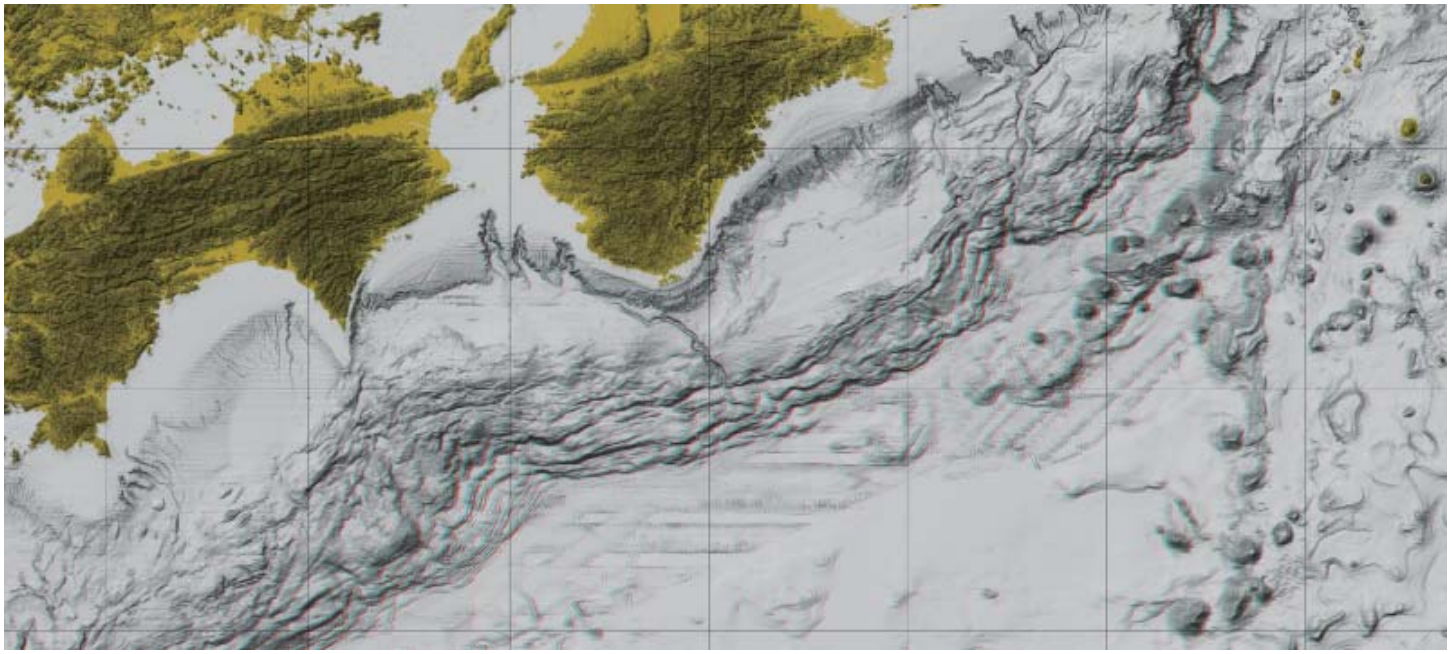
Multibeam Data Processing Software

MarineDiscovery5

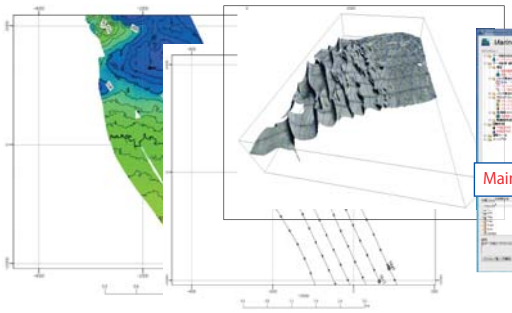
This chart is a detailed bathymetric anaglyph of Nankai Trough based on the output obtained by Marine Discovery's processing of survey data. Based on the grid data created by Marine Discovery, creating a stereoscopic image with synthesizing shadow from two different light direction appears the detailed bathymetric anaglyph.



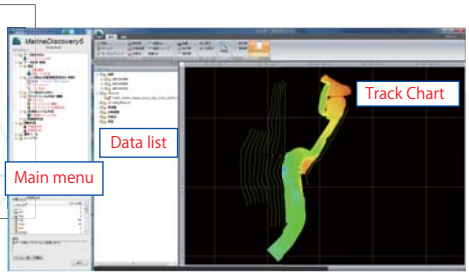
Nankai Trough
Nankai Trough is a submarine trough located in the south of Shikoku island . Its depth is about 4,000m. It is said that Nankai Trough is a very active and large-scale earthquake zone.

High Grade Functions and Friendly User Interface

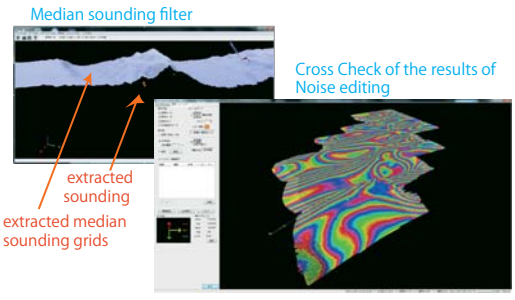
Any type of raw data file to many kinds of charts in a single application



Integrated management of Data and Applications



Strong Noise prefiltering and Various Noise editing



ALL in One / High grade Functions

As single software, Marine Discovery5 (i.e. MD) has high-grade diversity which gives you to import any type of raw data and to output many kinds of charts. So, you don't need to buy other software.

Friendly User Interface

MD provides accurate and efficient managing functions that enable to integrate data and applications and save your valuable time. Almost time for multi-beam sounding data processing is spent by noise extracting procedure. Therefore MD also offer useful tool of as like as pre-filter for accurate and efficient noise reduction.

Multibeam Data Processing Software

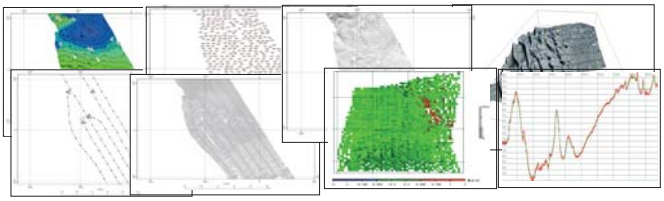
MarineDiscovery5

MarineDiscovery5(i.e. MD5)'s Features

New **Optimization of graphical user interface**

The optimized user interfaces such as a ribbon bar and a file view improve operational efficiency.

By the same processing procedure, MD5 can process any type of raw data file and output many kinds of charts



Importable Data Formats

ACF, ALL, GSF, HSX, imagenex, LOG, XSE, MB41, NM, S7K , XTF etc.

New MD5 creates ping files from various data formats. Also, supports dualhead.

Reading of external file

MD5 reads positioning information, tide information, motion information and the sensor water depth information from an external file, and corrected.

MD5's outputting Charts

Contour Chart, Track Chart, Sounding Chart, Intensity Chart, Inclination Chart, Difference Chart, 3D Chart, Profile Chart at any optional line

Quality control by corrections

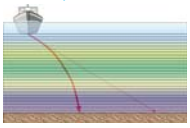
Corrections

MD5 provides the correction function that enables to correct Sound velocity, Bias, Offset, Latency, Tide, Dynamic draft and information of the external sensor.

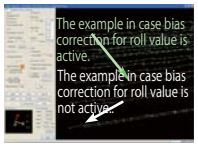
Batch Correction

MD5 provides Application of Batch Correction that enables to execute all corrections simultaneously. MD5 provides also Setting of Correction's Parameters that enables to set parameters after repeated trial and error.

The image of sound velocity correction



The example of Bias



The image of offset

Keeping sounding accuracy by extracting error data

Track editing

MD5 provides track editing function that eliminates poor quality data and displays an ideal track chart. The editing function can also revive the omitted point data.

Automated filtering function based on IHO S-44 Standard

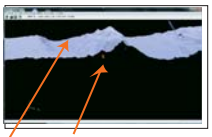
MD5 provides automated filtering function based on Internatinal Hydrographic Organization(i.e. IHO S-44) Standard.

Noise extracting

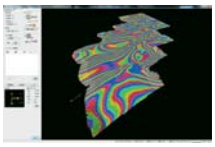
MD5 provides various functions of extracting noise, which consisit of filtering noise automatically (Noise prefiltering) and eliminating noise by hands (Noise editing).

The sample of Track

Median sounding filter



Cross Check of the results



Visualizing grids, contours, etc.

Gridding and Contouring

In order to visualize multibeam data, MD5 generates grid files, multiple grid files and contour files with soundings at equal intervals. Also MD5 is corresponding to the rotation coordinate system centered on the arbitrary origin.

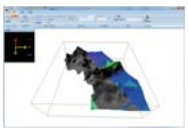
Quality control by visualizing

MD5 provides visaualizing functions that can overlap grids and soundings in order to evaluate grids' quality. If grids' quality is lower, MD5 can feedback the output to the previous process.

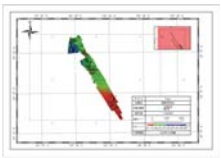
Charting

MD5 provides charting functions that display grids, random grids, multiple grids, contours or track, and output data to printer, plotter, PDF, DXF or Postscript.

3D view



The example of Charting



Exportable data (to CAD,GIS, etc.)

MD5 provides the export function that enables to export Soundings, Grids or Contours to CAD, GIS, etc. Following types of formats are available.
In the case of converting Grid data to GeoTiff's data, addition of color and shade information is also available to display clear bathymetric shape.

Exporting Soundings

⇔ASCII Ping
→XYZ
→mb41
→LMD
→Shape of track

Exporting Contours

⇔ASCII Contour
⇔Shape
→DXF
←CSV
Contour →KML
→S57

Exporting Grids (Type of GeoTiff)

→GeoTiff

Exporting Grids (Genaral Type)

⇔ASCII Grid
→netCDF
→Shape
→XYZ
→DXF, →KML, →S57

High working efficiency by System Control

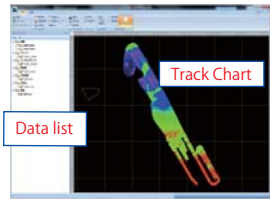
Management of Applications

MD5 manages applications by Main menu. Application and Help can be activated by Main menu. Routine works are listed in the Main menu in order of daily routine process, therefore, routine works can be done in order of the main menu's list.

Management of Data

MD5 manages data by project in lump. When you start working, you set first the project name and the working folder. In doing so, you can work effectively.
For example, reading sounding files in a lump is available, and if you point a track in the track chart, MD5 can make active the noise extracting application.

Main screen



Setting of Project

Other convenient functions

Embedding noise extracting data

If you notice some mistake of correction after noise extracting work have been finished, doing over again the job is very heavy. To evade this inconvenience, MD5 provides the function of embedding noise extracting data in the rightly corrected file.

Difference calculation

MD5 provides the function of difference calculation of the piled up mass of sand in a dam or its dredging mass and yearly change of sand movement or water depth in a dam, etc.

Inclination calculation

MD5 provides the function of Inclination calculation that calculates inclination from grids and displays it with clear bathymetry.

Environment

OS: Windows7 SP1, or later (64bit)
CPU: Intel Corei7 2.6GHz, or more
Memory: 8GB, or more
Hard Disk: 50GB, or more
Monitor:
Resolution: 1400 x 1050 pixels, or higher
Number of Colors: True Color 32bits, or more

Ocean High Technology Institute,Inc.

2-29-12, Honcho, Nakano-ku, Tokyo 164-0012, Japan
TEL : +81-3-5354-5321
FAX : +81-3-5354-5322
URL : http://www.ohti.co.jp
E-mail : ser_vice_1@ohti.co.jp

April 2015 Version