



**SeeMyENC**

**Version 2.0**

**User's Guide**

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# Preface

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SeeMyEnc is a simple but effective S-57 chart viewer. It reads ENC and IENC data, either in the S-57 format or the SevenCs SENC format.

The S-57 standard was issued by the International Hydrographic Organization (IHO) to support the transfer of digital chart information for use in Electronic Chart Display and Information Systems (ECDIS), or digital repromats.

SeeMyEnc can load multiple S-57 files of the products ENC editions 3.1 and 3.1.1, and Inland ENC editions 1.0, 2.0 and 2.1.

You can zoom, pan and select different symbology & colours, present a pick report, and analyze the data by evaluating the logfile which is generated during the import of an S-57 file.

The documentation corresponds to the respective software version. Nevertheless, occasionally the software may differ from the functionality described due to technical reasons.

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# 1 Introduction

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## 1.1 Conventions Used in this Document

Times New Roman font is used for:

- plain text in this document

*Italic* font is used for:

- program and component names
- function names

**Boldface** is used for:

- chapter and section headlines
- cross references

Courier New font is used for:

- any text typed by the user
- file content and names

**Note:**

Displays important information which should not be ignored.

Displays examples of program code.

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## 2 Requirements and Installation

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### 2.1 System Requirements

Windows 2000/XP/Vista  
min. 512 MB RAM  
min. 1 GHz CPU clock rate  
50 MB disk space

### 2.2 Installation

To install SeeMyENC it is necessary to be logged into the system with administrator rights.

Execute the file SeeMyENC\_Setup.exe, and select the desired destination directory. The default installation directory is C:\SevenCs\.

An icon on the desktop is created, and an entry can be found in Start -> Programs -> SevenCs -> SeeMyENC.

**Note:**

Any files with extension \*.7CB on your system are automatically linked to SeeMyENC; i.e. when you double-click such file it will be loaded into SeeMyENC.

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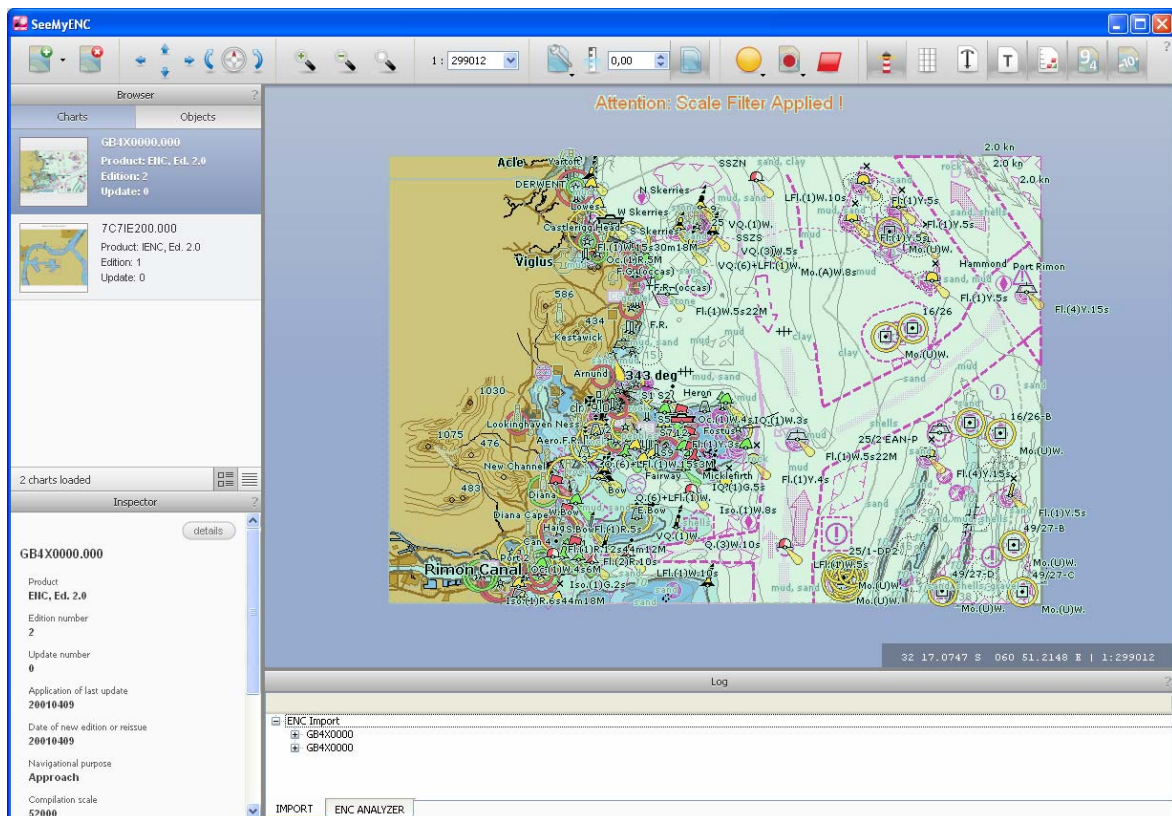
## 3 The User Interface

At the top of the user interface there is

### The Tool Bar.







The icons in this bar are used to handle the charts in






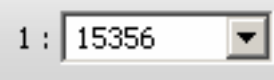




### The Chart Display.















### 3.1 The Tool Bar





The buttons in the *Tool Bar* are (left to right):

	Load/Add Chart(s)	<p>S-57 ENC and IENC (*.000) and SevenCs SENC files (*.7CB) can be loaded and added if charts are already loaded.</p> <p>ENCs and IENCs are internally converted into SevenCs SENC format, and a logfile of this conversion is created. This logfile can be viewed in the logfiles window.</p> <p>Charts may also be loaded using drag-and-drop in the Windows Explorer.</p>
	Remove Chart(s)	<p>Removes the selected chart(s). If no chart is selected in the Browser all loaded charts will be removed. If there is a large number of loaded charts to unselect all scroll down and click into the empty field below the last chart. Alternatively, to select all loaded charts at once use Ctrl + A.</p> <p>Selected cells may also be deleted by striking <i>Del</i>.</p>
	Load Chart Update(s)	<p>If update files (*.001, *.002, etc.) are available for an already loaded chart they can be loaded with this button and will be applied to the base chart. A summary of updated objects is then displayed in the log file window.</p> <p>Please note that if the base chart is a *.7CB file the updates will be applied directly to this file, i.e. the file will be changed. In S-57 this is called <i>Reissue</i>.</p> <p>Make sure you have a backup of your *.7CB files before applying updates.</p>
	Print Chart	Prints the current chart view
	Export Chart as Image	Saves the current chart view as a picture file. The file can be stored in JPG, PNG or BMP format.
	Settings	In case the referenced chart files (TXT, TIF, JPG, HTM, etc.) are centrally held in one folder the location of that folder can be entered here.

	Online Help	Starts the online help of SeeMyENC.
	About	Displays information about SeeMyENC.
	Quit	Quits the application.
	Zoom In/Zoom Out	<p>Clicking on either of these buttons will zoom into the chart, i.e. display more details, or zoom out and provide a general overview.</p> <p>You can also zoom by using the mouse wheel. In <i>Options</i> you can define whether you prefer zooming always on centre, or on current mouse position.</p> <p>Shortcuts:  Zoom In: I  Zoom Out: O</p>
	Overview	Shortcut: V
	Scale	The smallest possible scale is 1:20.000.000. The largest scale is 1:50.
	Pan Left / Up / Right / Down	Shortcuts: Arrow Keys.
	Rotate	<p>Rotates the chart left or right in 5 degrees steps.</p> <p>Shortcuts:  Rotate clockwise: R  Rotate anti clockwise: L</p>
	North Up	<p>North-up orientation will be resumed in one step in case the chart has been rotated before.</p> <p>Shortcut: N</p>
	Show Base	<p>The IMO (International Maritime Organization) has defined three display categories. The content of each display category is defined in the IHO (International Hydrographic Organization) standard S-52 (Presentation Library):</p> <p>"The level of SENC information which cannot be removed from the display, consisting of information which is required at all times in all geographic areas and all circumstances. It is not</p>

		intended to be sufficient for safe navigation." (the Display Base is a subset of the Standard display).
	Show Standard	"The SENC information that should be shown when a chart is first displayed on the ECDIS and depending upon the needs of the mariner, the level of the information it provides for route planning or route monitoring may be modified by the mariner."
	Show All	"Chart information not contained in the standard display, displayed only on demand."
	Day Display	Displays the electronic chart on a white background in bright colours. Intended for use during bright daylight.
	Dusk Display	Displays the electronic chart on a dark background in dimmed inverted colours. It is used during normal or cloudy daylight conditions. The inverted colours are helpful e.g. in case the chart display is superimposed by a RADAR image. The light-coloured objects of the RADAR image can be identified better on a dark background.
	Dark Display	Displays the electronic chart with a black background and dark colours. The colours are designed as to not impair night vision. This colour table is intended for use at night.
	Simple Symbols on/off	The Presentation Library supplies a set of simplified symbols according to the IMO Draft Performance Standards as well as a set of standard symbols that were designed according to the International Chart 1 (2). The menu items allow to change the ECDIS display from traditional (INT1) to simplified (S-52) symbolization, and vice versa.

	Text on/off	Allows to turn the text display on and off.
	Lights on/off	Allows to turn the lights symbols on and off.
	Notice Marks on/off	Inland ECDIS notice marks can be displayed in their actual symbology.
	Scale Filter on/off	<p>Allows to switch on/off the SCAMIN (scale minimum) of objects.</p> <p>The SCAMIN attribute is used as a method to control the density of chart objects displayed on an ECS/ECDIS screen. The SCAMIN of an object determines the display scale below which the object is no longer displayed, reducing clutter on the screen of an ECDIS. The SCAMIN value is the reciprocal of the specified minimum display scale, e.g. an object with SCAMIN set to 50.000 will disappear from the ECDIS display when zooming out and reducing the display scale below 1:50.000.</p> <p>The SCAMIN attribute is a powerful method to control the appearance of ENC's at different display scales. It also improves the performance of the drawing procedures by reducing the amount of objects to be drawn when zooming out.</p>
	Graticule on/off	<p>Allows to turn the graticule on and off.</p> <p>Note: Graticule can only be displayed in case heading is "0". If graticule is displayed and the chart is rotated graticule will be automatically turned off (and will be automatically displayed again as soon as rotation is reversed).</p>
	Soundings on/off	Allows to turn the display of soundings on/off.

	Contour Labels on/off	Allows to turn the labels of the depth contours on/off.
	Depth Settings	<p>Allows to define settings similar to settings in an ECDIS system. Values must be entered in full or decimal metres.</p> <p>A dialogue opens that allows to set values for the safe water area, which is the area deeper than the so-called safety contour. The safety contour divides safe and unsafe water areas. Additionally, the values for very shallow water and very deep water can be defined as well. Depth areas shallower than the entered value for very shallow water are displayed in the darkest allowed blue colour according to S-52; and depth areas deeper than the entered value for very deep water will be displayed in the brightest blue colour according to S-52.</p>
	Depth Correction	<p>The depth values of a chart are set by the chart producer. However, the function Depth Correction allows modifying the depth values displayed by entering a step value (in metres) which can then be added to/subtracted from the respective depth values. With the icon Depth Correction the depth values can then be adjusted according to this value. This function is helpful when adjusting the display of tidal areas to the current situation.</p> <p>After setting a value in the Depth Settings dialogue (see above) the water level of the chart can be adjusted here.</p> <p>After the water level has been manually adjusted the water level is highlighted red.</p> <p>Please note that this setting does not affect the depth values displayed in the <b>Inspector</b> window!</p>
	Show bENC	<p>Provided that SevenCs bathymetric ENCs (bENCs) are available the display can be switched on and off.</p> <p>bENCs are special S-57 layers containing high density depth information. A bENC is an optional bathymetric complement to regular (official or private) ENCs. The SevenCs bENC concept facilitates the integration of high density bathymetry into S-57 based navigation software.</p>

## 3.2 The Chart Display

In this area the loaded charts are displayed. You can move, pan and zoom in the display by using the icons in the Tool Bar.

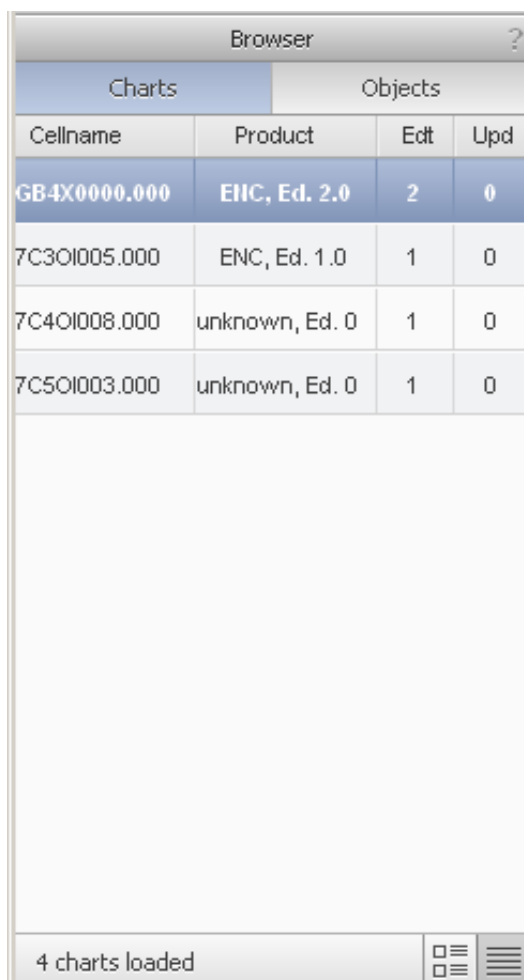
A left click on the chart will load all objects of the picked position into the Browser. The pick position is indicated by an orange arrow. To remove that arrow from the display press *Esc*.

To pan click and hold the left mouse button, and move the mouse.

In the bottom right corner the position of the cursor is displayed in geographic coordinates. The current scale is displayed, too.

## 3.3 The Browser

You find the Browser top left. By double-clicking on the title bar the window can be detached from the user interface and moved e.g. to a second monitor to enlarge the chart display. Double-clicking on the bar again will move it back to its original position.



The screenshot shows a window titled "Browser" with a table of data. The table has two main sections: "Charts" and "Objects". The "Charts" section has columns for "Cellname" and "Product". The "Objects" section has columns for "Edt" and "Upd". The first row in the "Charts" section is highlighted in blue.

Charts		Objects	
Cellname	Product	Edt	Upd
GB4X0000.000	EHC, Ed. 2.0	2	0
7C3OI005.000	ENC, Ed. 1.0	1	0
7C4OI008.000	unknown, Ed. 0	1	0
7C5OI003.000	unknown, Ed. 0	1	0

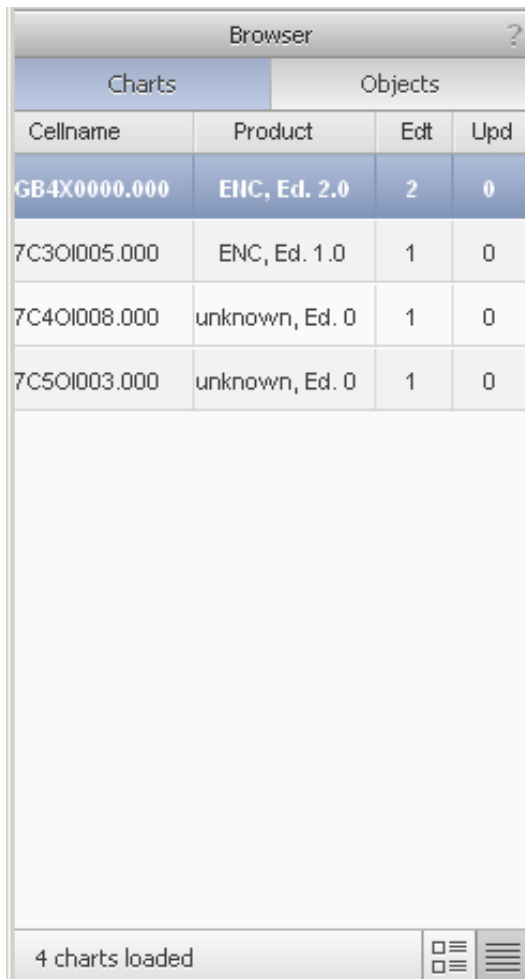
At the bottom of the window, there is a status bar that says "4 charts loaded" and some icons.

The Browser offers two tabs: *Charts* and *Objects*.

*Charts* lists all loaded charts. For each chart the S-57 Product, the edition and the number of updates is displayed. Selecting one chart in the list will show detailed information about it in the Inspector.

A double-click on one chart will centre it in the chart display.

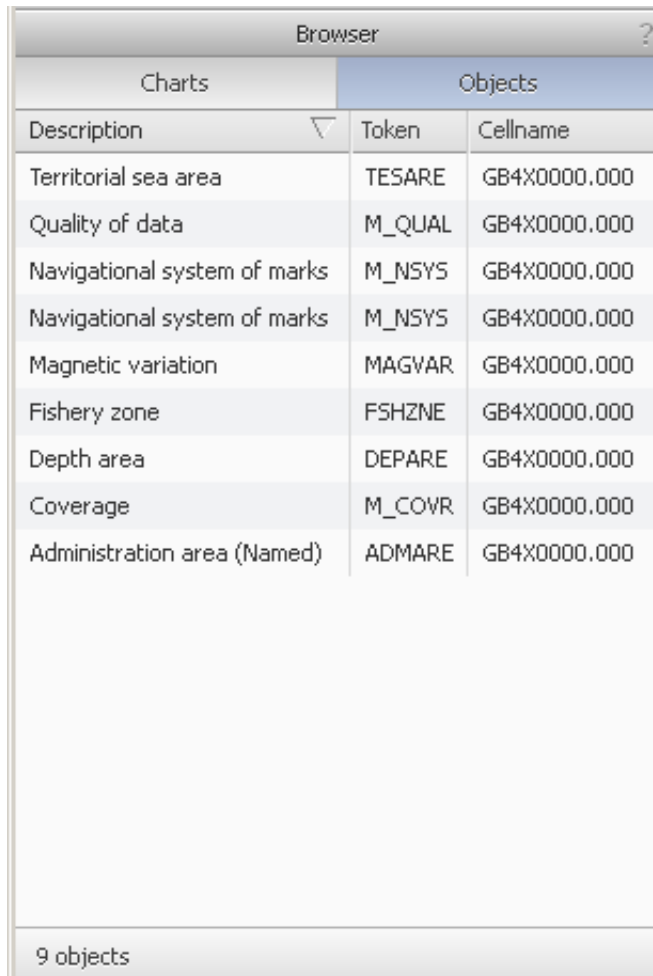
Two icons on the lower right hand side of the Browser allow changing from list to thumbnail view and vice versa.



The screenshot shows a window titled "Browser" with a help icon. It has two tabs: "Charts" (selected) and "Objects". Below the tabs is a table with four columns: "Cellname", "Product", "Edt", and "Upd". The table contains four rows of data. The first row is highlighted in blue. Below the table is a large empty area. At the bottom left, it says "4 charts loaded". At the bottom right, there are two icons: a square with three horizontal lines and a square with three vertical lines.

Cellname	Product	Edt	Upd
GB4X0000.000	ENC, Ed. 2.0	2	0
7C30I005.000	ENC, Ed. 1.0	1	0
7C40I008.000	unknown, Ed. 0	1	0
7C50I003.000	unknown, Ed. 0	1	0

A left mouse click in a chart will list all objects located at that pick position in the *Objects* tab.



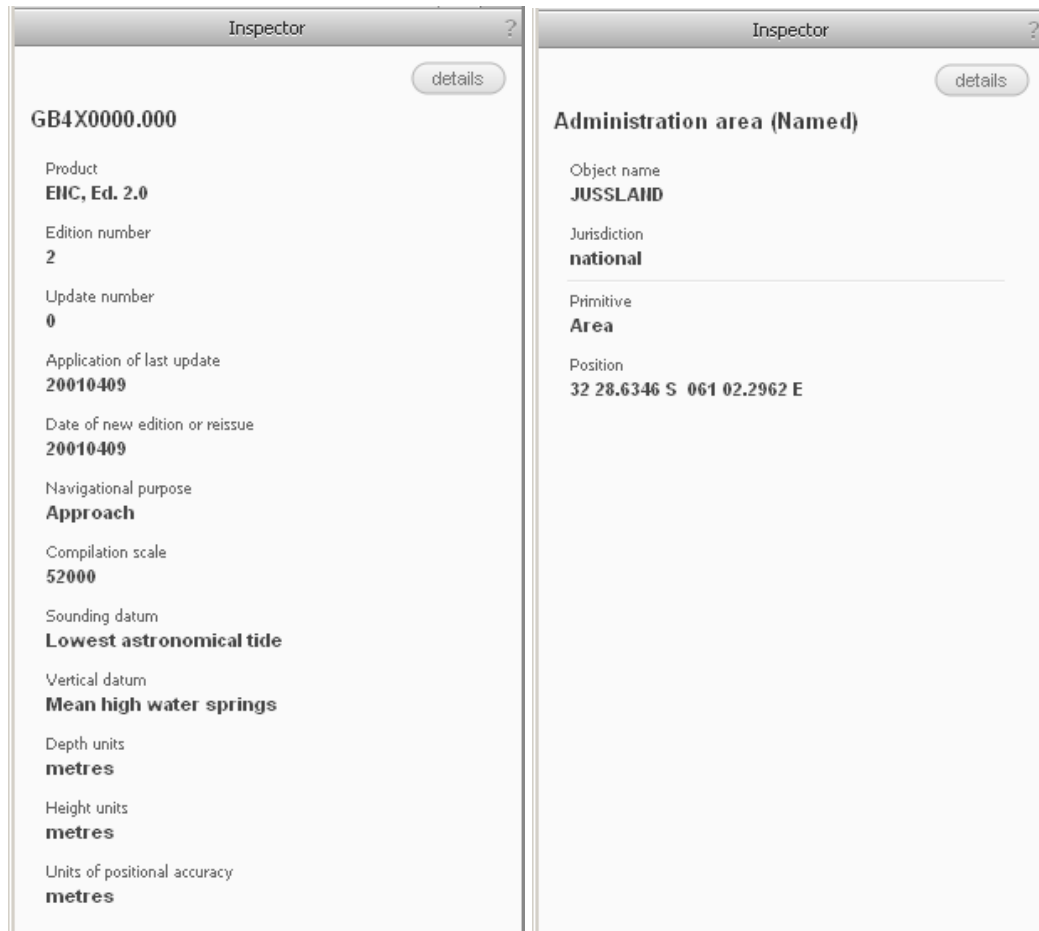
Charts		Objects	
Description	Token	Cellname	
Territorial sea area	TESARE	GB4X0000.000	
Quality of data	M_QUAL	GB4X0000.000	
Navigational system of marks	M_NSYS	GB4X0000.000	
Navigational system of marks	M_NSYS	GB4X0000.000	
Magnetic variation	MAGVAR	GB4X0000.000	
Fishery zone	FSHZNE	GB4X0000.000	
Depth area	DEPARE	GB4X0000.000	
Coverage	M_COVR	GB4X0000.000	
Administration area (Named)	ADMARE	GB4X0000.000	

9 objects

Selecting a single object will in turn display the details in the *Inspector* window.

### 3.4 Inspector

You find the *Inspector* at the bottom on the left hand side. By double-clicking on the title bar the window can be detached from the user interface and moved e.g. to a second monitor to enlarge the chart display. Double-clicking on the bar again will move it back to its original position.

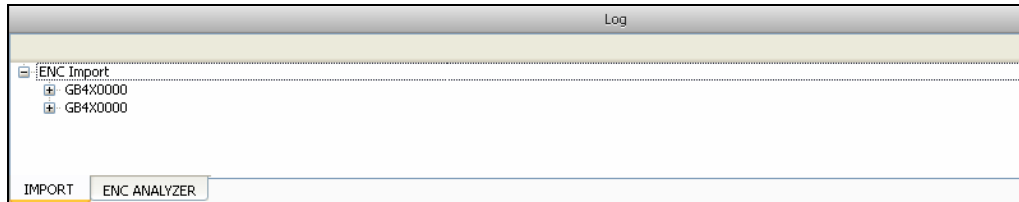


Depending on the selected object/chart in the Browser its characteristics are listed in the *Inspector*. It is also possible to query for S-57 specific details.

If objects are linked to external files (TIF, TXT, PDF etc.) they can be opened here, too. These files must be stored in the same folder as the respective cell, or the folder containing these files must be specified in the settings.

### 3.5 Log Window

At the bottom of the display there is the Log Window. In it the log files of an S-57 import, updates, ENC Analyzer and ENC Optimizer are displayed.



When an S-57 file (\*.000) is loaded it is internally converted into SevenCs SENC format. During this conversion some checks are carried out to ensure that the dataset can be loaded and displayed. The result of these checks can be viewed in the *Log Window*.

When updates for a chart are loaded the changes that have been made in the single updates can be viewed.

Single entries in the log file can be double-clicked. This will highlight and centre the respective object in the chart display.

By double-clicking on the title bar the window can be detached from the user interface and moved e.g. to a second monitor to enlarge the chart display. Double-clicking on the title bar again will move the window back to its original position.