

NOISEMAP Server Edition Technical Specification

Calculation Methodology

Strict Compliance with CRTN, CRN, BS5228 (ISO 9613) available shortly. L_{den} by TRL (Defra) and Rol methods. Line by Line calculation output allows check against manual calculations, or to check for modelling errors.

Model Size

Models and contours an area 1000km square (1 million square km) divided into tiles of 500m.

Map Presentation

Maps can be drawn directly from NoiseMap SE at exact scale on any windows-installed printer or plotter. The map is only limited by the size of the printer or plotter.

Maps are presentation ready, with a title block, colour key, scale and other details.

Screen output can be copied to the windows clipboard and pasted into other applications for inclusion in reports.

Maps can be exported as GIS shapefiles or saved in a variety of formats, including DXF, TIF, JPEG and BMP for exporting to other graphics packages.

Model Creation

Models can be created by automatic conversion of digital maps in GIS shapefile or DXF format (eg Autocad)

Models can also be created from paper maps by digitising tablet, scanning or on screen digitising.

Data checking

Data checking is by view-as-colour (thematic viewing) to check heights, traffic flows, road surfaces and most other parameters via a coloured 'temperature chart'. Also by drawing cross sections and by on screen labelling any characteristic of an object. Calculation log files shows the user what they have been doing.

3D viewing

Provides a picture of all topographical information and noise levels at specific receivers.

Data Storage

Model held in client server database. Allows database to be located on a remote server accessible over local area network, wide area network or internet.

Data Security

Remote database can be secured by encryption to deter attacks. Database transactions are secure against communication failure by change logs.

Multiple concurrent users

Conflict resolution deals with issues arising when two users try to modify the same object at the same time.

Multiple Scenarios

The Base scenario can be modified and saved as a new scenario. The two scenarios can be compared to answer what-if questions. Further scenarios can be created from either the base scenario or the modified scenario. Proper rules of inheritance are adopted.

User Interface

On screen CAD-type interface for graphical editing.

The user interface provides a ready means of accessing the database. Any area of the model can be given a name. Each area can contain a number of scenarios, each named eg. 'wales-baseline' and 'wales-2004'.

Areas within a scenario can be selected from an outline plan by using the mouse.

Noise Contour Calculations

Contour calculations are made tile-by-tile. A surround of chosen depth is included to avoid edge effects, allowing the contours in adjacent squares to match accurately. The user may choose the area to be contoured and the system can be left unattended to calculate the chosen area tile-by-tile. Any number of computers may undertake calculations at the same time, thereby allowing greatly increased speed. Calculation-only licences are available for this purpose

Contours are stored in the database. The server automatically manages the contour library for easy access to contours from different scenarios, calculation methods, heights and categories. Calculations can be made at specific receiver points or a specific area can be contoured.

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Height Data

Heights can be taken from 3-d digital maps (where available), OS landform maps in both contour line and grid format (eg from Autocad and Moss); from chains of spot heights, from a NoiseMap ground model, or inserted manually.

Data Transfer

The grid of noise levels used for contouring can be exported in x,y,l format for import to other contouring software, eg. GIS.

Contours can be output in DXF and shapefile format for inclusion in Autocad, GIS and other compatible graphics packages.

Any area of the model can be saved in keyword mnemonic format. This gives backward and forward compatibility with earlier versions of NoiseMap.

Data/ Model Security

Timed automatic backup. Database change log allows database recovery in event of transmission failure. Complete file archiving

Noise Contour Options

Line or colour filled contours
ISO 1996 colours (fixed values)
Temperature Chart (user defined values)
Digital or bitmap background
Sum and difference of scenarios

User Support

Built-in context sensitive help
User Manuals
Example Model Files
Web Based Training Material
Telephone and email User Support
On-site training Courses

Objects in model

The model contains the following objects:
Ground contour lines (3-d polylines)
Noise barrier lines (3-d polylines)
Building Outlines (3-d polygons or polylines (need not be closed))
Receiver points
Road Segments
Traffic flows

Database and User Management Utilities

These utilities let administrators without special training to set-up databases and add users.

System Requirements

Client Machines

Operating system: Windows NT4/2000/XP
1.2 GHz PC 512MB RAM minimum
3 GHz PC 1 GB RAM recommended for mapping large areas
80GByte hard disk
Open GL support required for 3D viewing
Fast Graphics card recommended for viewing large areas

Server Machines

Operating system: Windows NT4/2000/XP
2 GHz processor, 256 MB RAM, 80GB hard disk
Backup system
Server-side software includes MySQL database server application, supplied with server licence and self- installation utility to configure the system. Some manual configuration may also be required, depending on the system where it is installed.

Note Client and server can be in the same machine, but for multiple user access, both machines need to have network or internet ports.

Specification subject to revision without notice

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