

MODELLING SOFTWARE

PREDICTOR TYPE 7810

Noise Calculation Software for the Prediction, Presentation and Management of Environmental Noise

Predictor™ Type 7810 is a well-organised Windows®-based, multi-user noise modelling and calculation software package. It allows you to make electronic models of the acoustic environment of a geographical area, for assessment of outdoor noise from various noise sources such as industry or traffic.

Predictor's data management facilities allow you to concentrate on your job rather than on where files are stored, or even if they are saved. And, as a multi-user system, several people can work on different parts of the same Predictor project simultaneously, completing projects efficiently. It is possible to speed calculations by optimising them so that less relevant source-receiver combinations are ignored.

Multiple sources and other model items can be edited simultaneously for rapid model adjustment while other simple but powerful tools such as cross-sections, distance measurement and 3D visualisations help you build an accurate model.

Predictor guards all modifications in a model. Only the results that become invalid due to acoustic-relevant modifications need to be recalculated. This unique 'acoustic eye' feature of Predictor not only reduces calculation time but, more importantly, ensures consistency between input and results.

Predictor provides on-line user guidance for fulfilling calculation standards, allowing even inexperienced users to get accurate results.

FEATURES

- Complies with ISO 9613, NMPB/XPS 31-133, RMR/SRM II, CRTN (L_{10} and L_{Aeq}), DAL 32
- Up to 250,000 points/grid
- Integrated sound power database for the creation of your own database of standard sources
- Automatic creation and positioning of sources and receiver points with measured data (L_W , L_{eq} , L_{10} and L_{90}) taken with 2260 Investigator and GPS unit
- Sources defined in L_W or by operational features (for example, traffic types and flows)
- Receiver points defined at fixed positions or relative to other model items

ORDERING INFORMATION

Type 7810: Predictor

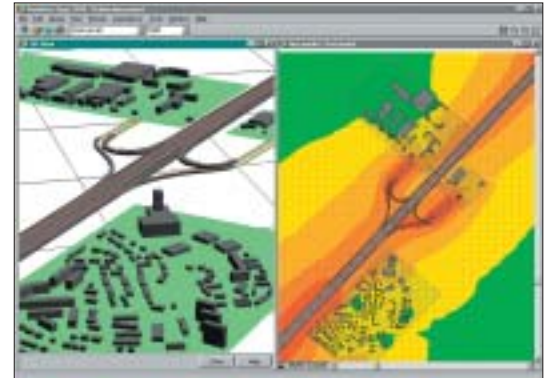
Optional Accessories

M1 – 7810: Predictor Software Maintenance, Upgrade and Support

Type 2260 Investigator: Modular Precision Sound Analyzer

Type 2260 Observer: Modular Precision Sound Analyser

Type 7816: Acoustic Determinator Software



MODELLING SOFTWARE

LIMA TYPE 7812

Environmental Noise Calculation and Mapping Software

Lima™ Type 7812 is PC software for environmental analysis based on 3D modelling for noise emission and propagation analysis. Lima is suitable for environmental impact assessment, urban planning and large-scale noise mapping. The generated 3D model can also be used for other environmental assessments, such as air pollution.

FEATURES

- Wide range of national and international (EU) regulations
- Handles complex geometries
- Proven ability to produce large scale noise maps
- Support of various GIS and database formats
- Powerful GIS data post-processing tools
- Easy customisation due to user-defined objects and attributes
- Fix emission quotas based on optimisation
- Source emissions calculated from measurements
- Emission based on extra studies of user functions for user functions
- Working with average, 1/1- or 1/3-octave data
- Barrier optimisation
- Simulation of moving point source for air traffic and other sources
- Automatic tiling of large areas for efficient calculation
- Parallel calculation of <32 emission data per source object
- Multiple source grouping

- Stand-alone or GIS background application
- Cost-efficient distribution of software over several workstations

BRIEF SPECIFICATIONS

Emitter Types: Road, rail and industry, sport, leisure

Regulations: RLS 90, DIN 18005, RVS 3.02, NMPB/XPS 31-133 (NMPB), CRTN, VDI 2714/2720/2571, ÖAL 28, SCHALL 03, AKUSTIK 04, TRANSPAPID, ÖAL 30, CRN, RMR/SRM IIS RM2 (or RLM2), AzB, ISO 9613-2 (for all emitter types)

Data Import Format: DXF, MapInfo, ArcInfo, ArcGIS (SHAPE), SICAD SD, SQD, Intergraph (DGN), GeoMedia, XML, DES, VISUM

Data Export Format: DXF, MapInfo, ArcInfo, ArcGIS (SHAPE)

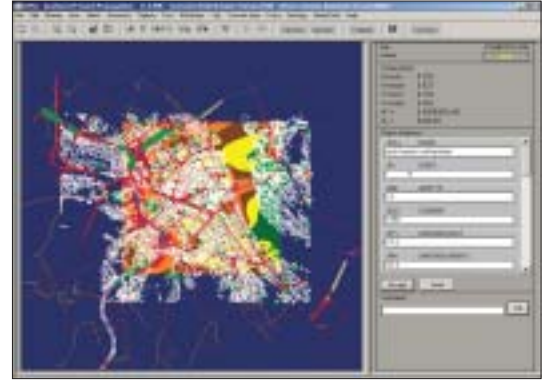
Model Capability (Obstacles): 20,000 (7812 A) to >1,000,000 (7812 C)

Supported Spectrum: Main, octave or 1/3-octave

Results: L_{Day} , L_{Night} , $L_{Evening}$, L_{DEN} , L_{10} , L_{Aeq} , 9 different forms of annoyance assessment, statistics on results

ORDERING INFORMATION

Type 7812 A: Lima – For small to medium scale models. All specified road, rail and industry methods. Data import and export in DXF format



Type 7812 B: Lima Plus – For medium to large scale models. Includes all Lima Type 7812 A functions, 3D graphics, superposition, statistics, conflict maps, barrier optimisation and best/worst-case analysis, one additional data exchange format

Type 7812 C: Lima Advanced – For large to very large scale models. Includes all Lima Plus Type 7812 B functions, all supplementary tools, annoyance analysis, fixing emission quotas, moving-point analysis, all available data-exchange formats. Configurable to customer hardware

BZ 5441: Lima Aircraft Module – Calculation according to AzB, simulation of moving point source

BZ 5442: Lima Data Exchange Module – Import/export of data in all defined data-exchange formats

Lima is also available in other configurations – contact your local Brüel & Kjær representative for more information.

ODEON TYPES 7835, 7836, 7837

Modelling using ODEON

ODEON Types 7835, 7836 and 7837 PC software simulates the interior acoustics of buildings. From the geometry and properties of surfaces, the acoustics are calculated, illustrated and auralised.

USES

- Predicting room acoustics of planned buildings
- Improving the acoustics of existing buildings

FEATURES

- Fast modelling with ODEON editor or imported CAD file
- Verification of model
- Flexible choice of sources, receivers and materials
- Modest calculation times
- Visual results – reflectograms, 3D reflection paths, 3D maps
- High-quality auralisation
- Effective project management
- Easy copy and export of results for project reports or presentations
- Comparisons with measured data from DIRAC Type 7841

BRIEF SPECIFICATIONS

Frequency Range: 8 octave bands from 63 Hz to 8 kHz
Size: Max. 2000 × 2000 × 2000 m
Points: Max. 500 per surface
Surfaces: Max. 50000
Corners: Max. 100000
Sources: Point, Line or Surface sources, Max. total 99 sources
Receivers: Virtually no limit

Results

Ray Tracing: Dynamic display of rays during calculation

Quick Estimate: Fast estimate of reverberation time assuming diffuse-field

Global Estimate: Reverberation time estimate accounting for room details

Single-point Response:

Detailed results and auralisation

Multi-point Response: Results for a specified number of receivers

Grid Response: Map of room acoustical parameters

Reflector coverage: 3D display of first reflection hits for reflectors

Result Parameters

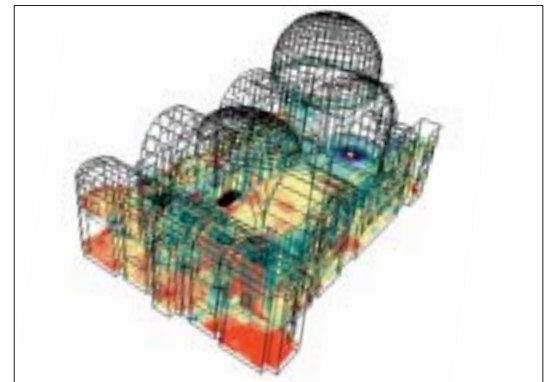
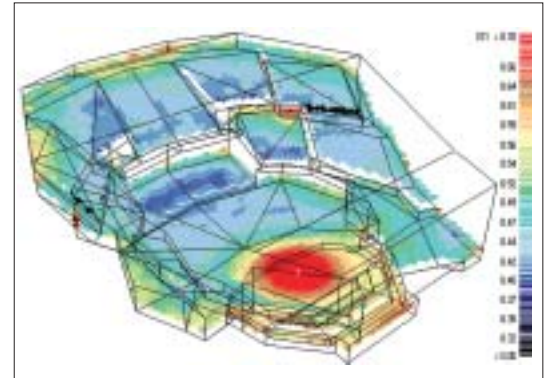
SPL, SPL(A), DL2, T₃₀, EDT, STI, Ts, G, C₈₀, D₅₀, LF₈₀, ST_{early}, ST_{later}, ST_{total}, LLSPL(A)

Auralisation

Input Format: Anechoic or semi-anechoic .wav format

Processing: Convolution of input file with BRIR (Binaural Room Input Response), correcting for HRTFs for each reflection

Output Format: Binaural .wav format optimised for headphones



ORDERING INFORMATION

Type 7835: Industrial Edition
Line and Surface sources

Type 7836: Auditorium Edition
Reflectogram

3D reflection paths

3D reflector coverage

Additional auditorium

parameters

Auralisation

Type 7837: Combined Edition

All features of Auditorium

and Industrial Editions

Services Available

M1 – 7835/6/7: 1-year support and upgrade agreement

7835/6/7-X-100: Upgrade from ODEON versions 4.0 and later

7835/6/7-X-200: Upgrade from ODEON versions 3.x and earlier