
SonarWiz Quarterly Highlights Detail - 2016 Q1

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1 2016 - Q1 - SonarWiz - Most Significant Enhancements

Functional Category	Enhancements Count
General enhancements (affects all categories)	12
Bathymetry post-processing enhancements	14
Sidescan post-processing enhancements	6
Sub-bottom post-processing enhancements	4
Magnetometry enhancements	1
Real-time data acquisition enhancements	1

2 Categorized SonarWiz Enhancements – 2016 Q1

Consolidated release notes detail proposed for the 2016 Q1 (January, February, March 2016) releases. (Enhancements Only), sorted and rank-ordered by functional category.

Highlights Summary Table

Section - Functional Category	Highlight Description
2.1 General Improvements	<p>1. Our most significant improvement was the production release of full 64-bit SonarWiz! We have a complete PDF describing the benefits of this awesome new option.</p> <p>2. A significant new MML file backup-queue design was added, to protect projects from loss of important project settings, safeguarding all your work results better than ever.</p>
2.2 Bathymetry post-processing	<p>1. New and improved support was added for bathy processing of HSX RMB and RSS records, Kongsberg EM302 multi-beam, and Imagenex Delta T bathymetry files.</p> <p>2. A new gridding method called Inverse Distance Weighted method, lets you fill gaps in your bathymetry data, to overcome survey coverage quality issues.</p>
2.3 Sidescan post-processing	JSF import was upgraded with 2 new options to support NMEA message preference over sonar packet data, providing choices for date, time, depth, and heading information source.
2.4 Sub-bottom post-processing	<p>1. The most dramatic new SB feature is support for Mala type Ground Penetrating Radar data import and post-processing.</p> <p>2. A second helpful improvement is the ability to blank the water column when applying gains, independent of whether gains are applied at time zero, or at the detected seafloor.</p>
2.5 Magnetometry post-processing	Mag anomalie reports have been upgraded to 64-bit format, and now can be exported to modern XLSX format EXCEL files.
2.6 Real-time Data acquisition	Navigation processing in real-time now supports the NMEA-0183 HDG message choice, in addition to RMC, VTG and other previous options.

NOTE: Highlights items listed above, are presented below

in bold.

2.1 General Enhancements affecting all functional categories

1. **ENHANCEMENT:ALL:MINOR:GM:3300 -- MML file is now backed up to BACKUPS folder in a circular-queue type naming, where a configurable (default=10) number of previous-session MML files are saved. This will dramatically improve project recovery capabilities, when an MML-file-loss occurs.**
2. ENHANCEMENT:ALL:MINOR:GM:0 -- Manual-mode gain now allows for an arbitrary number of user-selectable points. Click to add a point. The delete key deletes selected points. The mouse wheel zooms the graph in and out and right-clicking and dragging pans it. A "<- ..." button between the manual & TVG radio buttons will build a manual gain curve from the current TVG parameters, after prompting for a point count to use.
3. ENHANCEMENT:83P:MINOR:GM:0 -- Add new button to Tools->File Utilities to extract the navigation and other values from the Imagenex Delta T 83P files.
4. ENHANCEMENT:x64:MINOR:GM:0 -- Update the main window title bar text to indicate whether the current version is the x86 or the x64 build.
5. ENHANCEMENT:ALL:MINOR:GM:0 -- Exporting contacts now opens the windows file explorer at the folder location of the exported file.
6. ENHANCEMENT:ALL:MINOR:GM:0 -- Exporting CSF to CSV now automatically opens the windows file explorer on the location of the last converted file.
7. ENHANCEMENT:MAJOR:GM:0 -- Internal architecture upgrade from 6.02 to 6.03 incorporates new sensor design, to allow vessel editor sensor definition for SS, SB, MAG sensors (still inactive at this time).
8. ENHANCEMENT:x64:MINOR:GM:0-- NavInjectorPro, ZEdit, SEGYPDatumShifter and XTFDatumShifter are now distributed as 64-bit apps in the 64-bit distribution.
9. **ENHANCEMENT:x64:MINOR:GM:0 -- First PRODUCTION (not BETA) release of new x86 and x64 3D and bathy tools based on MonoGame and DirectX11. (XNA 4.0 no longer used or needed). See version 20 or later PC / OS Recommendations PDF in TUTORIALS area at www.chestech-support.com for details.**
10. ENHANCEMENT:ALL:MINOR:GM:0 -- When an attempt is made to re-open the same project, the prompt to revert the project (yes) or save and re-open (no) now has a cancel choice that will leave the current project open as-is.
11. ENHANCEMENT:ALL:MINOR:GM:0 -- When using the Next or Previous buttons to cycle through the SSS, SBP or MAG files, there is now a popup message box that tells you when you are wrapping around to the first file or the last file in the list. Several users have requested this feature to inform them when they had reached the end. If you do not want this popup you can disable it by using the "Do not show this again" checkbox the first time you see it. There are 3 separate settings for SS, SBP and MAG so you can have the wrap around popup in some data types and suppress it in other data types.
12. ENHANCEMENT:ZEDIT:MINOR:GM:548 -- The ZEdit navigation utility now exits after saving CSF files with changed navigation to prevent file contention with SonarWiz.

2.2 Bathymetry-specific Enhancements

1. ENHANCEMENT:BATHY:MINOR:GM:0 -- Implement new Reset all filters flag option.
2. ENHANCEMENT:BATHY:MINOR:GM:0 -- The RawSonar table in the bathymetry datasets has been revamped to add a 32-bit status flag value that is parallel with the processed samples. Now, when a processed sample is marked for rejection or filtering, the reason for this action will now be stored in the raw samples.
3. ENHANCEMENT:BATHY:MINOR:GM:0 -- Added new filter settings to selectively remove bathy points that have been flagged a) by an automated filter function, b) manually or c) by the manufacturer.
4. ENHANCEMENT:BATHY:MINOR:GM:0 -- Downsampling filter and density filter have now been modified to be one-shot filter functions meaning that once they are executed on a dataset the filters are turned off on the next merge or filter operation.
5. **ENHANCEMENT:BATHY:MINOR:GM:3623 -- Initial implementation of Imagenex DeltaT bathy processing.**
6. **ENHANCEMENT:BATHY:MINOR:NW:3738 -- Support for importing and processing Hypack sidescan records (RSS) as bathymetry amplitudes. Hypack will sometimes store high resolution MBES amplitude data in this format such as R2Sonic TruePix, Reson Snippets, and other MBES Sidescan traces.**
7. ENHANCEMENT:BATHY:MINOR:GM:0 -- Set the default state of the bathymetry filter for cut-off angle to OFF.
8. **ENHANCEMENT:BATHY:MINOR:GM:0 -- Added support for Kongsberg EM302 multibeam.**
9. ENHANCEMENT:BATHY:MINOR:GM:5868 -- Added new Post-processing->Bathy Exports->Export Bathy XYZA function (A = amplitude aka backscatter data).
10. ENHANCEMENT:BATHY:MINOR:GM:0 -- Now when importing ALL files as bathy, SV files will automatically be generated and stored into the SVP folder of the project.
11. **ENHANCEMENT:BATHY:MINOR:GM:0-- Added new option for exporting amplitude grids using the Inverse Distance Weighted method to fill in holes in the grid. It works best if the gap filled is no more than x5 the existing grid resolution.**
12. ENHANCEMENT:BATHY:MINOR:GM:4117 -- When processing Kongsberg ALL files users may now choose whether to process the XYZ_88 packet or process the Raw Range and Beam Angle packet 78.
13. ENHANCEMENT:BATHY:MINOR:GM:0 -- When adding tide and sound velocity files to a project the files are also copied now to the local project folders.
14. **ENHANCEMENT:HSX:MINOR:GM:0 -- Added the ability to read Hypack HSX bathy files with RMB records stored in take off angle and direction angle mode.**

2.3 Sidescan-specific Enhancements

1. ENHANCEMENT:SS:MINOR:GM:0 -- Updated CoverageReportGen to 64-bits. Both 32-bit and 64-bit versions now write to more modern Excel XLSX formats for reports.
2. ENHANCEMENT:XTF:MINOR:GM:2765 -- When exporting a sidescan file to XTF format and the user has applied a rotation value to the port and/or starboard channels write the rotated port heading value to the XTF ShipsGyro field and the starboard heading value to the SensorHeading field of the XTF file.

3. **ENHANCEMENT:SSS:MINOR:GM:0** -- We added applied heading rotation angle to CSF file properties dialog and to project summary report.
4. **ENHANCEMENT:XTF:MINOR:GM:0** -- When exporting CSF to XTF, if the user checks the "Only process files with heading offset", then SonarWiz will now only export those files with heading offsets, and where the offset value on the port and starboard channels are the same.
5. **ENHANCEMENT:JSF:MINOR:GM:2765** -- Added new utility to extract the JSF NMEA time, position and heading packet info, available as a check-box in JSF File-Type-Specific-Options during sidescan import.
6. **ENHANCEMENT:JSF:MINOR:GM:2765** -- Added a new option for the selection of the heading value when importing Edgetech JSF files containing NMEA packets. Users may now choose between the heading supplied in an HDT datagram and the course supplied in a VTG datagram.

2.4 Sub-bottom-specific Enhancements

1. **ENHANCEMENT:GPR:MINOR:NW:1663** -- Implemented direct file support for reading Mala Ground Penetrating Radar (GPR) files as sub-bottom profiler data.
2. **ENHANCEMENT:SBP:MINOR:GM:0** -- When batch-building thickness reflectors, the "varying" (i.e. non-seafloor) reflector provides the drawing attributes (line thickness, color, etc.) of the created thickness features.
3. **ENHANCEMENT:SBP:MINOR:GM:5159** -- Add new option to SBP gain settings dialog to allow users to blank the water column independent of whether the gain application started at time zero or at the seabed.
4. **ENHANCEMENT:SBP:MINOR:GM:2765** -- The SBP Reflector AutoChart export has been changed to only show the difference between altitude and the picked Z value instead of the total water depth.

2.5 Magnetometry-Specific Enhancements

1. **ENHANCEMENT:MAG:MINOR:GM:0** -- Updated MagReportGen to 64-bits. Both 32-bit and 64-bit versions now write to more modern Excel XLSX formats for reports.

2.6 Real-time Data Acquisition Enhancements

1. **ENHANCEMENT:BATHY-RT:GM:0** -- Real-time bathymetry protocol format upgraded with this version, so 6.03-version real-time acquisition servers for bathymetry should be used with 6.03.0001 or later versions of SonarWiz. (e.g. Edgetech 4600-6205 server, Ping3DSS server, Klein5900 server, and R2Sonic server)
2. **ENHANCEMENT:RT:MINOR:GM:2416** -- Add support for NMEA-0183 HDG heading message, selectable now in the NAVIGATION dialog for anyone with a DATA ACQUISITION license on their SonarWiz dongle.