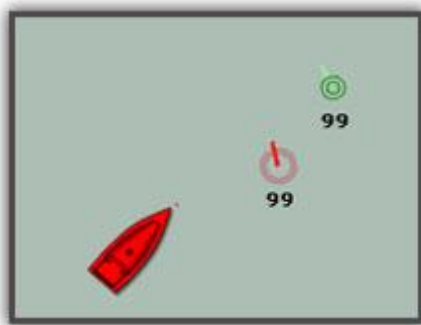
To Get More details on a target

1. Move the cursor over a targets (and wait for the pop-up) or left click to display basic information.

2. If you need more information, double click on the target to display the Properties Windows (that shows the full details of the target).

3. If you need to keep updated information on the screen about a specific target, you can use the "Target Information" NavData.

4. 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) .

1. **ARPA Target List:**

1. 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 or Speed , etc...).

DSC targets displayed on chart

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 : All DSC targets are stocked and will be displayed next time starting MaxSea. Right click on a DSC target and choose delete to erase it or click each target on chart with the Delete tool.

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 blink in red color on the chart and the line in the DSC list will be full colored in red .

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 target and 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 distance)

Targets options

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.

For example how the alarm will be activate with an AIS Target depending on the vessel position :

In this case the AIS position alarm is displayed in the title bar, the distance between the Own ship and the AIS vessel target is shorter than the CPA alarm value defined in the Alarm options menu. The AIS target will be colored in red when the Dangerous CPA value is reached (this value can be fixed under the Targets options menu)

In this case the AIS position alarm is displayed in the title bar, the distance between the Own ship and the AIS vessel target is shorter than the CPA alarm value. Contrary to the previous case, the AIS

target is not considered as dangerous because condition of Dangerous CPA is not reached, the alarm is activated because they are near from each other (the CPA distance is reached).

Note: The alarm will be raised even if the targets are not displayed on the screen.
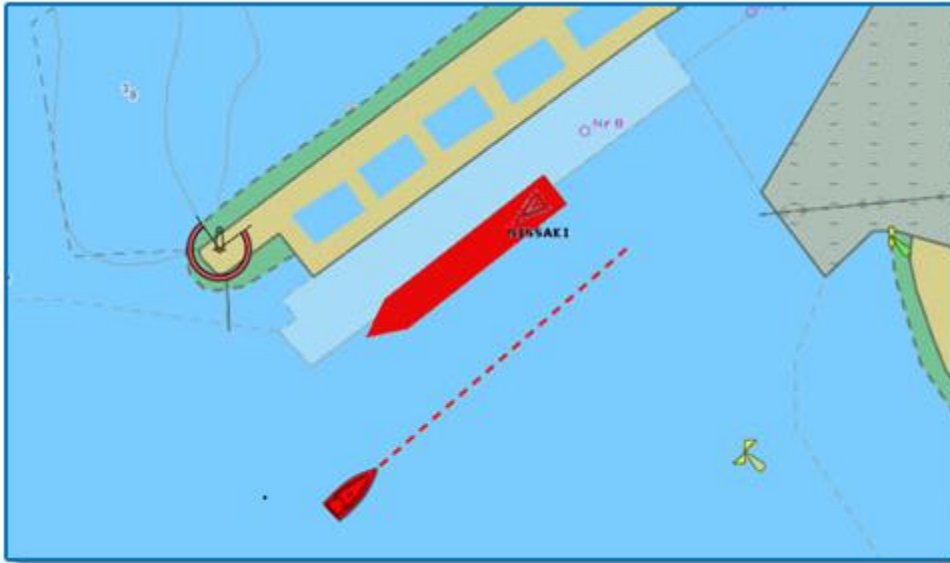
In this case the CPA alarm has not been checked

Weather Routing

What is Weather Routing ?

 - The Weather Routing is an optional module. To check if you have this add-on, select "About MaxSea" under the MaxSea Menu. The Routing Module would appear listed under "Activated Module".

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. .

1.

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)
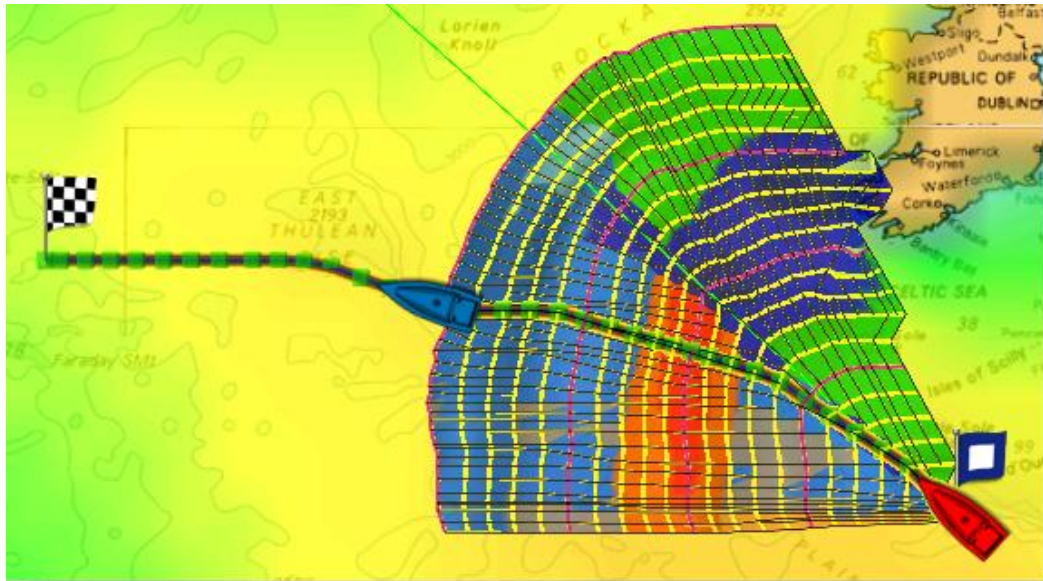
Weather Routing Between Two Points

Between two points

1. 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 ![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:
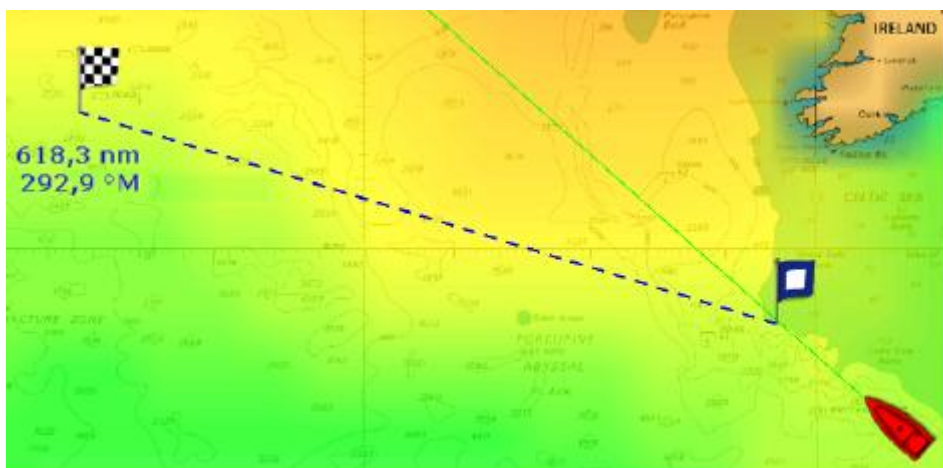
   o MaxSea will launch the Routing Calculation and automatically play an animation at the end.

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** from the ToolBar.

o   Move the cursor over the charts and **DOUBLE CLICK** 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: (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:
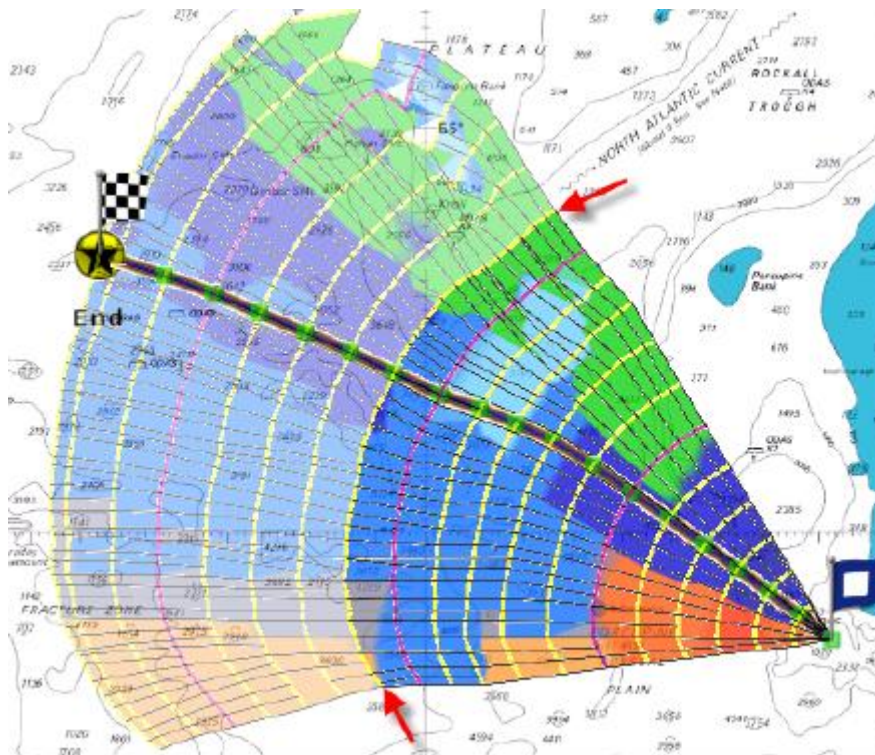
Weather Routing from several Waypoints

First select the route to follow before launching the routing.

Depending on your choice you can launch a Multi-waypoint Routing either from the boat position (when a the route is activate) or from a point.

From Boat Position

The multi-waypoint routing allows you to define an optimal route plan from the boat position to the active waypoint then from this waypoint to each subsequent waypoint to the end of the route.

The multi-waypoint routing will start at the boat position if an active route is available.

1. Select the **Routing** tool   .

2. Move the cursor on the active route and Click on it.

3. The routing will be drawn and will start at the actual boat position.
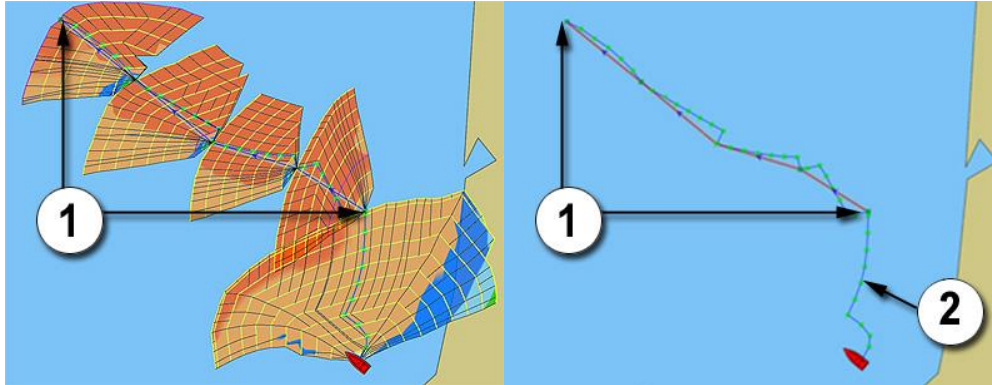
On pictures above, number (1) shows you limits of the selected Route and number (2) is the part of the weather routing from boat position to first waypoint of selected route.

Start Point of Routing represented by Flag P
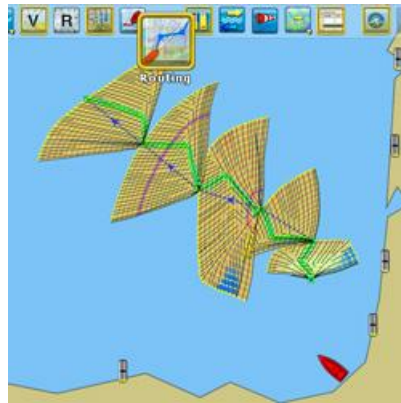
Multi-Legs Routing

Optimal Route represented from series of green points displayed on chart

From a point

1. Select the **Routing** tool

2. Move the cursor on the start position and click on the chart to ADD the departure point of the

   routing is marked with the Flag P :

3. Move the cursor on the selected route and Double Click on it.

4. Routing is then drawn from start point to the latest point of the selected route.

Obtain the best optimal route, you can launch again a routing :

1. From selecting an [alternative Weather Routing.](#)

2. From [changing direction when passing a waypoint.](#)

Weather Routing displayed on the Chart

The Weather Routing is displayed by default on the chart along with the isochrons and SailSets colors.

s:
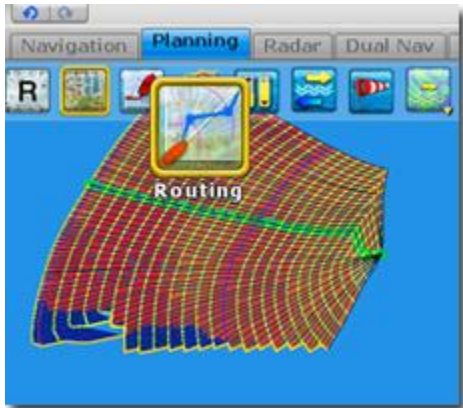
o   Right click on the Routing tool and click on   to show / hide Isochrons on the chart. Isochrons are displayed on the chart as alternate **yellow and purple curves.**

o   Each numbered isochron is drawn in yellow every 10mn to 6 hours depending on total distance and purple every 24 hours.

o   All route plans indicated by isochrons are optimal route plans (drawing in black); they show route plans according to the varying criteria (bearing a horizontal angle, measured from 0 to 90 degrees, fixing the direction of a line or direction of travel with respect to either a north or south direction. more to the north, more to the south, etc.) with varying distances from the target waypoint A predetermined geographical position used for navigation along a route or for storing the position of a particular feature.

o   Once the last isochron has been drawn the program calculates the optimum route plan (drawing as a route) for reaching the selected waypoint.

o   Launching a new routing will automatically hide the previous weather routing (By default last five Routings and its Isochrons are saved in MaxSea).

The form of the isochron displayed is particularly important for an overall evaluation of both **options** and **risk**.

Right click on the Routing tool and click on   to show / hide distribution of sail set configuration color range in the routing tree. The SailSet function allows to quickly identify :

o   Strong/light winds.

o   Risky zone.

o   True Wind Angle and True Wind Speed.

 Click on the corresponding button to Show or Hide **Isochrons** and **SailSet** (color in Routing Tree).

Read more in related Topics : SailSet Polar and for <u>Setting Up Weather Routing</u>

Changing direction when passing a Waypoints

When you approach to a waypoint on a route, routing can take in account in its calculation to pass it by one of the three methods below.

1. **Over** (selected by default): Automatically switches the destination waypoint when the boat comes passes an imaginary perpendicular line passing through the center of the destination waypoint and when the boat comes within the arrival alarm range together.

2. **Starboard**: automatically switches the destination waypoint when the boat passes closest the waypoint, it leaves the waypoint on the starboard.

3. **Port**: automatically switches the destination waypoint when the boat passes closest the waypoint, it leaves the waypoint on the port.

There are two ways for activating the switching waypoints mode:

1. **Using the right-click a point of route** on chart to display and choose a switching mode.

2. **From Detail Route list**, add the Routing column and pull down the menu to choose switching mode.

Weather Forecast File

Before launching routing, it is assumed that you already have the **GRBZIP (compressed GRB file format)** file in **My Documents/My MaxSea/Weather** Folder or opened directly from an e-mail.

Go in the Planning Workspace.

Note: MaxSea open from Weather folder the latest created GRIB file.

Initial position for routing and Waypoint to reach has to be included in the weather forecast area.

Go in the Planning Workspace.

click to display Wind Feather information or wind data in surfacing mode on chart.

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

By default the Lists are displayed in the Planning Workspace.

Click Route List in the left column to display the Optimized Route in a tabular format, double click on the Optimized Route.

Click on the Lists button in the ribbon, choose Route List and then double click a chosen Optimized Route for more details:
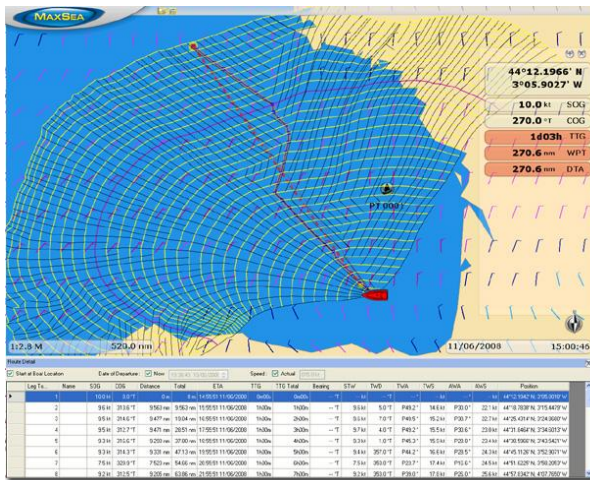
Note: go to the Routing Options in MaxSea menu to allow storing all Routings.

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
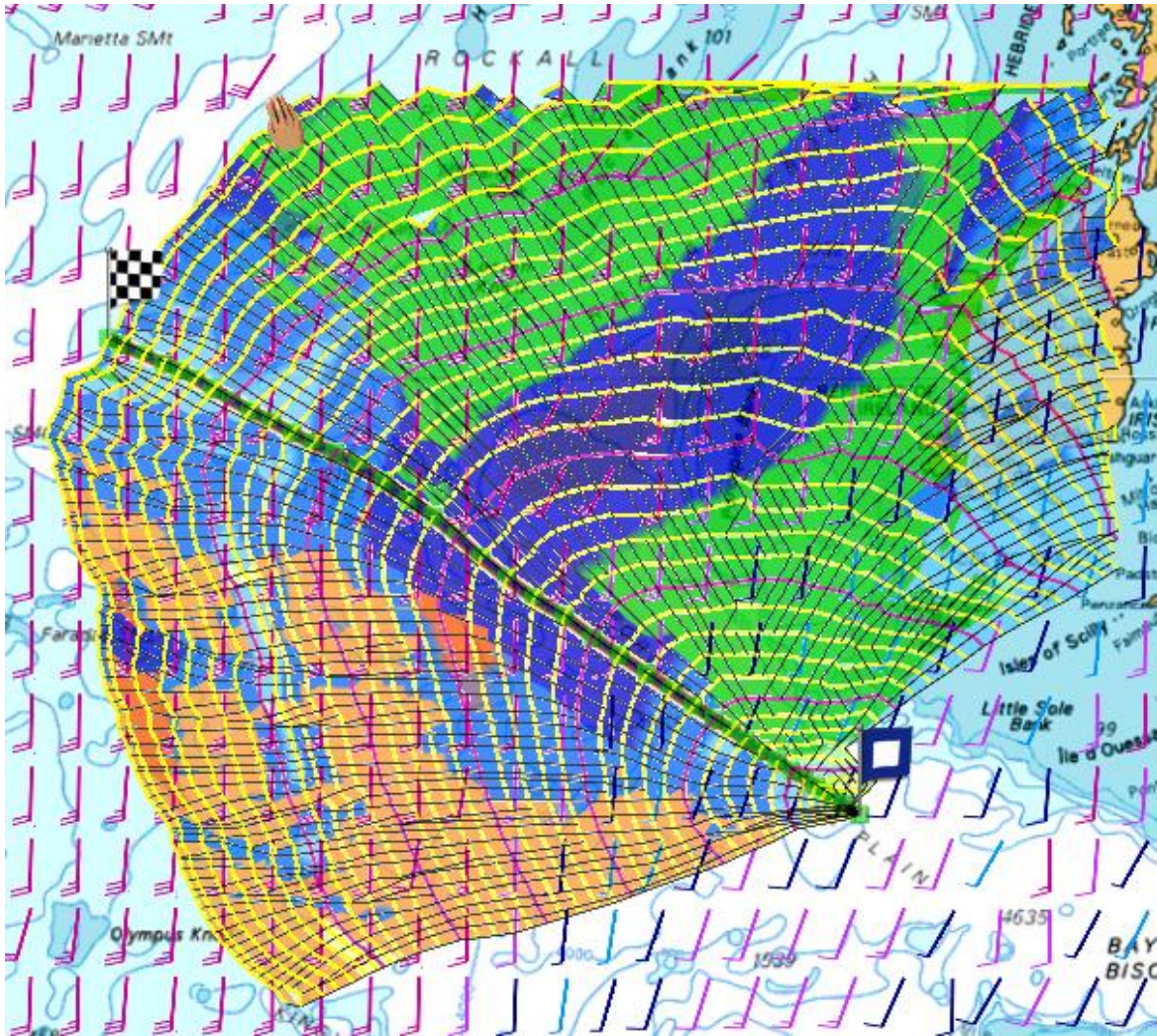
Setting up weather routing

The routing is calculated by the program using a set of powerful and sophisticated algorithms. It also takes into account any open tide or ocean current files, waves, Sailset as defined in the Routing Option.

Go to the **MaxSea Menu's Options** and select the **"Routing"** option to call up Settings dialog.

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 appear, an Active Route and the True Wind Direction/Speed values are needed.

Note: The Laylines button is grayed out if these conditions are not respected.

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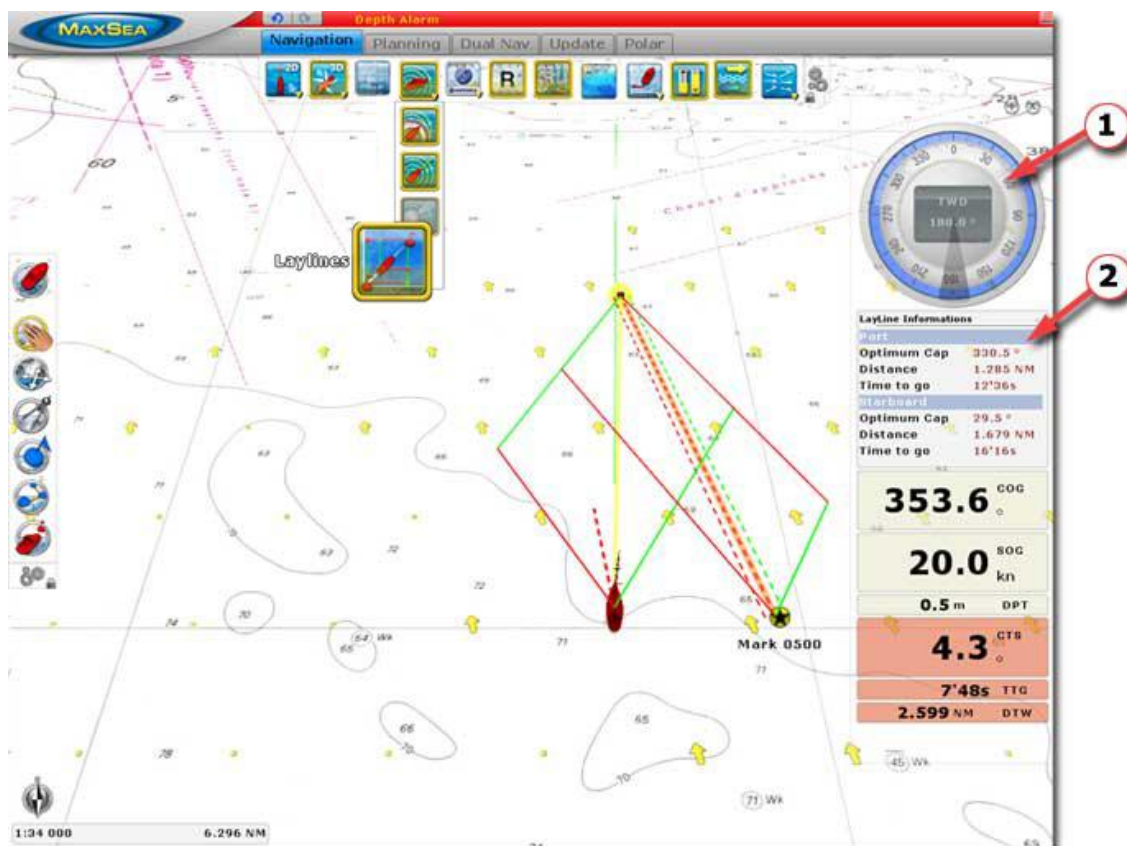
Polar Files

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 graphically the display polar data. This WorkSpace provides lists for editing and modifying in real time performance of your data polar.

Your boat's potential performances are saved as speed polars. MaxSea TimeZero Routing module uses 3 types of polar:

1. **Wind_Polar** file is a collection of triples, **TWS** (True Wind Speed), **TWA** (True Wind Angle), and the optimum sailing boat speed.

2. **Wave_Polar** file contains values which are used for adjusting the wind data polar values according to state of the sea (height, length, angle 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 consists in two parts:

1. The Polar graphic

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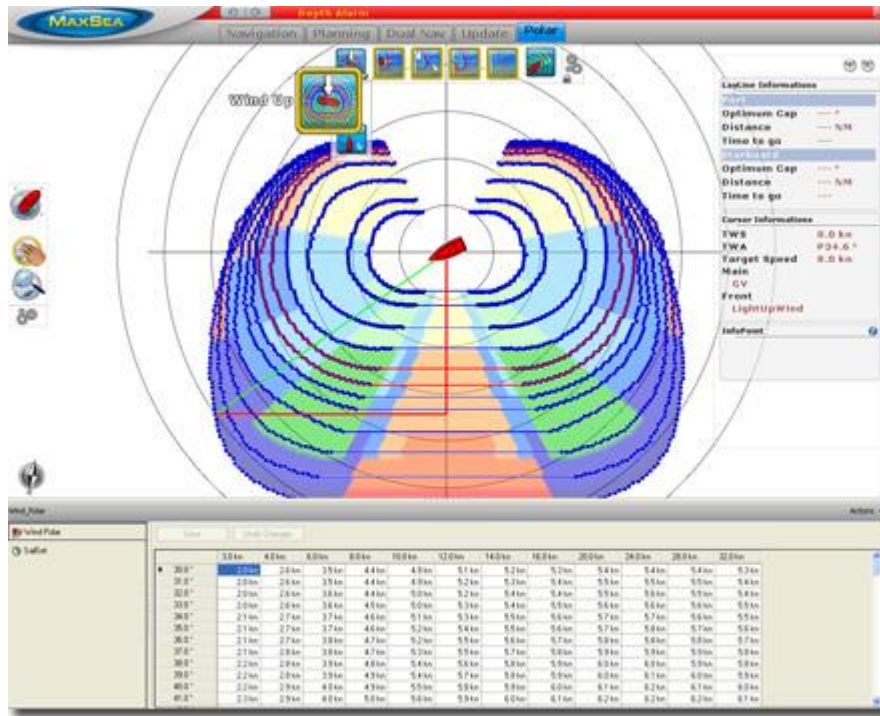
The polar graph gives you an immediate representation of the speed of your boat according to the wind angle as well as the SailSet configuration

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.

Rings, click to show/hide Polar Rings.

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

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.

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.

Open and Display Your Own Polar File

When starting MaxSea the advanced function will automatically open When starting MaxSea for the first time, MaxSea uses the polar files installed by default to calculate the weather routing. All Polar files are stored by default in "**My Documents| My MaxSea| Polar**" repertory.

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").

Download and Save the file as your boat's name in **My Documents| My MaxSea| Polar** on the hard disk.

Choose the "Open polar File'" option in MaxSea menu to find and open your own Polar files.

Note: Usually, you will only customize and open the "Wind Polar". The Wave Polar provided by default will provide great result in most cases while the SailSet polar can be customized directly from the Polar Space.
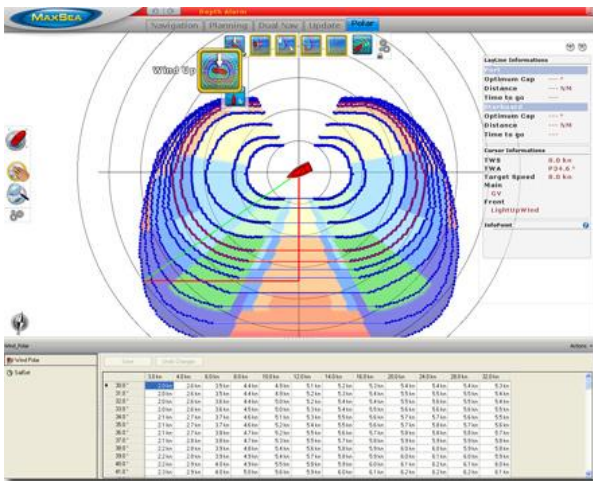
Default Wind Polar Graph
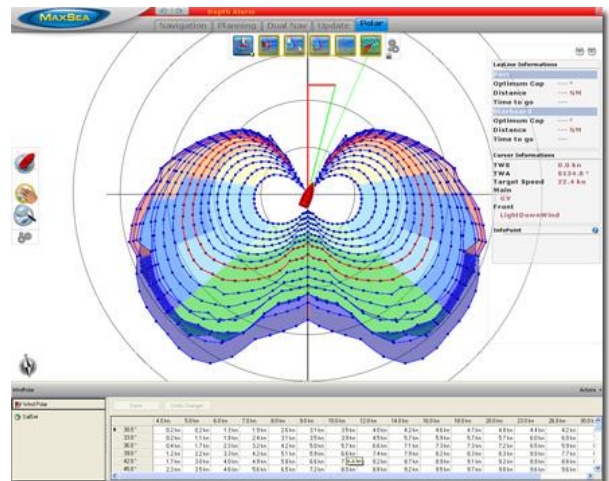
Example of a chosen Wind Polar Graph

Edit and Modify Polar files

MaxSea allows you to improve your data polar directly in the polar data lists.

Wind Polar list consists to a series of optimum sailing boat speed values depending on **TWS** (True Wind Speed) and **TWA** (True Wind Angle).

1. In the Wind Polar list, the theoretical hull speed for various wind velocities and wind angles is in cells.

2. The first row defines the True Wind Speed (**TWS**).

3. The first column defines the True Wind Angle (**TWA**).

Click in each cell to select and directly change its value by entering new value on keyboard.

Right-click in a chosen cell of the first line to add or remove wind angles theoretical values.

Right-click in a chosen cell of the first row to add or remove various wind velocities values.

Click **Save** to valid your change or click **Undo Changes** to cancel.

SailSet Polar list consists to a series of colors corresponding to the MainSail or the FrontSail according to True Wind angle and speed.

The SailSet list allows you to identify quickly:

o Strong/light winds.

o Risky zone.

o True Wind Angle (TWA) and the True Wind Speed (TWS)

Set up the SailSet configuration:

1. Pull down the menu under the list header either to choose Port or Starboard.

2. Click on "**SailSet configuration**" if you want to change sail set reference's parameters; Select a color type which depends on the SailSet and the Wind strength; Cick on "**Edit**" to change the color that you wish to attribute on port or starboard sides; Click on "**Close**" and the new configuration is simultaneously applied in the SailSet List.

3. Click each cell in the list and choose a SailSet configuration in the pop up menu.

4. Click on **Save** to valid your change or **Undo Changes** to cancel.

MaxSea uses different adapted color ranges depending on the wind strength.

1. From yellow to red for Up Wind data values

2. From light blue to dark blue for Reaching Wind data values

3. From Light green to dark green for Down Wind data values

Example:	4	8	14	20	25	30	40	TWS
60°	GV / LightUpWind	GV / LightUpWind	GV / MediumUpWind	1Reef / **MediumUpWind**	2Reef / **StrongUpWind**	3Reef / **StrongUpWind**	off / **GaleUpWind**	
80°	GV / **LightUpWind**	GV / **LightUpWind**	GV / **MediumUpWind**	1Reef / **MediumUpWind**	2Reef / **MediumUpWind**	3Reef / **StrongUpWind**	off / **GaleUpWind**	

MaxSea TimeZero Recreational v2.0.3

90°	GV / LightReaching	GV / LightReaching	GV / MediumReaching	1Reef / **MediumUpWind**	2Reef / **MediumUpWind**	3Reef / **StrongUpWind**	off / **GaleUpWind**
110°	GV / LightReaching	GV / LightReaching	GV / MediumReaching	GV / MediumReaching	1Reef / MediumReaching	2Reef / **StrongUpWind**	off / **GaleUpWind**
130°	GV / LightDownWind	GV / LightReaching	GV / LightReaching	GV / MediumReaching	GV / **StrongDownWind**	2Reef / **StrongDownWind**	off / **GaleDownWind**
180°	GV / LightDownWind	GV / LightDownWind	GV / MediumDownWind	GV / MediumDownWind	GV / MediumDownWind	2Reef / **StrongDownWind**	off / **GaleDownWind**
TWA							

Manage your data list by Using the Action Menu:

1. To Add or Edit each cell value

2. To Delete Row

3. To Delete column

4. To copy to clipboard and to paste it in external file (in a Windows Excel file for example)

5. To export data to a simple text file

Note: please make copy of these files on your hard disk before changing polar data values

Weather File Adjustment

It is possible to adjust the wind forecast data values, in order, for example, to take into account the hours or wind direction or wind speed, which has been prevailing in the zone for several days.

Click on **MaxSea**, choose **Options** and then **Routing**:

Click Routing in the Options menu

In such a case, the program will replace the values which you have selected in the corresponding input text.

Increase / Decrease Wind Speed (%): to adjust Wind Speed from choosing a percent value from -50% to +50%

Increase / Decrease Wind Speed (Value): enter a fixed value to adjust Wind Speed

Change Weather File in Time : enter a value defined from + or - 24 hours

Change Weather File in Latitude: enter a fixed value

Change Weather File in Longitude: enter a fixed value

Change in Wind Direction: enter an angle value defined from + or - 180°

Increase or decrease Waves (%): to adjust high of waves from choosing a percent value from + or - 20% or move on the scrolling bar to change value.

Increase or decrease Current speed (%): to adjust speed of the current from choosing a percent value from + or - 20% or move on the scrolling bar to change value.

Choose one or several modifications which you wish to apply to the weather forecast.

Note: this function will only be available in case if your software is a professional version and it has Routing and Performance modules.

Routing variability calculation and display

After having created a routing you can display on chart the variability.

Variability's value allows to identify quickly important variation of wind direction and strength which require from the skipper a supplementary expertise of his forecasts, routing and source files.

- The variability is equal to 100% if wind direction and strength are stable.

- It will decrease to 80% if the routing shows important variations of the wind direction and strength. It indicates as well the weather transition for example a ridge with a gradient decreasing of pressure thus of wind.

 Right Click on the **Routing** Tool in the Planning Ribbon and choose **Variability**
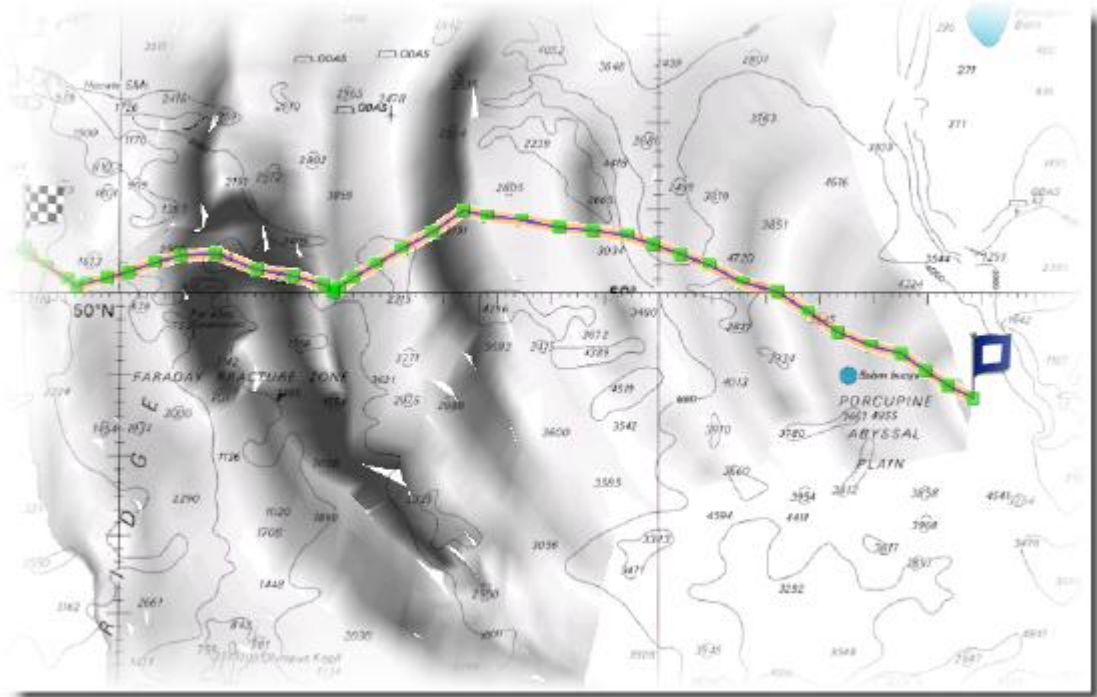
Variability is symbolized in the Routing tree by a more or less strong display density (as it is shown in the picture above)

- Areas colored in Black indicate weather transitions. A very dense black corresponds to a variability < 70 % and it is thus necessary to cross it in the shortest after an analysis more refined and recalculating a new routing before changing criteria as well as modifying parameters and files sources.

- Light areas show the "Corridors" where weather conditions are more stable depending to forecasts.
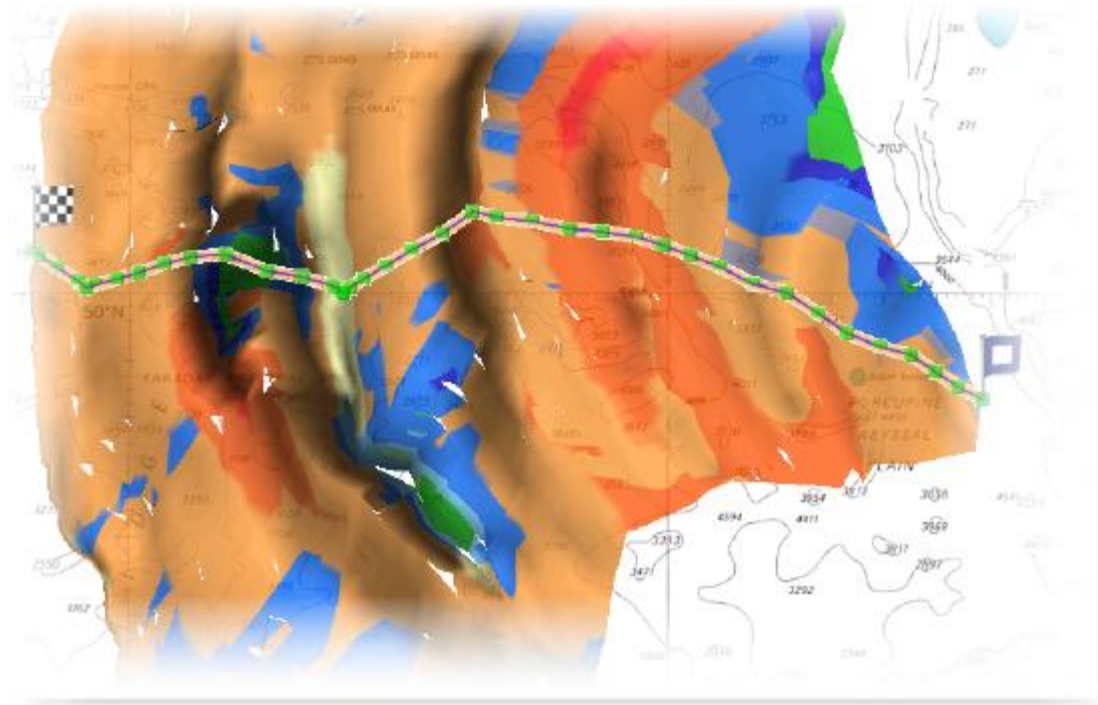
The ability to overlay both together variability and Sailset allows you to clearly view each transition of different ways (as ridge) across the routing.

The Variability value is indicated in each line of the Routing center which corresponds to a time period of the weather routing.

Furuno Sounders

MaxSea TimeZero is compatible with Furuno Network Fish Finder:

- **DFF1**: Black Box Dual-frequency 50/200 kHz

- **DFF3**: Black Box Dual frequencies between 28 and 200 kHz

- **BBDS1**: Dual-frequency 50/200 kHz which enables to indicate bottom classification

- **FCV-1150:** Dual-frequency 28/200 kHz which enables Heaving compensation.

Before Launching MaxSea TimeZero

On the Furuno BlackBox Sounder:

1. Ensure that Mode Switches are in the "Down-Up-Up-Down" position for the DFF1 and that the internal DIP switches 1 and 2 are set to OFF for the DFF3.

2. Connect an Ethernet cable from the DFF1 or DFF3 to a switch, hub, or directly to computer.

Note: When connecting directly to a computer, you will need a crossover cable.

On the computer:

Open the Network Connections List window:

- Windows 7 / Vista: Click on the Start Button and in the "Search Programs and Files" box, type **ncpa.cpl** and press Enter.

- Windows XP: Click on the Start Button and click on Run. Type **ncpa.cpl** in the Run Box and press Enter.

Right-click on the network adapter that the DFF1 or DFF3 sounder will be plugged into. This will typically be "Local Area Connection".

Click on "Properties"

Select "Internet Protocol (TCP/IP)" or "Internet Protocol Version 4 (TCP/IPv4)" from the items list.

Click the Properties button

On the General tab of the Internet Protocol Properties window:

Select "Use the following IP address"

- **IP Address**: 172.31.3.100

- **Subnet mask**: 255.255.0.0

Click OK

Click Close

Close Network Connections List window

Note: use the IPCONFIG command to check a valid IP address of the computer. (Read more in the related topic of NavNet Network Connection.

Launch MaxSea TimeZero and make sure that the "Furuno Sounder Module" is enabled. Furuno sounder module unlocks the Sounder Work Space.

This Work Space is dedicated to display and control a Furuno Ethernet Sounder and provides features as:

- Sounder Echogram with real time A-Scope,

- Accu-Fish,

- Bottom Classification.(only available with Furuno BBS1 sounder)

Read more on How to Set up the Sounder in MaxSea

Note: The module is available with MaxSea TimeZero explorer and FURUNO PBG Module.

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Select "Use the following IP address"

MaxSea TimeZero Recreational v2.0.3

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- **Subnet mask**: 255.255.0.0

Click OK

Click Close

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Read more on How to Set up the Sounder in MaxSea

Note: The module is available with MaxSea TimeZero explorer and FURUNO PBG Module.

Sounder WorkSpace

If the Sounder unit is turned on and is properly connected to the computer.(Read more in the Sounder Options related topic to configure various advanced Setup and Displays preferences)

By default The Echo sounder is automatically displayed in the dual "**Sounder & Nav"** Workspace. Select the Sounder Work Space to display the echo Sounder in a full screen this allows user to configure following features:
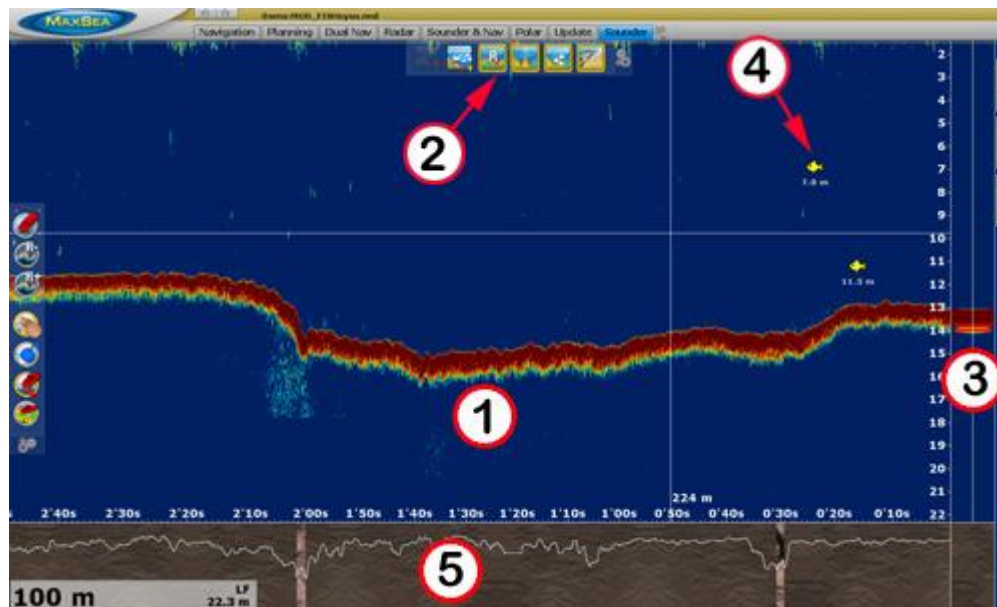
1. Sounder Echogram Display

2. Sounder Display Controls

3. A-scope Display

4. Detection of fish (AccuFish) and show it

5. Bottom Discrimination Display (available only with BBDS1 sounder)

Sounder Echogram display
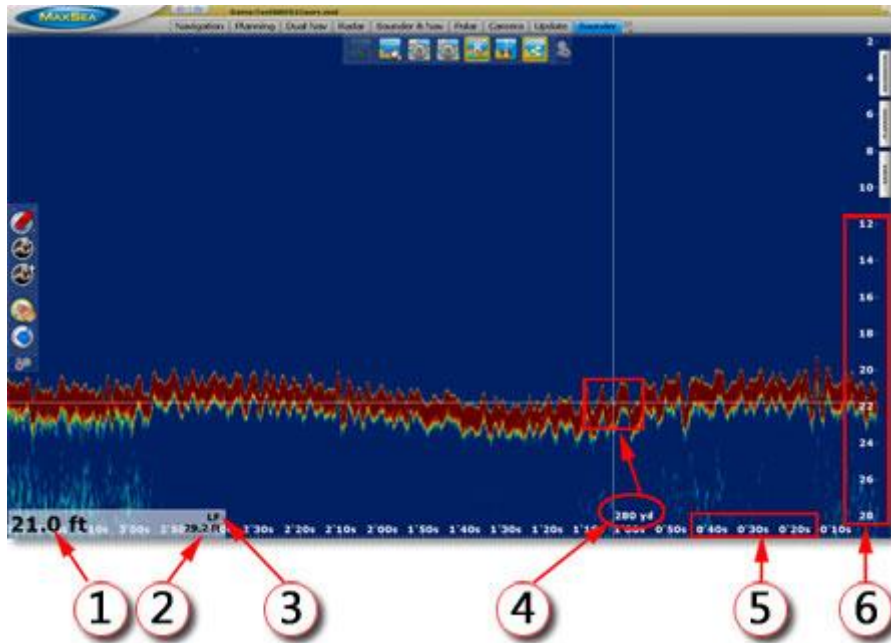
1. Depth

2. Range

3. Display Mode indicator HF or LF

4. Hand cursor distance from boat position

5. Horizontal scale : time elapsed

6. Vertical scale : Depth

Historic Data

MaxSea TimeZero stores the past 3 minutes (approximately) of receiving data. So you can easily go back and identify echoes that seems interesting.

- **Use the pan tool** and move the mouse cursor from right to left to display historic data, the time is simultaneously updated and reminded in the horizontal scale.

- **Use the pan tool** and move the mouse cursor from up to down to display to change vertical alignment echo in th display

- **Click on the Center on tool** to quickly go back to the actual position.

Geo-localization

The Dual "**Sounder & Nav**" workspace is useful to display geo-localized object at same time in the sounder echogram and on the chart as above:
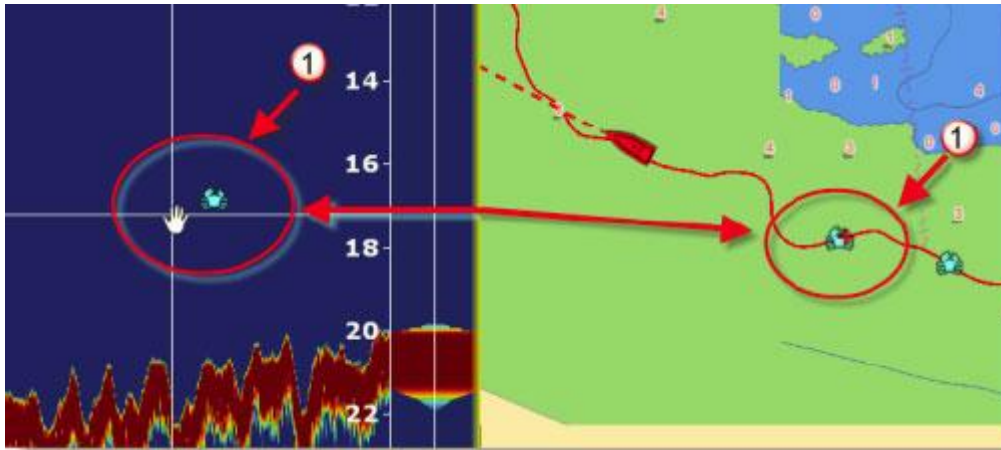
Cursor Localization: when moving the mouse cursor along the Sounder echogram a red cross is simultaneously display on the Chart allowing to geo-localize any Sounder "sweeps".

Add a mark: Double click in the sounder workspace to create a Mark on the chart space, making it easier to go back on a structure spotted on the Sounder.

A-scope
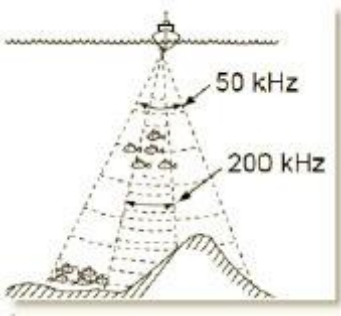
A-scope, display on the right of the screen, shows echoes at each transmission with amplitudes and tone proportional to their intensities. It is useful for estimating the kind of fish school and bottom composition.

1. Weak reflection (Fish or noise)

2. Strong reflection (Fish)

3. Strong reflection (bottom)

Note : Go to the sounder options menu and check the **A-Scope Peak Hold** option to hold the echo return in the A-Scope for a couple of seconds.

Sounder Mode

The Sounder mode is the time advance display mode, echo displayed at each echo arrival. The X axis is echo based (unit).

Select operating frequency: When acoustic energy travels through the water, the frequency determines how deep it will travel and also the level of definition you can expect to see after it has bounced off an object below.

LF: Lower frequencies, (50 kHz) The 50 kHz frequency is useful for general detection and judging bottom condition.

HF: Higher frequencies, (200 kHz) The higher frequency of the ultrasonic signal the better the resolution. For this reason the 200 kHz frequency is ideal for detailed observation of fish schools.. Note: At this time the Zoom modes are not available (only HF or LF screen are supported)

The graphical Echo can be displayed either in **Single Frequency** or **Dual Frequency** depending on your choice.

Single Frequency

Following picture shows the depth graphical echo when Single Frequency is chosen. The Single frequency display shows either the HF (left-hand on picture)graphical echo or LF (Right-hand on picture) graphical echo. To select transmission frequency mode, click the appropriate button (either HF or LF) on the Sounder ribbon toolbar.
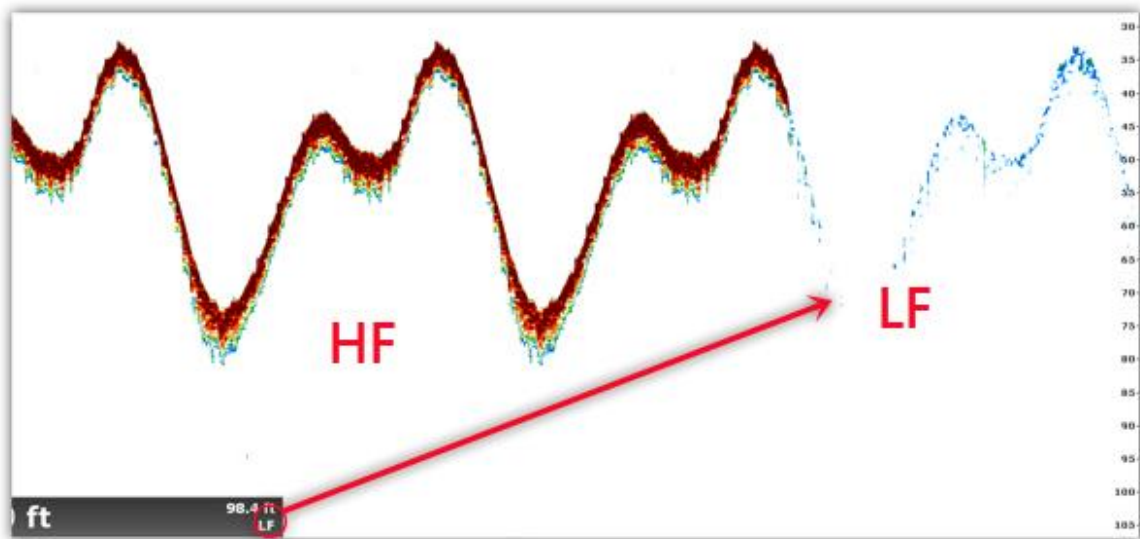
Dual Frequency

Following picture shows the depth graphical echo when **Dual Frequency** is chosen. The Dual Frequency display provides both HF (on Left-hand frame in the picture) and LF (on Right-hand frame in the picture). This display can be useful for comparing same picture with two different sounding frequencies.
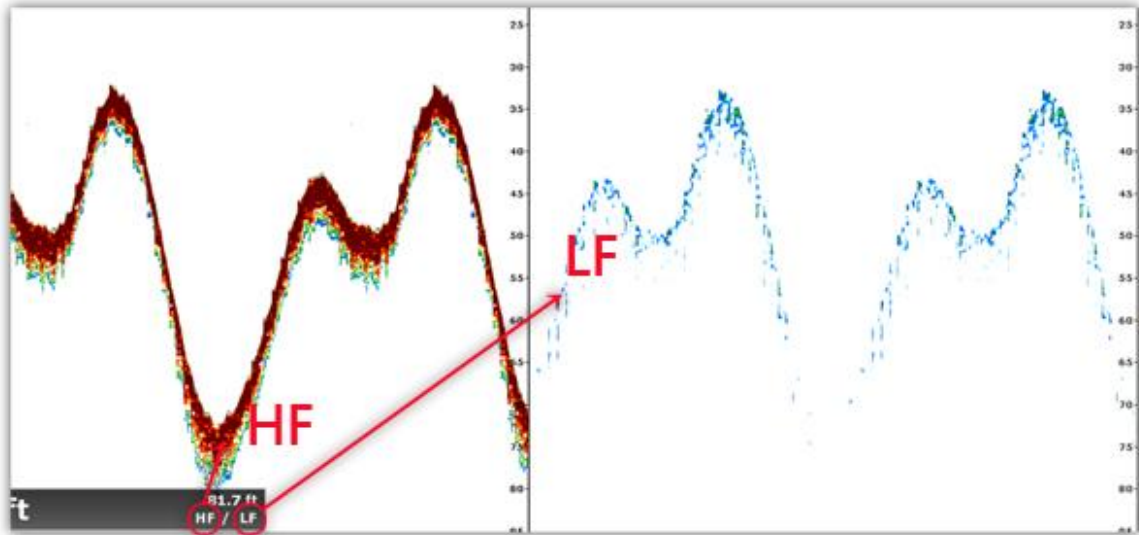
Bottom Zoom

The Bottom Zoom display expands Bottom ground and fish echoes by the zoom range selected in the Sounder Mode ribbon menu. It is also useful for determining bottom hardness.
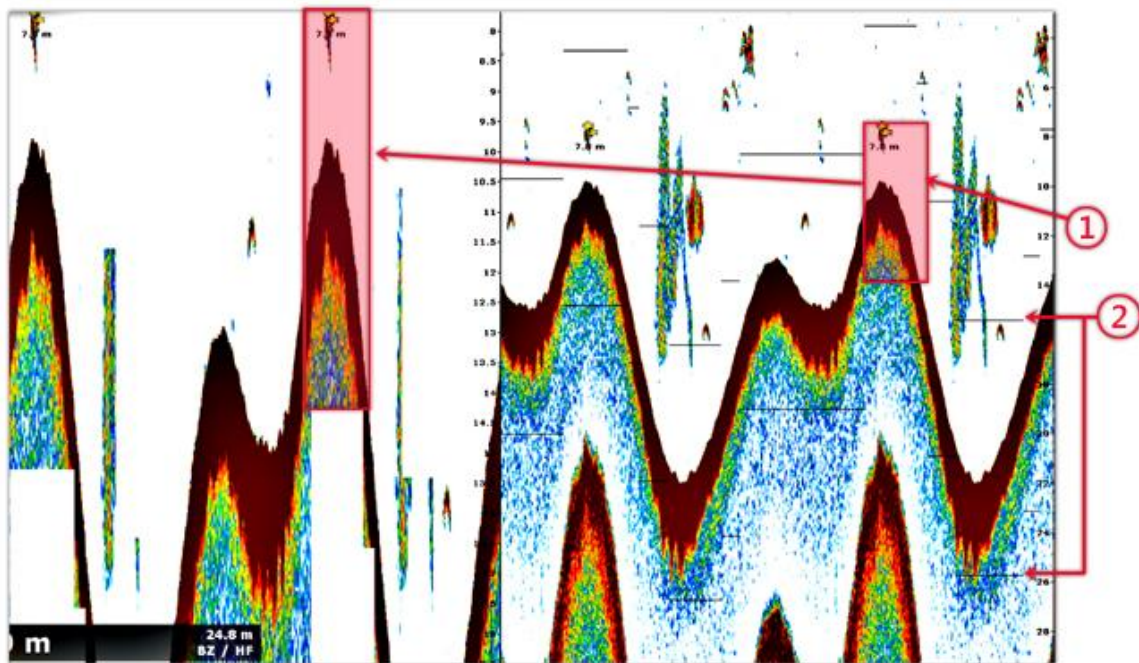
1. Shows a height part of the bottom zoom. User can set up the step of the bottom **"Zoom Range Span"** under the "Sounder options" dialog.

2. In the right frame window the bottom **Zoom Reference Lines** are drawn with grey lines and indicate steps which follow the bottom profile. By default the Zoom Reference Lines are checked in the Sounder options dialog, uncheck the case to hide them.

Following examples show different views after modifying the "Bottom **Zoom Range Span**" without modifying the graphical Echo Range. Note that the scale for depth values of the bottom zoom axis is simultaneously updated.
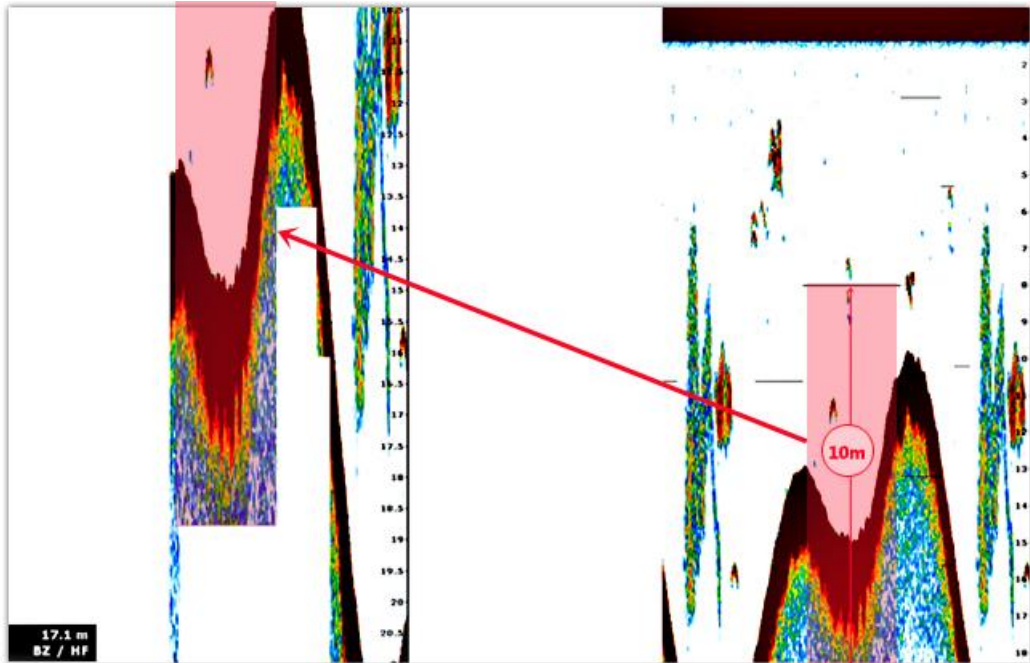
The bottom **Zoom Range Span** selected value equal on **10 meters height**
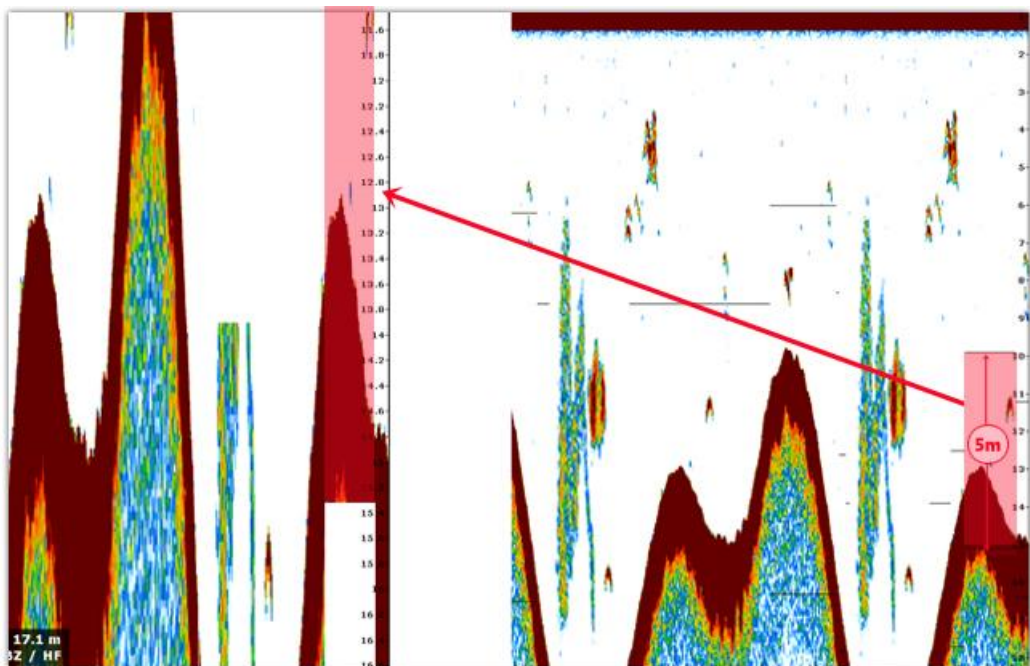
The bottom **Zoom Range Span** selected value equal on **5 meters height**

Bottom Lock

The bottom-lock display provides a 10 or 20 feet (3 or 6 meter) wide layer in contact with the bottom. setting up can be down under the Sounder Options dialog.

The bottom lock display shows the area between the zoom marker and the bottom as a straight line to distinguish it from fish near the bottom, and thus it is useful for discriminating fish near the bottom.
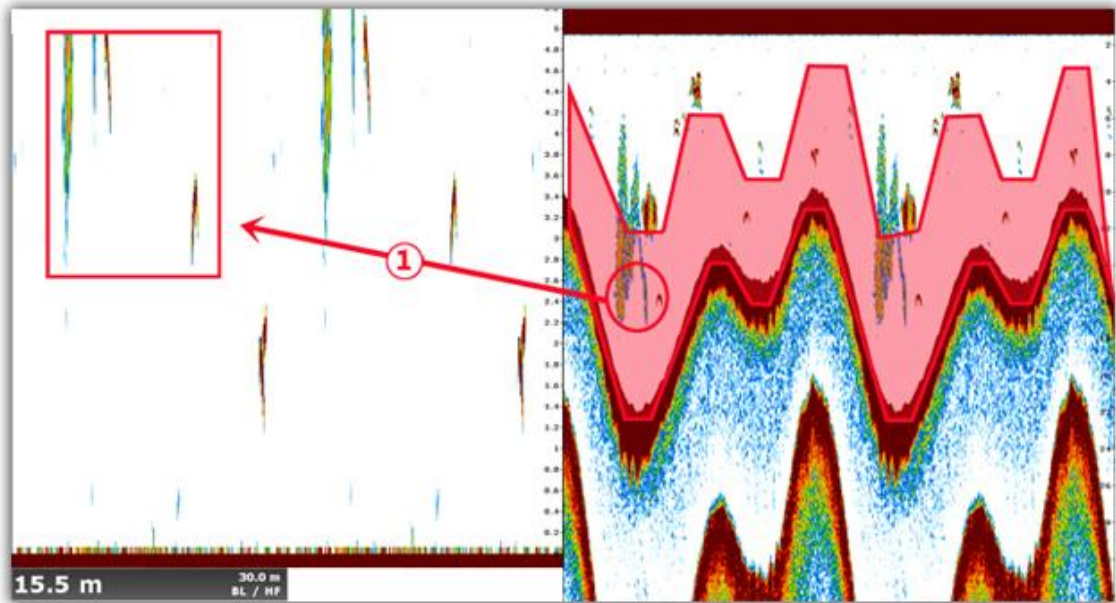
Bottom Lock Range Span value is equal on **10 meters, Number (1)** in the Bottom lock display shows a zoomed echo (zoomed fish school)
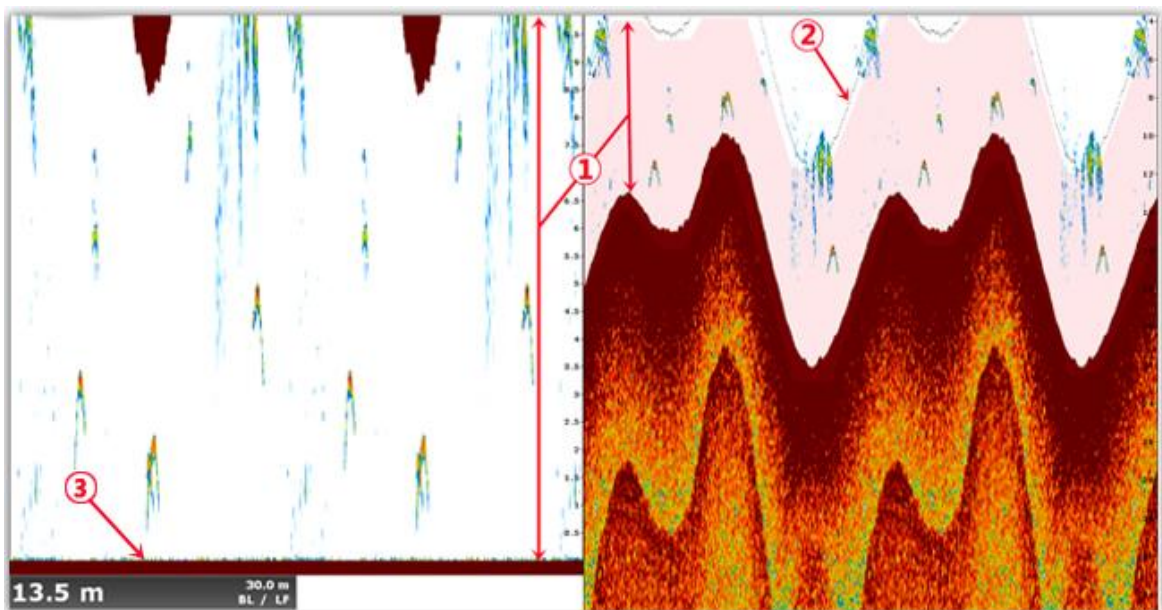
Bottom lock Display in HF mode:

1. **Number (1)** shows the area which is zoomed and shown in the Bottom Lock display.

2. **Number (2)** shows reference lines in single frequency display which follow the bottom profile

3. **Number (3)** the bottom is represented as a straight line

Auto Range: Range can be adjusted manually or automatically. Automatic adjustment is useful when you are preoccupied with other tasks and do not have the time to adjust the display. The range is automatically changed to keep the bottom echo on the lower half of the screen.

When the Auto range is off, you can adjust manually the range by a simple click either on the Range(+) or Range(-) in the Toolbar to increase or decrease the scale range.

Note: Background color can be set from the **sounder options**

Accu-Fish

The ![icon] ACCU-FISH feature estimates the length of each fish and shows a fish symbol and depth value or fish length.
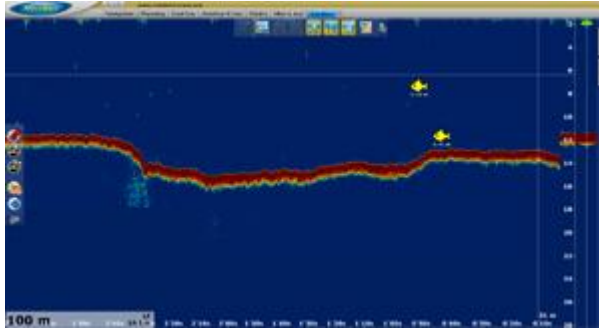
Note: the information presented by this feature is intended for reference purposes only; it is not a completely accurate measurement of fish length.

This feature requires appropriate transducer and either Network Sounder BBDS1, DFF1 or DFF3.

Both high and low frequencies returning at the center of the transducer beam are used to calculate fish length, when ACCU_FISH is enabled; the sounder will work in dual frequency mode.

Note: In case of a fish school, echoes overlap one another, so the margin of error will be greater

Accu-Fish display

Click on the Ribbon "**Sounder Display**" button, and adjust the Accu-Fish display in MaxSea/Options/Sounder menu

| AccuFish Icon **Off** | AccuFish Icon **Solid** | AccuFish Icon **Stripped** |

Fish Localization

When **"Sounder & Nav"** Work Space is used to display side by side the Plotter and the Sounder, every Accu-Fish icons will automatically appear geo-localized on the chart.
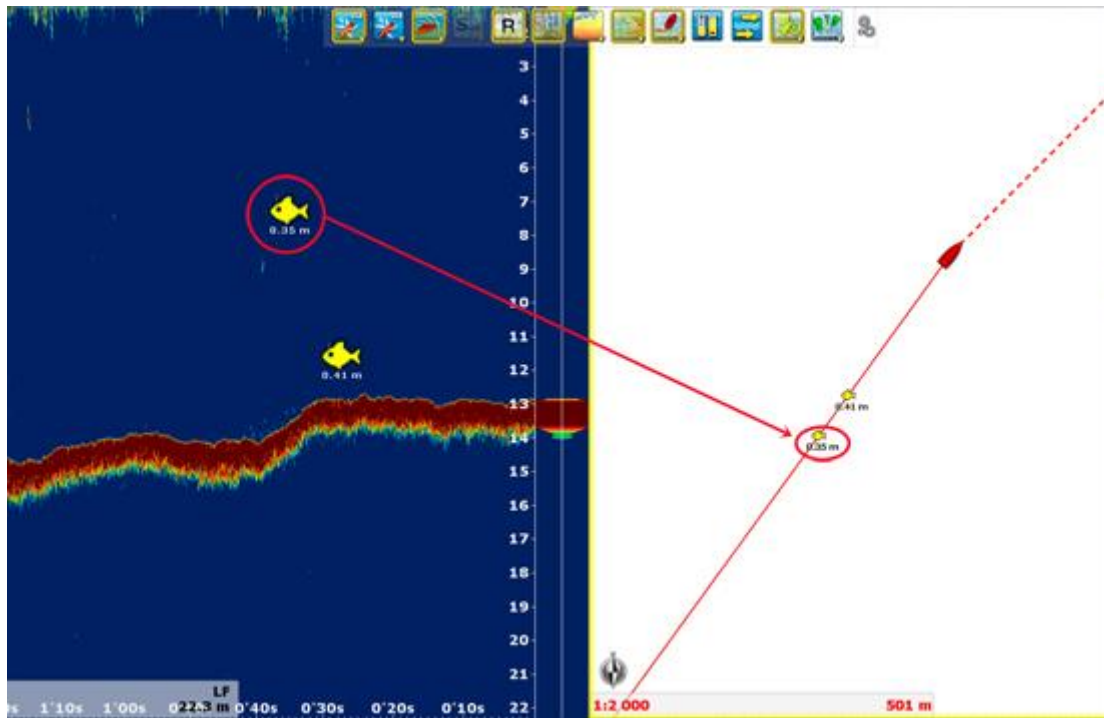
Fish Alarm:

Click on the   Fish Alarm Button in the Ribbon for accuracy alarm in MaxSea. When a school Fish is Detected a message is written in the title bar.

Read more in the Sounder options topic

AccuFish Options

ACCU-Fish Info: Fish information displayed under the AccuFish icon.

- Default value : Depth

- Range of choice : Depth or Fish size

ACCU-Fish Size Correction: Adjusts the size of fish information (percentage offset).

- Default value : 0

- Range of choice : from -80 to 100%

ACCU-Fish symbols: This option determines the fish symbol used to mark detected fish.

- Default value : Solid

- Range of choice : Off, Solid, Stripped

ACCU-Fish color: Select this option under the **Sounder Display** Ribbon menu the color of fish symbols displayed.

- Default value : Yellow

- Range of choice : Red, Blue, Green, Yellow, Purple, Orange, Light blue, White/Black

Fish Symbol Off

Solid Icon

Stripped Icon

Colored Icon
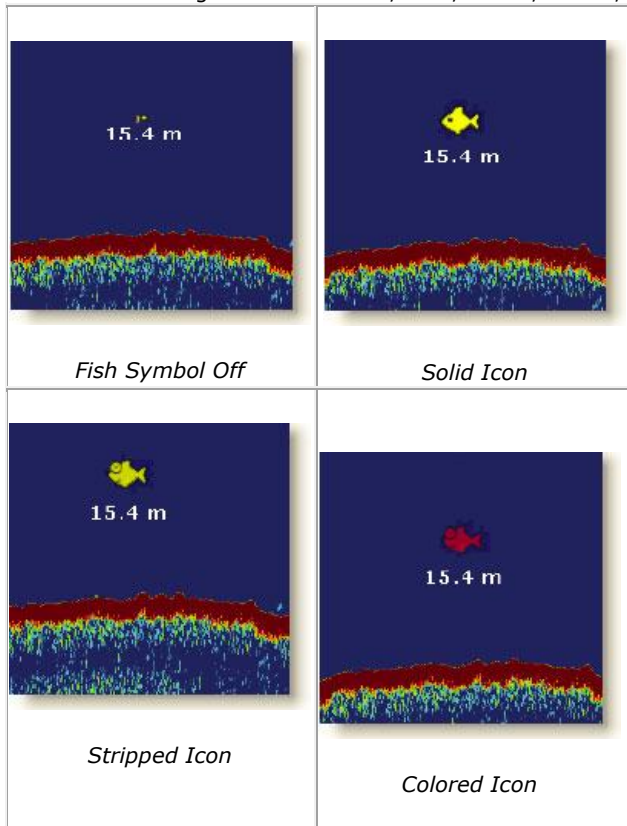
Bottom Classification (only available with Furuno BBS1)

The Furuno BBDS1 Black Box Ethernet sounder can be directly connected to MaxSea TimeZero to collect depth and seabed information.

MaxSea can either display Bottom Classification (using the "Aquarium" mode of the Sounder, using the Bottom Classification NavData or using the Track Variable Color) as well as bottom hardness using a color scale on the chart (similar to the depth shading). In addition to providing the seabed information, the BBDS1 also sends the probability of discrimination allowing you to know how reliable the data is in particular areas. This probability can be used in conjunction with the Bottom Hardness color scale to only show data in area where the probability is high (filtering out uncertain data).

Display the bottom discrimination window (Aquarium mode of sounder):

1. Select the "**Sounder" or "Sounder& Nav"** Workspace

2. Click on Bottom Discrimination Ribbon tool to display the bottom Discrimination
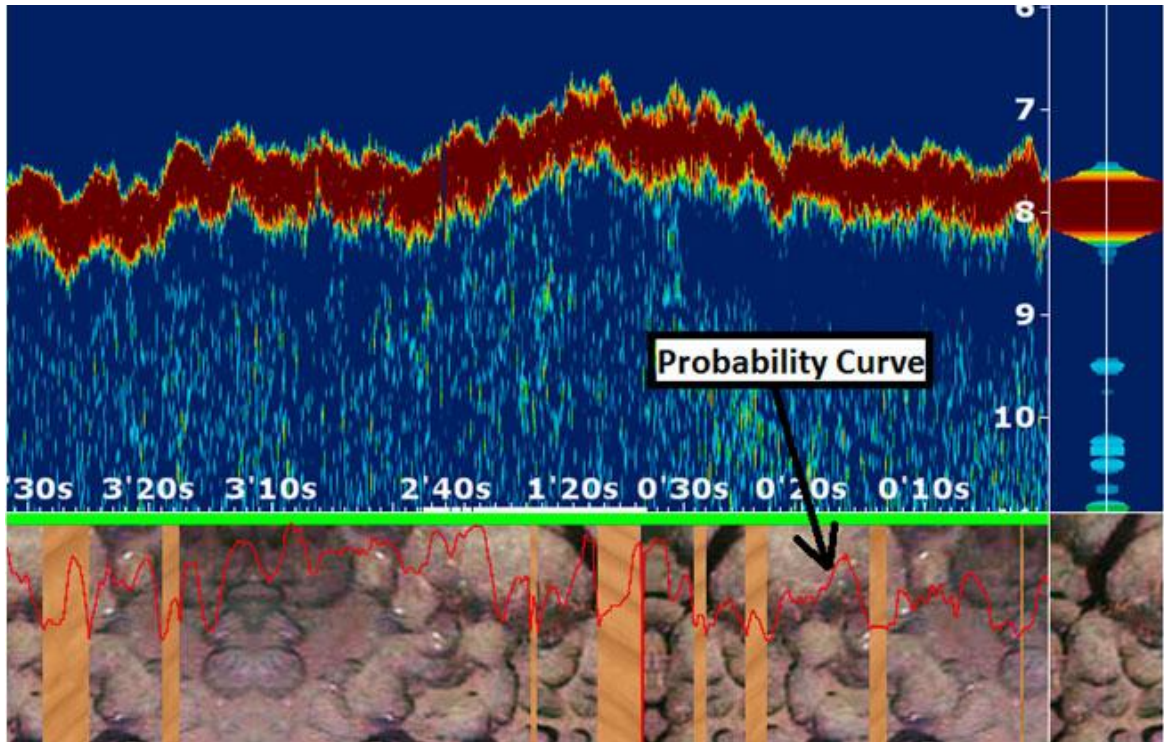
Aquarium mode with probability curve

Bottom components

The BBDS1 determines the bottom structure and separates it into the following categories: mud, sand, gravel, and rock. This is achieved by analyzing echo characteristics from the bottom components such as particle size and hardness. Connected to the BBDS1, TimeZero can then display the major component of the bottom among: Rock, Gravel, Sand and Mud.

Probability of discrimination
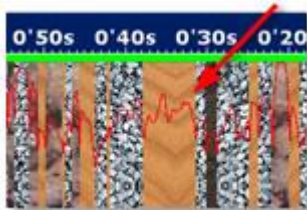
In addition to providing the seabed information, the BBDS1 also sends the probability of discrimination allowing you to know how reliable the data is in particular areas.

The probability curve (Red line) provides you a quick view of the component value reliability.

In this sample we can see that the red line is around 75%, which means that the component indicated (SAND) is reliable.

Display Bottom Classification using the Variable color Track:
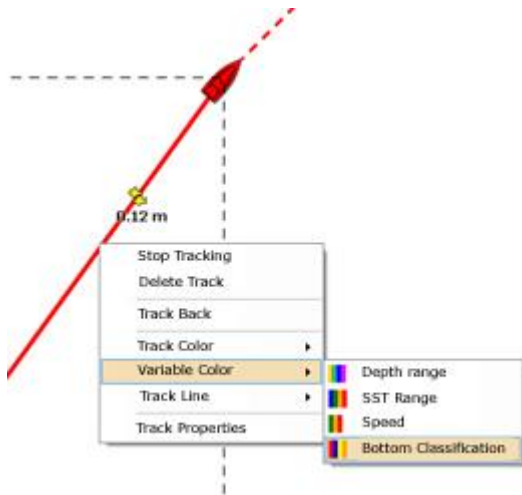
1. Right-click on the track displayed on chart

2. Select in the contextual list: "**Variable Color"**

3. click on "**Bottom Classification**"

Default colors used for the track display are those used on the Furuno equipment (NavNet 3D):

- **Mud** : Blue

- **Sand** : Yellow

- **Gravel** : Orange

- **Rock** : Red

The track color settings can be modified from the "**Ship & Track**" **option menu**:

1. Click on the **MaxSea** button and choose **Options...**

2. click on the "**Variable Color Setup**" Button

3. select "Bottom Classification" from the pop-up menu

4. select the color you want to use for each bottom classification type.

Bottom hardness

MaxSea can also register the bottom hardness and display it using a color scale on the chart (similar to the depth shading).

Register Bottom Hardness

If the BBDS1 sounder provides the information of the bottom hardness, click on the PBG button to register this information as same time as it is done with the depth information.

Caution! the bottom hardness's information can be collected only when the depth information is correctly received.

Display Bottom Hardness on the chart

Right-Click The Ribbon **PBG tool** and select the **Bottom Discrimination** to display the Bottom Hardness color on chart.

Colors are distributed from the softest bottom (mud) to hardest bottom (rock) as following :

"Black & White" or "Black & White inverted" colors can also be selected from the PBG option.

"Classic color" palette	"Black and White" color palette
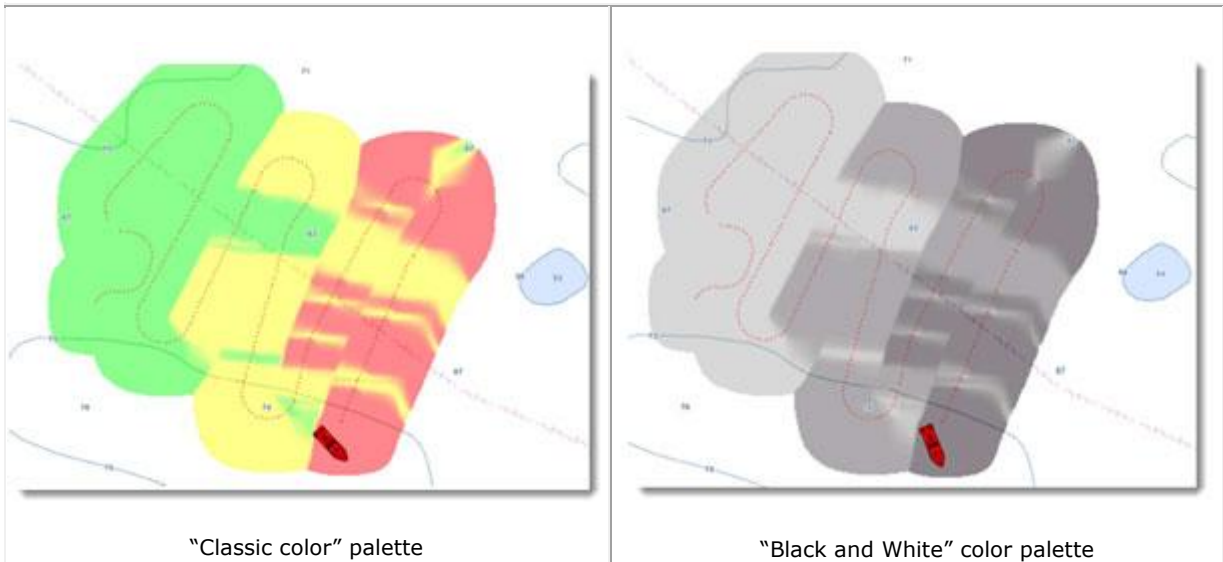
Probability filter

The probability value received can be used with the Bottom Hardness color scale to only show data in area where the probability is high (filtering out uncertain data).

Activate the filter:

1. Click on the **PBG** Ribbon button and choose **Options...**

2. Check **"Minimum Bottom Discrimination probability"**

3. Move the cursor along the slide to select the minimum value from 0% to 90%.
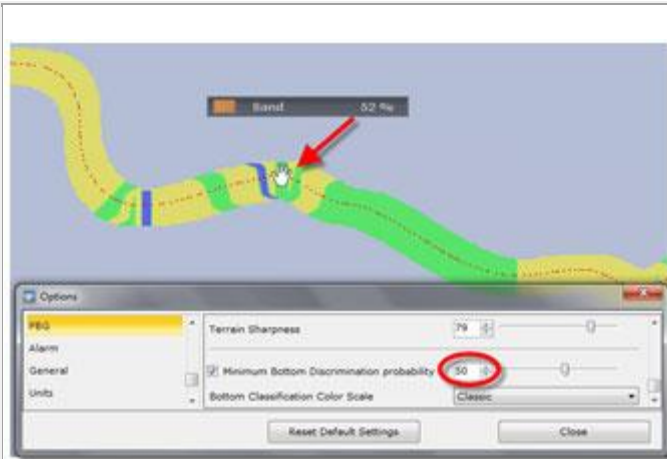
"**Sand**" with a probability of **52%**. **Minimum is set to 50%**, data is then displayed on chart.	On same position, **75% filter Hardness** is chosen, data doesn't appear anymore.
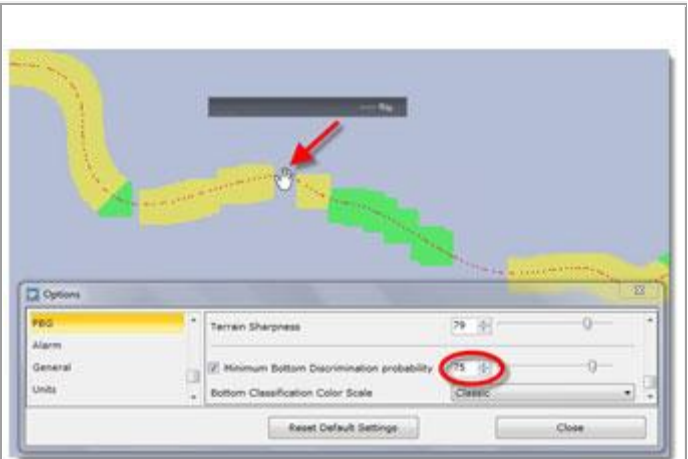
Bottom Classification NavData

The "Bottom classification" NavData can be added to the slide bar:

It provides you the real time probability distribution.

Note: colors next to the bar graph are the same colors used for the variable color track.
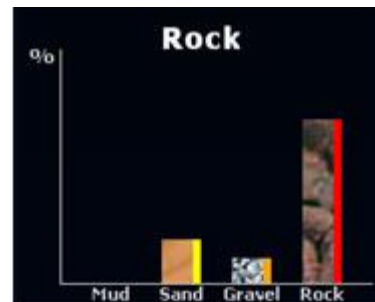
Cursor Bottom Classification NavData

The "Cursor Bottom Classification" NavData can be added to the slide bar :

It allows you to move your cursor on specific area and read the seabed with its probability.

Sounder Adjustement

The gain can be adjusted automatically (Fishing or Cruising) or manually. The HF and LF Gain controls adjust the sensitivity of the receiver. In automatic operation, the gain will automatically allow to display the bottom echo in reddish brown.

.

Click Successively on the Ribbon tool to switch between available modes :

Automatic mode

There is two available automatic modes in MaxSea :

Auto Fishing mode: Select this mode to clearly display weaker echoes for searching fish schools
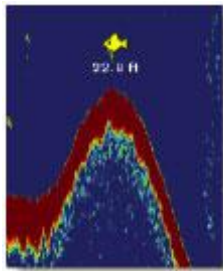
Auto Cruising mode: Select this mode to clearly display stronger echoes (for example, bottom) and suppresses weak echoes. Use it for general cruising
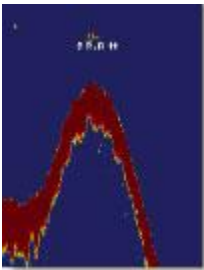
Manual Mode

Select this mode to manually adjust gain.

To adjust the value, either click on the **LF** or the **Hf** tool in the ribbon, click on the slider directly or use the mouse wheel (with the cursor over the slider). The setting range is 0 to 100.

Note: use a higher setting for deep waters and a lower setting for shallow waters. In any case, adjust the controls so that a slight amount of noise remains on the screen.

Manual Gain LF: 0%	*Manual Gain LF: 100%*

Interference Rejection

Interferences from other fish finders and electrical equipment can introduce artifacts (or noise) on the sounder screen. Click on the Sounder Adjustment Ribbon menu and choose between Auto/ Off / high or Low.

Note : Turn the noise limiter circuit off when no interference exists, otherwise weak echoes may be missed.

3D database Overview

(**Exclusively included in MaxSea Explorer**)

MaxSea TimeZero is delivered with a World wide 3D database, when purchasing new chart areas, the 3D Chart database will be automatically updated.

The best way to proceed is first to import more precise 3D data such as MapMedia 3D Chart database on your fishing area. Now that you have more references in your 3D database, you can enhance it with your own files (imported from a previous MaxSea V12 version) or Real Time sounding data using MaxSea's PBG (Personal Bathy Generation) capabilities.

This way you will be able to enhance the quality of the database as you navigate by correcting the chart values with your own measurements.

There are three available 3D database formats:

- o The "**3D Chart Database**" uses the ".dbt" files from the MM3D charts (stored in: C:\ProgramData\MaxSea Int\DATA\Terrain\ )

- o The "**Static Database**" stores the depth information that has been imported (either from a "PTZ" or "XYZ" file). Basically, this database will hold the PBG data that was created using a previous version of MaxSea. Note that when you import 3D data in the static database, MaxSea creates an individual file (ending with ".ptz2") for each import. This allows (advanced users) to "remove" an import. Simply remove the corresponding file from C:\ProgramData\MaxSea Int\DATA\PTZ2\.

- o The "**PBG database**" is the current or active database that stores the depth recorded in MaxSea TimeZero. This database is "more powerful" because it will allow advanced edition/transformation of the data in the future (for example "erase all the PBG recorded in between two dates"). The active PBG data is stored in the same file as the tracks: C:\ProgramData\MaxSea Int\DATA\Tracks2.mdf.

MaxSea TimeZero allows to merge together the three databases in the display on screen The 3D PBG database is displayed in the foreground overlaying the others database.

PBG Real Time and 2D/3D view

(**Exclusively included in MaxSea Explorer**)

The PBG Real Time Real Time allows to get depth data from a sounder in real Time. When the function is activated, depth data are automatically recorded in the database and the 2d or 3D displays are updated in real time. The 3D PBG Database can be merged in real time on screen with the other 3D database but the information data coming from your sounder are not merged with the other 3D data sources.

 Click on the PBG button to activate or deactivate the real time recording of depth data.

As recording ship's track the PBG's tracks are automatically recorded in real time and the 2D and 3D displays are simultaneously updated depending on the display configuration.
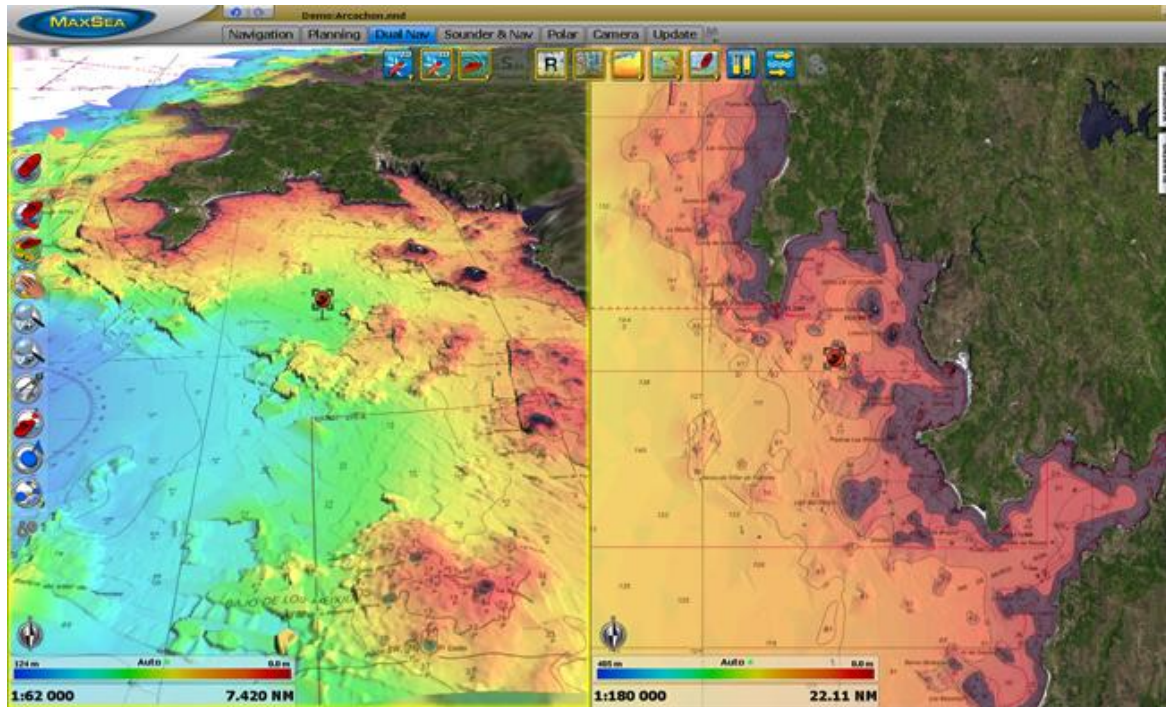
Additional settings allow you to refine the 3D data presentation on the screen and don't modify the recorded data.

▶read more in the "PBG 2D and 3D displays" related topic.

Additional settings allow you to refine the 3D display on the screen and these don't modify the recorded data.

Right-click on the **Depth Shading** Ribbon tool and choose

Depth Contour Lines to show/hide Depth Contour lines overlaying on Chart.

Depth Contour Lines can be displayed even if Depth Shading is unselected.

Contour Lines Density click and choose between Very Low or Low or Medium or high or very High. The density of the contour lines can be adjusted directly from the scale. Click on PLUS or MINUS to increase or decrease the contour lines density.
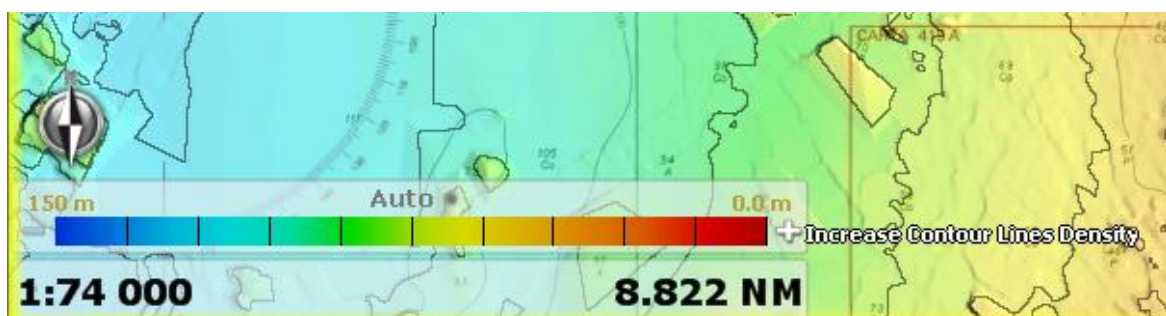
Very low Contour Lines display, click on Plus to increase
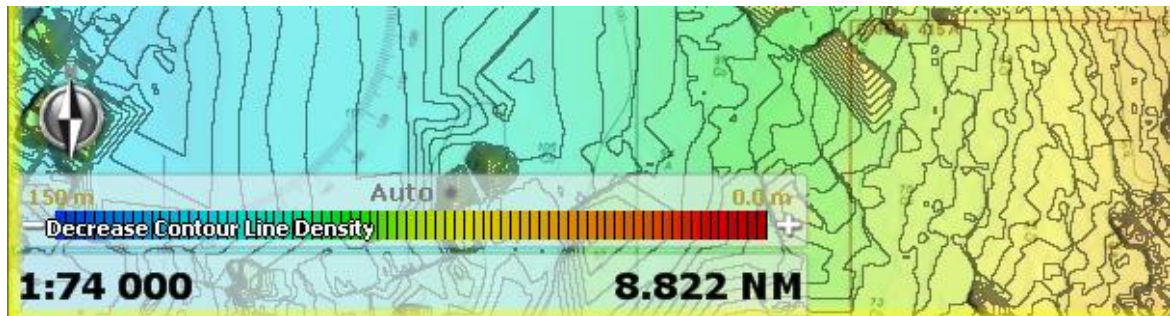
Very High Contour lines display, click on Minus to decrease

Click the **PBG Points** ribbon tool to show/hide all the PBG points stored in the PBG tracks. This option will help you to find quickly available PBG 3D data. PBG points are shown independently of the Depth Shading selection.

 Use the **Delete PBG Points** tool to erase wrong PBG points directly on the chart.

MaxSea TimeZero provides three different 3D databases. Each of these 3D databases can be activated or disabled independently. When all the 3D databases are selected, MaxSea merges them in real time on screen.

1. **3D Chart database**

2. **3D Static database**

3. **3D PBG database"**

Terrain Sharpness: This parameter allows to "smooth" or "sharpen" the 3D data. User can adjust it from PBG /Options /MaxSea Menu.

| **2D view - lower sharpness (0)** | **2D view - higher Sharpness (100)** |

| **3D view - lower sharpness (0)** | **3D view - higher Sharpness (100)** |
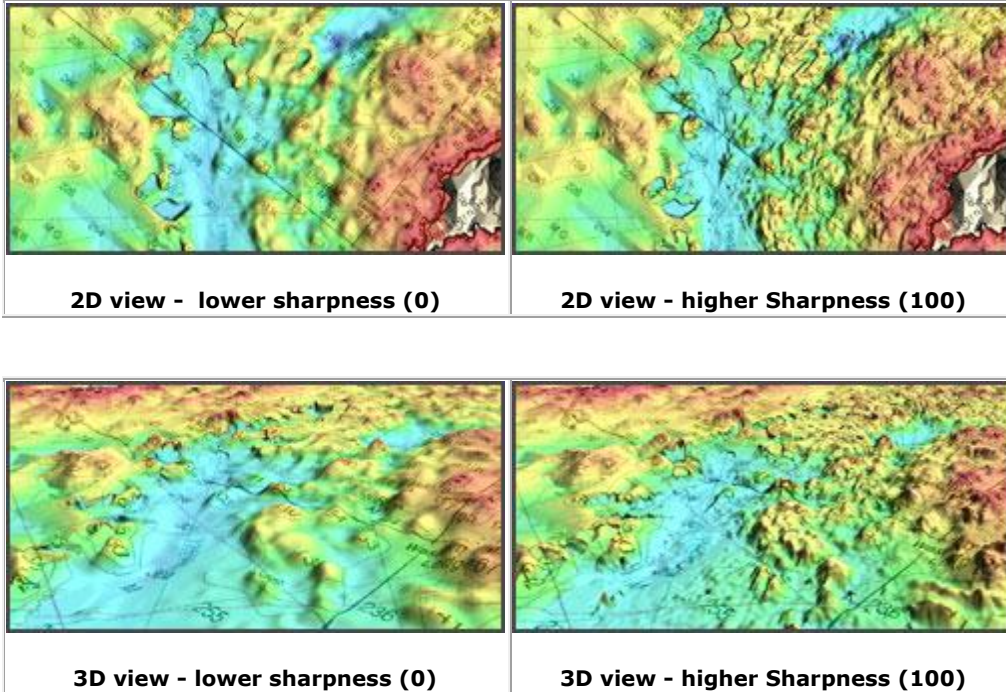
PBG filters

Tidal Height correction can be turned on /off from **the PBG /Options/ MaxSea menu.**

This Correction can be set from the PBG/Options / Maxsea Menu: in <u>Automatic mode</u> the nearest tide station (from own ship position) will be used automatically. <u>In Manual mode</u>, the user can choose the Tide Station as wanted (choose the "Set Reference station").

Note: set the reference station from right-clicking on a tide station icon on chart and choose "Use as reference Station"

Depth filters:

Configure a specific Depth Scale by typing the limits values that will be taken in account in the PBG filter.

Speed Filters:

▶Read more in the "Configure the Acquired 3D PBG Data" related topic.

Reset Consistency Filter :

Consistency filters are set in the PBG options menus. These filters allow to compare the coming values at a same position against values stored either in the 3D static database or in the 3D chart database and do not take in account the wrong values.

▶Read more in Configure the Acquired 3D PBG Data the related topic.

The PBG /Options menu allows to access to additional settings before recording Depth coming from your sounder in the 3D PBG database.

Tidal Height Correction: check to apply Tidal correction.

Set Reference Station: click on this button for how to choose the Tidal Height Station reference :

1. **In Automatic mode**: Click to select this filter and the nearest tide station from own ship position will be used automatically.

2. **In Manual mode** : If you want to use a specific station, display tide icons on chart from selecting them under Charts in the ribbon. Then right click on a tide icon and choose "**Use as Reference Station**" in the contextual menu.

PBG filters : PBG filters can be turned on/off directly from PBG in the ribbon. You can also turn on/off this in the PBG options menu by checking PBG Filters.

Minimum Depth Filter and **Maximum Depth Filter** allow to define value for depth limits.

Consistency with previous recorded Data: This filter allows the comparison between the actual acquired data (coming from the sounder) and the last known valid depth value recorded. by default the value is fixed to 75%, this means for example that if the last recorded value is equal to 100m, the next recorded value needs to be equal between 25 m (100-75) and 175 m (100+75) in order to be recorded in the 3D PBG database.

Consistency with 3D Database: this filter allows the depth value's comparison between the actual acquired data and the 3D database value at the same geographical position. When the "Merging 3D Chart Database" is checked , the comparison will be done between all 3D database together and if this option is unchecked it will be done with the static database at the same position.

Merging 3D Chart Database: check to take in account 3D chart data value to compare depth values at a same position before recording PBG depth values.

Fixed Data Rejection: Sometimes, the sounder is on a standby position, in this case a fixed depth value is sent. This filter allows to minimize the number of fixed depth values to be recorded in the 3D PBG database.

The PBG Brush Width: This parameter allow to change the "width" of a PBG track. By default the PBG Brush is equal to 400m. Change this value depending on the PBG track recorded if it is your first recorded (large is recommended) or not.
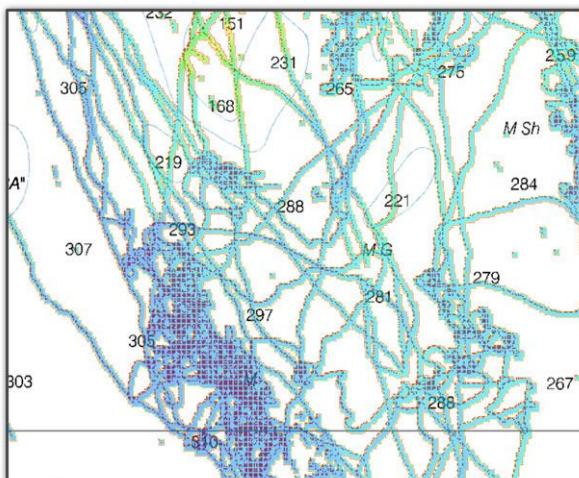
Small Size (each individual pass can be seen):10m
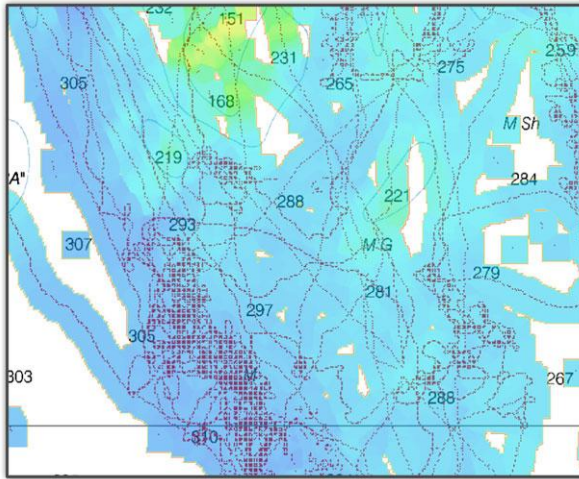
Medium Size (the holes are being filled):200m
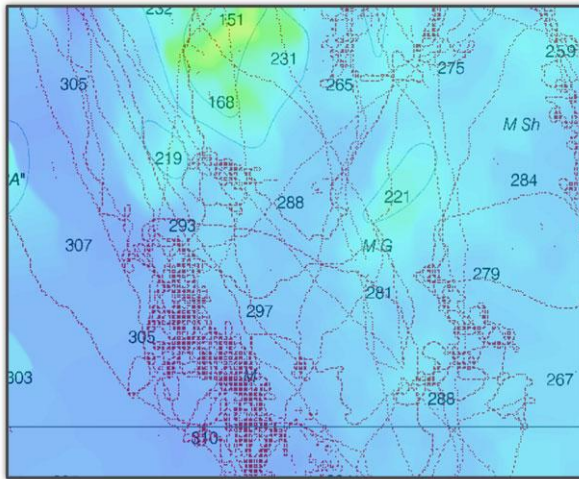
Large Size (all the area is interpolated):1000m

Note: even with a very large brush size, the details are not disappearing. MaxSea Time Zero uses a very advanced interpolation process that keep a good detail were the data has been recorded while filling the "holes".

A recommended brush size is 100 to 300m. Feel free to experiment as this parameter is dynamic (so you can change it in real time) and is applied on both the PBG and Static database.

Note: If the user is just starting to record new 3D data, a large brush size is recommended.

Contour Lines Density : click and choose between Very Low or Low or Medium (select by default) or high or very High. The Contour lines density options are directly available under the PBG ribbon. .

Terrain Shading : this parameter allows to apply more or less shadow on the depth shading chart to increase or decrease the 3D effect display.

MaxSea TimeZero Recreational v2.0.3
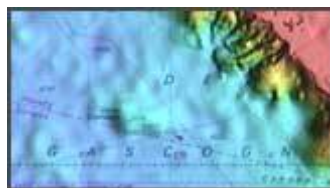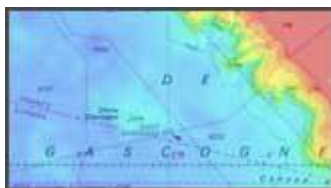
Without Terrain Shading (0)   With Terrain Shading 50% filtered

Note that the Terrain shading filter is available for all together 3D database.

Terrain Sharpness: This parameter allows to "smooth" or "sharpen" the 3D PBG data. Enter directly a value between 0 to 100 or click and move the cursor along the slide bar to increase or decrease the value. The Terrain Sharpness can be directly adjusted under PBG ribbon.
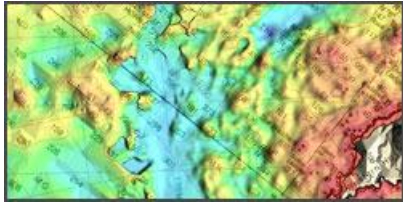
Without Terrain Sharpness   With maximal Terrain Sharpness
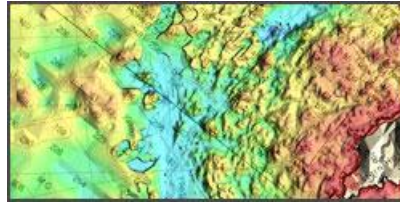
Note that the Terrain Sharpness filter is only available for the 3D PBG recorded zone.

configure depth sounder received signal

(**Exclusively included in MaxSea Explorer**)

Adjust the receiving Depth data depending on the sounder characteristics

Before turning on the PBG function it is recommended to adjust several parameters under the "Options" menu.

First time you will have to enter the position of your sounder in the Transducer Draft in the Install Options menu as you did for the keel draft.

This option allows you to choose an immersion value for your Echo Sounder head in case it is not self compensated. It is also important to correct the offset of longitudinal and lateral Transducer Positions.
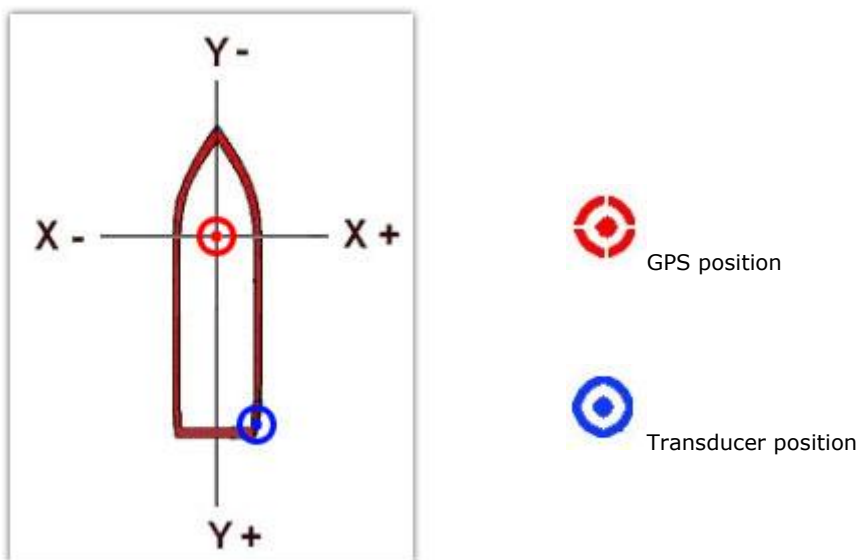
These parameters can be defined in the **Install Options** Menu

NavData Maximum Depth: is where to change the DPT NavData's Display scale depending on the depth (very shallow/shallow/deep/very deep).

Depth Display: is where how to configure the **DPT NavData**'s range display, either choose under Sea Level or under Keel. For example the depth measured **Under Sea level** is 100m and the keel Draft is fixed to 8.0m. When you switch the Depth Display from Under Sea Level to Under Keel, the DPT NavData's Range also changes and DPT will be be refreshed to 92m. Be careful if the depth and the keel Draft information are both included in the NMEA sentence, the DPT range will also take in account this difference.

Transducer Draft : enter the transducer distance below water. In the DPT NavData This information will not be taken in account if this information is directly received from the NMEA signal.

Longitudinal Transducer Position : enter the longitudinal distance depending on your own ship pos (positive value).

Lateral Transducer Position (-port): enter the lateral distance depending on your own ship position.

Importing & Exporting 3D data

(**Exclusively included in MaxSea Explorer**)

The **"Import/Export"** option available under the MaxSea Button will allow you to Import or Export files where 3D data are stored.

MaxSea TimeZero can Import information from various files format:

- **PTF** (MaxSea v12 layers Format) is a previous MaxSea v12 User's data layers file format.

- **XYZ** (MaxSea v12 PBG Export)

- **PTZ** (MaxSea v12 PBG database) note that the 3D vector chart points contained in the PTZ file will not be imported. The same data can be found in the mm3D vector chart data (dbt file).

- **Olex** Depth Database Export.

- **BTH** - Nobeltec.

Note : Before importing please check beforehand that the v12 database doesn't contain erroneous PBG (Personal Bathymetric Data) or the 3DDB.PTZ database is not corrupted, even partially. Once the database is clean, you can import it into MaxSea TimeZero.

Select the type of data you wish to import :

1. Check the corresponding radio button and click on Next.

2. Click on **"select the files to import"** to explore your hard disk and choose the file to import.

3. Select Import Filters

   - **If "PTZ - MaxSea v12 PBG database"** option has been chosen, select "Remove points out of range" option to avoid importing data outside the Minimum/Maximum depth range (depending on the fishing area), then check the "Remove points using statistical analysis..." option to automatically detect and remove inconsistent data.

Imported PTZ without applying any filters:	Same file imported with the "Remove points using statistical analysis…" Option:

| The unfiltered data includes absurd depths, like –1000m. Having "incoherent" depths in an area strongly affects its content. Consequently, a "normal" depth can be highly "shifted". | The filter removes erroneous data. Sampling becomes more precise. |
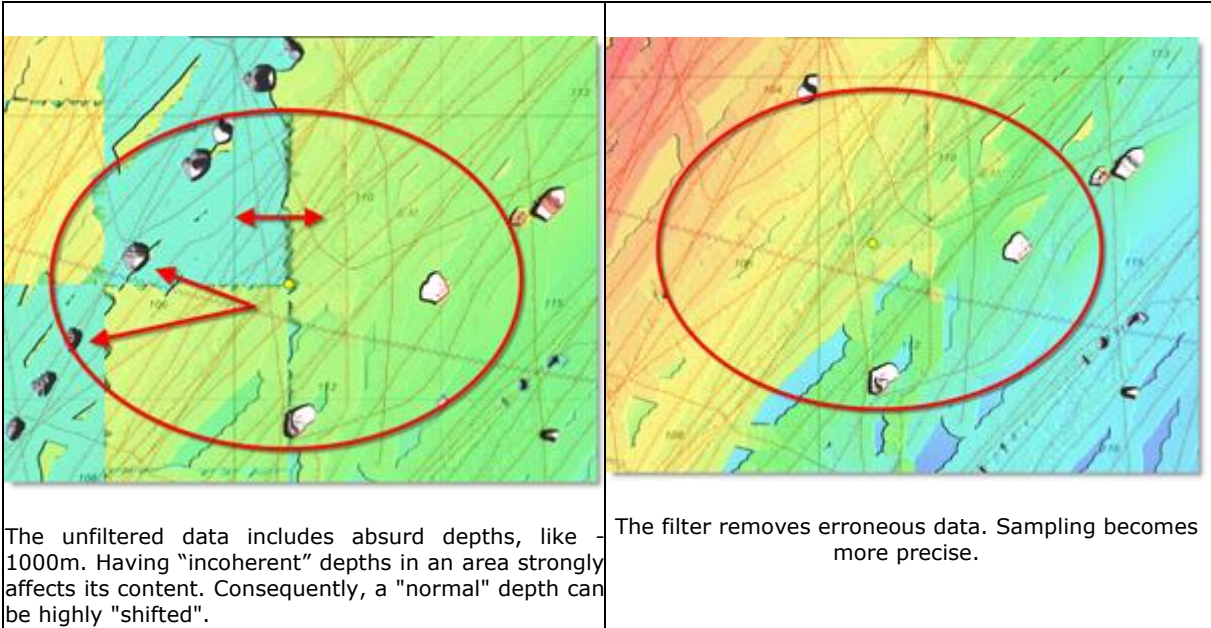
Display results with and without filter:

4. Browse and search the PTZ file stored on the Hard disk to import.

5. Select Click on finish and a dialog will display a report of the Import result or a warning is displayed if the import failed.

Note : if the import takes too much time, you can cancel by clicking on the "Cancel" button.

FAR-NN3D overview

⚠️ - **Before starting MaxSea with FAR-NN3D, make sure that :**

1. Settings Up MaxSea / FAR-NN3D are configured

2. FAR-NN3D system is powered on

3. Your Computer is correctly connected to FAR-NN3D network

Radar Solutions are an add-on to MaxSea(**Exclusively included in MaxSea Explorer**) which allow users to interface Radar Antenna to the software.

MaxSea can display in real time, radar overlay image at any scale on the cartography. It can display as well, targets coming from NavNet Radar or other FURUNO Radar FAR2xx7 using network for transferring in MaxSea.

Radar Overlay Display

If the Radar unit is turned on and is properly connected to the computer.(Read more in **"Configuring the FAR2XX7 Series Radar with MaxSea**" related topic)

The Radar image is automatically displayed in the Radar operating area. The Transmit function in the

Radar Ribbon is checked. When the Radar's status is selected on Standby (Transmit in the Radar ribbon is unselected), the Radar Workspace is colored in black and a message gives you following information:

ST-BY

On Time xxxxxx.x hour

TX time zzzzzzz.z hour

MaxSea TimeZero Recreational v2.0.3
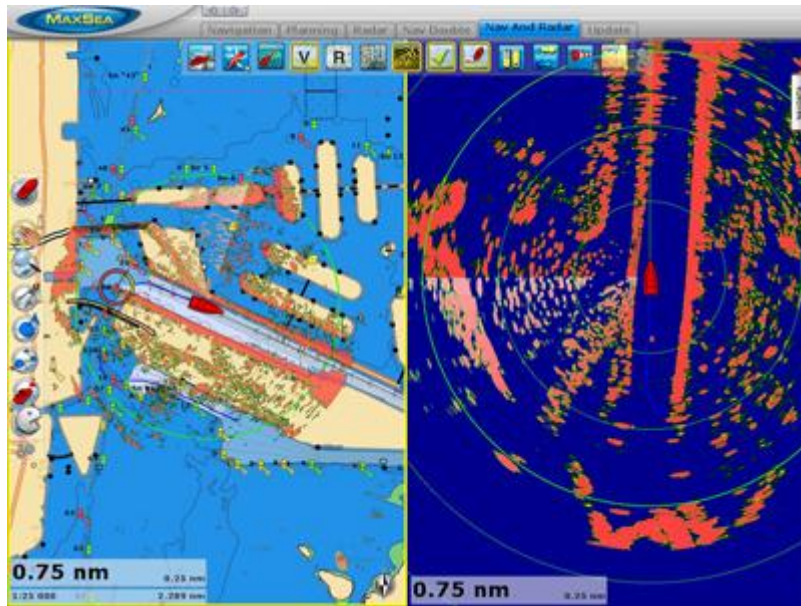
The Radar echo can be also displayed overlaying on the chart in the **Monitoring** or **2D/3D** or **Nav &
Radar**. workspaces. The Nav & Radar workspace provides two frames, the right one is dedicated
exclusively to the Radar and the left is dedicated to your navigation and to show your Radar overlay.

Radar Overlay Display settings

o **Radar Overlay:** to display radar overlay on chart. This function is only available in
the Monitoring, the 2D/3D and the Nav & Radar workspaces

o **Display Ring**: click to show or hide Ring

Right-click My Boat Tool in the Ribbon and select to show or hide:

o **COG/SOG Predictor**

o **Heading Line**

MaxSea allows user to display more information in the radar operating workspace such as overlaying
all type of layers (Marks, events, routes, targets and tracks) and POIs. You will be able to manage the
tracks and route directly in the radar operating workspace as you do in the other workspaces.

Note that the right click on the own ship in the Radar operating workspace allows to activate the own ship
tracking and/or display the COG/SOG predictor and/or Display the Heading Line and/or activate alarm
(anchor alarm).

Range control

The range defined the Maximum distance from the GPS position to the Radar echo displayed on chart.

Radar Overlay Range controls can be directly set from Tools Bar [R+] and [R-]. When the Radar Auto centering is activated, Range controls enables the radar picture to be viewed at varying scales.

Click to provide greater detail of the radar echoes close to your boat, and should be used as you approach coastlines, harbors or boats in area. This corresponds to short range scales or Zoom in the Toolbar.

Click to provide the best overview of your boat's relationship to land, large ship targets in or beyond view. This corresponds to long range scales or zoom out tool in the Toolbar.

Range Synchronisation: click to send and adjust the Radar's range according to the chosen Range in MaxSea.

Note: the Range value is displayed on the right border of the screen.

Calculate Baering by EBL and VRM in the radar operating zone

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

EBL is normally used to measure the accurate bearing from your GPS's position to a target.

VRM is normally used to measure distances to targets. The range for the VRM is displayed in Nautical Miles and can be found in a tool tip on the chart.

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

Double-click on EBL/VRM tool in the toolbar to erase all the chart display

Guard Zones

MaxSea allows user to draw and display Guard zones in the radar operating workspace.

Two guard zones can be set in a sector or in any form. These zone act as suppression zones, avoiding unnecessary overloading to the processor and clutter by disabling automatic acquisition and tracking outside them. Targets in an automatic acquisition zone are shown in red color.

User can acquire important targets without restriction (AIS or ARPA,.... targets), an essential aid and source of information on assessing the situation. Guard Zones generate visual and audible alarms when targets entered the operator-set zones. One of the Guard Zones can be used as an anchor watch to alert the user when own ship or targets drift away from the set zone. (read more in **MaxSea Options Alarm** to set guard zones)

Click to choose the Guard zone 1 or 2 tool to draw the first zone in the radar operating workspace. Click again on this tool to hide the guard zone1 drawing on chart. Right-click any where in the operating radar workspace and select Guard Zone 1 or 2 to show or hide it.

Click to choose the Guard zone 2 tool to draw the second zone in the radar operating workspace. Click again on this tool will erase the guard zone2 drawing on chart. Right-click any where in the operating radar workspace and select Guard Zone 1 to show or hide it.

Radar Display settings

MaxSea allows user to customize the operating Radar workspace display. This can be done under the **Radar Option**s menu.

- **Day and Night Background color:** Select a color between **Auto** (white color is selected by default for the Day Background and black for the Night Background), **Black,** or **Dark Blue.**

- **Echo color :** Select a color graduation between **true** (same as the radar echo), **Green,** or **Yellow.**

- **Echo Transparency for overlay:** Adjusts the intensity from 0% to 80% (20% by default) of echo transparency on the chart (this does not affect the Radar Work Space)

- **Sweep Fade** : check to erase the trail of the echo sweep, the Radar will sweep in real time.

- **EBL Reference**: When set to "True", the EBL (Electronic Bearing Line) is referenced to the North. When set to relative, the EBL is referenced to the bow of your vessel.

- **Rings Interval:** You can manually adjust the number of Radar Range rings you want to display in the Radar Work Space. Leave the option set to "Automatic" if you want TimeZero to automatically adjust the number of rings according to the Radar Range and size of your screen (or window).

- **Bearing Scale Mode:** When set to "True", the Bearing Scale (numbers displayed on the outer circle of the Radar Work Space) is referenced to the North. When set to relative, the Bearing Scale is referenced to the bow of your vessel.

- **Own Ship icon:** Check to display the own ship icon symbol (own ship icon symbol and ship's dimensions may be chosen in the Install options menu). In the largest scale, the symbol becomes smaller until disappear. Own Ship Icon unchecked the own ship will be represented with a dot (or a circle) depending on the actual chosen range.

- **Display Trail** : check to display or select **Echo Trail** in the Radar Ribbon to show hide the trail.

- **Trail color**: click to choose the color trail between blue, green, yellow or white.

- **Trail Time**: select a time value (between fixed values from 0'15s and 1h00' or continuously) to define the duration of the trail track. Note that the null trail time or less from 15 secondes. are not transmitted.

- **Trail Graduation**: to display echo trail in **single** motion the trail will be displayed in full color) or **multiple** (the trail is displayed with a gradation of color depending on movement duration).

- **Trail Mode**: to display echo trails in **True** or **Relative** motion. The relative trails show relative movements between target and own ship. The Echo trails are simulated afterglow of target echoes that represent their movements relative or true to own ship. This function is useful for alerting you past possible collision situations.

o **Clear Trail**: click to Remove trails from the display temporarily.

o **Trail Level**: is the intensity of the afterglow which extends from radar targets. This level may be chosen from 1 to 4 level value (number 4 is the greater intensity of afterglow).

o Click on "**Search Rada**r" to find all network Radar connected.

Note :the trail settings (display, mode, shade, level and length), can be configured as well in the Radar Ribbon menu at any time.

Adjusting Gain and Suppressing Clutter

Adjust the gain control

Gain level: click on the button to automatically adjust. This action cancels manual settings. Right-click on it to display the slide,and move the cursor using the wheel of the mouse along the slide bar to adjust the range from 0 to 100%.

Suppressing Sea Clutter

Echoes from waves cover the central part of the display with random signals known as sea clutter. When sea clutter masks the picture, you can erase it directly in MaxSea by the **Auto SEA** control, either manually or automatically.

Sea level: click on the button to automatically adjust. This action cancels manual settings. Right-click on it to display the slide,and move the cursor using the wheel of the mouse along the slide bar to adjust the range from 0 to 100%.

Suppressing Rain Clutter

As Auto Sea, The Auto Rain suppresses rain clutter in the picture.

Rain level: click on the button to automatically adjust. This action cancels manual settings. Right-click on it to display the slide,and move the cursor using the wheel of the mouse along the slide bar to adjust the range from 0 to 100%.

Adjusting the signal processing

Following parameters can be adjusted directly in the **Radar Ribbon.**

Interference Rejection: Radar interference may occur when near another shipborne radar that is operating in the same frequency band as your radar. Its on-screen appearance looks like many bright dots either scattered at random or in the form of dotted lines extending from the center to the edge of the display. Interference effects are distinguishable from normal echoes because they do not appear in the same place on successive rotations of the scanner.

Be sure to turn off the interference rejector when no interference exists weak targets may be missed.

Echo Averaging:

The echo averaging feature effectively suppresses sea clutter. Echoes received from stable targets such as ships appear on the screen at almost the same position every rotation of the antenna. On the other hand, unstable echoes such as sea clutter appear at random positions.

To properly use the echo averaging function, it is recommended to first suppress sea clutter. Then, do as follows:

1. **OFF:** Echo averaging OFF

2. **(1, 2)**: Detects targets hidden in sea clutter. "2" is more effective than "1" in detecting targets hidden in strong sea clutter. However, "1" is more effective than "2" in displaying high speed targets. Choose the setting best suited to current conditions. For effective monitoring of high-speed craft, you should use "2" together with Wiper.

3. **(3)**: Stably displays unstable targets; distinguish high-speed craft from sea clutter.

Echo Stretch: Normally, the reflected echoes from long range targets appear on the display as weaker and smaller blips even though they are compensated by the radars internal circuitry. The echo stretch feature enlarges targets in the range and bearing directions to make them easier to see, and it is available on any range.

This function magnifies not only targets but also sea clutter and radar interference. For this reason, be sure sea clutter and radar interference are properly suppressed before activating the echo stretch.

| Echo Stretch OFF | High Echo Stretch (3) |
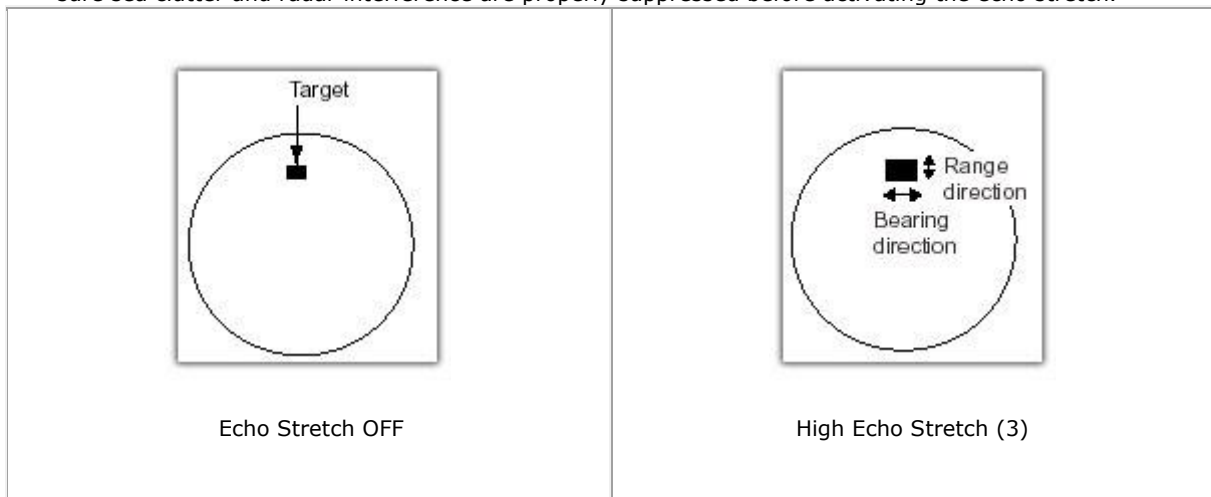
There are three types of echo stretch, 1, 2 and 3, and the higher number is the greater amount of stretching.

Noise Rejection: for example Electrical noise, appearing on the screen as speckles, may be suppressed by clicking on Noise Rejection.

Note that some forms of interference cannot be suppressed.

Video Contrast: by default selected on 1-B

Acquiring Targets

Acquiring Radar targets function permits the display of the symbol, number and motion vector of an manually acquired tracked target visible on screen.

Ten targets may be acquired and tracked manually:

o   Right click any where on the chart to call up the context menu

o   Choose " **Acquire a target**".

If the radar overlay contains a point at this place, it will be stored as a target.

When you attempt to acquire an 11th target, the [Acquire a Target] choice becomes unavailable. (Grey color)

Sharing Charts between MaxSea and NavNet

This function is only available for MaxSea Explorer installed on your computer connected to NavNet 3D network.

The NN3D Server option allows user to share all available charts in MaxSea to 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.

Note that a message warns you if TimeZero is not connected to a NN3D Network.

Routes & Marks Synchronization

This function is only available for MaxSea Explorer installed on your computer connected to 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. Right- Click on **MaxSea Menu** 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.

Radar Signal processing Settings

Adjusting the CCRP (Consistent Common Reference Position).

Measurements from Own Ship (e.g. range rings, target range and bearing, cursor, tracking data) should be made with respect to the CCRP (e.g. conning position). Facilities should be provided to compensate for the offset between antenna position and the CCRP on installation. Where multiple antennas are installed, there should be provision for applying different position offsets for each antenna in the radar system. The offsets should be applied automatically when any Radar sensor is selected.

CCRP position

GPS position

For example:

Radar position

Note that the reference

coordinates are situated at the prow of the boat.
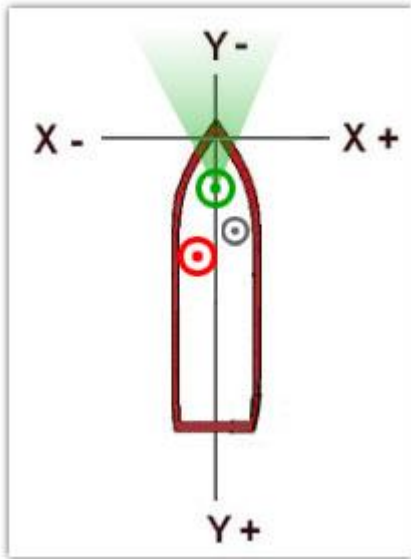
Configure the CCRP under the **Initial Setup options menu** and enter each value:

- o **Longitudinal CCRP Position**

- o **Lateral CCRP Position (-Port)**

Setting up Several Radar Sources

As NavNet System, several Radar sources from a same antenna can transmit data information to MaxSea. Up to two FAR Radar Systems can be connected together to MaxSea.

MaxSea easily allows to manage several Radar sources. Use the **Scan Radar Source** button in the **Radar Options menu** to research and list all **Nicknames** sources radar that were found. This list will be used farther when a Radar source is unavailable. MaxSea will use automatically the first source available in this list

Overview of a network video system

Camera functions are exclusively included in MaxSea Explorer connected to a NavNet 3D System.

MaxSea TimeZero Explorer configurated with the NavNet 3D system can now display video when a network camera is plugged in. Network video system uses wireless IP network for transporting digital video, audio and others data. A network video system allows video to be monitored on the network. The core components of a network video system consist of chosen a network camera.

MaxSea is compatible with Axis and Flir network cameras.

AXIS has a wide range of network cameras, some of them are fixed network cameras and others are PTZ network cameras. MaxSea is compatible with the two forms.

The **network Flir camera** belonging to the range M-Series can be connected to MaxSea via network.

The essential difference between Fixed and PTZ cameras is that PTZ Network camera offers video network functionality combined with the Pan/ Tilt and zoom capability. MaxSea will easily be able to control the camera's movement via network.

Connect your network Camera to an Ethernet network for transmitting video to Maxsea.

1. Play & Plug Camera Compatible with MaxSea

2. Controlling the FLIR M-series network Camera in MaxSea

Play & Plug Camera Compatible with MaxSea

Camera Solutions are an optional add-on to MaxSea TimeZero Explorer Pack.

MaxSea TimeZero will display Video view in real time and control movement if the connected camera allows it (compatible PTZ camera)

All FLIR M series are Network PTZ Camera. A network PTZ camera is an all-in-one integrated networked pan/tilt/zoom camera that allows users to remotely control the pan/tilt/zoom functions live over your local area network.

Go To **MaxSea |Options | Install** and click on "**Camera Install**"

Display the Video viewer

- Click on the cross in the NavData Bar to add the Camera NavData

- If the video viewer is empty , right click on it and choose the Nickname of the configured camera

- The drawing joystick is overlaying on the video if the connected camera is a PTZ

Moving with a PTZ network camera

- Simple Click on each arrow to move the video view on right/ left /up /down

- Apply a long click on an arrow so that the video view moves continuously in the chosen direction

- Click on Plus to zoom in the view

- Click on Minus to zoom out the view

FLIR M-Series

MaxSea TimeZero can be connected to a Flir M-Series, which can be controlled Ethernet. Below is a picture showing a typical connection diagram:
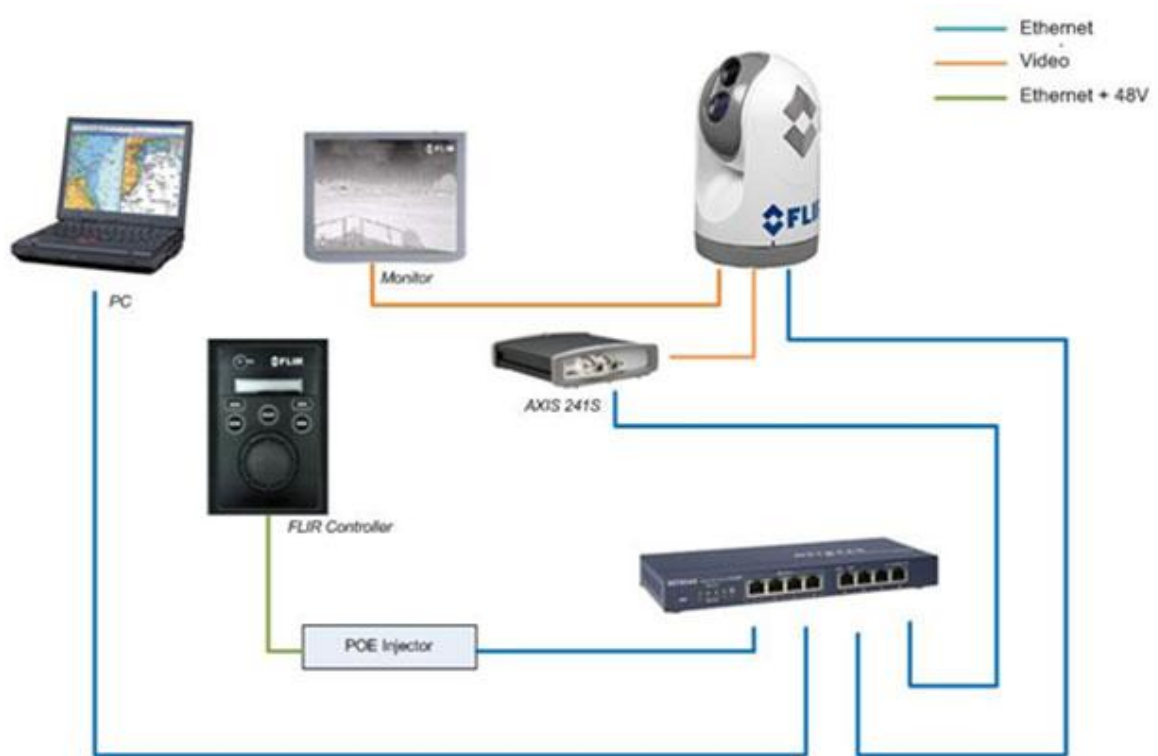
Note that the FLIR M-Series does not output video via Ethernet. According to the model, the FLIR M-Series has one or two analog video outputs (on BNC connection) which can be connected to a monitor, an AXIS Video encoder or a Video Amplifier/Distributor (if the video needs to be split to multiple monitors. If you want the video to be displayed on MaxSea TimeZero (inside a NavData), you will have to use an AXIS Video encoder (AXIS 241S) in order to convert the analog video feed into IP video.

Note: If the Monitor is nearby the PC, the AXIS 241S Video Encoder is optional. You can control the Camera from TimeZero while looking directly at the monitor.

M-Series Configuration

When a Flir M-series camera is connected MaxSea enables advanced functions :

Right click a chosen position on the chart and choose "Move Camera Here" in the menu to adjust orientation of the camera.

Right click any where on the chat and choose "Lock Camera on this position" in the menu. The Camera will keep the observation of the position independently of the ship's movement.

You can also lock the camera on different ways:

- **Object** selected on chart (AIS target, ARPA target, Mark, etc....). To do right click object and choose "**Lock Camera on tis object".**

- Click on **Camera** to select and display the camera cone on the chart as it is shown in picture below:
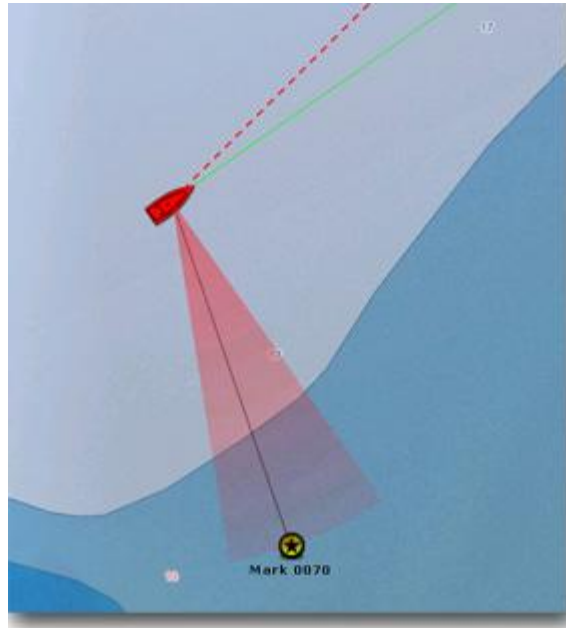
The FLIR camera is locked on the Mark 0070.

Right click the Mark and choose "**Move Camera here**" or click a pan tilt in the video viewer to unlock.

- Own Ship or the active route, to do right click and choose **"Lock Camera on active Waypoint".**

Connecting Instruments

Connection Wizard

Connection Wizard

We suppose that you have physically connected a GPS compatible NMEA 183 to the computer and that you wish to acquire information received from serial ports or NavNet (NN1, versions vx2 or NavNet 3D): date / hour, position, COG, SOG, strength and direction of Wind , etc.....

To bring up the **Connection Wizard** dialog, choose **[Connection wizard]** under MaxSea

Button Configurations Menu:

Choose a type of connection between the following options:

1. **Automatic Port Configuration** to have MaxSea search automatically for your connections

2. **Navnet Network** : to manually add a NavNet network Connection

3. **Manual port configuration** to manually add and configure an instrument or connection.

4. **Auto-pilot** to manually add an auto-pilot connection

5. **Man Over Board (MOB)** to add a Man over board connection

6. **Port Monitor**: to view and troubleshoot NMEA connection

7. **Data Source**: to view and choose the source being used.

8. **Clear all:** to restore factory settings (erase the configuration).

Note : connection wizard is not available if MaxSea belongs to Explorer range and automatically connected to NavNet system .

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.

   <u>At the end all data are listed :</u>

   <u>Check each data getting on port com3, next screen will display reporting data table</u>

     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.

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.

MaxSea TimeZero Recreational v2.0.3
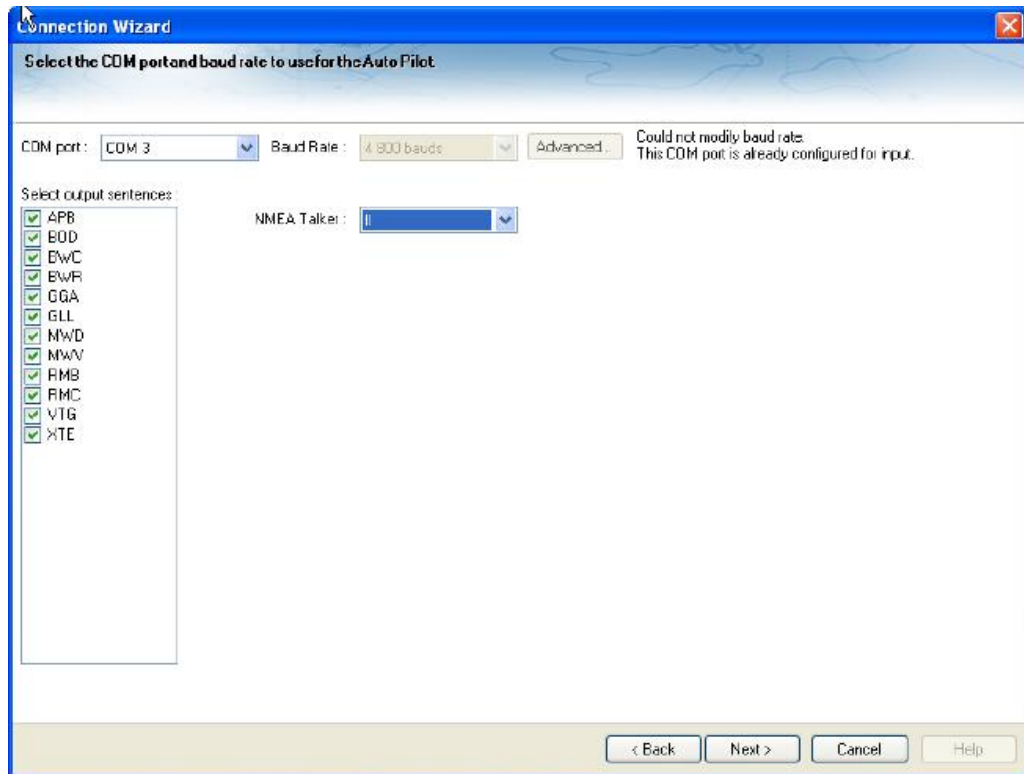
1.

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.
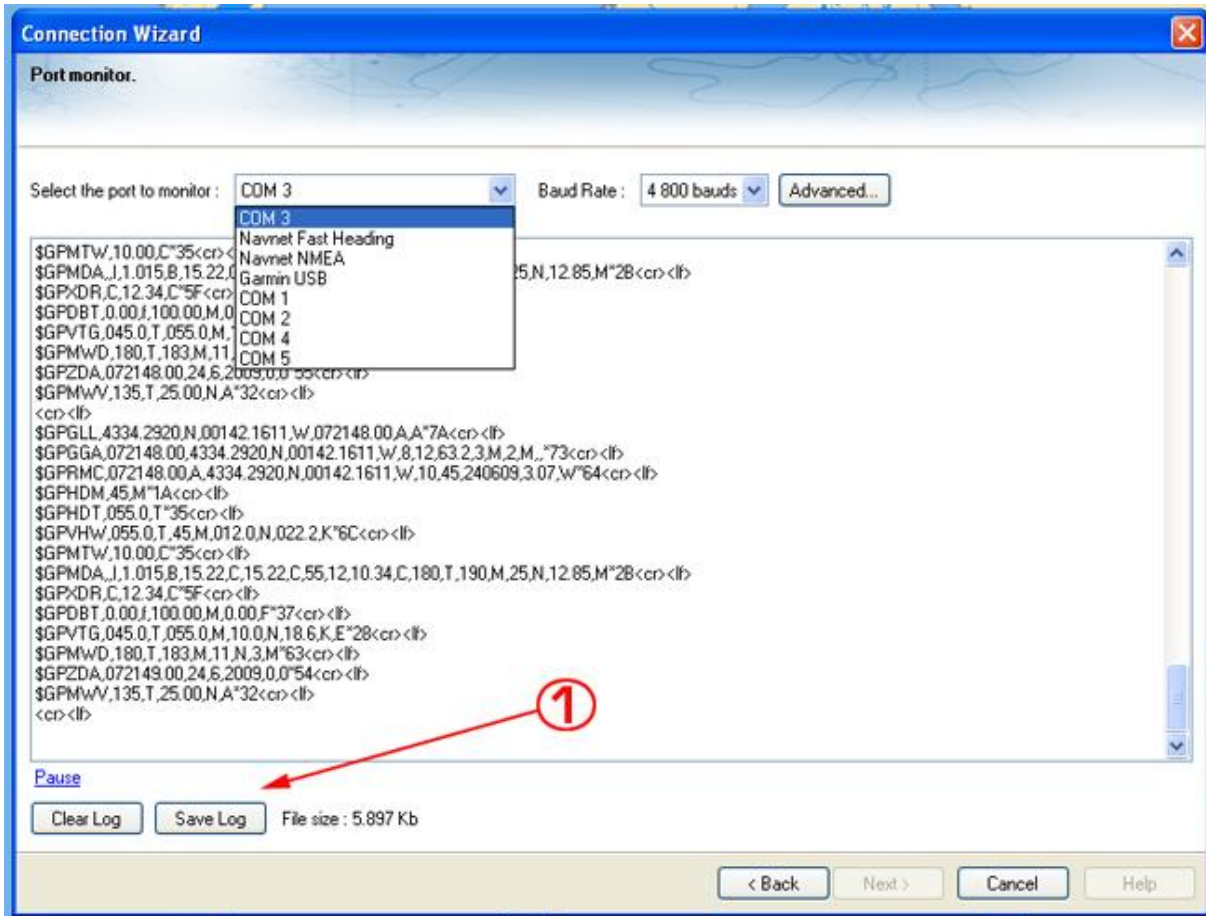
Data Source

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

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.
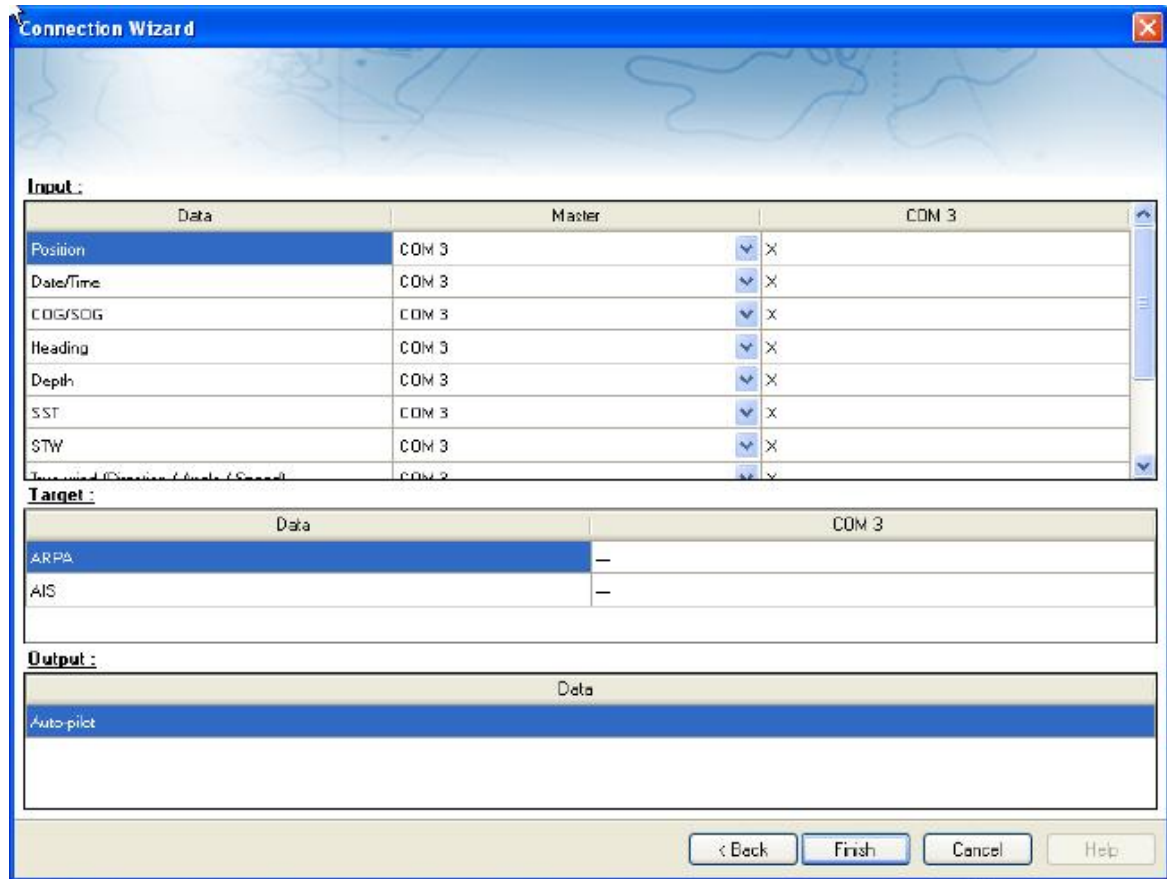
Clear All

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

NavNet Network Connection

> ⏻This function is included in MaxSea depending on your own software version which must belong to Pack Explorer Range.

Before using it, the hardware installation has to be done as following:

1. Setting up your NavNet 3D

2. Power on NavNet 3D

3. Connecting MaxSea to NavNet 3D network

All MaxSea TimeZero versions can automatically received NMEA data from NavNet network (NavNet vx1, NavNet vx2 or NavNet 3D).NavNet 3D system acts as a DHCP server and automatically performs the network configuration via DHCP protocol. The DHCP protocol assigns dynamically IP address to MaxSea which is connected to the Ethernet network while avoiding conflicts of addresses.

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

How to control TCP/IP parameters

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 check if the computer has a valid IP address, use the IPCONFIG command.

<u>**From the Start Windows Menu:**</u>

- **Windows Vista / 7:** type directly **cmd** in the *Search Programs and Files* text area for, **Windows XP**: select Run and type cmd in the text area.

- Press Enter

- Type ipconfig in the command editor.

The ipconfig command displays the IP address:

1. IP Address : 172.031.xxx.xxx

2. Subnet mask : 255.255.000.000

3. default gateway: ....

Ensure that the IP is compatible with the Navnet network (172.31.X.X) Make sure also that the subnet Mask is 255.255.0.0

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.

configuring the far2xx7 series radar with maxsea

FOLLOWING INFORMATION IS (Exclusively included in MaxSea Explorer)

Introduction

In order to operate with MaxSea TimeZero <u>AND NavNet3D</u>, the FAR2XX7's processor software must be version 02.5x.

If you plan to connect one or multiple FAR2XX7(s) directly to MaxSea TimeZero <u>without NavNet3D</u>, you can use version 02.5x or version 03.xx

To check the software version of the FAR2XX7, perform the following steps:

Press or left click **MENU**, then 9-8-2-2 (**SELF TEST**)

Version number is shown here
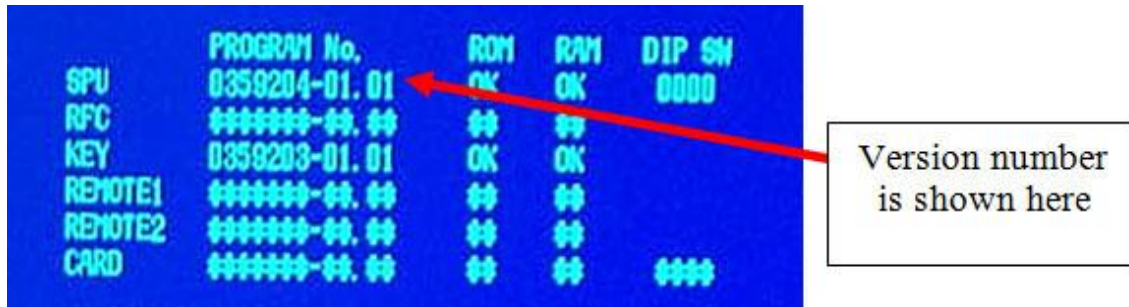
If a radar software change is required, check the appropriate product pages' documents section at www.furuno.com for the correct procedures.

Check and Assign Radar Hostname(s):

When multiple radars are networked or inter-switched together, a unique number must be assigned to each processor. Note that for MaxSea to correctly detect the radar, one FAR2xx7 must be assigned to "RADAR1" (IP address = 172.31.3.6).

To assign the radar a number, hold "HL OFF" and press the "MENU" key 5 times. The "Initialize" menu will appear. Select "Installation" (4), then Radar NO (4). You may also want to set-up the Radar Antenna Position (5). Once the radar number is changed, the radar must be powered down and then turned back on to store the new setting. If applicable, follow the same procedure for each radar in the network, and then confirm that each radar number is unique. You cannot have two radars on the same network with the same name.

Note: Whenever a network change is made, it is recommended that all radars are powered down and restarted.

To confirm the network settings and communications between multiple radars, power up all of the radars in the network, then right click on the Radar Antenna box (top left corner). The antenna information for all of the available radars in a network will appear on the right in the menu panel. Be sure that all the radars on the network are all listed in this panel. If not, check the cables and the network settings.

Setup the Computer's IP address:

You will have to assign a manual IP address to the computer (**usually 172.31.3.150**). This IP must be unique and not already taken by another computer on the network.

To set up an IP address, open the Windows "**Control Panel.**"

Open "**Network Connections**."

Note: If your operating system is Windows Vista or Windows 7, click on "**Change Adapter Settings**" from the **"Network and Sharing"** center as shown below:

Right Click on "**Local Area Connection**" and select **"Properties**."

Select "Internet Protocol (TCP/IP)" and click on "Properties."

Note: Under Vista/7 select "**Internet Protocol Version 4**" as shown below

MaxSea TimeZero Recreational v2.0.3
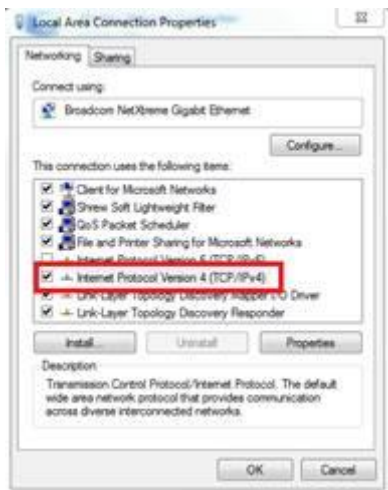
Fill the IP fields as shown below:

Click on **OK** to confirm the change. The new IP can take up to 20 seconds to be recognized.

Turn OFF any Firewall that could prevent data to be exchanged between the Radar and the PC. If you wish to leave the Firewall ON, make sure that MaxSea is authorize or in the firewall exception.

Note: If you plan to connect another computer, make sure that the IP address of the second computer is different (for example 172.31.3.151)

Navigation Information:

1. ***If MaxSea is directly connected to one or multiple FAR2xx7:***

    One FAR2xx7 can be set up to output Position, COG and SOG on the network. From the FAR2xx7 that has a GPS connected to it (serially), right click on the "Own Ship Position" box. Select ON for the "SIO Data LAN Output" (3).

    Other instrument information such as AIS, Depth, and Wind will need to be connected serially to the computer (this information is not broadcasted by the FAR2xx7).

    Note: The Heading is automatically and always transmitted with the Radar Echo on the network. There is no need to connect the Heading sensor serially to MaxSea.

2. ***If MaxSea is connected to FAR2xx7 together with NavNet3D:***

    When NavNet3D is used together with one FAR2xx7, MaxSea will automatically grab the navigation information (Position, AIS, Wind, Depth…) from NavNet3D over the network.

Configure MaxSea TimeZero:

Open MaxSea in "Navigation" mode (to enable the instrument acquisition), launch the "Connection Wizard" (from the MaxSea Menu Button) and perform an "Automatic Ports Configuration".

MaxSea will automatically scan for information on the network and for instruments connected serially (if applicable).

ARPA Information:

1. Configure the FAR2xx7

The ARPA target output must be setup through the LAN for all the FAR2xx7.

Hold "HL OFF" and pres the "MENU" key 5 times.

The "Initialize" menu appears.

First, select "ARP Preset" (6). Select "True" for "TTM Output" (2)

Select "Back" to return to the "Initialize" menu and select "Other" (8).

Set "INS" (5) to "LAN". Repeat this process for each processor on the network.

2. Configure MaxSea

Open the MaxSea Connection Wizard and select "Manual Port Configuration"
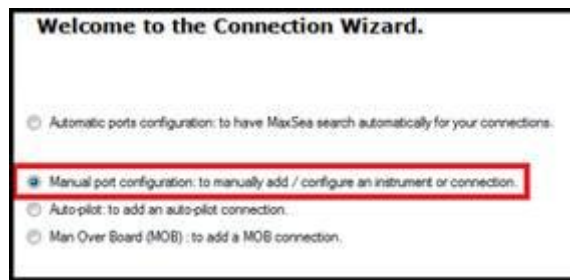
Select "UDP Connection":
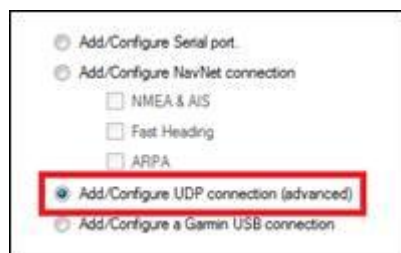
Select the Network Adapter corresponding to the computer IP address then type "10028" for the UDP port.

MaxSea TimeZero Recreational v2.0.3

Note: If you acquire an ARPA target on the FAR2xx7, you should see $TTM sentences flow in the window.

Click on "Next". When MaxSea is done analyzing the port, the following window will appear. Select "UDP 10028" in the list and make sure that "ARPA" is checked.
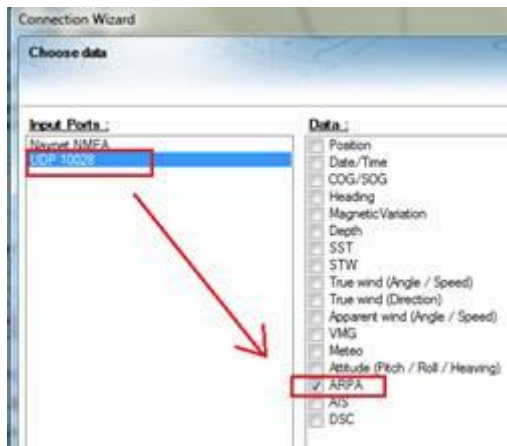
Click on "Next" then "Finish" to finalize the configuration

Permission	Type	Category	OS	Product	Version	Navnet	Keyword
End User	Installation Guide	Instrument Connection	XP/VISA/7	Medium	MaxSea Time zero **version 1.9 Explorer**	X7	X7, 21X7, 2xx7, big radar

MaxSea NMEA 0183 proprietary sentences

References

o   NMEA 0183 Standard for Interfacing Marine Electronic Devices Version 4.00

NMEA 0183 Proprietary Sentences

o   NMEA 0183 Definition of proprietary sentences

Proprietary sentences provide a means for manufacturers to use the sentence structure definitions of NMEA 0183 standard to transfer data which does not fall within the scope of approved sentences but must follow the rules for sentence structure as outlined in this standard. This will generally be for one of the following reasons:

1.   Data is intended for another device from the same manufacturer, is device specific, and not in a form or of a type of interest to the general user;

2.   Data is being used for test purposes prior to the adoption of approved sentences;

3. Data is not of a type and general usefulness which merits the creation of an approved sentence.

A proprietary sentence contains, in the order shown, the following elements:

"$" or "!"	Hex 24 or Hex 21- Start of sentence
"P"	Hex 50 - Proprietary sentence ID
<aaa>	Manufacturer's Mnemonic code
[<valid characters>, "^", ","]	Manufacturer's data
"*"<checksum field>	Checksum field
<CR><LF>	Hex 0D 0A - End of sentence

Proprietary sentences shall include checksums and conform to requirements limiting overall sentence length. Manufacturer's data fields shall contain only valid-character but may include "^" and "," for delimiting or as manufacturer's data.

MaxSea International mnemonic code

The Mnemonic code approved by the National Marine Electronic Association for MaxSea International is **"MXS"**

Approved MaxSea proprietary sentences for The MOB (Man Over Board)

MOB – Man Overboard

```
$PMXS,MOB,c--c,hhmmss.ss,llll.ll,a,yyyyy.yy,a,x.x,x.x,x.x,x.x,a*hh<CR><LF>
   | |    |    |          |        |   |       |  |   |    |   |   |  |
   | |    |    |          |        |   |       |  |   |    |   |   |  +-- Test mode (*1)
   | |    |    |          |        |   |       |  |   |    |   |   +-- Speed over ground, knots
   | |    |    |          |        |   |       |  |   |    |   +-- True course over ground (*2)
   | |    |    |          |        |   |       |  |   |    +-- Time since MOB event (*3)
   | |    |    |          |        |   |       |  |   +-- Horizontal dilution of precision
   | |    |    |          |        |   |       +----+-- Longitude, E/W
   | |    |    |          |        +----+-- Latitude, N/S
   | |    |    |          +-- UTC of position
   | |    |    +-- ID of mobile emitter
   | |    +-- Man Overboard mnemonic
   | +-- MaxSea International manufacturer code
   +-- Proprietary sentence ID

Notes:
*1) Test mode: set to "T" if this sentence is used for testing purpose, null otherwise.
Example in normal mode:
$PMXS,MOB,EBN0007,113552.23,1233.4567,N,00123.6542,E,10.4,101.10,123.4,12.1,*FF

Example in test mode:
$PMXS,MOB,EBN0007,113552.23,1233.4567,N,00123.6542,E,10.4,101.10,123.4,12.1,T*FF

*2) Expressed in decimal degrees.
*3) Expressed in decimal hours.
```

Products Assistance

More Resources Provides easy access to the extensive resources on www.maxsea.com, including support pages, tips and tutorials, online download and a privileged area for all MaxSea Users which is called My MaxSea.

My MaxSea Area

MaxSea has created a club for all users of MaxSea TimeZero. 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**

For the rest of World, our technical support team is ready to assist you Monday-Friday 8 a.m. - 5 p.m. Pacific time.

- o   **International: + 352 27 302 240**

- o   **UK**: 02032391484

- o   **ES**: 807 00 20 11

- o   **FR**: 0 899 700 264 (1,35€ per calling and 0,33€ per minute)

o   By Email, support@maxsea.fr

o   On Our WEB Site www.maxsea.com

MaxSea's Options

Click on MaxSea logo **to call up all MaxSea Menu Options :**

MaxSea menu organizes a number of items which call up setting dialog to configure and manage MaxSea Data, setups and presentation.

1. **Menu Options** lists General options to set up : *(click on each following link to read more)*

▼**Ship & Track**

Setting Up Parameters

- **Own Ship COG/SOG Predictor**: either choose "Time" or "Distance" to enable filling corresponding fields

- "**COG/SOG Predictor Time**" : choose fixed time "xxmxxs" between two records (2'00s by default.)

- "**COG/SOG Predictor Length**" : choose fixed length to the vector displayed on chart. (1.000 NM by default.)

- "**Track Thickness**" : choose a value from 1 to 4 (medium track is selected on 2)

- **"Track Color"** : select Variable color depending on receiving data or fixed color by choosing one in the pop-up.

- **Variable Color**: becomes available if track color has been selected as Variable. The pop-up menu allows to choose on which registering data the track color will change (choice between Depth Range/ Sea Surface Temperature Range or speed).

- **Variable Color Setup**: It is where you can add values and customize color.

- **Track Data Recorded**: to choose which data will be automatically recorded in each point of the track.

- **Delete All Tracks**: to erase all tracks in the track Database

▼**Logbook**: The Logbook allows users to create a log of their voyage by recording manual (using the "Logbook" button in the Toolbar) or automatic events. The Logbook options are used to setup automatic conditions.

Enable Auto-Logging: Turns On or Off automatic Logging.

Record Every: set the time interval from 20 minutes up to 1 day (selected by default on 20minutes) and the time frequency recording depends on Historic track start and end recording time

You can also add five event conditions more in your logbook by choosing additional Condition. We would advise you to use this function when experiencing excessive changes in conditions (notable increase in **wind direction** and force factor, for example) or an unprecedented event occurs such as depth alarm or when waypointis switched.

Click on "**Delete All logbooks**" to reset all logbook recordings.

▼**Routes:** The Route options allow users to configure settings related to routes behavior and appearance.

Route Color: changes the default Route color

Route Thickness :changes the thickness of all routes. This is a global settings and will affect all the routes displayed on the screen

Prompt for Route Name: check this option to have the software prompt for a Route Name after creating a route.

Great Circle Navigation: The great-circle distance (orthodromic distance) is the shortest distance between any two points on the surface of a sphere measured along a path on the surface of the sphere. The distance between two points in Euclidean space is the length of a straight line from one point to the other. On the sphere, however, there are no straight lines. That is why on the chart in projection Mercator when you plot a long route, it is represented by a curved line with several intermediate points. when this option is checked, the software will compute and display distance (with the divider tool) using the Great Circle distance (shortest distance between points on the surface of the Earth)

Note: Once after plotting a route, all the measures which will be done such as the calculation between two points (route leg distance or XTE) or moving route points will be done in straight line mode.

Maximum Dist Between waypoints: this option (only available when "Great Circle Navigation" is checked) is used to automatically chop a route along the great circle path when the distance between two consecutive waypoints is bigger that the set value. These shorter resulting legs can be considered as straight ("rhumb line") segments that follow the shortest path on a Mercator projection using fixed bearing (on each segment).

Route AutoZoom: when this option is checked, the software will automatically adjust the zoom level when a new Waypoint is activated along a route. The software will either zoom in or zoom out in order to show the current position and the next Waypoint. Note: The Route Auto Zoom will only work if the boat is displayed on the screen (the software will not attempt to adjust the zoom level if you are panning on another area)

Waypoint Switching Mode: this setting determines how the software switches to the next Waypoint automatically in a route

- **Circle**: in this mode, the next Waypoint is automatically switched when your boat icon enters the active Waypoint's switching circle
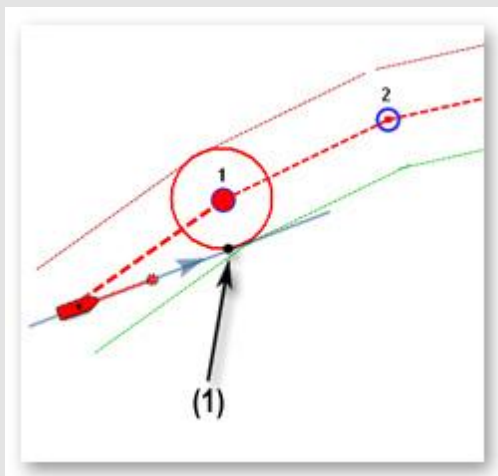
- **Cross Line (also known as "perpendicular")**: in this mode, the next Waypoint

is automatically switched when your boat crosses the line through the Waypoint that is perpendicular to the active leg line
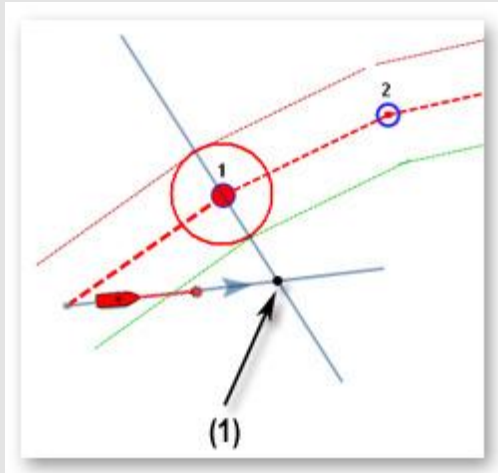
- **Circle and Cross line:** in this mode, the next Waypoint is automatically switched if it enters the switching circle or crosses the line..

Switching Circle Radius: this option sets the radius of the switching circle and arrival alarm. This is a global setting that affects all Waypoint in a route (66yd by default.)

Waypoint Switching Notification: when this option is checked, a notification will appear in the status bar (on top of the screen) whenever the active Waypoint is automatically switched. A sound will also be triggered if the option "Alarm and Notification Sound" is checked in the "Alarm" options.

End of Route Notification: when this option is checked, a notification will appear in the status bar (on top of the screen) whenever the last Waypoint of a Route is reached. A sound will also be triggered if the option "Alarm and Notification Sound" is checked in the "Alarm" options.

Intelligent Waypoint Centering: when this option is checked, the chart will automatically pan when a route is being built.

Display XTE Alarm Lines: when this option is checked, a red and green dash line (respectively port and starboard) will appear on each side of the active leg (when a route is activated). These lines are a graphical representation of the Cross Track Alarm value (that can be setup in the **Alarms Options**).
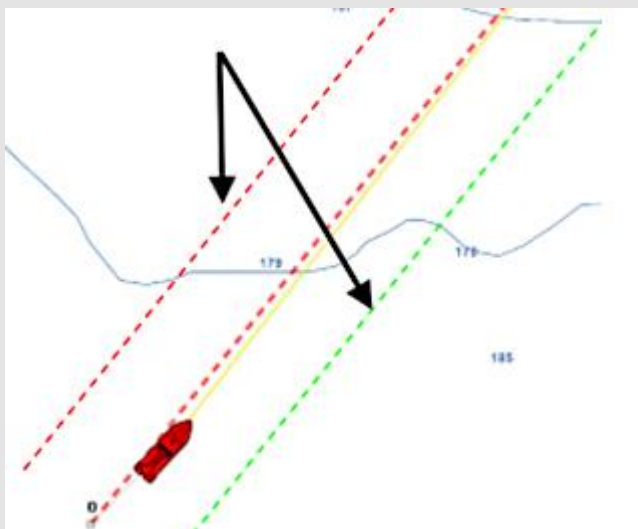
Fuel: Fuel options are used to configure the display of estimated maximum fuel range calculations within the TimeZero software. Fuel tank levels and fuel flow information come from NMEA2000 sensors (or J1939 sensors that are converted to NMEA2000 data streams)

Show Max Range on Route: this option turns on or off the display of the estimated maximum fuel range overlay on a Route line.

Max Range On Route Color: allows the user to change the color of the maximum fuel range overlay on a Route line.

Show Vessel Fuel Range Ring: this option turns on or off the display of the estimated maximum fuel range ring (a range ring centered around the vessel)

Vessel Fuel Range Color: allows the user to change the color of the maximum fuel range ring.

Use First (Second, Third or Fourth) Fuel Tank In Vessel Calculations: allows the user to decide to use the First, Second, Third or Fourth fuel tanks on their vessel for the purposes of calculating estimated maximum fuel range

Click on the **[Reset Default Settings]** button down in the windows to come back to default values.

▼**Marks & Boundaries** The Marks & Boundaries options allow users to configure settings related to marks, events and boundaries (line, area and circle)

Display Object Names: Check the box to display Object names on the chart

Mark Symbol: Choose the plotting icon in the drop down menu, symbols for marks

Mark Color: Popup list to choose the mark color defined by default

Mark Size: changes the mark size (ranges from 50-200). This is a global settings that affects all marks displayed on the screen.

Event Mark Symbol: changes the default mark icon used when an event is triggered (when the "Event" tool or ENTER key is used).

Event Mark Color: changes the default mark color used when an event is triggered.

Attach Picture with Event: Enables the user to attach a screenshot of the navigation screen to event marks when they are created.

Boundaries Color: changes the default Boundary color.

Boundaries Transparency: This option determines the default intensity of boundary transparency (ranges from 0-80).

Boundaries Contour: changes the default Boundary contour style.

Boundaries Contour Thickness: changes the boundary contour thickness. This is a global setting that affects all boundaries displayed on the screen.

Annotation Color: changes default Annotation color.

Annotation Size: changes default Annotation size (ranges from 5-50).

Icon Set: Allows the user to choose between a Modern or Classic icon set.

Delete All Routes And Marks: Pressing this button erases all existing routes and marks

Click on the **[Reset Default Settings]** button down in the windows to come back to default values.

▼Active Captain , setting up active captain POI

By default the worldwide ActiveCaptain database is installed with MaxSea TimeZero. The latest Active Captain database will be installed each time you will upgrade your MaxSea TimeZero version.

Activate your Active Captain account inside MaxSea

You must be registered on the http://www.activecaptain.com/ web site before.

Simply enter the **Login** and **Password** that you have entered on Active Captain web site and click on connection to valid your account. When the account is not validated, the status display "Account not validated". The server returns an error upon validation when password or login is incorrect.

When account is validated and the computer is connected to the Internet, you will be able to display Active Captain details and updates will be available in the Updates workspace (Active captain Updates button is greyed if connection or account conditions are not realized)

If the computer is connected to the Internet MaxSea allows you to automatically download the latest updates of active captain POI under the Updates workspace. .

Set Up Active Captain POI Display

Advanced settings allow you to select which information you will show or hide.

First part is dedicated to filter marina's information. When check, the marinas are filtered and only the ones corresponding to the filter are shown: Gas / Diesel /PUMP Out.

The second setting affects the Local Knowledge category (all checked by default): Bridge /- Lock / Dam / Ferry / Inlet / Boart Ramp / Marine Store / Towing / Wal-Mart / Airport.

▼Plotter Display

Options that allow you to define general display characteristics such as:

The Plotter Display options allow users to configure settings related to the Navigation and Planning workspaces:

Day/Night Mode: adjusts the screen's brightness and vector chart color palette (for night or day). When set to Automatic, TimeZero will automatically switch modes according to your local sunset and sunrise time.

Inverse Chart Palette in Day Mode: force the night chart color palette at all times.

Chart Priority in Auto Mode: choose the chart category displayed in priority when the chart display mode is on Auto and when the both categories are found in the selected display area.

Chart Boundaries: selecting this option displays all chart areas boundaries:

- The areas having detailed Nautical Charts (either Raster, Jeppesen, Navionics, S57 or Fishing charts according to the current selection) are surrounded in purple

- The areas having detailed Satellite Pictures are surrounded in green

- Display Raster Chart Unit Legend: This option displays a raster chart depth unit legend in the lower left hand corner of the screen.

Cross Screen Cursor: shows or hides the cross screen cursor.

Chart Scales Selection: set a specific interval of scales. The scale legend is written in red color when selected chart display is outside this interval . By default all scales are selected, you can check each available chart scale you wish.

Display Raster chart Unit legend : check and a new legend will be added in the left-corner and inform user on the Raster chart actual unit.

Grid Interval: indicates the grid interval (ranges from very low to very high) that can be turned ON and OFF from the "Chart" button located in the Ribbon

Transparencies: The following objects' transparency can be adjusted:

- **PhotoFusion Transparency Offset**: Manipulates the intensity of PhotoFusion transparency offset (ranges from 0-80)
- **Tidal Currents Transparency**: Manipulates the intensity of tidal Currents transparency (ranges from 0-80)
- **Depth Shading Transparency**: Manipulates the intensity of depth shading transparency (ranges from 0-80)
- **Bottom Hardness Transparency** : Manipulates the intensity of Bottom hardness (bottom classification) transparency (ranges from 0-80)
- **Weather Color Transparency**: Manipulates the intensity of weather color transparency (ranges from 0-80)

3D Display: While in 3D mode, the following options control the exaggeration of depth and altitude displayed :

- **3D Alti Exaggeration**: Determines the exaggeration of land altitudes displayed while in 3D mode.

- **3D Bathy Exaggeration**: Determines the exaggeration of water depths displayed while in 3D mode.

Depth Shading Values: When the depth shading is turned on , the range and hue of the depth color scale can be controlled using the following options:

- **Depth Shading Mode**: TimeZero looks for the shallowest and deepest points and automatically adjusts the range accordingly. .Three modes can be configured:

  1. **Auto mode** automates the range of water depths to be shaded according to the area displayed on the screen. In this mode, the color scale range is continuously updated as you pan or zoom the charts

  2. **Manual mode** automates the range of water depths to be shaded according to the area displayed on the screen and following values that user has fixed.

  3. **Minimum Value**: Fixes the minimum water depth value to be shaded. (grayed with the auto mode)

  4. **Maximum Value**: Fixes the maximum water depth value to be shaded.(grayed with the auto mode)

  5. **Depth Color Palette**: Determines the color palette used for depth shading.

Sea Surface Temperature (SST) Values: The range of Sea Surface Temperature shading can be controlled using the following options:

- **Auto Color Scale:** Automates the range of temperatures to be shaded. TimeZero looks for the warmest and coldest points and automatically adjusts the range. In this mode, the color scale range is continuously updated as you pan or zoom the charts

- **Minimum Value**: Fixes the minimum water temperature value to be shaded.

- **Maximum Value**: Fixes the maximum water temperature value to be shaded.

▼**Vector chart**

- o **Chart Color Palette** : You can customize the appearance of charts by turning on and off layers of information. You can modify the display level in pop-up menu which gives you the choice between various display configurations: **Standard** (pre-configured level) / **S52** / **Sunlight**

- o **Chart Symbol** : choose the symbolic object vector chart configuration between **International** (IALAA system) or **S52** (IALAB system)

- o Select values in each corresponding list to configure the **Shallow Contour,** the **Safety Contour** and the **Deep Contour**

- o **Check each box to display on chart following information** : Names of Buoy / Light Description / Light sectors / Text (important) / Text (other)/ etc....

- o **Display Soundings in red** when Depth value is inferior to the limit value that you have selected in following pop up menu.

▼**S-52 Custom** :

"**S-52 Vector Chart Display Mode**" : You can modify the display level in pop-up menu which gives you the choice between various display configurations: Custom (pre-configured level) / Base / Standard / Other / fishing.

When the **Custom chart display mode** is chosen, a list of check boxes allows you to choose which information you will display on chart.

▼**Routing: Setting Up**

1. **Save all Routings in Planning Space**: Check to save automatically all Routings in the Planning list and to display them later again

2. **Routing Transparency**: Adapt Routing display transparency overlaying on the chart (25% is chosen by default)

3. **Isochron Interval**: Select an interval isochron value under the drop down menu (automatic is selected by default)

4. **Polar Curves Percentage**: enter a value from -50 to +50 or move the cursor along the slide bar to modify

5. Check **Waves** and /or **Tidal Streams** and/or **Oceanic Currents** boxes to take in account these values in the routing calculation.

6. Enter acceptable limits of the Wind speed and for height of Waves

If **MaxSea is an Explorer or professional Version configured with the Racing Module** you will be able to adjust and modify the Wind Forecast:

1. **Increase or decrease the wind speed (%)**: move the cursor along the slide bar to modify to increase or decrease the percentage.

2. **Increase or decrease the wind speed (value)**: enter directly a value

3. **Change Weather File Time**: enter a specific time HH:MM.

4. **Change Weather File in Latitude and Longitude**

5. **Change Weather File in Direction**

6. **Increase or decrease in percentage Waves and/or Current values**

Select Radar for setting up general parameters of Processing signal :

1. **Day Background Color**: Determines the background color of the radar display

2. **Night Background Color**: Determines the background color of the radar display when navigate by Night (only two colors Black and Dark Blue)

3. **Echo Color**: Determines echo color.

4. **Echo Transparency for Overlay***: Adjusts the intensity of echo transparency on the chart (this does not affect the Radar Work Space)

5. **Sweep Fade**: The sweep fade displays a "traditional" radar animation. This feature automatically reduces the brilliance of weak signals (noise, sea clutter, rain clutter, etc.) and unnecessary echoes like radar interference.

6. **EBL Reference**: When set to "True", the EBL (Electronic Bearing Line) is referenced to the North. When set to relative, the EBL is referenced to the bow of your vessel.

7. **Rings Interval:** You can manually adjust the number of Radar Range rings you want to display in the Radar Work Space. Leave the option set to "Automatic" if you want TimeZero to automatically adjust the number of rings according to the Radar Range and size of your screen (or window).

8. **Bearing Scale Mode:** When set to "True", the Bearing Scale (numbers displayed on the outer circle of the Radar Work Space) is referenced to the North. When set to relative, the Bearing Scale is referenced to the bow of your vessel.

9. **Own Ship Icon**: Check this option if you want to display a real sized ship icon in the Radar Work Space. Note that the ship icon will only appear at small range (according to your own ship beam and width).

10. **Trail**: Echo trails show the movements of radar echos relative or true to your vessel. User can determines the Trail color and the Trail shape (single or multi). The trails disappear overtime (according to the "**Trail Length**" parameter). When set to "**True**" mode, only objects that are moving in reference to the water (such as another ship) will show a trail on the screen. Fixed objects on the water (such as buoys or a rock) will not show a trail even if your own ship is moving. When set to "**relative**" mode, any objects that move relative to your boat will leave a trail on the screen.

10. **Trail Color** : to change the default color. Select a color between Blue, Yellow, Green or White.

11. **Trail time**: to change the Radar Echo's trail frequency.

12. **Trail graduation**: choose between multiple or single. If single is chosen the trail will be displayed in full unique color.

13. **Trail mode** : choice between Relative (by default) or True. So if your own ship is moving toward a stationary target (buoys for example), the target will leave a trail (smearing)

| True target trails (No smearing of stationary targets) | Relative target trails (targets moving relative to own ship) |

Radar Initial Setup

These settings are used to adjust the initial setup of the Radars (Koden Ethernet radars). Note that this section will not appear if you are using a Furuno Ethernet Radar (either FAR2xx7 or NavNet3D DRS) as these initial settings are performed from the Radar or MFD unit directly.

- **Antenna Heading Align**: It is not always possible to install a radar so that the front of the radar is exactly parallel with the boat's keel or center line. The Antenna Heading Align adjustment can compensate for this discrepancy. This process allows you to align the radar transceiver with the center line of the boat and only needs to be set once. Note that this is a different function than aligning your heading sensor. To adjust the Radar Antenna Alignment, it is best to display the Radar Work Space in "Head Up" mode and aim the bow of your vessel (during calm weather) at a buoy while underway. The buoy target should appear straight up on the Radar Screen.

- **Trigger Delay:** The transmit trigger delay is a setting that, when configured incorrectly, can cause a donut-shaped ring to appear in the center of the radar image. Trigger delay should be initially set to reduce the size of the ring. Trigger Delay can also affect the radar image of a linear object such as a breakwater or riverfront. These can appear deformed due to excessive or inadequate trigger delay. Properly setting the delay may require on-thewater tuning when looking at a straight object (refinement of the Transmit Trigger is best viewed using radar overlay on the Chart).In most cases, Transmit Trigger settings remain between 125 and 160.

- **Sector Blanking**: This feature is used to indicate a zone where the radar does not transmit a pulse. This is necessary if:

    - Two or more radars are mounted within each others beam;

    - There is a significant structure near the radar that causes strong returns, overwhelming the circuitry of the radar; or

    - You wish to prevent radiating a particular zone of the radar (for example, your radar is mounted low on the fly bridge).

Presets: Note that this section will not appear if you are using a Furuno Ethernet Radar (either FAR2xx7 or NavNet3D DRS). The Presets settings are used to adjust the "range of operation" of specifics value. For example, if you are using the Radar in Manual Gain and find that you have to "push" the manual gain value very high to see good targets, you may want to increase the "Manual Gain Preset". This will internally increase the manual gain value range and you will be able to backup the Manual Gain value to reach the same level of gain. Note that you have an independent Manual and Automatic Preset for Gain and the Sea Clutter (STC). The various controls will be enabled or greyed out according to the Radar current value. So if you want to adjust the Manual Gain Preset, make sure that the Radar is in Manual Gain.

- **Auto Gain Preset**: To adjust the Auto Gain preset make sure that the Sea Clutter is set to 0 (manual Sea = 0). Set the Radar to Auto Gain (from the Radar Ribbon button) and pick a range suitable for navigation (around 3NM). Adjust the Auto Gain Preset control down if the image looks too strong or up if the image looks too faint.

- **Manual Gain Preset:** To adjust the Manual Gain preset make sure that the Sea Clutter is set to 0 (manual Sea = 0). Set the Radar to Manual Gain at 50% (from the Radar Ribbon button) and pick a range suitable for navigation (around 3NM). Adjust the Manual Gain Preset control down if the image looks too strong or up if the image looks too faint.

- **Auto Sea Preset:** The Auto Sea Preset is only used for range above 1NM (under 1NM TimeZero uses the Auto Harbor Sea preset instead). To adjust the Auto Sea preset, set the radar range to 12nm and select Auto Sea (from the Radar Ribbon button) to turn on that function. Set the Auto Sea preset to 10. Set the STC Curve preset to 4. From the Radar Ribbon button, manually adjust the gain until you get secondary echoes (noise) throughout the image. From the Options panel, adjust the Auto Sea preset value up until most of the weak echoes for an 8nm radius are eliminated. Adjust the radar range to 1.5nm and verify that strong echoes from nearby vessels or land are not eliminated. If land or vessel echoes are small or have been eliminated, decrease the Auto Sea preset.

- **Manual Sea Preset**: To adjust the Manual Sea preset, set the radar range to 12nm and set the Sea Clutter to Manual at 50% (from the Radar Ribbon button). Set the Auto Sea preset to 10. Set the STC Curve preset to 4. From the Radar Ribbon button, manually adjust the gain until you get secondary echoes (noise) throughout the image. From the Options panel, adjust the Manual Sea preset value up until most of the weak echoes for an 8nm radius are eliminated. Adjust the radar range to 1.5nm and verify that strong echoes from nearby vessels or land are not eliminated. If land or vessel echoes are small or have been eliminated, decrease the Manual Sea preset.

- **Auto Harbor Sea Preset:** To adjust the Harbor Sea Clutter Preset, set the radar range to 1nm and select Auto Sea (from the Radar Ribbon button) to turn on that function. Set the Harbor Sea preset to 10. Set the STC Curve preset to 4. From the Radar Ribbon button, manually adjust the gain until you get secondary echoes (noise) throughout the image. From the Options panel, adjust the Auto Harbor Sea preset value up until most of the weak echoes are eliminated. Adjust the radar range to 1/8nm and verify that strong echoes from nearby vessels or land are not eliminated. If land or vessel echoes are small or have been eliminated, decrease the Auto Harbor Sea preset.

- **Auto Tune Preset**: radars are always in "Auto Tune" mode. To optimize the image, it is necessary to set the auto tune preset. Once established, you should not need to adjust the auto tune preset unless the image quality deteriorates. Generally, you should adjust the auto tune preset on average once a year to make sure you have the highest quality image. Adjust the auto tune control down until you see the image start to deteriorate. Note the value of the setting. Adjust the auto tune control up past the point where the image looks good until it starts to deteriorate. Take note of the setting value. Set the controls at a point between the two extreme settings, where the quality of the image is at its best.

- **STC Curve:** The STC Curve function allows you to control all modes of the Sea Clutter profile of the radar. By default, the STC Curve profile is set to a value of 4. For most applications, there should be no need to change this setting. However, you may want to adjust this value to get a better application of Sea Clutter if the radar is mounted higher or lower than a typical installation. To adjust the STC Curve profile, set the radar range

Scan Radar Source: Click on this button to display all radars connected to the computer. Clicking on one of the radar name allows you to select the radar you want to use in the software. Note that you can also select the Radar Source directly from the Radar Ribbon button.

Advanced ARPA Settings: These advanced ARPA settings should not be modified by the end user directly. Only adjust these values if you are given specific instructions by Technical Support or your dealer.

10. **Clear Trail**: click on this button to erase and re initialize the Echo trail display.

11. Check **Own Ship Icon** to display the Icon Symbol in the Radar Overlay.

▼**Targets**

Display Target ID: Check or uncheck the box to Show / hide IDs (targets identities) of all targets displayed on chart.

AIS activation Filter: checked by default to activate AIS filter which define how many AIS target around you wish display on chart

Hide AIS Targets Farther than...: select a distance in the manu to choose how many AIS targets will be displayed on chart and in the Target List, depending on a distance around your boat (from 0.500 MN to 1000.00MN). By Maximum value is selected. (by default 44.45 km).

ⓘSelect the maximal distance in the list ("1000.00NM distance around) to be sure that you will display all online AIS targets from the www.marinetraffic.com web site.

Default ARPA Color : Choose the default color for all ARPA targets displayed on chart.

Default AIS Class A color and Default AIS Class B color: as above select a color for each AIS target category. Only for AIS target the user can define a **variable color** depending to vessel categories (Passenger vessels or Cargo vessels, tankers hight speed craft, etc...)

Target size: modify the target size displayed on chart, you can increase up to 200% of its initial size

Display CPA/TCPA for selected Target: the graphic CPA/TCPA line will be displayed between the boat and the selected target on the chart.

Buddies List (AIS &DSC): click and add a list of friendly boat that you known its identity (MMSI and Nickname associated)

▼**Sounder (available only if MaxSea belongs to Explorer range product)** The Sounder options allow you to configure various advanced Sounder Setup and Displays preferences. These Sounder Options will only be available if you have unlocked the Furuno Sounder Plus Pack.

Fish Finder Sounder: Select type of detected Sounder Source. **(BBDS1)**

Day Background Color: Determines the sounder screen background color in day mode .

Night Background Color: Determines the sounder screen background color in night mode. Note: The Day/Night setting can be found under the Plotter Display options.

Echo Color Levels: Displays returns in 8, 16 or 64 colors.

A-Scope Peak Hold: This option allows you to hold the echo return in the A-Scope for a couple of seconds.

Zoom Reference Lines: Shows or hides the zoom marker that appears in the bottom zoom and marker zoom modes

High Resolution: shows the graphical echo in high resolution and improve its display.

Picture Advance: Adjusts the speed at which the sounder view scrolls across the page.

Range Shift: Echo vertical alignment in the display with out modifying its range

Bottom Range Shift Area: Select the position where you want the bottom of the echo to be located on the screen (when the Sounder is set to Auto Range from the Sounder "Mode" Ribbon button). For example, setting 75% would place the bottom echo at a position equivalent to 75% from the top of the display.

Zoom Range Span: To set up the height of the part view of the bottom zoom observation without modifying the echo range. This allows to zoom-in a part of echo.

Bottom Lock Range Span: To set up the height of the Bottom lock observation view. The Echo range is simultaneously modified.

ACCU-FISH:

Note that when ACCU_FISH is enabled, the sounder will work in dual frequency mode (as both frequencies are needed to detect fish automatically). Running your sounder in dual frequency lower the refresh speed.

- **Accu-Fish Info**: Fish information is displayed in either depth or size of detected fish.

- **Accu-Fish Symbols:** This option determines the fish symbol used to mark detected fish.

- **Accu-Fish Size Correction**: Adjusts the size of fish information (percentage offset from -80 to 100)

Heaving Correction: Allows the stabilization feature offsets heaving to give you steady images in rough seas.

Interference Rejection: Interferences from other fish finders and electrical equipment can introduce artifacts (or noise) on the sounder screen:
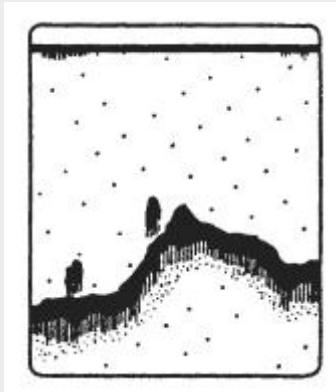
Interference from other Sounder   Interference from Electric equipment
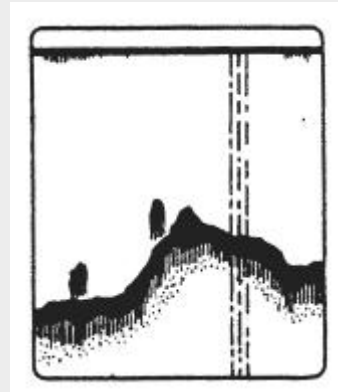
When this type of interference appears on the screen, use the lowest interference rejection setting possible that removes the noise on the screen. Three or four levels are available.

Clutter: Increase this setting to remove low intensity "spots" of noise that can appear all over the screen when sediment in the water or noise are picked up by the sounder.
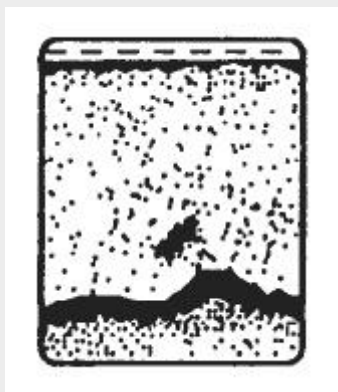
Color Erase: Increase this setting to remove weak sounder return from the screen (remove the colors that are used to display weak echo)

White Marker: Allows the user to change one color of the sounder color palette to white. This can be

helpful in making certain returns stand out.

White Edge: Check this option to display a white line over the bottom. This can be helpful to distinguish fish that are close to the bottom (they would appear above the white line).

TVG HF and LF : (Time Varying Gain) Increase this setting to reduce gain near the surface in either High or Low frequency while maintaining the gain for deeper water.

T**ransmit Rate:** In normal use, leave this setting to the maximum value. If you are in shallow waters, set it to "Auto" (or manually decrease the value) to prevent second reflection echoes that appear between the surface and the bottom echo.

1. **Transmit Rate Auto:** allows the rate sounder echo transmission in auto mode.

2. **Transmit Rate Manual**: user can set up manually the transmit rate

Sounder Transmit: check to allow the TX sounder mode (transmit) an uncheck to put it into Stby mode (standby) mode

Fish Finder Alarms

Fish Alarm: check for alarm triggered when detecting fish.

Range Values Max and Min: to fixe the depth range value limits to activate the Fish alarm when detecting fish in the graphical echo display.

Fish Alarm for Bottom Lock: check for Alarm triggered when detecting fish in the bottom lock zone area.

Range Values Max and Min: to fixe the depth bottom lock range limits to activate the Fish alarm when detecting fish in the bottom lock area display.

Fish Alarm level:to set the alarm level for **high / Mid or low** echo in the display

Sounder Initial Setup

Zero Line Rejection: Check this option to mask the echoes near the top of the screen (that are caused by the transducer itself). Use the "**Zero Line Range**" settings to increase or decrease the height of the mask.

T**ransducer Draft**: Sets the transducer's draft, to show the depth between the sea surface and the bottom (rather than from boat to bottom).

Salt Water: rate of echo transmission is different in salt water. check this option if you navigate at sea.

Fish Finder Source: Click on this button to display all sounders connected to the computer. Clicking on one sounder name allows you to select the sounder you want to use in the software.

Transducer Setup: click for advanced transducer settings. Check the transducer model for HF and LF frequencies or to define them Manually

Transducer Setup

- If **Model** is chosen set the model number appropriate to the High frequencies and the low frequencies.

- If **Manual** is chosen, adjust the higher frequency and the lower frequency.

- **Transducer Power**: Reduces the power output on high and low frequency.

Motion Sensor (MFD required): allows user to define all transducer positions

from the bow and stern or from Up and down or from Port and Starboard for each frequency HF/LF.

External KP: Synchronizes transmission with other echo sounders. Select EXTERNAL KP to synchronize transmission.

Bottom level HF and LF: To Adjust the bottom level value in HF or LF display.

Gain Offset HF an LF: To Adjust the Gain value when working on Manual mode. Normally, set the gain to the point where excessive noise does not appear on the screen. Use a higher gain setting for greater depths and a lower setting for shallow waters.

Auto Gain Offset HF and LF: To Adjust the Gain value when working on Automatic mode

▼**PBG** **(available only if MaxSea belongs to Explorer range product)**

PBG Brush Width: This parameter allow to change the "width" of a PBG track. By default the PBG Brush is equal to 400m. Change this value depending on the PBG track recorded if it is your first recorded (large is recommended) or not.

Tidal Height Correction: to turn on /off tidal height correction.

Set Reference Station:

- **Automatic mode:** the nearest tidal station from the own ship will be used automatically in Tidal height correction filter.

- **Manual mode** allows user to choose a reference tidal height station under a list.

Filters :

Depth Filters : To turn on / off configured depth filters when recording PBG data.

Minimum Depth Filter and **Maximum Depth Filter** allow the user to enter limits for depth recording values.

Speed filter: the user can enter a maximum speed value for rejecting depth recording data when the boat speed is higher than this fixed value.

Contour line Density: allows to increase or decrease interval of contour lines, by choosing between higher density to lower density. This can be done directly by clicking in the scale legend left-hand corner of the chart the minus or the Plus.

Terrain Sharpness: allows to "smooth" or "sharpen" PBG recording data.

Bottom Classification Color Scale: Determines the color scale of the bottom Hardness user can switch between Classic or Black & White or Back & White inverted

▼**Alarm :**

This option allows you to adjust each audio and notification safety alarms in MaxSea to prevent about danger. These warnings are necessary for avoiding any types of collisions.

- **XTE Alarm** (Cross Track Error): Check the XTE Alarm to allow an alarm sounds when the vessel has strayed a designated distance ("**XTE Alarm Value**" : user can enter a value) from the active route. Note that you can display a graphical representation of the Cross Track Error limit on the chart by enabling the "Display XTE Alarm Lines" available in the Routes Options.

- **Alarm Zone**: User can create Boundary Zones on the chart (using the "Boundary Area" tool or by right clicking on the chart and select "Create -> Boundary Area") and then set them as Alarm Zones by right clicking on them and selecting "**Alarm**". Once Boundary Alarms are created, the "Alarm Zone" will blink on chart setting will define their behavior:

    - OFF: No alarm will be triggered even if the boat enters in an Alarm Zone

    - ON: An alarm will be triggered as soon as the boat enters in any Alarm Zone

    - Progressive: When the boat reach the distance set in "Progressive Alarm Zone Value" from any Alarm Zone, a notification will be displayed (to warn the user from the proximity). When the boat enters any Alarm Zone, an alarm is triggered. Note that a dedicated NavData ("Alarm Zone NavData") can be setup to display the distance from the nearest Alarm zone at any Time.
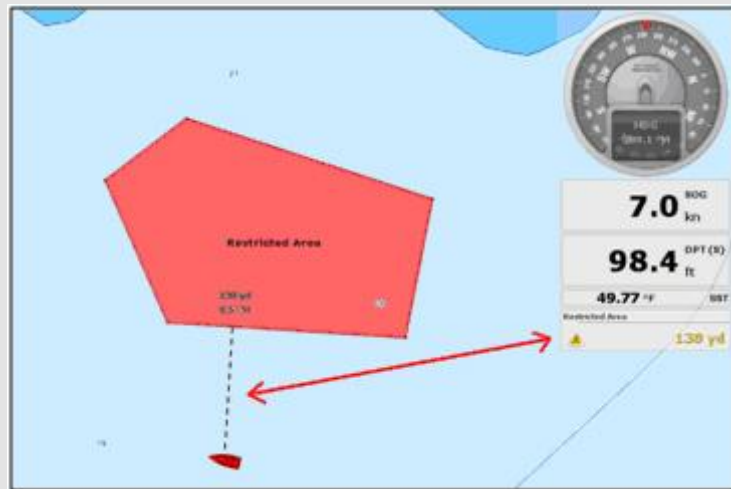
- **Depth Alarm**: An alarm sounds when the vessel passes over water shallower than a designated depth value.

- **Depth alarm Value**: enter a depth limit value for when alarm is activated (10 meters by default).

- **Sea Surface Alarm**: select a location for temperature variation (over water, under water, within and out of) to activate alarm and then enter temperature limits for when alarm is activated.

- **Speed Alarm**: select a location for speed variation (over water, under water, within and out of) to activate alarm and then enter speed limits for when alarm is activated.

- **CPA/TCPA Alarm**: (Closest Point of Approach/Time to Closest Point of Approach): An alarm sounds when the vessel's CPA/TCPA fall below the designated values.

- **Proximity AIS Target Alarm** : An alarm sounds when the vessel passes within a designated distance from an AIS target.

- **GuardZone Alarm Level**: Set the sensitivity of the Radar Guard Alarm Zone (increase the value to increase the sensitivity) from 1 to 4

- **GuardZone Alarm In/Out:** Sets if the Radar Guard Alarm Zone responds to echos entering or leaving the Guard Zone

- **Anchor Watch Alarm:** An alarm sounds when the vessel strays a designated distance from where the user set anchor. Note that you can enable/disable the Anchor Alarm by right clicking directly on the Own Ship icon.

- **Alarm Sound:** This option allows the user to choose the alarm sound.

- **Notification Sound:** This option allows the user to choose the notification sound.

- **Alarm and Notification Sound:** This option allows the user to enable or disable the Alarm or Notification sound. When this option is disabled, alarm and notifications will only be displayed in the status bar (at the top of the screen) and will not trigger any sound.

- **Sound Alarm Until Acknowledged:** When the "Alarm and Notification Sound" is enabled, and this setting disabled, the Alarm will only sound one time (when it is triggered). If you check "Sound Alarm Until Acknowledged", the Alarm Sound will repeat over and over until the user clicks the Status Bar (to acknowledge the Alarm).

- **Save Log File as...:** Saves a history of all alarms to the user's computer.

Note : Notifications without sound are displayed in the title bar when MaxSea is running in Home Planning or Demo Mode, each time crossing a waypoint or at end of a route.

▼**General** :

MaxSea General Options

- **Tidal Step for Animation** : by default the step "10m00s" is selected in the predefined list. Depending on zone study you can change the step value by choosing a value from 5m00s to 12h00m.

- **Duration of Animation** :20 seconds is the animation duration selected by default.(choose a duration from 5 seconds to 30 seconds)

- **NavData Transparency :** to adjust NavData boxes transparency (40% selected by default)

- N**avData Multi Data Dwell Time:** Defines the sold time enter the display of two data NavData (3 seconds by default)

- **Hide undocked NavData :** Unchecked by default and check the box to always display NavData.

- **Lock Undocked NavData** : check to lock all undocked NavData and user will not be able to move them.

- N**avData Size :** to adjust simultaneously and proportionately the NavData side Bar to the screen. Drag the cursor along the progress bar from 50% to 150%.

- **ToolBar Size**: to adjust simultaneously and proportionately the ToolBar to the screen. Drag the cursor along the progress bar from 25% to 100%.

- **Ribbons Size**: to adjust simultaneously and proportionately Ribbons to the screen. Drag the cursor along the progress bar from 25% to 100%.

- **Auto Hide Ribbon and Toolbar:** (checked by default) uncheck to always display Ribbon and toolbar on screen.

- **Auto Hide Delay**: enter a delay for switching in full screen display.

- **Display Tooltip over object** : three ways to configure how to display content in selected tooltip : Medium (by default) / off /slow and fast.

- **Center On when zooming with Hand** unchecked by default, this option center on the chart automatically when zoom in or zoom out with the Pan tool.

- **Enable Auto Hand tool selection** : if this option is checked the Hand tool will be automatically selected after each action in MaxSea. Option unchecked by default.

- **Allow unselected object to be moved.** checked by default, all object can be moved any where on chart without selecting.

- **Customize Functions Keys...** : click on this button to configure and add quick access functions keys

- **Dual Monitor**: displays MaxSea on two screens simultaneously

- **Power consumption Optimization** : several options depending on your choice Normal (selected by default) / Performance / Medium and Battery Life.

▼**Units :**

Setting up Units using in MaxSea by choosing in following list:

Position Format: . When you are using a specific Hyperbole system you can choose it to display position in this system.

- **Click on Loran C Station & GRI** to display the dialog that allows to adjust GPS Lat/Long to Loran TD's according to the nearest station. MaxSea also allows you to enter a "correction value" to compensate the slight inaccuracies. Because Loran is not a linear function, this correction value is not a fixed value and thus changes as the boat moves. In MaxSea, you can enter your correction table once and never have to update it again only if needed. Then thus as the boat moves, MaxSea automatically references the closest correction from the table and uses that value as the correction.

- C**lick on Decca Stations & Chains** to display the dialog that allows to adjust corresponding hyperbolic network.

- **Click on Toran Pairs** to display the dialog that allows to adjust corresponding hyperbolic network.

The cursor NavData will display X/Y position instead of Lat/Lon.

Range (Long) / Range (short) / Depth / Height-Length / Temperature / Boat Speed / Wind Speed / Air Pressure / Average Boat Speed (choice between from Sailing, Commercial, Power boating) / Fuel.

▼**Initial setup**

This allows you to configure your boat parameters from entering :

- Enter your own **Boat length**

- **Boat Icon** choose symbol for your boat's representation depending on Its type, choose between sailing, commercial, sport fishing or cruiser.

- **Static Size icon** choose between Normal or Small.

- **Average Boat Speed** : as the boat size, you should select the boat category depending on its speed. The boat's speed is different from Sailing or Commercial or PowerBaot. The SOG NavData's scale will be automatically refresh when permuting from one to another boat category.

- **NavData Maximum Depth** choose between very shallow or Shallow or Deep or very Deep

- **Depth display** to change the reference view either choose "**Depth Below Waterline**" or "**Depth below Keel**"

- **Keel Draft** from entering a value to assign the keel distance below water.

- **Transducer Draft** from entering a value

- **Route Planning Default Speed** is the speed ghost boat in the plannnig animation (5.0ft by default)

CCRP:

The CCRP (Consistent Common Reference Point) settings allows you to define offsets for GPS, Radar, and Transducers. TimeZero uses this information mainly for aligning the radar overlay on the chart. As set by IMO regulations, the CCRP is the location at the ship icon, to which all horizontal measurements, such as target range, bearing, relative course/speed, closest point of approach, or time to closest point of approach are referenced. Usually this is the Wheelhouse position on the boat. When entering all the settings (for CCRP, GPS, Radar,…) remember that the longitudinal positions are always positive (from Bow to Stern) while the lateral position is negative for Port and positive for Starboard (0 is the middle of the vessel)

Fuel

- **Fuel Rate Display** is used to set the maximum scale of the Fuel Rate Analog Gage NavData

- **First Fuel Tank Nickname:** TimeZero can decode up to four fuel tank levels. Each fuel tank sensor must have a different instance number. The Software will sort all of the fuel tank sensors by ascending instance number. So if you have three fuel tanks with instance numbers 0, 2 and 5.TimeZero will map the first fuel tank to the one that has instance 0, the second to the one that has instance 2 and the third one to the one that has instance 5.

Click on the **"Camera Install"** button to configure a network camera with MaxSea. MaxSea is compatible with Axis and Flir M-series camera. **The button is greyed when MaxSea explorer is not connected to a NavNet 3D system.**

- **First part is dedicated to AXIS Cameras**, this is where you can enter until 4 IP addresses for the video flow. By default each camera nickname is video1, video2, video3 video4, you can change it by AXIS 's nickname and it will appear in the right menu of the Camera NavData instead video1,…,video4. If your camera is a PTZ network camera, check the box "PTZ" to get video functionality combined with Pan/Tilt/ Zoom capability. A drawing joystick is overlaying the video, it allows you to easily control the camera's movement via the network connection.

- Second part consists to setting up the Flir M-series camera. Click on "**Scan IP"** to automatically get back the video IP address. The Flir M-series camera uses two video flows, enter a second IP address either in IR CAM (if the camera is a Infrared Camera) or VIS / IR. You can also define the 2 offsets of the camera on Right-Left and Up-Down. As same as above the Flir Camera appears in the right-menu and movement of the camera is directly controlled in MaxSea by using the Pan/Tilt/zoom functions of the drawing joystick.

NN3D Charts Server (Exclusively included in MaxSea Explorer)

Note: Every Menu options can be reset, select each of them and then click on "Reset Default Settings".

2. **Find** if your computer is connected to the Internet an advanced engine allows you to quickly find a geo referenced place simultaneously localized on the chart

3. **Open Weather File**

4. **Open Polar File**

5. **Open Collection:** to restore all user data using the backup collection file saved on your PC

6. **Backup Collection:** When you want to backup your data or when you want to "clone" your data on another computer, it is recommend to use "Collection". Collection conveniently groups all objects (route, marks, objects, tracks, ...), user 3D data (recorded with PBG) and layers configuration in one file. To backup all your data, select "Backup Collection" from the MaxSea menu. To restore all your data, select "Open Collection" from the MaxSea menu.

   Note that when MaxSea TZ USB key is connected, the backup dialog warns you to automatically backup all your data in the dedicated folder on the USB key.

   IMPORTANT: All your current data will be overwritten with the data contained in the Collection. If you want to exchange data with another user (and merge the data) you have to use the TZD or GPX format

7. **Save UI as :** this option allows you to save your own user interface. All setting up parameters can be saved to easily recover them later next time running MaxSea. You can save as many user interface as you want, user's interface file is saved by default in **My MaxSea from My documents folder**. You can also save them directly on desktop

   to quickly find it again. Double click on this file to run MaxSea with "MyConfig.MaxSea Settings" user interface. (next time running MaxSea the last one is re opened by default)

8. ▶**Import /Export**

9. ▶**Synchronize NN3D** **(available only if MaxSea belongs to Explorer range product)**

10. **Chart Catalogue :** consult and manage your Chart Catalogue : Getting information as Chart area name or status when it's OK or Corrupted, Chart type (Raster / Vector / S57vector / 3D data /Sat.Photo), or version. Click on the delete button to erase a chart from database.

11. **Activate Modules / Data :** When new updates are detected next time running MaxSea this dialog is automatically displayed. Any time you wish you can activate this function to get new updates and to enter serial numbers to valid your data.

12. ▶**Connection Wizard** **(available only if MaxSea belongs to Navigator range product)**

13. ▶**User Guide**

14. ▶**About MaxSea**

15. **Exit:** click to quit MaxSea

Status Bar

MaxSea TimeZero Status bar allows :

1. Minimizing MaxSea by Clicking on the Minus button located in the upper right corner of the status bar.

2. To quickly obtain information on alarms. The status bar is colored in grey by default for Standard Navigation Mode, in yellow when MaxSea is running in "Home Planning"mode, and in red to indicate the alarms of " Lost Position or No Position..." Alarms remain shown as long as they are active.

3. To **Undo / Redo** last previous actions in MaxSea. Redo function control processing means for redoing an operation that was canceled by execution of the last undo function when a redo function is executed. The Undo/Redo function can be applied on a GO TO function, plotting, deleting, moving or modifying waypoints, routes, points of route and or Logbook events, ...

1. The Status bar is remaining shown as long as alarms remain active and disappears dices that all this information disappears.

Ribbons

Each Workspace's ribbon includes all the tools which allow to reach software functions and dependent on the selected workspace. The availability of certain tools in the ribbon depends on the MaxSea Software configuration.

Simple click on this tool to choose which tools you want to add or remove in each workspace's Ribbon

Screenshot above introduces all usual Tools of the Navigation Workspace depending on your MaxSea software configuration.

2D Display Mode and Chart Orientation Mode (Not available in the Update WorkSpace)

2D North Up (Not available in the Polar Workspace) : Click to switch from one to the other and Right Click to display menu.

2D Head UP : Click to switch from one to the other. Heading either transmitted from connected equipment (such as Compass) or COG if no heading received.

3D display and Chart Orientation (Not available in the Polar and Update WorkSpaces)

3D North UP : Click to switch from one to the other and Right Click to display menu.

3D Head Up: Click to switch from one to the other. Heading either transmitted from connected equipment (such as Compass) or COG if no heading received.

Free 3D Display: Move the chart in Free 3D Display, press down and maintain the shift key

while moving the mouse on the chart.

Chart orientation is shown on the compass (right bottom of the screen)

Around Me (Not available in the Planning / Update WorkSpaces)

Around Me: Click to Show/Hide available selected option on chart. Right click to choose options on chart between the three ones:

Heading Line: Heading Line is sent by a Gyrocompass, a Satellite or other Electronic Compass and shows the direction of the bow of boat. the Heading Line tool is grayed when heading is not transmitted.

COG/SOG predictor: Click to show / Hide the Vector direction display on chart

Show Max Range On Route: to turn on or off the display of the estimated maximum fuel range overlay on a Route line.

Show Vessel Fuel Range Ring: to turn on or off the display of the estimated maximum fuel range ring (a range ring centered around the vessel)

Camera: Click to show / Hide the Camera cone on chart (only available if a FLIR camera is connected)

LayLines: Click on the Laylines button to show or hide laylines on the chart. (only available if MaxSea is configured with the Routing Module)

Geographic Grid (Not available in the Planning / Update WorkSpaces)

Grid: Click to Show/Hide the geographical Grid on chart.

Choosing chart to display (Not available in the Radar / Polar /Sounder WorkSpaces)

Auto: automatic chart category that user has chosen as priority

Vector Charts: Right click to select and display available vector charts that you have purchased. A single Click allows you to switch between the three types of chart:

Vector Charts

MapMedia mm3d HO**S-57** vector charts

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

MapMedia mm3d **Datacore by Navionics** vector charts.

Raster Charts

Click to display Raster Charts

Fishing Charts Click to display Fishing Charts

Pink boundaries outlines are displayed on the chart to help you to find quickly presence of chart areas. Vector, Raster and Fishing charts can be installed both together for the same software but cannot be displayed in the same window chart (**exclusive mode**).

Sat Photo: Click to display Satellite pictures installed with melting effect on the chart.

Green boundaries outlines are displayed on the chart to help you to find quickly presence of Satellite Photo areas.

Bathymetric Data

Left-click to show/hide Depth Shading layer on chart

Right-Click to show or hide color depth shading on chart and/or Bathy Isolines and/or Bathy Color.

Bathy Isoline shows depth contour Lines

Bathy color shows depth in color

PBG Bathy

Left-Click to show/hide PBG Layer as PBGpoints and/or PBG isolines and/or Bottom discrimination

Right click to select PBG layers between the following:

PBG Points

PBG Shading

Bottom Discrimination

Points of Interest (POI)

Point Of Interest: Click to display or hide selected POI layers on chart.

Right click to select POI's layers between the following:

My Photos

PANORAMIO

AC Marinas & Facilities

AC Anchorage

AC Local Knowledge

AC Hazards

Waypoints and Routes

Routes: Click to display or hide routes.

Waypoints: Click to display or hide Waypoints.

Targets

Targets (*): Click to display selected Target layers.

Right click to select which target layer to display.

ARPA

AIS Class A

AIS Others

AIS Online

DSC

Track

Track: Click to display or hide ship's track

right-click to select track's historic.

Historic Track: Click to display the calendar where you can choose a specified date and time of previous navigation track.

Logbook

Logbook: Click to display or hide the logbook on chart.

Create a new logbook: Right-click to select this option

Weather Routing (only available in the Planning Workspace)

Weather Routing (*): Click to display or hide Routing tree on chart. Right click to choose what you want to display : Isochrons and/or SailSet color, ...

ⓘWeather Routing Functions are available only if the Routing Module has been purchased. Routing button is grayed out if weather routing conditions are not fulfilled. Read More in related Weather Routing Chapter

Tides and Tidal Current Data

Tides: Click to display or hide tidal gauges.

Currents: Click to display or hide Tidal Currents arrows.

ⓘ**Yellow boundaries outlines** are displayed on the chart to help you to find quickly presence of Tides and Currents Data areas. When Tide and Current (and not Weather forecast and not Routing) are displayed on chart. You can move on the time scrolling bar in the right bottom of the Planning Workspace to play Tides and Currents Data during a period of 24 hours. You can do it as often as you wish to get a feel for the rhythm of the tidal currents moving.

Weather Forecast Data

Display Weather as Arrow

Weather as Arrow: click to show/hide selected Weather as Arrow layer information on chart.

Right click to choose between Wind and/or Current and/or Wave weather data to display on chart.

Wind as Arrow

Current as Arrow

Wave as Arrow

Display Weather in Color

o   Click to show or hide selected weather forecast data in color.

o   Right Click to choose which weather forecast data you want to show or hide on chart.

o   This mode is exclusive only one type of data can be displayed at same time.

Air Temp

Clouds

Rain Snow
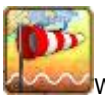
Wind in color

Pressure in color

500mB in color

Wave in color

MaxSea TimeZero Recreational v2.0.3

Current in color

Sea Surface Temperature in color

Sea Height Anomalies in color

Sea color

Display Weather in Lines

o   Click to display or hide selected forecast data in Lines.

o   Right Click to choose which forecast data you want to show or hide on chart.

o   This mode is also exclusive only one type of data can be displayed at same time.

Pressure in Lines

500mB in Lines

In navigation space, you can only display a forecast file if it is corresponding to the actual time. To display a past or future file, you have to use the planning space to display animation. In the Planning Workspace the scrolling bar on the right bottom side allows you to play the weather forecast data directly on the chart.

Lists

Lists: Click to display or hide lists of : Waypoints, Routes, Route Details, Logbook, etc...

Update functions

previous weather request: Click to reload previous weather forecast that has been downloaded

Weather: Click to get latest selected weather forecast

Active Captain: When registered and connected to Active Captain web site, this function is available and allows you to automatically get latest information.

Navimail click to use Navimail service that is a subscription based Weather download service provided by Meteo France.

In the Update Workspace is where you can requesting your weather forecast file by choosing a zone and a type of data you wish. Read more in the "Requesting a Weather File" related topic.

POLAR Workspace *

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

Rings, click to show/hide Polar Rings.

Wind Polar, click to show/hide all calculated optimum routes.

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).

SOUNDER Workspace *

LF: Echo gram displayed in Lower frequencies, (50 kHz)

HF: Echo gram displayed in Higher frequencies, (200 kHz)

Click Successively on following Ribbons tool to switch between available modes :

Auto Fishing mode: Select this mode to clearly display weaker echoes for searching fish schools

MaxSea TimeZero Recreational v2.0.3

 Auto Cruising mode: Select this mode to clearly display stronger echoes

 Manual mode to manually adjust gain and tools for adjusting the frequency level gain become

available : **LF** or the **Hf**

 ACCU-FISH feature estimates the length of each fish and shows a fish symbol

 A-scope, display echos of each transmission on the right of the screen

 Bottom Discrimination Ribbon tool click to display the bottom Discrimination information

RADAR *

Radar Overlaying Click to Show/Hide Radar Overlay Echo on chart. (exlusively available in the navigation workspace)

Rings: Show hide Radar Rings displayed on Chart

 Automatic gain level: Left click on the button to select automatic Gain Level settings. This action cancels manual settings.

Gain level: Right-click and adjust the range from 0 to 100% using the wheel of the mouse or the finger left border of the track pad.

 Automatic Sea Level: Left click on the button to select automatic AC Sea level settings. This action cancels manual settings.

 Sea level: Right click on the button to display the slide and adjust the range from 0 to 100% using the wheel of the mouse or the finger left border of the track pad

Automatic Rain Level: Left click on the button to adjust the AC Rain level value automatically

Rain Level: Right click on the button to display the slide an 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.

If Radar Function included in MaxSea the Radar Overlaying Tool is added in the Navigation Ribbon and Radar Workspace is added. Read More in RADAR Workspace topic.

(*) (Exclusively included in MaxSea Explorer) presence of this button depends on your software configuration. The omission of a button means that the corresponding module is not available in the software.

Tools bar

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

The toolbar is displayed vertically on the left-hand side of the screen.

It includes both tools and buttons and allows working on an electronic chart as you would do on a paper chart with a pencil and navigational protractor.

Select any tool or activate any button on the palette by simply clicking on it.
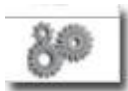
Simple click on this tool to display Tools Configuration dialog.

Activation Buttons

Center On Ship : Auto Center activation button toggles on/off chart auto-centering, placing the vessel in the center of the chart screen. Double click to center the boat on chart.

Navigation Tools

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.

Pan tilt: click t:he Pan tilt tool to change the point of view in MaxSea 3Dview

Zoom: click with the left button to zoom in and click with the right button to zoom out.

Zoom In: click on the tool to Zoom In by fixed increment on the center of the chart

Zoom Out:click on the tool to Zoom Out by fixed increment on the center of the chart

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.

Mark: To create Marks, which are stored in data base and displayed on charts

Route: This tool provides a simple method to draw a route consisting on series of connected route points.

GO TO: This tool provides a simple method to simultaneously place a Quick Waypoint at the cursor position and activate the route to go to this Quick Waypoint. Double click to enter the Lat/Lon position Go To.

MOB **:** Single click on Man Over Board button to activate the "Man Over Board" function.

Add to Logbook: To add manually an event in the logbook.

delete (Pacman, Rubber): To remove unwanted objects. Select the tool, and then click on the object you want to delete.

Tool only available in Planning Workspace

Launch Routing *: To calculate and display a Weather Routing on chart.

Only available in Update Workspace

Update Area : click to activate the weather wizard that allows you to download weather forecast.

Only available when MaxSea connected to NavNet 3D(Exclusively included in MaxSea Explorer)

Range Plus* : The Range Plus function shrinks the chart range

Range Minus * : The Range Minus function expands it.

Synchronize Radar Range: When the Range function is operated in MaxSea, the Range key is simultaneously applied in NavNet.

: **Calculate Bearing by EBL and VRM in the radar operating zone :** A variable range marker (VRM) and its associated electronic bearing line (EBL) is used to determine the range and bearing (respectively) of objects detected by the radar. Right click the Select Tool to roll down the menu. Choose either the EBL 1 or EBL 2 or VRM1 or VRM 2.

Create Guard Zones in the radar operating zone : Click to choose the Guard zone 1 or 2 tool to draw the first zone in the radar operating workspace. Click again on this tool to hide the guard zone1 drawing on chart. Right-click any where in the operating radar workspace and select Guard Zone 1 or 2 to show or hide it.

Plotting Tool

Annotation : Click to enter the text that will appear on the chart.

Boundary area: Click to plot lines or closed areas on chart

MaxSea TimeZero Recreational v2.0.3

Boundary circle: Click to plot a circular area on Chart

Boundary line: Click to plot a line on Chart

(*) presence of this buttons depends on your software configuration. The omission of a button means that the corresponding module is not available in the software.

Configure Tools in Toolbars

Toolbar unlocked **Toolbar Locked**	Simple click on this tool to display Tools Configuration dialog. By default toolbar from each workspace is preconfigured with a number and order of tools depending on the selected workspace. **Toolbar Unlocked**: Tools can directly be removed from tools bars, click a tool, drag and drop it outside toolbar's area. **Toolbar locked:** a lock symbol is displayed nearest Tools configuration, and tools can not be removed from the tools bar. .

Click on the "Configure Tool" to change the toolbar's configuration

1. To add a button in the tool bar, select it in the available buttons list and click on **Add**.

2. To change its position in the tool bar, select it in the current buttons list and click on arrow either "**Down"** or "**Up"** to move it.

3. To remove button in the tool bar, select it in the Current Buttons list and click on Remove. The button will appear next to, in the available buttons list.

4. To go back to the initial configuration click on **Default**.

5. Add separator to regroup specific tools

6. Check or uncheck the "Lock the toolbar" box.

NavData

1.

NAVDATA 1 / NAVDATA 2	Two **NavData Side bars** can be configured. By default the first one consists of several Instrument Data displays and it allows viewing information sent by electronic equipment connected. The second NavData consists of several type of Information displays that allows viewing different textual information on chart (cursor, Info point from selected object or weather informations). You can add or remove NavData either in NavData1 or NavData2 as you wish:

2. **Cursor NavData** shown in grey background color displays real-time information as the cursor moves over the screen. By default, data information is latitude and longitude and add more as Bearing (BRG) and/or Range (RGE) and/or Time to Go from the boat to the cursor position.

3. **Sensor NavData** shown in yellow light background color displays data relative to information being received from electronic equipment (GPS, central navigation equipment and else) connected to your computer.

   Route NavData shown in orange background color continuously displays updates information necessary to follow a Route (Waypoint name, distance,...).

   NavData Analogic, information are shown in a graphical displays. Each NavData Analogic's representation depends on selected data.

   Info Point NavData, displays values and comments relative to selected object on chart (info concerning waypoints, route points etc...)

   Tides and Currents NavData, gives values of currents and tides nearest the ship's position. Only one Tides and Currents NavData can be opened at same time.

   Weather Informations, displays values which are contained in the current weather forecast file (weather and oceanic data). Information is simultaneously updated each time moving the cursor.

   LayLine Informations displays values of the Port LayLine and the Starboard LayLine depending on boat's position as direction, distance and Time to go.

4. **GPS Status** displays if a GPS is connected and

> **Note**: The **NavData 1** is displayed by default in the Navigation wokspace and the **NavData 2** is displayed by default in the Planning and the Polar workspaces. No NavData is displayed in the Update and Radar workspaces. At any time you can display either in each workspace the NavData1 or the NavData2.

NavData Side Bar Display

1. Click on the **Cross** in the upper right hand corner will close the **NavData Side Bar**.

2. You can reopen the closed **NavData Side Bar:** either click on the NavData Button on right side or go to **[MaxSea]** menu and select **[Show/hide Nav data]** or press **F4 keyboard.**

Setting the NavData Side :

You can easily choose how many NavData you want to display in the NavData Side Bar by clicking on the **Plus** symbol in the upper right hand corner.
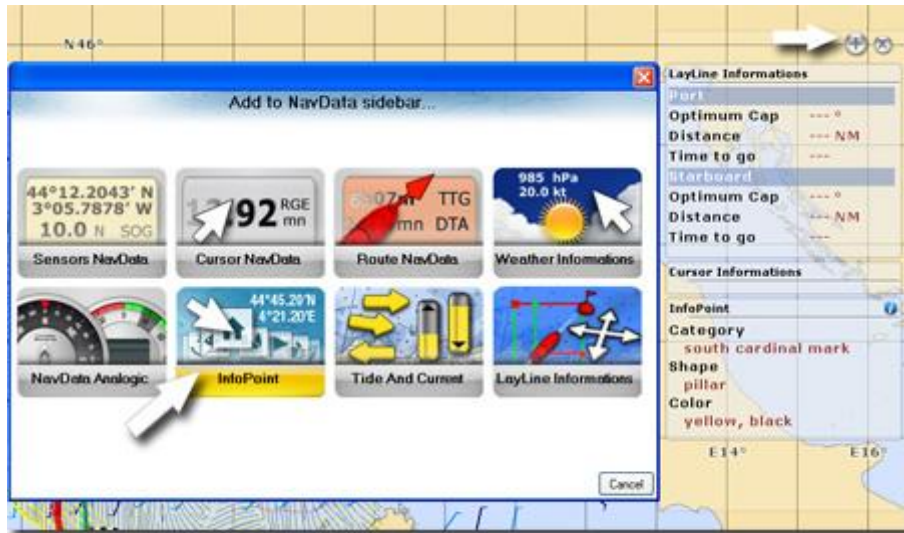
A dialog for adding **NavData** allows you to choose a category between the following:

1. **Sensors NavData** gives for example information sent by the GPS:

   o   Date/Time

   o   Boat Position (information given from GPS)

   o   Course Over Ground (COG)

   o   Speed Over Ground (SOG)

2. **Cursor NavData** :

   o   **Cursor Position** shows real-time information as the cursor moves over the screen (Latitude /Longitude)

   o   **B earing to Cursor :** distance between the cursor and the ship,

   o   **Range to Cursor** course between the cursor and the ship,

   o   **Time To Go (TTG) to Cursor**

3. **Route NavData** can show:

   o   Time To Go (TTG) at the present ship speed.

   o   Distance to the Waypoint

   o   Estimated Time Arrival (ETA)

   o   Distance To Arrival

4. **Weather Informations**

o   all information of the weather data in the weather forecast file are displayed in real time.(speed and direction of the wind for example).

5. **NavData Analogic** :

      o   **Date/Time** shows clock animation (display by default)

      o   **Compass display :** Bearing to cursor / Course Over Ground / Heading

      o   **Analogic Counter Display:** Speed Over Ground, graduation from 0 to 30 / True Wind Speed, graduation from 0 to 30 / Apparent Wind Speed 0 to 5 x10

      o   **Range to Cursor** course between the cursor and the ship,

      o   **Time To Go (TTG) to Cursor**

6. **Info Point** :

      o   Information displayed is always updated in real time and depends on the Object selected on chart **.**

7. **Tide and Current**

      o   Information displayed indicates the value of the tide and current display based on the nearest tide station to your present location. As the boat moves the software will update the display with the closest tide station.

8. **LayLine Informations**

For each layline Port (1) and Starboard (2) you will get information on:

      o   LayLines direction (LayLine1 - Heading and LayLine 2 - Heading)

      o   Distance between LayLines and the ship's position (LayLine1 - Distance and LayLine 2 - Distance)

      o   Time required to reach LayLines (LayLine1 - TTG and LayLine 2 -TTG), calculated on the boat's present optimum speed (taken from the current polar).

Setting Each NavData Display

Right-clicking on each NavData calls up the contextual menu and allows :

1.   Choosing one or several data to display. If several Data are selected in the same time, each data will be displayed in alternate frequency.

2.   Switching between small or big font size.

3.   Closing the NavData from the NavData Side Bar.

Moving Each NavData Inside and Outside the NavData Side Bar

Simple click and Drag a NavData to move it:

1. Outside the NavData Side Bar anywhere on the Chart. It will be permanently shown on screen even if the NavData Side Bar is closed.

2. In the top or bottom of the NavData Side Bar at a desired place.
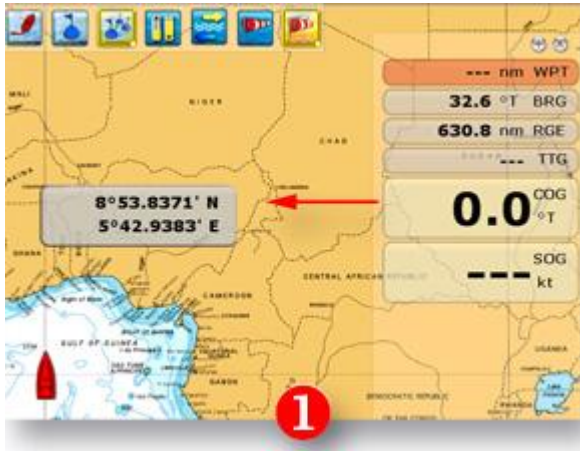
Moving a NavData outside the NavData Side Bar
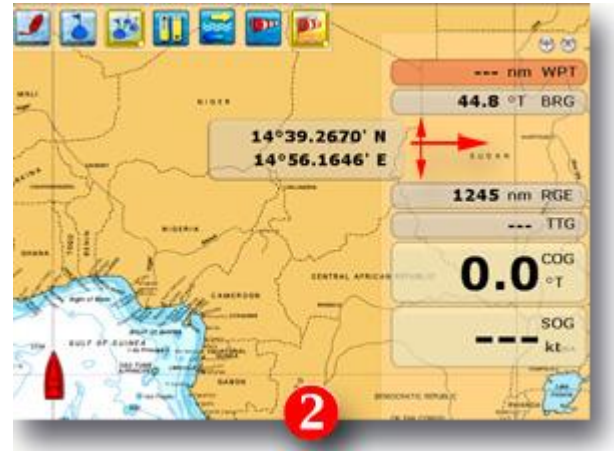
Moving a NavData in the NavData Side Bar

Quick Access and Shortcuts

Use the Right Click on selected object on the chart to access to contextual menus.

For example you can "**Add Photo**" any where on the chart or to a selected object such as a mark, logbook point, etc...

Use the wheel of the mouse or the Track Pad of your Laptop to scroll on chart, on slide button,...

If you move your finger towards the top right and drag down the track Pad will act as if you used the scroll wheel on the 3-button mouse.

Note: Refer to the Laptop user's guide to adjust the track pad.

Accessibility MaxSea Usual functions keyboard Shortcuts:

Press on the keyboard :	To :
Ctrl	Maintain the **CTRL** key down while selecting several objects together by clicking them one after one using the pan tool.
Ctrl + F	Find localized places, (POIs) on the chart only if the PC is connected

	to the Internet and also Tides. Never available in the Radar and Polar workspace
Ctrl + Z	Undo the last command or action
Ctrl + Y	Repeat the last command or action
Del	Delete selected object
Page Up	Zoom in (with the zoom tool selected right click on the chart to zoom in)
Page Down	Zoom out (with the zoom tool selected left click on the chart to zoom in)
CTRL + Page Up	Activate next step of the animation
CTRL + Page Down	Activate previous step of the animation
CTRL + F2	To stop the animation only available in the Planning workspace

Press on the keyboard :	To :
F1	Call up Help with index and table of contents
F2	Zoom in step by step
F3	Zoom out step by step
F4	Center on boat
F5	Track on /off
F6	Show / Hide NavData
F7	Show/Hide list action only available in the Planning and Navigation Workspaces.
F8	Activate the Man Over Board (MOB) function
F9	Create an event at the position of the boat
F10	Radar Range Plus
F11	Radar Range Minus
SHIFT + F2	Switch between Day, Dusk and Night display
SHIFT + F3	Activate the Trackball mode
SHIFT + F5	Track On / Off PBG recording
SHIFT + F10	Show / Hide Depth shading and Contour Lines both together on screen. Only available in the Navigation and Planning workspaces.

SHIFT + F11	Switch from 2D to3D view

All touches from the numeric keypad (enter, 0, 1, 2, 3,...) are available in any workspace to plot events.

MaxSea enables user to configure his own Keyboard shortcut, to do this go to the "**Customize Functions Keys...**" in the "**General**" of the **MaxSea Options** menu**.**

About Your MaxSea Configuration

To show information about your software, Choose **About** under the **MaxSea Button** menu.

You will obtain information about the software configuration :

1. Software **serial number** or **Licence ID** (always beginning from **"TØ ---- ---- ---- --"**)

2. **Licence Type**, unlimited or Limited version for demo version.

3. Product category (**MaxSea TimeZero Navigator** or **MaxSea TimeZero Explorer**)

4. Software version.

5. List of activated modules.

6. Click to "**Print User Guide**" from a document in PDF format (Acrobat Reader is required) or click **OK** to cancel.

MaxSea on PC

Requirement Configuration

Your PC must comply with some material and system requirements in order to use MaxSea.

Find below a references board to check your PC configuration before proceeding to the installation.

	Minimum	Recommended
Processor	1 GHz cadenced.	2 GHz (Core Duo 2 Ghz)
Used ports	Serial and/or parallel ports and/or USB	
RAM Memory	1GB	2 GB
Video Card	100% DirectX 9.0c with WDDM driver, 128 MB of (minimum), Pixel Shader 3.0 and 32 bits per pixel.	

Graphical Memory	**128 Mb** with **MaxSea Navigator** **256 Mo** with **MaxSea Explorer** using **Radar NavNet3D** overlay	**512 Mb**
Hard disk Capacity	40 GB	80 GB
Network	Ethernet 10/100 Mbits connexion Base-T	
Screen settings	1024*600, 16-bit color	1280*1024 32-bit color
CD/DVD –ROM drive	24X recommended -for MaxSea and MapMedia Charts installation	
Operating system	**Windows® 8** and 7 * or Windows® XP SP3 or Windows® VISTA SP3 (Windows Vista Capable / Windows Vista Premium Ready Computers:)	

(*) compatible 32 bit et 64 bit.

MaxSea TimeZero Installation

IMPORTANT –Unplug all devices connected on your parallel port (modem, autopilot, etc…).Those devices can be pluggedin again later at the first MaxSea´s launch. Always use the original installation CD-ROM provided (or a backup copy you would have done). Using original installer guaranties a correct installation of every necessary file (plug-in, input/output entries, etc…) for a satisfying performance.

MaxSea is provided with an USB key

MaxSea TimeZero Recreational v2.0.3

1 Serial Number provides on the My MaxSea Card which is your own serial Number.

Your software stored on the MaxSea USB key.

Insert the USB flash drive into a USB port on the PC

Wait a few time to let the system to detect the new material. Open the USB folder and doulbe click on the "Click Me" file to install MaxSea.

Note: the install procedure will launch automatically on Windows XP SP3 oerating system.

MaxSea is provided with a CD-Rom

- o 1 serial number ,
- o 1 Software CD,
- o 1 installation Card,
- o My MaxSea club card. (with your own serial number),

In order to simplify the installation, an **installation card** has been provided to you with your software, simply follow the different steps indicated on it.

- o Insert the MaxSea installation CD, the installer is launched automatically. Nevertheless, if **"Autorun"** doesn't work, simply launch the **"setup.exe"** situated on the CD root.

Follow carefully each instruction to install correctly the software

- o The first installation window asks you to choose between three options. Click on the **"installation"** button.

- o Choose the language and go through the installation program by clicking on **"next"** buttons for every new message (default installation).

- o Once the installation is over, double-click on the MaxSea TimeZero desktop icon to launch the software and runs the activation process.

MapMedia Data Packaging includes

1 or various data's DVD (charts, 3D, pictures ….) to add in function of the chosen

area.

Licence Activation

MaxSea's protection is based on software license use (without *hardware key*).

Once the installation is over, the software is launched automatically and runs the licence activation.

The **Serial number** (Licence ID) is necessary to activate your software. You can find this number on a sticker, situated on the back of the TimeZero packaging and/or on your "My MaxSea" club card.

This Identifier has the following composition: **"TØ ---- ---- ---- --"**

o Enter your serial number in the pop-up window appearing at the end of the installation.

o If you enter the number correctly, the validation button will be activated.

o Click on the validation button to launch the activation .

o When your entering is validated, a message informs you that an Internet connection is recommended.

The activation is automatically made in a very clear way. All your charts codes and other data are loaded too.

If the activation fails with the automatic way or if you don't have an internet connection for example, please follow instructions shown in order to recover all codes you need for software running.

MaxSea Utilities

Several utilities are installed by default under **MaxSea Internationa**l from the **Windows Start Menu** such as:

1. **Move My MaxSea Data**, this is the most secure process without data lost

2. **Erase MaxSea TimeZero Preferences,**this is the most useful function to go back to the factory defaults

   - It is recommended to stay the Backup before clearing checked

   - Choose which settings of the software (either IO configuration or user settings) or data settings (either layers or tracks) you want to clear

3. **MaxSea TimeZero,** to launch the program

4. **Remove Licence from your computer**, use this function when the PC needs to be changed. A dialog box will alert you that the process tries to find the MaxSea licence installed on the PC, once the licence has been found:

- **If the computer is connected to the Internet** the uninstall process is automatic, click on Remove to valid and to obtain a new license activation code saved on our server. You will easily retrieve it later for the next installation.

- **However your computer is not connected to the internet**, you will have to carefully read step by step all instructions on screen. Your current licence and code will be generated into a text file, please take care of this file and save it in a secure place, you will need it later for the next installation.

Uninstall MaxSea

Go to the **Start Windows** menu, point **settings** and click on **Control Panel** to displays Windows **Settings Panel,** click on "**Add & Remove**" icon symbol, **search MaxSea program and click on Remove**.

Choose one of the following option:

Software only, this will remove only MaxSea from the hard disk, your software licence and all your data are saved. This option is generally used when upgrading your MaxSea to a new software version.

Full Uninstallation, contrary of the previous option, this will remove all the software, licence and data from this computer as if MaxSea has never existed on this computer. Only files in "My MaxSea" folder from My Documents repertory are remained intact. This option can be used if you want to install MaxSea TimeZero on another computer. **Before make sure you have launched the process of "Remove Licence from this computer".**

Help

User Guide

MaxSea TimeZero documentation is available in different formats

help software

The Help Viewer provides an integrated table of contents, an index, and a full-text search feature so information can easily be found. Book icons open to reveal topic entries and sub-books. The Help Viewer has the added benefit of showing the Table of Contents, Index, or search results at the same time a Help topic is being viewed. This maintains focus on the Help system and allows seeing all of the other applicable Help topics at a glance. Press **F1** shortcut key.

From **Options** Menu, click on **MaxSea** and choose **User Guide**.

This Help is the complete User guide and you will found all useful link to our rolling demo online in our WEB Site at following address www.maxsea.com

Help in PDF format

To print all the Help manual references, you require Acrobat Reader. You will found a manual named Manual.pdf.

Using Help

To Find a Help topic

In the Help Viewer, click one of the following tabs:

o   Contents tab

To browse through the Table of Contents, click the Contents tab. Double-click the book icons to reveal topic entries and sub-books.

Click a table of contents entry to display the corresponding topic.

o   Search tab

To locate every occurrence of a word or phrase, click the Search tab, type a word or phrase for which you want to search, and then click List Topics. See Find it fast for more information about refining and narrowing the search.

Double-click a search results entry to display the corresponding topic.

There are three options for searching: Search previous results, Match similar words (checked by default) and Search titles only.

o   Favorites tab

To bookmark a topic, use the Contents, Index, or Search tabs to locate and then display a topic. Click the Favorites tab, and then click Add to save the topic title to the Topics list.

Double-click a bookmark in the Topics list to quickly display the topic.

Print Help Software:

o   To print a help topic, on the Contents tab select it and click Print on the Help Tool Bar.

o   All topics within a book, on the Contents tab, select the book. On the Help Tool Bar, click Print, and check Print the selected heading and all subtopics and click OK.

o   To print all the Help manual references, you require Acrobat Reader. "Manual.pdf" file is automatically installed on Windows Desktop.

Version History

MaxSea TimeZero v1.9.8 Features

- Connect your GPS and autopilot (NMEA compatible upon serial ports or Ethernet by Furuno) to your navigation software.

- Download/overlay weather updates for free and perform advanced planning.

- The navigation software operates in a fully rendered 3D environment and delivers unparalleled speed and a seamless chart plotting experience

- Exclusive MaxSea TimeZero interface combines functionality with ease of use, providing for a practical and personalized navigating experience.

- Exclusive MaxSea TimeZero PhotoFusion: fuse satellite images to the marine chart

- **Integration with FLIR M-Series Camera** (**Exclusively included in MaxSea Explorer**): MaxSea TimeZero Explorer can now control any FLIR M-Series camera and instantly add a versatile Target and Object tracking feature to your system.

- **Direct compatibility with NavNet 3D and FAR2XX7 Radar** (**Exclusively included in MaxSea Explorer**): MaxSea TimeZero can be connected directly to one (or two) FAR2XX7 radars using a simple Ethernet connection.

- Worldwide tide database included: display tidal data on MaxSea TimeZero to know about water depth in ports

- Integration with the ActiveCaptain "Points of Interest" database: MaxSea is the first Navigation software to offer ActiveCaptain Points-of-Interest (POI) integration and real-time updating.

- Compatible with AIS: MaxSea TimeZero can be connected to any AIS using NMEA0183 or via Ethernet.

New in this version:

- Optional Furuno Network Sounder module (DFF1, DFF3, FCV1150) (optional module only with MaxSea Explorer and PBG add-on module,)

- PBG (Personal Bathymetry Generator) / Bathy Recorder (optional module only with MaxSea Explorer)

- New File format import

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- PBG (Personal Bathymetry Generator) / Bathy Recorder (optional module only with MaxSea Explorer)

- New File format import

MaxSea TimeZero V1.9 Features

New DVD Installer.

o   TimeZero v1.9 will now ship on a DVD.

o   The DVD contains the program software and World Base Charts (3D and Jeppesen).

o   For Internet downlload, a "Light" installer will be available (containing only the software).
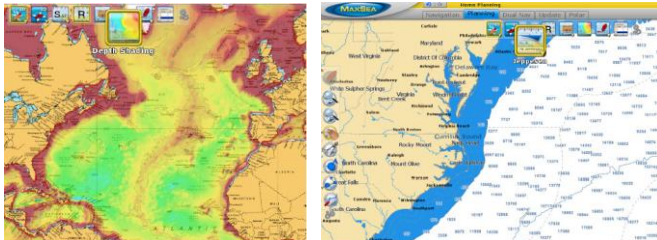
New: Integration with Active Captain.

o   TimeZero v1.9 embeds the Active Captain database allowing access to over 10,000 Points of Interests (marinas, Anchorage,...)

o   Registering as an "Active Captain" User (free registration) will additionally allow access to Marina Reviews and Real Time POI Updates.
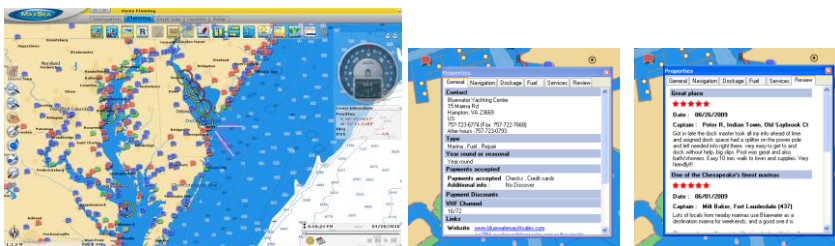
New: Compatible with AXIS Cameras.

o   AXIS IP Cameras (or AXIS Video Servers) can be connected to the computer (via Ethernet and displayed in MaxSea TZ Explorer.

o   Display the Camera in a NavData window or in its own window over the chart.

New: FLIR M-Series Control.

- o   MaxSea TimeZero Explorer can control FLIR M-Series Thermal Cameras.

- o   Pan/Tilt the camera manually or lock on an Object or ARPA Target directly from the chart.

- o   Use an Axis Video server (optional) to bring the video in MaxSea.

New: FURUNO 2xx7 Radar Compatibility.

- o   MaxSea TimeZero Explorer is directly compatible with Furuno 2xx7 series radar.

New: Compatible with mm3d C-MAP by Jeppesen Charts.

    o   MapMedia will be introducing new mm3d charts based upon the jeppesen (C-MAP) data. TimeZero v1.9 allows the user to switch back and forth between any installed vector charts (Navionics, S57, Jeppesen).

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Misc. Improvements:.

    o   Vector chart rendering has been improved (for Jeppesen, Navionics,or HO-S57 vector charts).

    o   The auto Config process in the Configuration wizard has been improved.

- AIS targets are interpolated every few seconds

- the manual Mark input Window (input by Lat/Long) has been improved to accept multiple formats.

- TD offsets are now available.

- Tidal Current Arrows change syze dynamically

- New Pop-Up information on Waypoint (allows user to quickly access TTG, ETA and CTS directly from the chart)

MaxSea TimeZero V1.8.1 Features

Improving the weather module.

- Adding Air Temperature, Clouds and Rain-Snow weather data.

- Pressure 500mb and Pressure weather data displayed in line.

Display of POIs (Points of Interest) on the chart.

- From downloading online POIs Google Panoramio compatible.

- Adding to My Photos.

- Automatically importing My Photos in MaxSea.

Display online AIS targets.

- Recovering AIS targets from Internet.

- Displaying information and photos.

New Polar workspace : display and modify Wind.

- Wind Polar Display.

- SailSet Polar Display

- Displaying and updating the Polar list.

Improving the User Interface.

- Managing Data lists.

- Video player and Playback.

- Customizing toolbars and ribbons.

- Using online search engine to localize worldwide places on the chart.

- Organization of data information in two separate Navdata.

Licences managing improved (improving the Install / Uninstall process).

Windows 7 compatible (processor 32bits/64bits

Glossary

A

ACK: Acknowledge

ACQ: Acquire, Acquisition

Activation: Process that grants access to the software.The user submits first his Site Code and Serial number and then receives a custom Site Key.

Activation Wizard: The Activation Wizard simplify the software activation process providing a user friendly interface made of windows and forms. Activation can be automated (trough the Internet) or manual (through phone or email)

Active leg: The Active Leg is the segment of the route which is currently followed.

Active route: The Active route is the route which is currently followed for navigation. The process of activating a route in MaxSea allows to display information on the screen about the route and if an autopilot is connected, it will steer the boat along the active route, heading for each successive waypoint.

Active Waypoint: The active waypoint or mark is the waypoint or mark towards which you are currently traveling. An active waypoint is surronded by a yellow circle.

ADJ: Adjust, Adjustment

AFC: Automatic Frequency Control

AGC: Automatic Gain Control

AIS: The Automatic Identification System (AIS) is a system used by ships principally for identification andcollision avoidance. AIS provides a means for ships to electronically exchange (via VHF) ship data including: identification, position, course, and speed, with other nearby ships. When an AIS receiver is connected to MaxSea, this information can be displayed on the screen.

Alarm (XTE): Cross Track Error Alarm is activated when the boat has deviated from the desired path of travel. In certain areas, deviation from the route could put the vessel in danger. If you are using a route to travel from point to point, you can select an amount of cross track error allowable before an alarm will sound.

ALT: Altitude

AM: Amplitude Modulation

ANT: Antenna

AP: Autopilot

ARPA: A maritime radar with Automatic Radar Plotting Aid (ARPA) capability can create targets using radar contacts. The system can calculate the tracked object's course, speed and closest point of approach (CPA), thereby knowing if there is a danger of collision with the other ship or landmass. When a Radar with ARPA capability is connected to MaxSea, the targets can be displayed on the screen.

Autopilot: An autopilot is an electrical, or hydraulic system used to guide a ship without assistance from a human being. MaxSea can send bearing automatically to an Autopilot when a route is activated

AUX: Auxiliary System/Function

AWD: Apparent Wind Direction. In order to overcome the effects of current and leeway, a vessel which is trying to reach a given waypoint may not be able to steer straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD). TWD can be derived from AWD by taking any bearing deviation into account.

AWS: Apparent Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (True Wind Speed, or TWS). TWS can be derived from AWS by taking the vessel's motion into account (usually speet through water or STW)

B

Bearing: a horizontal angle, measured from 0 to 90 degrees, fixing the direction of a line or direction of travel with respect to either a north or south direction.

Bench mark: a relatively permanent material object, natural or man-made, with a known elevation. A bench mark can be used as a reference point when navigating a route or in determining the elevation of nearby land features.

BRG: Bearing

Broadcast: To simultaneously send the same message to multiple recipients. Broadcasting is a useful feature in e-mail systems.

C

C UP: Course Up

CDROM: Compact Disk Read Only Memory

CIB: Controlled image base

CITS: Close Air Support Integrated Targeting System (CITS) is a program developed by Northport Systems Inc. for integrating the Global Positioning System (GPS) with laser target locators.

CLR: Clear

COG: Course Over Ground - the direction, reported in true or magnetic north values, in which a GPS receiver and the person operating it are moving with respect to the earth.

COM port: The interface through which your PC can communicate with peripherals.

Contour line: a line on a map that connects points of equal elevation. The vertical distance between contour lines is equal to the contour interval.

Course-up: The chart is shown with the direction of active leg always pointing upward. The Course-up is more "stabilized" than Head-up (that varies all the time according to current vessel heading)

CPA: The Closest Point of Approach ia an estimated point in which the distance between two objects, of which at least one is in motion, will reach its minimum value. CPA can be calculated on ARPA and AIS targets

CPU: Central Processing Unit

CRS: Course

CTS: Course To Steer - is the direction to reach the Active Waypoint with taking into account the currents values.

CTW: Course Through the Water

CURS: Cursor

D

Datum: a reference system for surveying which involves using a plane, level, line, etc., from which to calculate heights and depths. A vertical datum is a level surface to which heights are referred. The horizontal datum is used as a reference for position.

DDE: Dynamic Data Exchange. A Windows protocol that allows communication between applications. When information is updated in one application, related information will be updated in other applications.

Dead reckoning: A method of navigation, where known values are used to calculate unknown values. It is a convenient and versatile function since it is so crucial to the day's work in ocean navigation.

DEL: Delete

DEM: Digital Elevation Model

DEP: Departure

DEST: Destination

DHCP: means Dynamic Host Configuration Protocol, it is an IP standard designed to reduce the complexity of administratering IP address configurations. The DHCP server assigns a client IP adresses from a predefined scope and allows a computer which connects to the Ethernet network to obtain dynamically its configuration while avoiding conflicts of adresses.

Dongle: This key, connected to the parallel port or to the USB one, allows the use of the software (starter key).It also provides the opportunity of using a given configuration on a second computer without previous activation: it acts as a mobile license / configuration.

DongleUpdate: A tool allowing the configuration codes manual input.

DPTH: Depth

DR: Dead Reckoning Function

Drift: The cumulative effect of wind and current on the vessel.

DSC: means Digital Selective Calling, targets can be used to send ditress calling signal

E

EBL: means Electronic Bearing Line: This is a bearing line from the center of your GPS position that remains constant as its position moves. You use the EBL to measure the accurate bearing from your GPS's position to a target.

ECDIS: Electronic Chart Display and Information System

ECS: Electronic Chart System

EGNOS: European Geo-Stationary Navigational Overlay System

Elevation: the vertical distance of a point above or below a reference surface, such as sea level.

ENC: Electronic Navigational Chart

Ephemerides: Data giving the location of satellites for each day of the year or for other regular intervals.

ETA: Estimation Time Arrival

ETD: Estimated Time of Departure

F

F-Band: F - Band (applies to Radar)

Fishing: The Fishing Charts shows detailed bathymetric contour line developed from National Ocean Service surveys (NOAA-NOS). These Fishing Charts cover the main canyons and are rendered in stunning detail. The Fishing Charts are NOT to be used for navigation.

FIX: Fix

FLS: The Forward Looking Sounder is a system that displays on screen a scanning illustration of underwater objects such as fish or seabed.

FM: Frequency Modulation

FREQ: Frequency

G

GFS: The GFS model is a generic, worldwide model covering land as well as sea areas. This is the most common of the models, and the one other software suppliers make available.

GIF: Graphics Interchange Format. This is a format for saving graphics files with data compression.

GLL: A data sentence that is part of the NMEA protocol for transferring information between electronic devices. The GLL sentence contains position information.

GPS: Global Positioning System - a global navigation system that is based on triangulation from a constellation of 24 satellites orbiting the earth. A GPS receiver pinpoints its position on earth by measuring its distance from the satellites. It does so by calculating the time it takes for a coded radio message to pass from the satellite to the GPS unit. A GPS unit needs at least three measurements to determine its exact position.

GRIB: GRIB file is a WMO (World Meteorological Organisation) standard format for archivingandexchanging gridded data

Gulf Stream model: is a weather model which adds current information to the East Coast High Resolution model.

H

Hardware key: This key, connected to the parallel port or to the USB one, allows the use of the software (starter key).It also provides the opportunity of using a given configuration on a second computer without previous activation: it acts as a mobile license / configuration.

HDG: Heading

HDOP: Abbreviation of Horizontal Dilution Of Precision. HDOP allows one to more precisely estimate the accuracy of GPS horizontal (latitude/longitude) position fixes by adjusting the error estimates according to the geometry of the satellites used.

Head-up: The Head-up mode is useful for monitoring ship's progress towards the direction of the route. The chart is shown with the direction of the vessels course upward. The display orientation is constant until a new course direction is fed in.

I

Ionosphere: That part of the atmosphere, extending from about 70 to 500 kilometers, in which ions and free electrons exist in sufficient quantities to reflect electromagnetic waves.

J

JPG: Joint Photographic Experts Group Format - Standard format for image storage created by this group. JPG allows large images to be significantly compressed. Along with the GIF format, it is one of the most common and widely supported image formats used for raster graphics.

L

L/L: Latitude / Longitude

LAT/LON: Coordinate systeme of any object's, espressed in Latitude and longitude.

Latitude: the distance north or south of the equator of a point on the earth's surface. This distance is measured in degrees, minutes, and seconds. Lines (parallels) of latitude circle the earth horizontally and are parallel to one another. One minute of latitude equals one nautical mile.

Leg: is the segment of a route between two waypoints.

License: It is the proof that the use of the software is granted and it contains the data relative to the use restrictions (deadline, runs…).It is generated after a successful activation process.

LMK: means Landmark, is used to indicate a land position in a coordinate system.

Longitude: the distance east or west of the prime meridian of a point on the earth's surface. Longitude is measured in degrees, minutes and seconds. Lines (meridians) of longitude create a geographic grid around the world and are not parallel, but rather converge at the poles.

M

Magnetic north: the area to which all compass needles point, located roughly 1300 miles south of true north. Magnetic north moves west slightly each year due to the earth's rotation and the friction created between the earth's liquid center and its solid crust.

Manual Activation: It is made of a dialog box displaying to the user his Site Code and requesting for the matching Site Key.It meets two needs:- to be able of entering a Site Key after a email activation request.- To be able of performing a fully manual activation.

Manual activation email: It's one of the methods suggested by the Activation Wizard. It's a helper designed for the user to manually create an activation request email using copy & paste. This method must be applied if the automatic activation email failed.

Map projection: the systematic arrangement of the earth's spherical or geographic coordinate system onto a plane; the process of transforming a globe into a flat map with the least amount of distortion; a transformation process.

Meridian: an imaginary line that circles the earth, passing through the geographic poles and any given point on the earth's surface. All points on a given meridian have the same longitude.

MFD: Multi function Display

mm2: Mapmedia mm2 charts are in the " the second generation " Raster format, the display quality of the text has been improved (anti aliasing effect).Mapmedia mm2 charts are in 16,7 million colors, this improvement in the quality of your charts displayed on the screen is not achieved at the expense of disk space.

MOB: Man-over-board

Modules: They must be considered as the available features offered by the software.

N

NMEA: National Maritime Electronics Association. The association sets standards for interfacing nautical electronic devices, including Global Positioning System receivers.

NMEA0183: The protocol used between two devices to communicate information.

North-up: North (zero degree) is at the top of the display.

O

Oceanic Experimental model: is a weather model, covering only the ocean areas (and not close to shore).

Online Activation: It's the more simple activation method available for an user who has access to the Internet. The process is fully performed by the Activation Wizard.

Overzoomed: Because MaxSea TimeZero will let you adjust the viewing scale of the charts to anything, there will be times that the chart image you see has been magnified to the point of implying more detail than is really there. This is pretty obvious with raster charts as they start to look blocky, but vector charts tend to stay nice looking at extreme magnifications. To warn you of this overscale situation, the Chart Scale and Range box will appear in red.

P

Packet Messaging: Radio transmitted message system.

PBG: Personal Bathy Generator

PCMCIA Card: Personal Computer Memory Card International Association Card. A Sunnyvale, California nonprofit trade association created to standardize the connection of peripherals to portable computers. PCMCIA developed the PCMCIA card, a lightweight, removable module about the size of a credit card that adds features to a portable computer.

PCX: PCX is a graphics file format for graphics programs running on PCs. It is supported by most optical scanners, fax programs, and desktop publishing systems.

Pixel: Picture element. Definable locations (dots) on a display that are used to form images on the screen.

PNG: Portable Network Graphics. A file format for the portable, well-compressed storage of raster images.

Position fixing: determining your position on a map in terms of its coordinate system. This can be done visually, by referencing the terrain and comparing it to contour lines and other map features, by using a GPS receiver.

Protocol: An agreed-upon format for transmitting data between two devices

PTF: PTF is the extension of specific vector files which stack there transparency on displayed chart and on which user add marks and save his data.

R

RAIN: Anti Clutter Rain, Radar term

Raster: Raster charts are simply digital pictures of paper charts that also contain the information necessary to convert between locations in the picture and a latitude and longitude. Some people prefer raster charts over the vector charts because they seem more familiar - they are just copies of paper charts.

Raster Picture: A Raster Picture is one made from an array of dots rather than continuous lines or areas. Raster charts or Satellite Picture are examples of Raster Picture

Relief: changes in terrain; elevations or depressions in the land.

Relief shading: a technique for showing the ups and downs of the land portrayed on a topographic map. The process makes land look three-dimensional by the use of graded shadow effects. Traditionally, maps are shaded as though the light source is coming from the northwest.

RMS: Root Mean Square. The standard deviation of the error in the GPS location.

Route: A route is a desired path of travel created on a chart and consisting of two RoutePoint at least with a starting waypoint, and ending waypoint.

S

SAR: Search And Rescue

Scale: the distance between two points on a map as they relate to the distance between those same points on the earth.

SEA: Anti Clutter Sea, Radar term

Serial Number: It identifies the product (software) and proves the purchase act. It is requested by the Activation Wizard or from our services when you have to call them .

Sighting line: The line that you sight along to take a bearing.

Site Code: The Site Code is a critical data with regard to the Activation. It is the query part during the activation phase and identify user machine in a unique way.

Site Key: The Site Key is a critical data with regard to the Activation. It is the answer part of the activation process. It is the "Activation Code".

Slope: When land deviates from the horizontal plane it has slope. On a topographic map, the closer the contour lines are placed together, the greater the slope of the land being portrayed.

Software Key License Manager: allows you to manage your software key each time needed.

SOG: means Speed Over Ground, it is the actual fixed geographic speed of a vessel. It is essentially the Speed over Water (SOW), plus the cumulative effect of wind and current.

SOW: Speed Over Water - the speed over water as reported by a NMEA 0183 compatible GPS attached to your system. So it is the actual speed of the boat traveling.

T

TCP/IP: Abbreviation of Transmission Control Protocol, and pronounced as separate letters.TCP is one of the main protocols in TCP/IP networks. Whereas the IP protocol dealsonly with packets, TCP enables two hosts to establish a connection and exchange streamsof data. TCP guarantees delivery of data and also guarantees that packets will bedelivered in the same order in which they were sent.

TCPA: is the abbreviation that means Time to Closest Point of Approach.

Temporary License: During a dongle failure, the software automatically generates a Temporary License.This license allows the user to keep on using his software normally for a limited time while he is waiting for a dongle replacement.The temporary license is renewable if the user contact the technical support.

TGV: The TVG adjusts the difference of strength between echoes reflected from the shallower depth and echoes reflected from deeper depth so that the reflection can be uniformed. (only for sounder equipement)

Tif: Tagged image file format. One of the most widely supported file formats for storing bit-mapped images on personal computers (both PCs and Macintosh computers).

ToolBar: The ToolBar is located on the left of the screen and groups all the tools that can be used with the current WorkSpace.

Topography: relief of the land surface; the graphic portrayal of that relief in map form by the use of contour lines.

Track: An onscreen and/or logged record of a vessel's previous movements.

Troposphere: The portion of the atmosphere from the earth's surface to the stratosphere; that is, the lowest 10 to 20 kilometers of the atmosphere.

True north: the geographical North Pole.

TTG: Time To Go - The amount of time estimated until the vessel reaches an active waypoint, assuming no intervening change in course or speed.

TWA: True Wind Angle

TWD: True Wind Direction - In order to overcome the effects of drift and wind, a vessel which is trying to reach a given waypoint may not bear straight towards it. As a result, onboard wind direction measurements - the AWD - may not be the same as the True Wind Direction (TWD).

TWS: True Wind Speed - When the vessel is in motion, onboard wind speed measurements - the AWS - will differ from stationary measurements (TWS).

U

UDP: User Datagram Protocol connectionless protocol that, like TCP, runs on top of IPnetworks. Unlike TCP/IP, UDP/IP provides very few error recovery services, offeringinstead a direct way to send and receive datagrams over an IP network. It's usedprimarily for messages over network broadcast .

Upload: Method of transfering data from MaxSea to a GPS.

USGS: United States Geological Survey.

UTC: Coordinated Universal Time

UTM: Universal Transverse Mercator grid - a grid coordinate system that appears on most USGS maps. It provides a perpendicular grid with constant linear surface distance values between each of its grid lines in all directions, except near the poles. The UTM system divides the area of the earth between 84 degrees N and 80 degrees S into 60 zones. While coordinates reported in degrees, minutes, and seconds of latitude and longitude are often called true coordinates, those reported in terms of the UTM grid are referred to as false eastings and northings.

V

Vector: Rather than storing the entire chart as a single image like a raster chart, vector charts are made up of many separate "objects" such as coastlines, bays, land areas, buoys, and depths. The computer "render" these objects on your screen to create a picture. With Vector charts, the display of individual types of objects and units of measurements can be controlled. Also you can click on objects to access detail information and the texts will be always display correctly even if the charts are rotated.

VMG: Velocity Made Good - The speed at which the vessel is moving toward its intended destination, regardless of the vessel's direction.

VRM: means Variable Range Marker: This tool is a user-controlled range ring that surrounds your GPS's position. The VRM is normally used to measure distances to targets. The range for the VRM is displayed in Nautical Miles and can be found in a tool tip on the chart.

W

Waypoint: A predetermined geographical position used for navigation along a route or for storing the position of a particular feature.

X

XTD: Cross Track Distance

XTE: Cross Track Error - The distance of a line drawn from the vessel perpendicularly to an active route leg. This determines to what extent the vessel is straying from the course of a route.