



## CAPABILITY STATEMENT

### ARTS PROJECTS

Octave Acoustics is a consultancy specialising in acoustics, noise and vibration. A central theme of our culture and service is a passion for delivering innovative and pragmatic solutions whilst drawing on the depth of our comprehensive expertise and experience within the industry.

A core principle of Octave Acoustics is the provision of advice that is both practical and consistent with the language and needs of our Clients. We bring an understanding of the complexity of contract documentation and competing requirements on projects. We invest significant time into analysing 'real world' outcomes associated with our designs. This approach allows us continuously improve our ability to provide balanced advice and solutions that are both cost effective and buildable.



[www.octaveacoustics.com.au](http://www.octaveacoustics.com.au)



## Our Services

- + Building Projects
- + Transport Infrastructure
- + Planning & Environmental Acoustics
- + Vibration Assessment & Design
- + Expert Witness Services

## Founders

With a combined experience of over 30 years company founders Rob Brown, Darren Tardio and Andrew Lloyd lead a team of experienced acoustic engineers committed to delivering innovative and pragmatic solutions.

## Building Projects – Arts & Performance Spaces

Members of the Octave team have extensive experience in the delivery of arts and performance spaces, including auditoriums, cinema complexes, performing arts centres, galleries, theatres, recording, mixing, rehearsal and broadcast studios, drama rooms, lecture theatres, museums, interactive and critical listening spaces.

Requirements for acoustic performance vary from project to project. It is a key role of the acoustician to recognise and interpret the Client's vision for a facility and to design accordingly. In some instances this involves translation of stakeholder aspirations into specific project Performance Requirements. In other instances this involves the assessment and optimisation of architectural and audio propositions for compliance with established Performance Requirements. In all instances Octave Acoustic's approach is to collaborate with the project team to deliver design advice and documentation that realises the Client's vision whilst being cognisant of the practicalities of construction, sequencing and budget.



## Octave Acoustics provide the following capabilities and services:

- + Definition of Performance Requirements and Functional Briefs –
  - \_ Speech Transmission Index, STI
  - \_ Speech Transmission Index for Public Address Systems, STIPA
  - \_ Articulation Index, AI
  - \_ Intimacy & Clarity
  - \_ Early Reflections
  - \_ Stage Support Index
  - \_ Early Decay Time, EDT
  - \_ Reverberation Time, T60
- + Acoustic Testing of Spaces for compliance with Performance Requirements
- + Design of Room Acoustics -
  - \_ Design & specification to satisfy performance requirements
  - \_ Analysis of spaces via ray tracing methods
  - \_ Optimisation of room geometry
  - \_ Design & optimisation of diffuser & reflector arrays
  - \_ Design & optimisation of absorptive treatments, base traps & tuned panels



- + Design of Audio Systems / PA -
  - \_ 3-D modelling of spaces using EASE software
  - \_ Auralisation / space simulation for Client approval
  - \_ Optimisation of speaker placement, quantity & specifications for:
    - > Coverage
    - > Intelligibility
    - > Management of time / phase coincidence
    - > Line array management
    - > Tuning and equalisation
    - > Concealed and interactive audio
- + Design for Sound Insulation -
  - \_ Specification of internal partitions, walls, floors, ceilings, windows, doors etc.
  - \_ Detailing of junctions & penetrations
  - \_ Assessment & optimisation of façade elements to control noise intrusion
- + Design for Vibration Isolation -
  - \_ Design of vibration isolation systems for buildings, studios & sensitive spaces
    - > Pile & foundation isolation
    - > Jack-up slabs
    - > Floating floors
    - > Inertia bases
  - \_ Assessment & design of building structural dynamics
    - > Finite Element Analysis (FEA)
    - > Testing & assessment of existing structures
- + Assessment of Mechanical Services Noise/ Vibration
  - \_ Modelling & prediction of services noise
  - \_ Design, specification & coordination of attenuation treatments
  - \_ Specification of vibration isolation treatments
- + Construction Supervision
  - \_ Site inspection & documentation
  - \_ Defect identification & rectification
  - \_ Amendment of designs to address unexpected existing conditions
  - \_ Sample approvals
  - \_ Prototype testing
  - \_ Compliance testing
  - \_ Certification and verification to performance specifications
  - \_ Audio system commissioning, optimisation and tuning