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ACOUSTIC TEST FACILITIES - A NOISE CONTROL EQUIPMENT SUPPLIERS APPROACH

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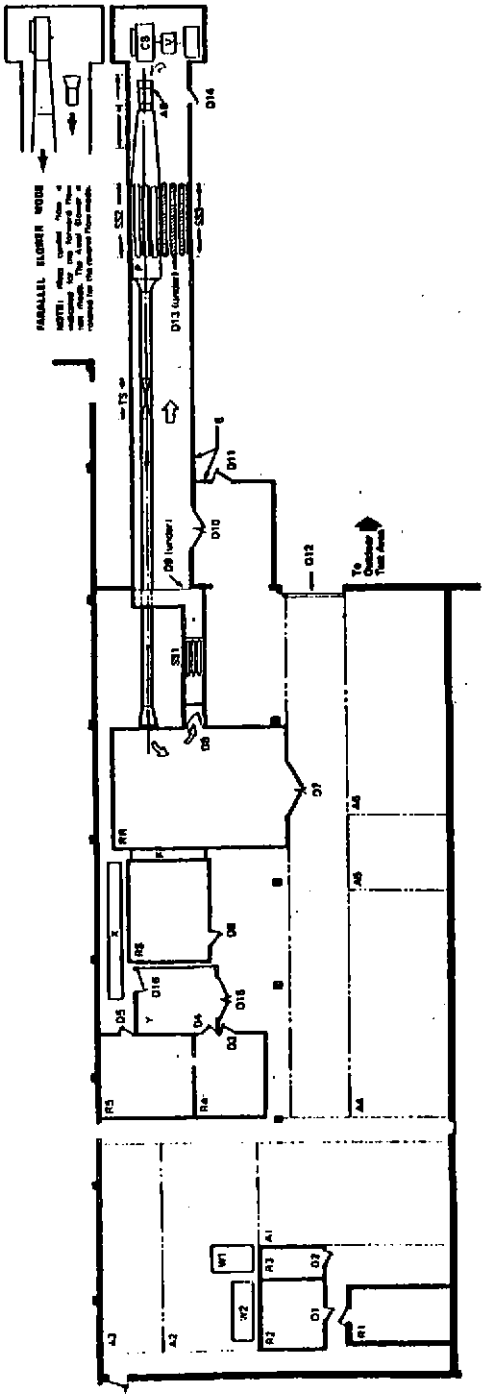
The cost of the modern Acoustic Test Facility for commercial purposes is high but the costs the Noise Control company could incur if it fails to meet a stringent acoustic guarantee could be catastrophic. Therefore, the more reputable company engaged in providing noise control solutions will have it's own Acoustic Facility or have readily available the services of an independant facility of this nature.

The commercial Acoustic Facility has been the key in developing the modern noise control technology, driven by the commercial need to remain ahead of market requirements and the competition, plus the need to meet the stringent demands of many acoustic specification called for by today's engineers. Facilities of this nature form an essential part of company Research and Development and apart from the wide range of acoustic testing that may be undertaken, aerodynamic, model, structural and other forms of test facilities will generally be located within the same unit. The Industrial Acoustics Company Aero-Acoustic Facility in New York is probably one of the most advanced in the world and occupies some 1,100 square metres of space. It comprises two reverberation chambers, a large closed loop wind tunnel for rating silencers dynamically, a fan testing room, an anechoic wedge impedance tube, a range of structural testing rigs and can be readily adapted to meet the wide range of requirements that modern noise control technology may demand.

The presentation will describe in detail how the IAC facility is used for basic testing procedures both from acoustic, aerodynamic and structural stand points. It will further describe instances where the facility has provided the basic research and development for undertaking major international Noise Control projects to meet the severest acoustic requirements and guarantees.

IAC AERO-ACOUSTIC RESEARCH LABORATORY



IAC DOORS

D1 – 3'–0" x 7'–0" MODULINE NOISE-LOCK
D2 – 3'–0" x 7'–0" MODULINE NOISE-LOCK
D3 – 3'–0" x 7'–0" MODULINE NOISE-LOCK
D4 – 3'–0" x 7'–0" MODULINE NOISE-LOCK
D5 – 3'–0" x 7'–0" MODULINE NOISE-LOCK
D6 – 3'–0" x 7'–0" INDUSTRIAL NOISE-LOCK
D7 – 10'–0" x 10'–0" INDUSTRIAL NOISE-LOCK
D8 – 3'–0" x 8'–0" INDUSTRIAL NOISE-LOCK
D9 – 3'–0" x 7'–2" INDUSTRIAL CAM LIFT
D10 – 8'–0" x 9'–0" POWER-FLOW
D11 – 4'–0" x 7'–0" POWER-FLOW
D12 – 12'–2" x 12'–2" TRACKWALL
D13 – 2'–6" x 6'–2" MODULINE NOISE-LOCK
D14 – 4'–0" x 7'–0" POWER-FLOW
D15 – 9'–0" x 9'–6" INDUSTRIAL NOISE-LOCK
D16 – 2'–6" x 6'–2" INSWINGING MEDICAL

LEGEND

A1 – LABORATORY DISPLAY STORAGE AREA
A2 – MECHANICAL TEST AREA
A3 – LABORATORY DUCT & MODEL STORAGE
A4 – PORTABLE POWER UNIT TEST AREA
A5 – TL TEST FRAME BUILD-UP & STORAGE AREA
A6 – MODEL SHOP AREA
AB – AXIAL BLOWER, 2-SPEED, VARIABLE PITCH–ROTATE 180deg
CB – CENTRIFUGAL BLOWER
E – ENCLOSURES–IAC PREFAB POWER-FLOW PANEL
F – 14 ft x 9 ft TL TEST FRAME
H – 10 ft x 10 ft ROOF HATCH FOR POWER FLOW SILENCER TEST
P – PLENUM WITH LOUDSPEAKER
R1 – TELEPHONE ROOM–CONCRETE BLOCK
R2 – INSTALLATION OFFICE–IAC MODULINE
R3 – INSTALLATION STORAGE–IAC MODULINE
R4 – LABORATORY OFFICE–IAC MODULINE
R5 – LABORATORY CONTROL ROOM–IAC MODULINE
RR – 10,000 cu ft REVERBERANT RECEIVING ROOM–IAC HARDLINER
RS – 3000 cu ft REVERBERANT SOURCE ROOM–IAC NOISE-LOCK
SS1 – SYSTEM SILENCER–IAC QUIET-DUCT
SS2 – SYSTEM SILENCER–IAC POWER-FLOW
SS3 – SYSTEM SILENCER–IAC POWER-FLOW
TS – TEST SILENCER
V – VARIABLE SPEED CLUTCH
W1 – DOOR CYCLING RIG
W2 – TRACKWALL CYCLING RIG
X – ANECHOIC WEDGE IMPEDANCE TUBE
Y – QUIET ROOM–IAC MODULINE