Introducing the first ever integrated acoustical software application

- Outdoor Sound Propagation
- Room Acoustics
- Open-Plan Office Acoustics
- Multi-Layered Structures Calculator for Impedance, Sound Absorption & Transmission, based on Transfer Matrix Method
- Polar Plots of auditorium reflectors and noise barrier scattering

...simply ALL calculations in ONE integrated environment
Overview

Introducing the first complete acoustics suite, combining outdoor sound propagation, room acoustics, open plan office, sound distribution and scattering polar plotter and multi-layered structure builder all in one. All the tools that one would need in a project without having to set up another project in another software. Whether you are designing the comfort of a room, open plan office or noise mapping, with OTL-Suite you can now have one software for all.

Applications

- Research & Prototyping
- Manufacturing including noise barriers
- Design of Acoustical Material and Structure & Manufacturing
- Noise Control Design & Strategy during construction
- Environmental Acoustics Assessment
- Room Acoustics Materials and Structures Optimisation
- Working Space Layout Acoustical Optimisation
- Wind Turbine Industry
- Health & Safety Criteria Exceedance
- Acoustical, Architecture & Interior Design
- Academia

Users

- Acoustic Engineers & Consultants
- Audio & Sound Engineers
- Manufacturers
- Researchers
- Academia & Students
- Architects & Interior Designers
- Audio-Visual Installers
- Environmental engineers
- Health & Safety Officers
- Government & Local Authorities
- Professionals & Hobbyists
The only wave based geometrical acoustics software for Outdoor Sound Propagation with Impulse Response

Olive Tree Lab-Terrain is a noise prediction wave based geometrical acoustics software which simulates and predicts Outdoor Sound Propagation and Noise Barrier efficiency, taking into account geometrical spreading, atmospheric absorption, atmospheric turbulence, ground and objects impedance, spherical wave reflection and diffraction effects of natural or man-made objects in a 3D environment. Olive Tree Lab-Terrain produces unique sound mapping demonstrating wave interference, calculates Impulse Response and displays Frequency Response results in high frequency resolution, 1/3, 1/1 octave bands and dB(A).

The only integrated software with Wave based Geometrical Acoustics approach.

Olive Tree Lab - Room is a 3D room-acoustic modelling software based on ISO3382-1&2. Equipped with a powerful calculation engine, it allows users to evaluate the acoustical quality of the spaces under study. Users can calculate impulse responses in a room providing system designers and consultants with a unique set of tools for all aspects of professional applications, from realistic modelling and simulation of room acoustics and sound system performance. Using Ray Tracing, the user can define the number of rays they wish to calculate, and auralise the sound of the room.
The only integrated software with Wave based Geometrical Acoustics approach.

Olive Tree Lab - Office is a 3D Open Plan Office modelling software based on ISO 3382-3:2012 Part 3: Open plan offices.

Olive Tree Lab - Office deals with the optimisation of open plan offices in terms of speech privacy and work distraction by activities in neighbouring working stations. Olive Tree Lab - Office assists designers (acousticians, architects and others) in assessing the acoustics of open plan office working spaces and offers the possibility to minimize interference among working spaces by virtually experimenting with the use of acoustical materials and smart furniture layout.
Multi-Layered Structure Builder; Impedance, Absorption & Transmission Loss

The Multilayered Structure Builder is based on the Transfer Matrix Method (TMM) which predicts the acoustic response of multi-layered systems. Choose between plates, porous, perforated or air, and see the acoustic performance including impedance, absorption coefficients, and transmission loss of your structure. Assign your structures in your model, and OTL Suite will take into account both front and back of the structure in its calculations.

Sound Distribution and Scattering Polar Plotter

Reflectors in auditoriums, are of paramount importance. Their size and inclinations can now be fine tuned by calculating their performance using the Polar Plot tool. Choose an edge on the reflector as your axis and assign the radius where you want your microphone to move. Polar Plots, can also be used to calculate sound scattering and diffusion coefficients and many more other calculations.
Key Features

Working Environment

- DXF/DWG Import/Export model
- Import images-Google earth and others with scaling options, allowing to draw over images in lack of drawings
- Multiple 3D model Configurations, allowing variations in a model for results analysis
- Enhanced CAD Tools features for ease of modeling
- Dimensioning Tools in 3D model
- Room properties indicator (Area, Volume, Mean Free Path)
- Indicative Graph for quick and rough analysis
- Camera mode-camera at source, at receiver or flying camera, showing paths and for the adjustment of barrier dimensions for receivers/source occlusion

Calculations & Accuracy

- Diffraction orders up to 100
- Reflection orders up to 1000
- Spectrum analysis - Ranges can be set for constant frequency step and/or constant percentage frequency step analysis
- Spectrum analysis – results shown in high resolution, 1/3, 1/1 octave bands and in dB(A)
- Sound Path Explorer - detailed analysis of each sound path from Source to Receiver
- ISO 9613-2 for outdoor sound propagation
- ISO 3382 Parts 1 & 2 for room acoustics
- ISO 3382 Part 3 for open-plan office
- Impulse response of a room In Pa & dB
- Auralisation (in mono for now)
- Infinite Impedance- Spherical Wave Reflection Coefficient

Visualisation & Results

- 3D & 2D Mapping for indoor and outdoor parameters
- Import/Export all calculation results for post processing
- Sound Ray Visualisation
- Precise Graph - Level, Noise Criteria, Excess Level above noise criteria
- Indicative Graph for quick and rough analysis
- Excess Level Meter in LED bar graph & dB(A) indicator
- Project Criteria - including noise level and room acoustics reference criteria
- Screen Captures

Other Features

- Transfer function/Impulse Response of 3D model for post-processing
- Impulse Response to Transfer Function and vice versa, including 3rd party data
- Project database/Merging Tool
- Enriched Database for sources, receiver criteria, materials and structures
- Material Properties for porous, perforated and elastic plates
- Potability / Portable License
Why Olive Tree Lab-Suite?

Because:

- After years of using third party software and mismatch between measured data and predictions, we have developed a software where practice matches theory.
- It's written from an acoustical designer’s point of view.
- Although standards are needed, there are advanced acoustical methods beyond standards, which we apply.
- We believe in accuracy and not estimation for both the designer and the client.
- We know how difficult it is to switch between applications, now all your acoustic needs are in one software.
- You don’t have to set up another project in another software.
- We believe working with a software should be fun and not tedious.
- We believe our products are revolutionary.
For more information, on versions, demo and prices, please contact your local distributor or

PEMARD at info@pemard.com

For a distributor in your region, please visit www.olivetreelab.com