The hall was designed as a chamber hall with 700 seats mainly for classical music. An oval shape in plan was proposed by the architect and the main issue of the room acoustical design was to avoid detrimental echoes caused by the predetermined room shape.

Computer simulations were carried out to study the room shape. Some acoustical countermeasures, such as a big flat panel at the front wall of the stage, were introduced to break the oval shape acoustically while keeping the visual image of an oval room. Some acoustically absorptive materials at strategically identified places were also introduced to offset the effects of the oval shape.

The result works extremely well with no acoustically harmful phenomena. The hall is used as a home for the Sawa String Quartet, and is greatly appreciated by both musicians and audience.

BUILDING DETAILS AND ACOUSTICS DATA

Location: 315 Terajima-machi
Nagaoka City 940-2101, Japan
Tel: 0258-29-7711
Seating Capacity: 700
Room Volume: 9,500 CM
Surface Area: 3,300 SM
Stage Area: 134 SM
Reverberation Time (Mid-Frequency)
  Unoccupied: 1.9 sec
  Occupied: 1.8 sec
Finishing Materials
  Ceiling: 3 layers of glassfiber reinforced gypsum board (8mm x 3)
  Lower Wall: wooden board on concrete
  Upper Wall: 2 layers of glassfiber reinforced gypsum board (10+12 mm)
  Floor: 50 mm wooden board on concrete
  Seat: upholstered
Noise Level: NC - 20
Other Facilities: Theater (450 seats)
Total Cost: ¥6,000 Million JPY
Total Floor Area: 9,708 SM

REVERBERATION TIME IN SECOND

1/1 OCTAVE BAND CENTER FREQUENCIES IN HERTZ

Unoccupied
Occupied

REVERBERATION TIME