Roy and Edna Disney / Calarts Theater

Los Angeles, CA, USA
2003

NAGATA ACOUSTICS

Acoustic Consultant:	Nagata Acoustics
Architect:	Gehry Partners, LLP
Owner:	California Institute of the Arts
Construction Cost:	17.3 million USD

The Roy and Edna Disney / Calarts Theater, known as REDCAT, opened in 2003 as a part of the Walt Disney Concert Hall complex designed by Gehry Partners. The theater is located in the downtown arts district of the City of Los Angeles. REDCAT is a black box theater designed to introduce innovative visual, performing, and media arts to various types of audiences, including students and artists. REDCAT also strives to provide creative support for local artists.

The stage at REDCAT can be transformed from the thrust and the end stage to completely in-the-round. The theater is equipped with retractable seating, which allows the theater to transform from a completely flat floor to a typical raked audience seating configuration. Maximum seating capacity is 250. The ceiling height is set higher than normal, approximately 12 meters, to optimize the acoustical properties of natural acoustics performances. Variable acoustic panels mounted on hinges, with finished wood on one side and sound absorptive material on the other, were introduced along the sidewalls. These panels can be easily adjusted to adapt the acoustic environment for each performance. When the panels are closed, the finished wood surface is exposed, creating a reverberant field for natural acoustics performances. When the panels are opened, the exposed absorptive surface effects a reduction in reverberation time for amplified performances.

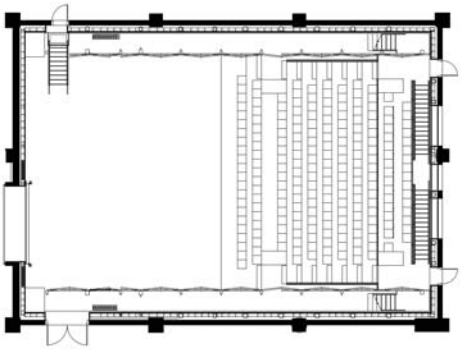
REDCAT is constructed with a box-in-box structure to isolate against noise and acoustical intereference from, and to the adjacent Walt Disney Concert Hall and parking garage in the building complex.

BUILDING DETAILS AND ACOUSTICS DATA

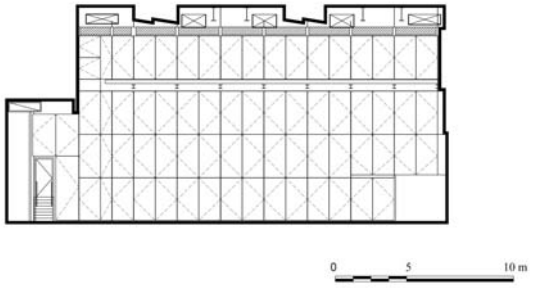
Seating Capacity 240 maximum
Room Volume 4,032 CM
Average Room Length 24M
Average Room Width 14M
Average Room Height 12M

Theater Configuration Multiform

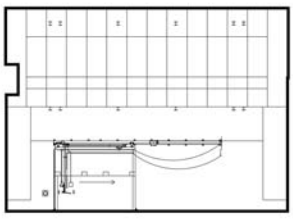
Reverberation Time
(Mid-Frequency, Variable Acoustics: Reflective/Absorptive)
Unoccupied 1.4 sec (Reflective) 1.0 sec (Absorptive)
Occupied (Calculated) 0.8 sec (Reflective) 0.7 sec



PLAN



LONGITUDINAL SECTION



TRANSVERSE SECTION

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VIEW FROM STAGE

VIEW FROM AUDIENCE

VIEW FROM STAGE
(VARIABLE ACOUSTICS OPENED, ABSORPTIVE SURFACE EXPOSED)