

Acoustics Consultant:	NAGATA ACOUSTICS, Inc.
Architect:	Arata Isozaki & Associates
Owners:	City of Mito
Sound & Communications:	NAGATA ACOUSTICS, Inc.
Construction Cost:	¥9,711 Million JPY

Art Tower Mito (ATM) opened in March 1990 was proposed by Mito City in commemoration of the 100th anniversary of the foundation of the municipal government in the center of Mito City, located about 120km from Tokyo.

The building has a concert hall, a drama theater and a modern art gallery. An organ was installed at one end of the balcony in the entrance hall.

Concert Hall ATM has 680 seats, which are distributed on the hexagonal ground floor in three blocks and in balconies surrounding the stage area.

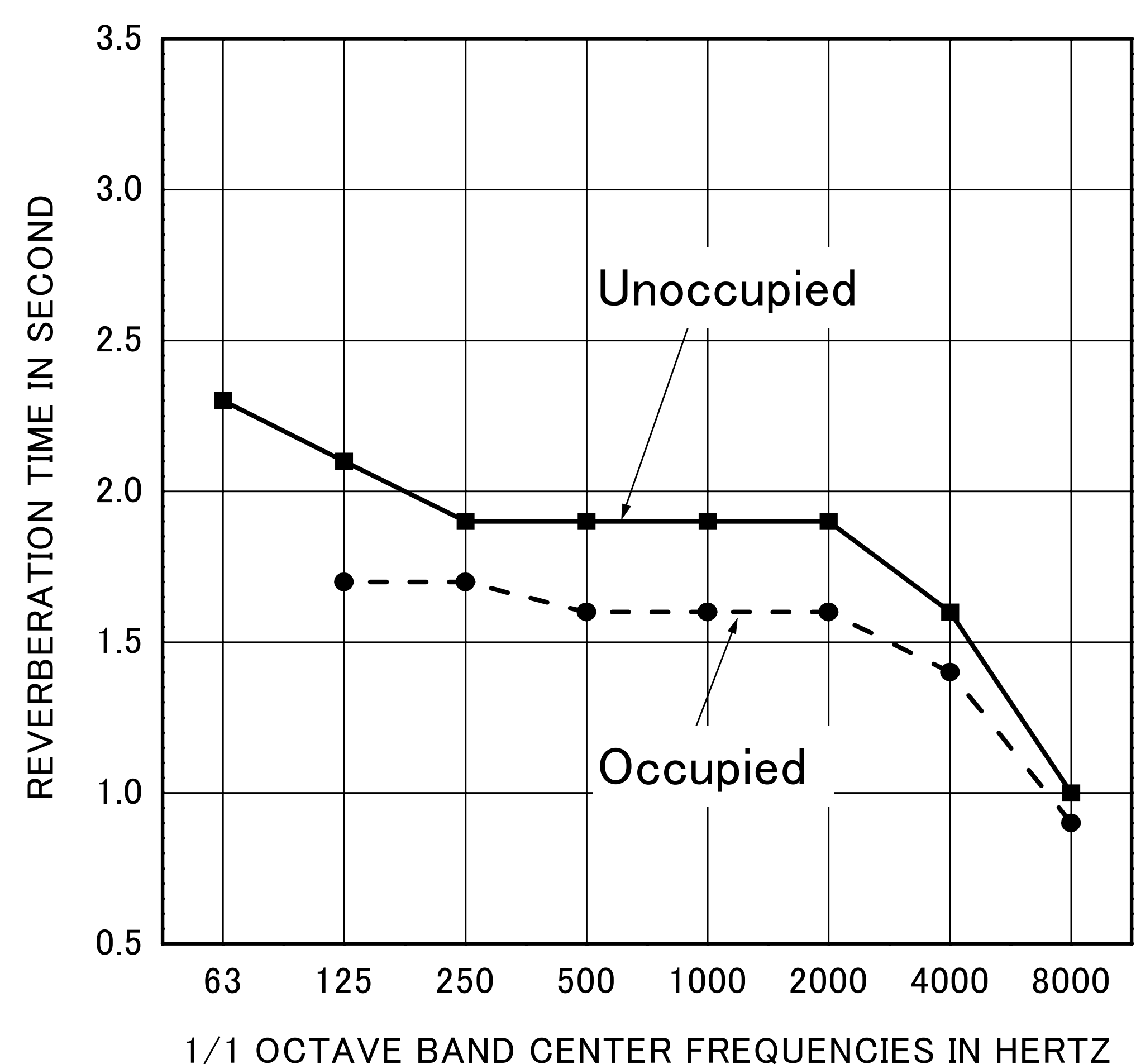
The main issues of the acoustical design were:

- (1) To obtain early reflections in audience and stage area, a large circular canopy of 13m in diameter was suspended above the stage. The height can be varied from 6.0m to 8.4m from the stage floor according to the various types of the performances. The finish of the circular canopy is 24mm thick fiberglass-reinforced gypsum board.
- (2) To avoid excessive reduction of low frequency reverberation, the lower wall of the stage is finished with three layers of thick fiberglass-reinforced gypsum board totaling 30mm.
- (3) The air conditioning noise was reduced to below NC-20.
- (4) Loudspeakers are arranged on the ceiling around a circular canopy and on the sidewalls of the stage front.

Concert Hall ATM has three franchised ensembles: the Mito Chamber Orchestra, the Mito Quartet and the ATM Ensemble. The acoustics of this hall are appreciated by both musicians and concert-goers.

BUILDING DETAILS AND ACOUSTICS DATA

Location	1-6-8 Goken-cho MitoCity 310-0063, Japan
Tel	0292-27-8111
Seating Capacity	680
Room Volume	7,140 CM
Surface Area	2,250 SM
Stage Area	119 SM
Reverberation Time (Mid-Frequency)	
Unoccupied	1.9 sec
Occupied	1.6 sec
Finishing Materials	
Ceiling	: 3 layers of glassfiber reinforced gypsum board (8mm x 3)
Lower Wall:	3 layers of glassfiber reinforced gypsum board (12mm x 2+6mm x 1)
Upper Wall :	2 layers of glassfiber reinforced gypsum board (8mm x 2)
Floor	: 60 mm wooden board on concrete
Seat	: upholstered
Organ :	46stops, in entrance hall (Mana Orgelbau, Japan)
Noise Level :	NC - 20
Other Facilities :	Theater, Gallery
Total Cost :	¥9,711 Million JPY
Total Floor Area :	22,432 SM



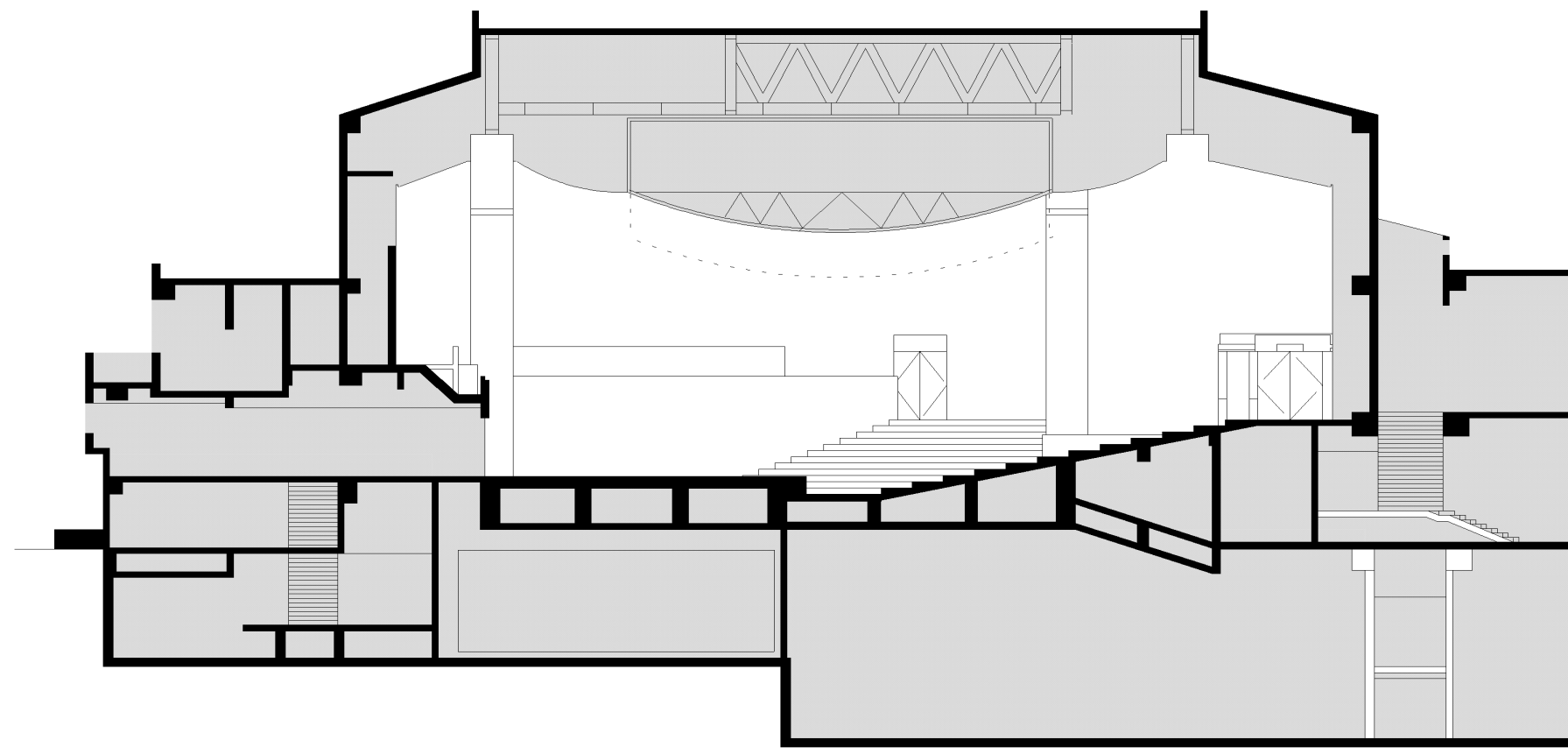
REVERBERATION TIME

Concert Hall ATM in Art Tower Mito, Mito

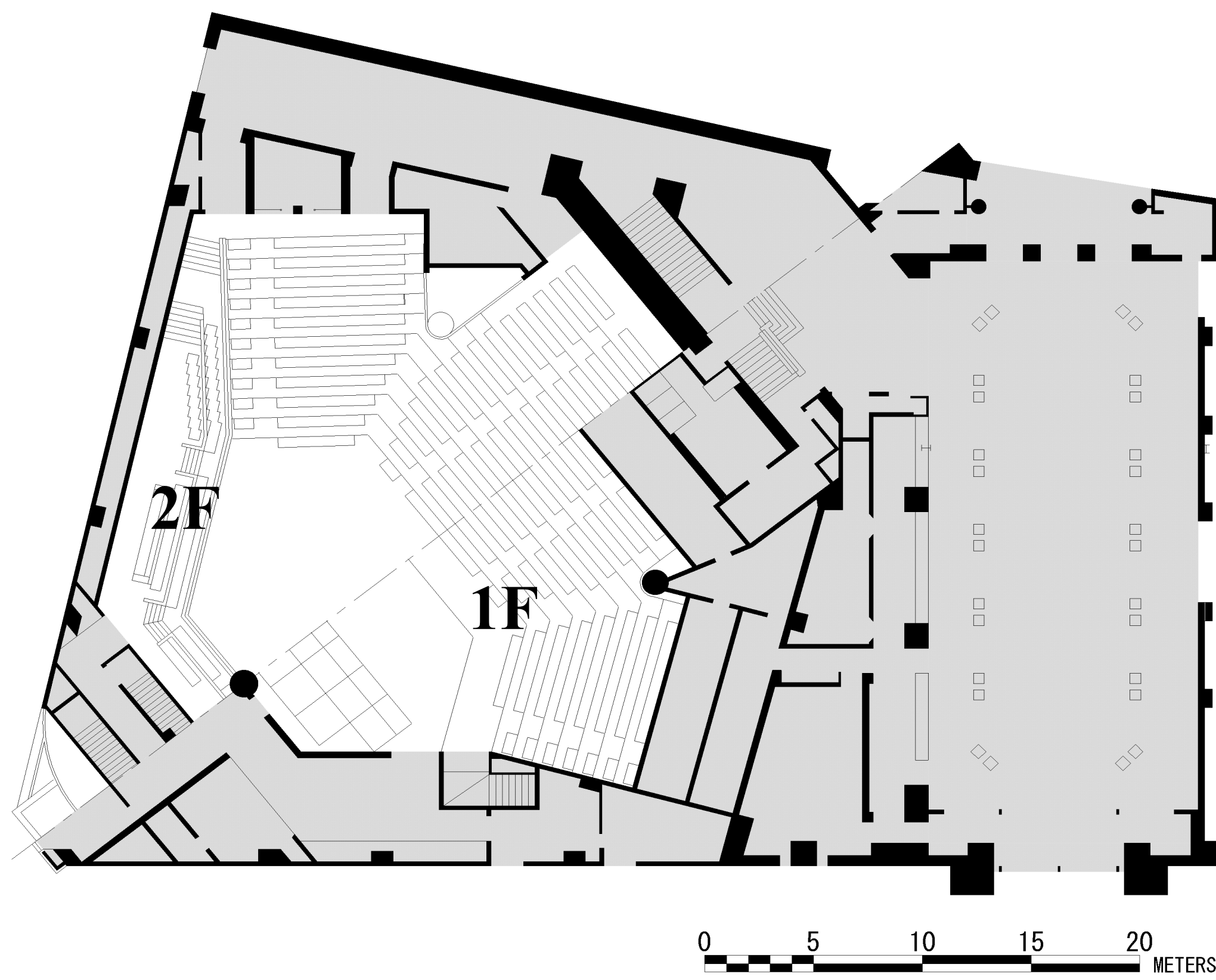
MITO JAPAN

1990

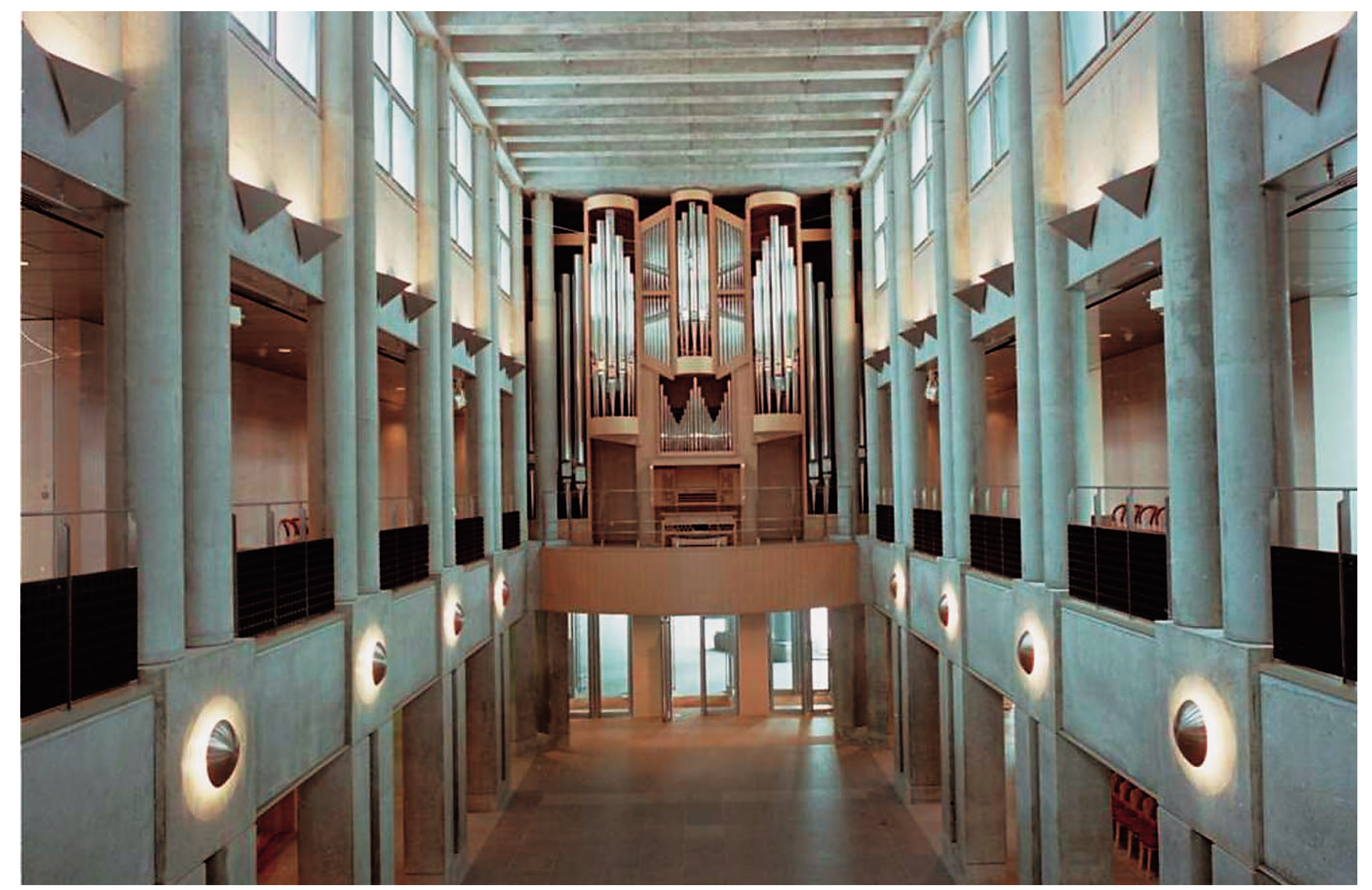
NAGATA
ACOUSTICS



LONGITUDINAL SECTION



PLAN



ENTRANCE HALL