ACOUS PROPA®

THE ACOUSTIC ENGINEERING SOFTWARE

Software package for forecasting noise levels
in enclosed and outdoor areas

The software AcouS PROPA® has been developed, used and improved for more 20 years by GAMBA Acoustique et Associés.

So, **AcouS PROPA®** includes the most powerful calculation modules for forecasting enclosed and environmental sound propagation.

Its user friendly interface and its geometric modeling tools allow the easy creation of all types of volumes.

Its everyday use by our engineers ensures validation calculation / measurement data.

Parallel calculations
The models allow the use of the power of parallel processors via Pcs possessing multi-processors (double hearts, quadruple hearts)

AcouS PROPA® is used by many acoustic engineers in France and abroad

Minimum PC configuration :

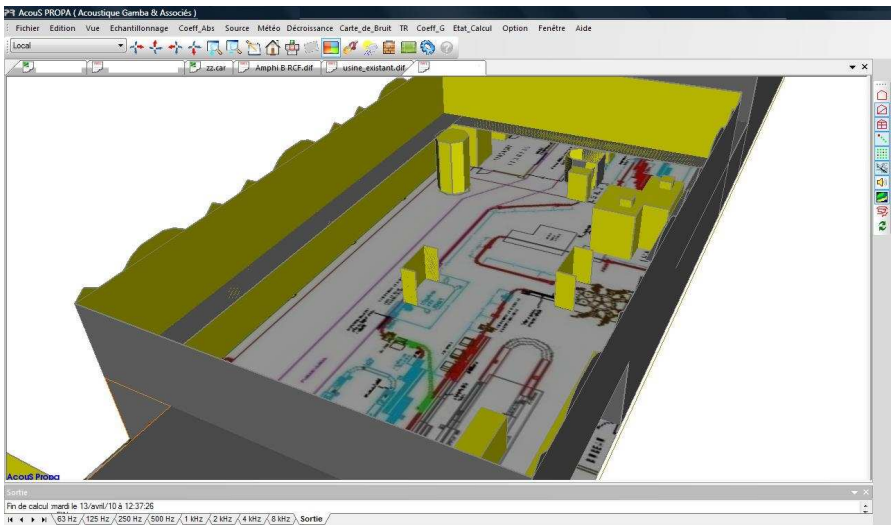
- Windows 7, Vista, Windows XP
- *Ordinateur muni d'un lecteur CD-Rom et disque dur,*

AcouS PROPA® is a simple and adaptable, its applications cover all fields of acoustic engineering :

- **Industry,**
- **Environment,**
- **Construction (room acoustic)**

This enables a user to switch from a room acoustics calculation to wall transmission using the same data sources, dimensions and geometry,...

AcouS PROPA® incorporates various modules that can be used to meet the specific needs of acoustics engineers.
Do you work in different areas of acoustic engineering? All you have to do is to install a particular module adapted to a particular need.



Modular – Adaptable – Open-ended

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The modeling of acoustic distribution

AcouS PROPA® is a powerful tool for use in all fields of acoustic engineering. AcouS PROPA® consists of various modules that can be incorporated to meet engineer's specific requirements.

3D Modeling

- Integrated 3D software modeler
- Assistance with object creation : parallelepipeds, extruded sections, point data entry,...
- Topography modeling by automatic triangularization (« environment module »)
- Dynamic, 3D single line or surface (« hidden surface ») display, oriented zooms
- Image insertion for easier modeling and control
- DXF import-export format

Calculations performed

- dB decay, noise and gain mapping, sound power levels at any point
- Mapping of incidental and reflected sound power levels on walls
- Calculations of wall structure transmission
- Diffraction at angles taken into account
- Atmospheric absorption taken into account
- Calculations per frequency band and overall level in dB(A)

Influence of meteorological conditions

Innovative calculation module for favorable or unfavorable propagation conditions, taking into account wind speed and wind direction, temperature gradient,...
And/or
ISO 9613 calculation (favorable conditions only)

Calculation parameters

- Acoustic levels of noise sources (unlimited number of sources)
- Directivity diagram (omnidirectional, hemispherical or any other, in 10° steps)
- Alpha Sabine absorption coefficients (transformation into transparent alpha « calculations » of users)
- Coefficient of atmospheric absorption
- Index of noise decay for wall structure transmission calculations
- Automatic sampling optimization procedure

Results presentation

- Topographical noise maps with selectable color palette
- Color noise maps of the incidental or wall-reflected sound power levels
- Legends, objects, text insertion
- Noise map presentation model in the form of instant copy plots
- Full listing of values for separate calculation points
- Space sound decay in the formof graphs and tables of user-parametered values
- Insertion of background images of 3D geometric model or noise maps
- Results exported to desktop / laptop software applications (Word®, Excel®, Open Office...)

User-friendly

- Simple and friendly interface
- Databank of noise sources and the characteristics of materials created by the user and transposable as required
- Characteristics of unknown materials based on in situ measurement of the Tr
- Listing of ongoing calculations, saved in text format
- Microsoft Excel® file for transferring noise decay measurements

Optimization of machine and operator time

- Effective use of multiprocessors with parallel calculation
- Checking perfect application of all the input parameters before initiating calculations
- Possibility of batch or parallel calculations
- Monitoring of real-time calculation progress
- Background calculations

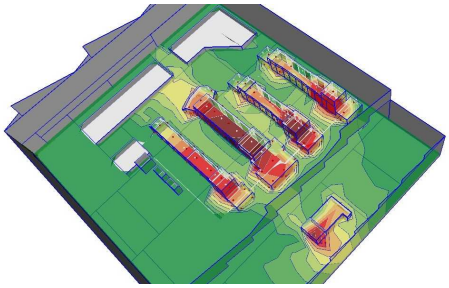
The modeling of acoustic distribution

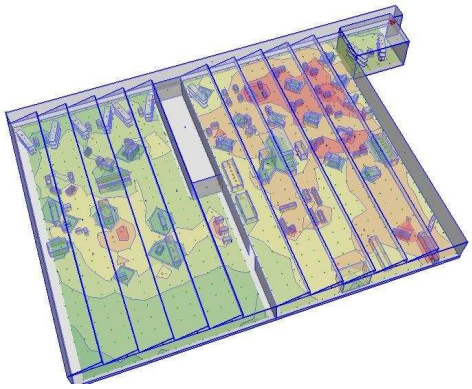
AcouS PROPA® is integrated software capable of performing any type of calculation with in a single model (hall acoustics, work-place acoustics, environmental acoustics), while retaining all source, dimensional and geometrical data...

Different applications of the software AcouS PROPA®

Industrial acoustics

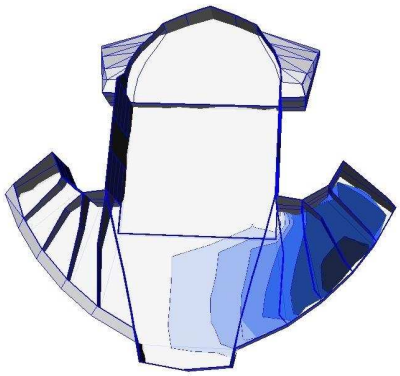
Calculations of dB drop, noise mapping, signal / noise ratio, radiation through walls. All the functions used in this field of acoustic engineering have been implemented in **AcouS PROPA®**.

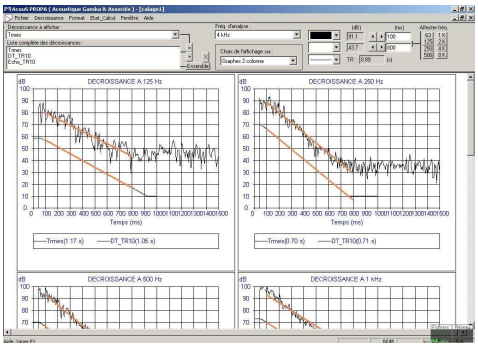


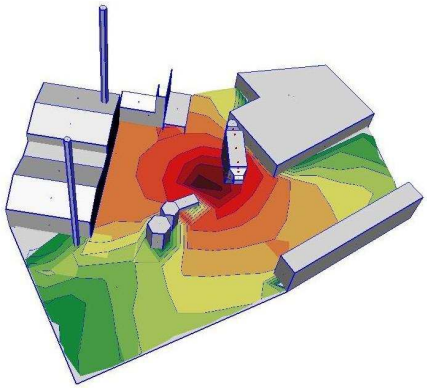


Room acoustics

This module allows the user to calculate the main criteria such as C80, D50, RT EDT and echogram with a temporal resolution of 1 ms.
Comparison between calculation and measurement data can be facilitated by importing measured temporal decrease from a spreadsheet.

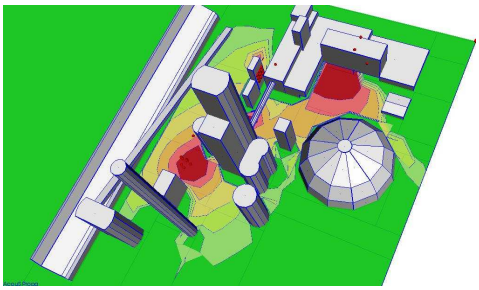


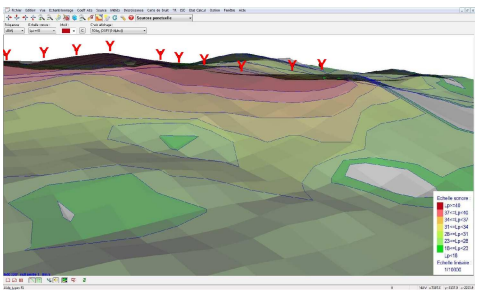




Environmental acoustics

Whether working on industrial projects, wind turbines, concert hall or other projects, **AcouS PROPA®** calculates and plots the noise cartography. It includes an innovative feature covering favorable and unfavorable propagation conditions based on the wind direction and speed, and other data (daytime, nighttime, etc.)





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