

ACOUSTICS CONSULTANTS:

Atlantic Acoustical Associates

OWNER:

Cavanaugh Tocci Associates, Inc.

ARCHITECT:

The Neptune Theatre Foundation

CONSTRUCTION COST:

Duffus Romans Kundzins Rounsefell

COMPLETION DATE:

\$12 Million CND

1997

The Neptune Theatre dates from 1962, but the original theatre building dates from 1915, and was designed as a vaudeville house by Andrew Cobb, Nova Scotia's first professionally trained architect. The Strand Theatre, as it was known, suffered a serious fire in 1926, was rebuilt and closed after the stock market crash in 1929. It reopened a year later as a cinema, and, after three decades, was acquired by the Neptune Theatre Foundation.

The inaugural season was in 1963, and Neptune Theatre soon acquired an excellent reputation throughout Canada, despite limitations of space and amenities resulting from a complex cobbled together from the original Strand Theatre and adjoining buildings. It became increasingly obvious to succeeding artistic directors that a new theatre complex was needed, including a second stage and a theatre school.

The designers faced numerous challenges, which included incorporating an existing heritage building, the Halifax City Club, the shell of the existing theatre, a site with frontages on three streets, with substantial differences of elevation and slopes, and a highly ambitious program which included the main theatre, a studio theatre, associated shared support spaces and administrative offices, two large rehearsal rooms and the Neptune Theatre School. The major strength of the design is the internal planning which deftly solves the complex problem of the relationships of the multitude of spaces and floor levels.

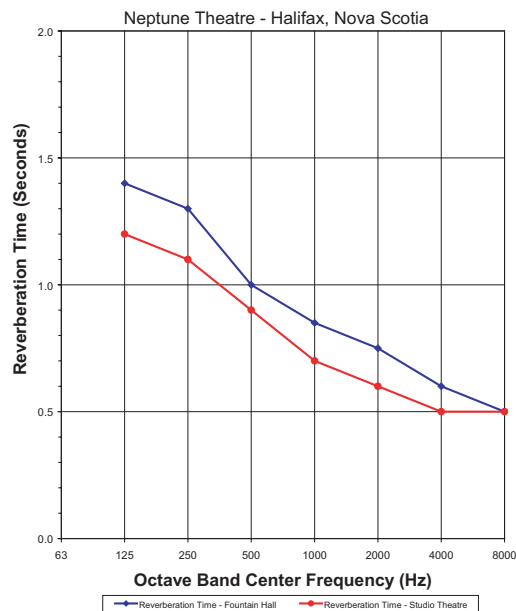
Acoustically, the project presented interesting challenges. The decision was taken, for reasons of economy, to provide a large number of rooftop units for air conditioning. These units inevitably ended up either directly over, or very close to, acoustically sensitive spaces. In the case of Fountain Hall, the main stage, a second roof spans over the existing roof. It was introduced for structural and acoustical reasons, thus providing a double construction with a substantial separation in the truss space. In the studio theatre, there is a suspended multiple layer gypsum board ceiling with a substantial airspace, as well as concrete applied to the roof deck in the vicinity of the units. Fan noise is controlled by a combination of acoustical plenums, duct lining, with silencers strategically located to control crosstalk from adjacent spaces as well. Air velocities are low to control air turbulence noise. The resulting background noise levels are virtually inaudible.

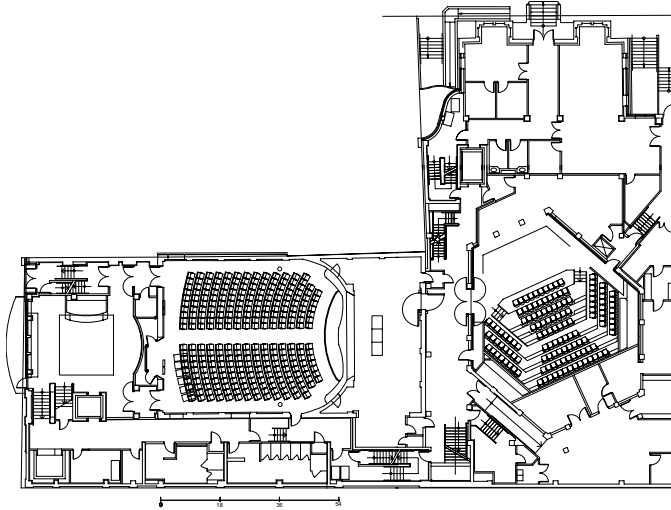
Room shaping in Fountain Hall addresses the need for early reflections from a variety of locations on stage by the means of convex reflecting surfaces in the main ceiling and underside of the balcony. The sidewalls are also shaped to eliminate parallelism and provide some lateral reflections. Fabric wrapped glass fibre panels are applied only to the rear wall for echo control.

Early reflections in the studio theatre are provided by the walls in the vicinity of the stage and by convex overhead reflectors. The lighting catwalks are wider than normal, to provide additional early reflections, and are also convex. Sound absorbing treatment on the rear walls consists of fabric wrapped glass fibre panels.

Acoustical separation of the various spaces in the complex was critical, especially with the close proximity of theatres, rehearsal rooms and support spaces. A crossover space separates the main stage and the studio stage, with acoustical doors in tandem leading to the studio stage. The studio stage is enclosed within a double wall system which combines concrete block, steel studs, and gypsum board on resilient channels. The acoustical separation between the two theatres permits simultaneous use of the main theatre for a rock musical and of the studio theatre for intimate drama.

### Measured Reverberation Times

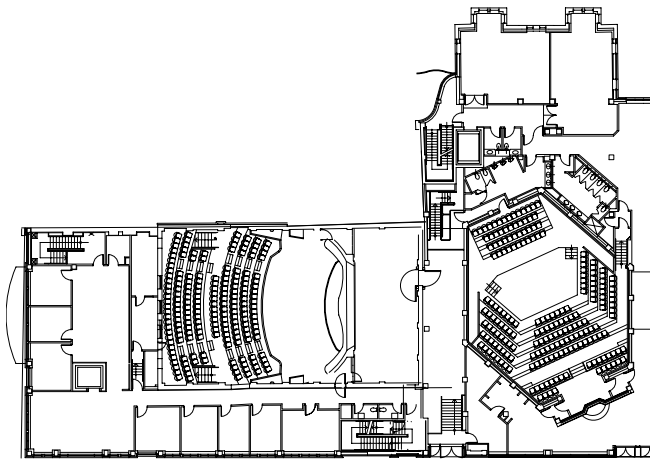




MAIN FLOOR PLAN



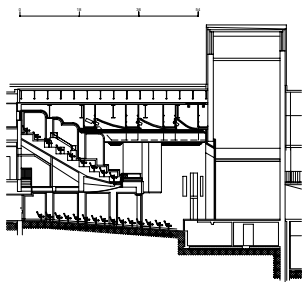
INTERIOR VIEW - FOUNTAIN HALL



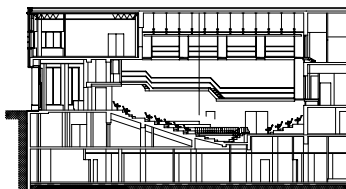
BALCONY PLAN



INTERIOR VIEW - STUDIO THEATRE



LONGITUDINAL SECTION - FOUNTAIN HALL



LONGITUDINAL SECTION - STUDIO THEATRE

Measured Background Noise Levels  
Neptune Theatre - Halifax, Nova Scotia

