



HIGH PERFORMANCE SOFTWARE

TRANE ACOUSTICS PROGRAM (TAP™)

Comprehensive Acoustical Analysis

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The Trane Acoustics Program (TAP™) is a powerful acoustical modeling tool that helps designers accurately predict how sound from HVAC equipment will impact tenants and neighbors.

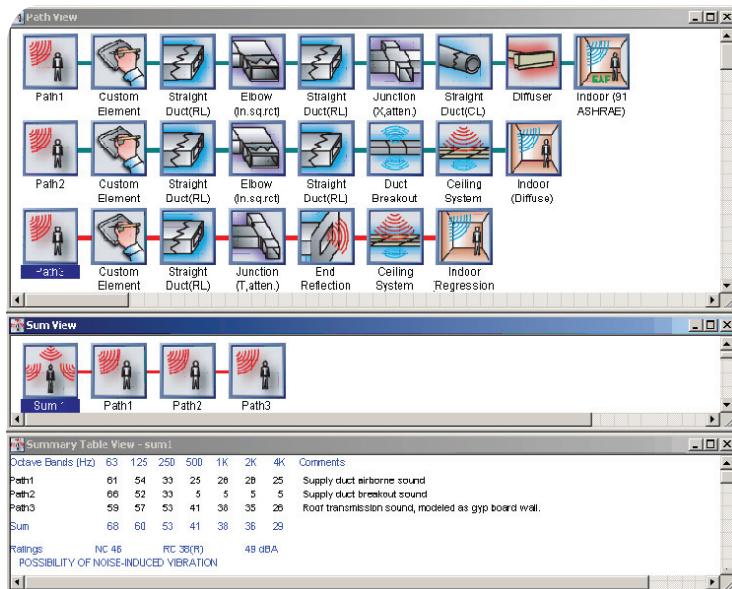
Converting a sound power level into a sound pressure level requires definition, in acoustical terms, of the environment between the sound source and the receiver location. Anything that affects the sound, between the points of origin and reception, is considered an element of the sound path.

Solving prediction algorithms manually can be tedious, time-consuming, and iterative—especially when one or more paths need further attenuation. Fortunately, TAP performs these calculations quickly and accurately allowing a designer to rapidly create and refine the source-path-receiver model. Manipulation of the model is a tremendous benefit when designing a new system or troubleshooting an existing building. For example, TAP allows you to quickly determine the effect of using a duct silencer, changing the construction of the equipment-room wall, adding absorptive materials to a ceiling, or placing an acoustical barrier between an outdoor sound source and the property line.

Program Features

- TAP uses the latest available ASHRAE algorithms for modeling acoustical elements such as ductwork and diffusers into the space.
- Visual modeling of equipment (fans, diffusers, etc.) and building components (ceilings, walls, ductwork, etc.) in each sound path.
- The most complete, current library of sound data available for Trane products plus a “custom element” to model equipment not found in the library.
- Multiple-path analysis—e.g. discharge airborne, discharge breakout and unit-radiated sound (a timesaving feature that lets you focus on other aspects of project design).
- Calculates NC, RC, and dBA ratings for each path and sum.
- “On-the-fly” calculation and display of sound path summations.
- Comprehensive, professional reports including output to NC and RC graphs.
- Enables a quick comparison of calculated sound levels with the desired NC value, an invaluable troubleshooting tool to isolate potential problems in an existing system.

TAP "builds" and analyzes sound paths by allowing the user to choose specific equipment and building components that generate, attenuate, reduce or regenerate sound. Dialog box entries let you further refine component attributes. As components are added, moved or deleted, the program dynamically recalculates the resulting sound pressure levels.



Once the analysis is complete, you can view and print reports, detailed tables, NC or RC charts, or a combination of these formats.

Path Report

Project Name:
Location:
Building Owner:
Project ID:

Element	63Hz	125Hz	250Hz	500Hz	1KHz
Path1					
<i>Discharge airbone sound</i>					
Custom Entry	80	80	67	64	66
50/50 power split	-3	-3	-3	-3	-3
Straight Duct(RL)	-2	-3	-7	-17	-16
Straight Duct(RL)	-4	-6	-13	-35	-33
Junction (X,atten.)	-13	-13	-13	-13	-13
SubSum	58	55	31	5	5
Junction (X,regen.)	73	70	66	61	55
SubSum	73	70	66	61	55
Straight Duct(CL)	0	0	0	0	-1
Elbow (ul.rad.mnd)	0	0	0	-1	-2
SubSum	73	70	66	60	52
Elbow (regen.)	45	44	44	42	39
Diffuser	8	18	26	31	36

LEED® for Schools

TAP acoustical models can be used to show design verification for LEED® for Schools for New Construction and Major Renovations 2009 edition. LEED contains both a prerequisite for classroom acoustics and the potential for earning one point for improved acoustical design. Both the credits and the prerequisite allow compliance by following the methodology in either ANSI Standard S12.60-2002, Acoustical Performance Criteria, Design Requirements and Guidelines for Schools, or in the 2003 HVAC Applications ASHRAE Handbook, Chapter 47 on Sound and Vibration Control. TAP can be used to meet both the prerequisite and earn the credits.



Contact us.

A Trane C.D.S. software license provides access to industry experts, online demos, an online knowledge base, custom training sessions and more. Whether you need basic training or advanced training on topics like ASHRAE Standard 90.1 and LEED analysis, we have a session that suits your needs.

To download trial software visit:
www.trane.com/TAP

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