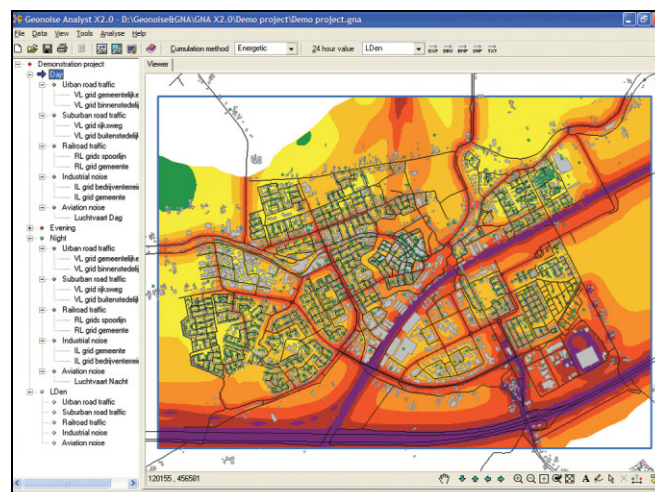


PRODUCT DATA

Predictor Analyst – Type 7813 Version 3.0

Predictor Analyst Type 7813 has advanced GIS-like functionality for organising, accumulation, viewing, analysis and publication of noise maps. Results in x,y,z format can be read from various prediction software packages, such as Brüel & Kjær's Predictor™ Type 7810 and Lima™ Type 7812. The results are structured per period (day, evening, night) and per type of noise (industry, urban road traffic, suburban road traffic, railroad traffic, shipping and aviation). Based on a fast triangulation algorithm, colour-filled contours can be shown per individual type of noise or accumulated. In this way the combined result of several noise types can be shown. In addition, population noise exposure can be calculated. Other environmental parameters as odour and air quality can also be analysed.



Uses and Features

USES

- Drawing up and analysing noise maps
- Powerful presentation and analysis tool for the environmental specialist
- Used for several environmental aspects like noise, odour and air quality
- Viewer of GIS maps for the noise specialist to stay in control of interpolation and accumulation
- Used for European Noise Directive (END) 2002/49/EC Strategic Noise Maps and Action Plans

FEATURES

- Noise map creation and analysis
- Accumulation and difference maps
- User friendly, easy and simple to use
- Interpolation and accumulation of noise data
- Import results from any calculation software like Predictor, Lima, STACKS, ArcGIS and MapInfo
- Interpolation of contours and counting the number of noise exposures (people/dwellings)
- Export option to HTML for publication noise maps on the Internet

General

The concept of the software is to analyse noise result data and to create noise maps without the need for a Geographic Information System (GIS). Also, in those cases where a GIS system is present, a distance exists between the noise specialist and the GIS specialist. The noise specialist loses control of the way the results are used. Often it is unclear how the GIS software interpolates and how accurate this interpolation is. By using Predictor Analyst, the noise specialist stays in control of the method and the accuracy of the interpolation, the maps created, and the accumulation process. It is also possible to use Predictor Analyst for analysing the number of exposed people and dwellings, and determining the noise exposed area.

Creating a Noise Map from Different Data Sources

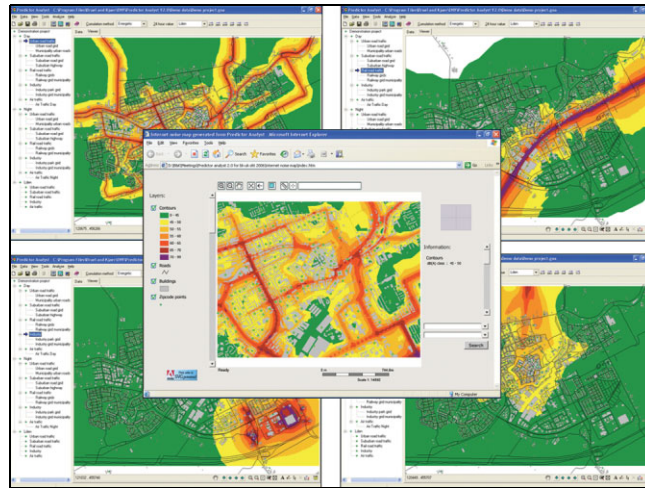
To create a noise map, a Predictor Analyst project is opened. Then several point-result files (either as regular or irregular grids) with results of one or more of the six predefined noise categories, for one or more predefined periods, are added. Finally, a noise map calculation can be started during which contour lines and contour surfaces are interpolated for each individual noise category, for the accumulated periods and for the 24-hour value. When the calculation is finished, the following contours are available:

- Per noise category for all basic periods
- Per noise category for the 24 hour value
- For the total accumulated basic periods
- For the total accumulated 24 hour value

User Interface

Predictor Analyst is a very user-friendly, easy to use, powerful presentation and analysis tool for the environmental specialist who wants to analyse noise result data and to create noise maps, see Fig. 1.

Fig. 1
Predictor Analyst Type 7813 allows combination of contours from multiple sources and powerful presentation on the Internet

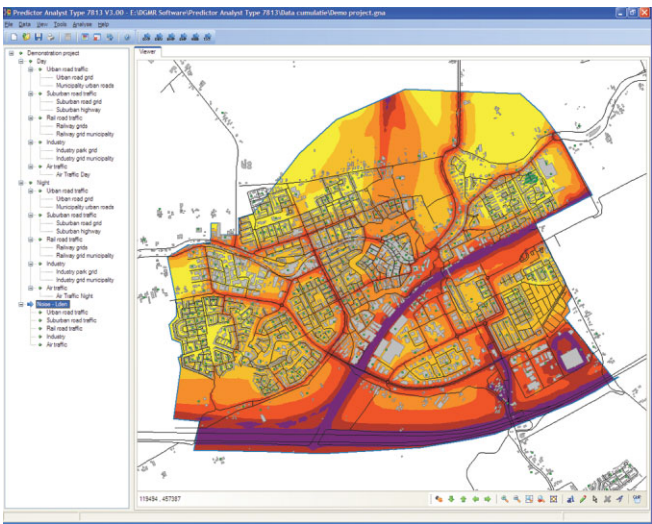


The data structure of a Predictor Analyst project is represented in the user interface by a tree structure. On the highest level, the general project settings can be entered. Beneath the project level there are the three predefined basic periods Day, Evening and Night and the compound period 24-hour. The data for the compound period is always derived from the data of the basic periods. In the project settings you can select or deselect the periods in case the information is not available for all basic periods. In the speed bar you can select the method for deriving the 24-hour value: L_{den} .

Each selected period can contain data for several noise categories. In Predictor Analyst the following pre-defined categories can be used:

- Urban road traffic
- Suburban road traffic
- Railroad traffic
- Industry
- Shipping
- Air traffic

Fig. 2
*The L_{den} is displayed
 for all sources*



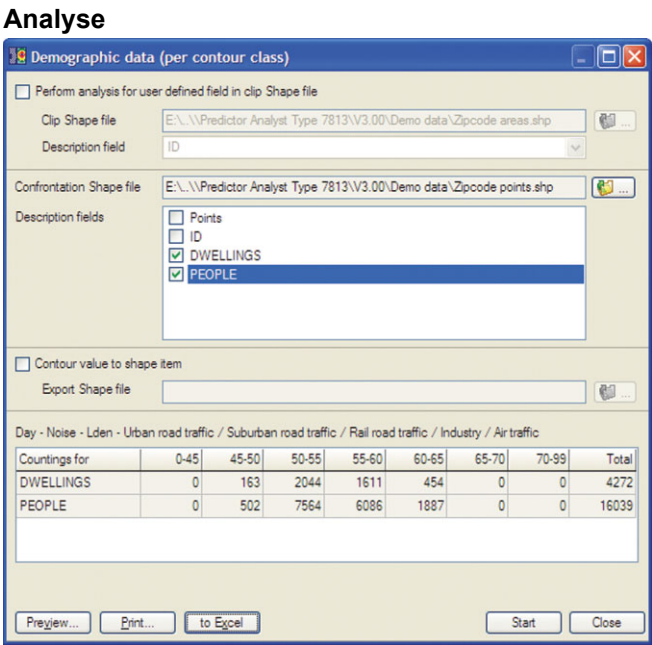
For each project, you can select or deselect any of the pre-defined noise categories, either the total results or individually.

For each selected noise category, result data files can be selected. These files can have the extension TXT, ERT, NLR, SHP, TAB or MIF. The data files should contain lines or records with x, y and dB point values. The points may be located regularly or irregularly. In addition, the locations of the data points for one noise category do not have to be the same as those for another noise category.

Predictor Analyst will automatically interpolate missing data points when needed.

Analysis

Fig. 3
*Number of exposed
 people and dwellings
 can also be calculated*



Once calculated, the contours can be further analysed to calculate the exposed area, or for comparison with external demographic data files. In this way the number of exposed people and number of exposed dwellings can be calculated (Fig. 3) – European Noise Directive (END) 2002/49/EC Strategic Noise Maps and Action Plans.

Results can be both regular or randomly spaced grids, as well as individual points. The results are sorted and presented per period and per source type. The results of all source types can be accumulated per period. Next, the contours can be shown per period

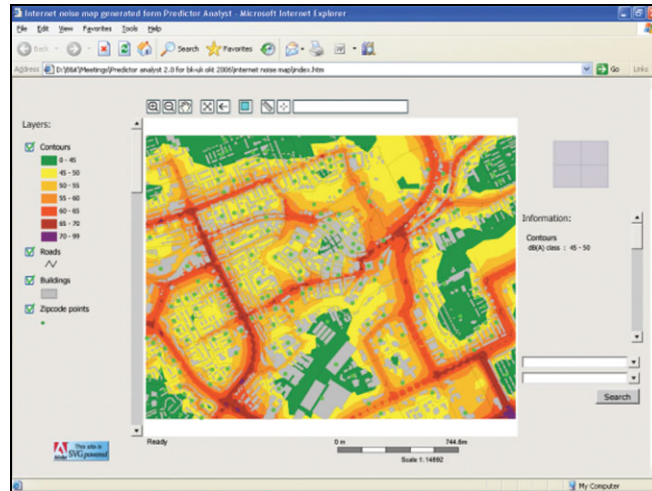
and per source type. The software uses a fast interpolation algorithm. For noise, the software has specific acoustic accumulation options like L_{den} and the Miedema weighting.

No GIS Needed

The results of environmental impact studies can be presented and analysed without the aid of an extensive GIS system. A GIS system is most often used by GIS specialists with specialised GIS knowledge. Predictor Analyst is designed for the environmental specialist.

Reporting

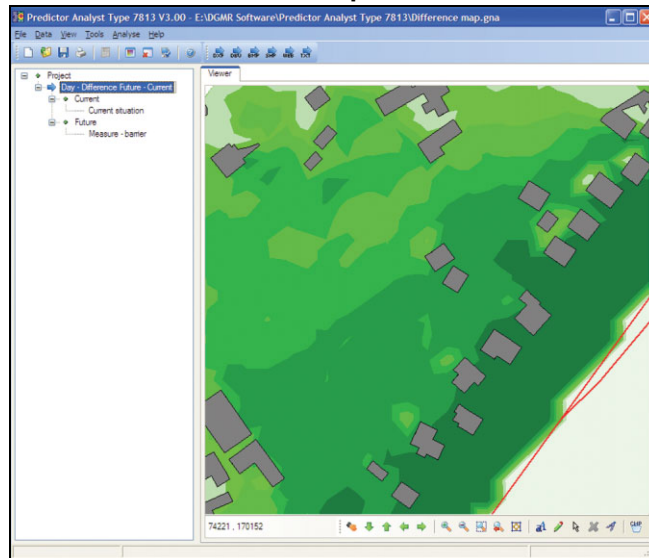
Fig. 4
Noise maps within Predictor Analyst can be exported to an internet based structure



Accumulation can be done energetically or using the Miedema (estimated annoyance) weighting. The L_{den} is automatically calculated based on the input per period. Also, the number of people and dwellings exposed to noise can be calculated using point or polygon-shaped files with postcode address information. Predictor Analyst enables you to obtain data that is required according to the EU Environmental Noise Directive 2002/49/EC, without the need to use an expensive GIS system. The complete map can be printed or saved as a HTML file for presentation on the Internet (see Fig. 4).

Contour and Difference Maps

Fig. 5
A difference map of current situation and future situation with barriers



With Predictor Analyst, point results of geographically oriented calculation software can be imported and presented as interpolated contours.

The comparison of two situations can be presented as difference maps (see Fig. 5).

Presentation Options

The environmental results can be shown as points, lines and areas. External GIS files can be used as background. Attributes of the GIS files can be used for thematic colouring so that objects appear in different colours depending on attribute. The user can also draw additional lines and text on the map.

Support and Services

Brüel & Kjær offers both product and application (calculation and mapping) training courses. Courses are held at the Brüel & Kjær University at the corporate headquarters, national training facilities or on-site at a customer location. Courses enable you to get the most out of your software. Application training courses are not product-specific and give you an insight into calculation software and applications in general, thus improving your use and understanding of them. Please see www.bksv.com for more information about training courses.

New Features in Version 3.0

- New user-interface with a much more modern look and feel
- The two options ‘Cumulation method’ and ‘24 hour value’ are combined into one option ‘Project type’ in the project definition. Available options are:
 - Noise – L_{eq} 24 hour
 - Noise – L_{den}
 - Noise – L_{den} Miedema
 - Noise – Difference map
 - General – Summation
 - General – Difference map
- You can modify the descriptions of the source types and the periods, making it possible to use the software not only for noise, but also for air pollution, for example. In addition to this, the unit used when printing can be changed to $\mu\text{g}/\text{m}^3$, for example
- The Help menu contains an option to send a support mail, containing program and system information for better troubleshooting and support
- Improved analysis options for combination with demographic data, for example, enabling you to count the number of exposed people per city per contour class

Specifications – Predictor Analyst Type 7813

Import Result Data Format: SHP, MIF/TAB, TXT, ERT (Lima), NLR

Content: The data files should contain lines or records with x, y and dB point values. The points may be located regularly or irregularly

Export Result Data Format: SHP, TXT, DXF, DBV (Predictor vector map), BMP (user-defined high resolution), and HTML (SVG)

Background Maps: SHP (also thematic), MIF/TAB (also thematic), JPG, BMP, DBV, WMF

Print Output: Windows®-based printer and WMF file

Periods: Day, Evening, Night

24-hour Period: L_{den}

Noise Categories: Industry, urban road traffic, suburban road traffic, railroad traffic, shipping, aviation

Factors: Noise, odour, air quality

Accumulation Methods: Energetic, Algebraic, Miedema (annoyance), Difference

Interpolation Settings: Maximum interpolation distance, overlapping areas

Interpolation Boundaries: Full area, user-defined clip area, shape-file-defined clip area

Analysis: Noise exposed area, noise exposed number (based on point or polygon address shape files)

Display Options: Contours (polygon and line), labels, boundaries, result points, data points, triangular mesh

Viewer: Zoom, pan, adding text and lines, measure distance, user-defined clip area

Calculation Settings:

- Summation or averaging of point-data for points on identical location
- Setting a fixed dB reduction on the point data

- Energetic or Miedema accumulation
- Setting of 24-hour value: L_{den}
- Setting of the period durations for L_{den}
- Setting of the calculation boundaries
- Maximum interpolation distance
- Accumulation only for overlapping areas
- Contour display options

Output:

- Per noise category for all basic periods
- Per noise category for the 24-hour value
- For the total accumulated basic periods
- For the total accumulated 24-hour value

Help Menu:

- On-line
- Option to send a support mail, containing program and system information

Operating System

RECOMMENDED REQUIREMENTS

Pentium® IV 3 GHz with Windows® XP, 1 GB RAM, CD-ROM drive, SVGA graphics display/adaptor, mouse or other pointing device
At least 100 MB of free disk space, plus the disk space used as a working area

For calculation of large Predictor Advanced models, tiling is recommended in combination with Calculation Client add-ons and/or the multi-core option for multi-processor computers

Operating System: Predictor works with Windows NT® 4.0, Windows® 2000, Windows® XP and Windows Vista™ 32-bit

Ordering Information

Type 7813 Predictor Analyst Version 3.0

All Type 7813 Predictor Analyst Version 3.0 packages include the following accessories:

- Program on CD-ROM
- Program Protection Key

ACCESSORIES AVAILABLE

Type 2250	Hand-held Analyzer
Type 2260	Investigator
Type 2270	Hand-held Analyzer
Type 7810	Predictor
Type 7812	Lima

Predictor Analyst is included in Predictor Advanced Type 7810-B

TRADEMARKS

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