Feature Sheet — Version 14

Odeon — Room Acoustics Software

	Basics	Industrial	Auditorium	Combined	Comments
Supported ISO Standards					
ISO 3382-1			●	●	For performance places
ISO 3382-2	●	●	●	●	For ordinary rooms
ISO 3382-3	●	●	●	●	For open plan offices
ISO 14257	●	●	●	●	For workplaces
IEC 60268-16	●	●	●	●	Speech Transmission Index
Sound Sources					
Point sources	●	●	●	●	
Line sources		●		●	Used mainly in industrial applications
Surface sources		●		●	
Array sources			●	●	Used mainly for PA systems
Tools					
Quick estimate	●	●	●	●	Simple calculation of RT
Multi-point response	●	●	●	●	Shows calculated parameters for all receivers, with comparison curves and statistics
Noise control tools	●	●	●	●	Available in the multi-point response
Transmission	●	●	●	●	For airborne sound insulation studies
Bounding Box	●	●	●	●	Helps performing outdoor simulations
Color grid response Horizontal & Vertical		●	●	●	Colored distribution of room acoustic parameters on selected surfaces
Instant 3D direct map		●	●	●	Shows the distribution of direct sound
3D Billard visualization		●	●	●	Visualising acoustics and detecting serious acoustic problems
Auralisation			●	●	Available for simulations and measurements. Useful to demonstrate how the room "sounds".
Headphone filter design tool			●	●	Compensate for the frequency response of a headphone during auralisation
Single-point response			●	●	
Decay curves			●	●	
Decay Roses			●	●	
Reflectrogram			●	●	
Reflection path analysis			●	●	
Reflector coverage			●	●	
Editing room acoustic parameters			●	●	Modify existing parameters or add new ones

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	Basics	Industrial	Auditorium	Combined	Comments
Room Acoustic Parameters					
Sound Pressure Level (SPL)			●	●	
SPL(A), SPL(C), SPL(Lin)	●	●	●	●	
Spatial Decay DL_2	●	●	●	●	
Reverberation Time T_{20}, T_{30}	●	●	●	●	
Early Decay Time EDT	●	●	●	●	
Speech Transmission Index (STI)	●	●	●	●	
Sound Strength (G)	●	●	●	●	Calculated for source of 0 dB SPL on axis at 10 m distance.
Centre Time, T_s			●	●	Mainly used in auditorium and concert hall acoustics
Clarity C_{80}			●	●	
Definition D_{50}			●	●	
Early Late Energy Fraction LF_{80}			●	●	
Lj parameters			●	●	
IACC			●	●	
Early/Late total Support (ST)			●	●	
Speech Transmission Index for PA systems (STIPA)			●	●	
Modulation Transfer Index (MTI)			●	●	
Global parameters					
Global Reverberation time T_{20}	●	●	●	●	
Global Reverberation time T_{30}	●	●	●	●	
Measuring System					
Recording impulse responses	●	●	●	●	
Processing impulse responses	●	●	●	●	
Statistical tool for a group of impulse responses	●	●	●	●	Compares selected impulse response files and produces statistics
Importing measured data to multipoint response	●	●	●	●	
Frequency response	●	●	●	●	
Calibration procedures for G, STI and Early Lateral Energy parameters	●	●	●	●	
Auralisation			●	●	
Genetic material optimizer			●	●	Optimize materials to match simulations with measurements
Evaluation of simulations			●	●	Investigate how the number of rays and the transition order affect the agreement between simulations and measurements