

Acoustics Consultant:	NAGATA ACOUSTICS, Inc.
Architect:	Yosinobu Ashihara Architect & Associates
Owners:	City of Okayama
Sound & Communications:	NAGATA ACOUSTICS, Inc.
Construction Cost:	¥ 5, 700 Million JPY

Okayama Symphony Hall is the municipal facility for Okayama City located about 180km west of Osaka. The building was planned as one of the city's re-development projects, and opened in September 1991. The building contains a large concert hall seating 2,001 occupying the fourth to the seventh floors, an event space seating 200, and two studios for public use on the third floor.

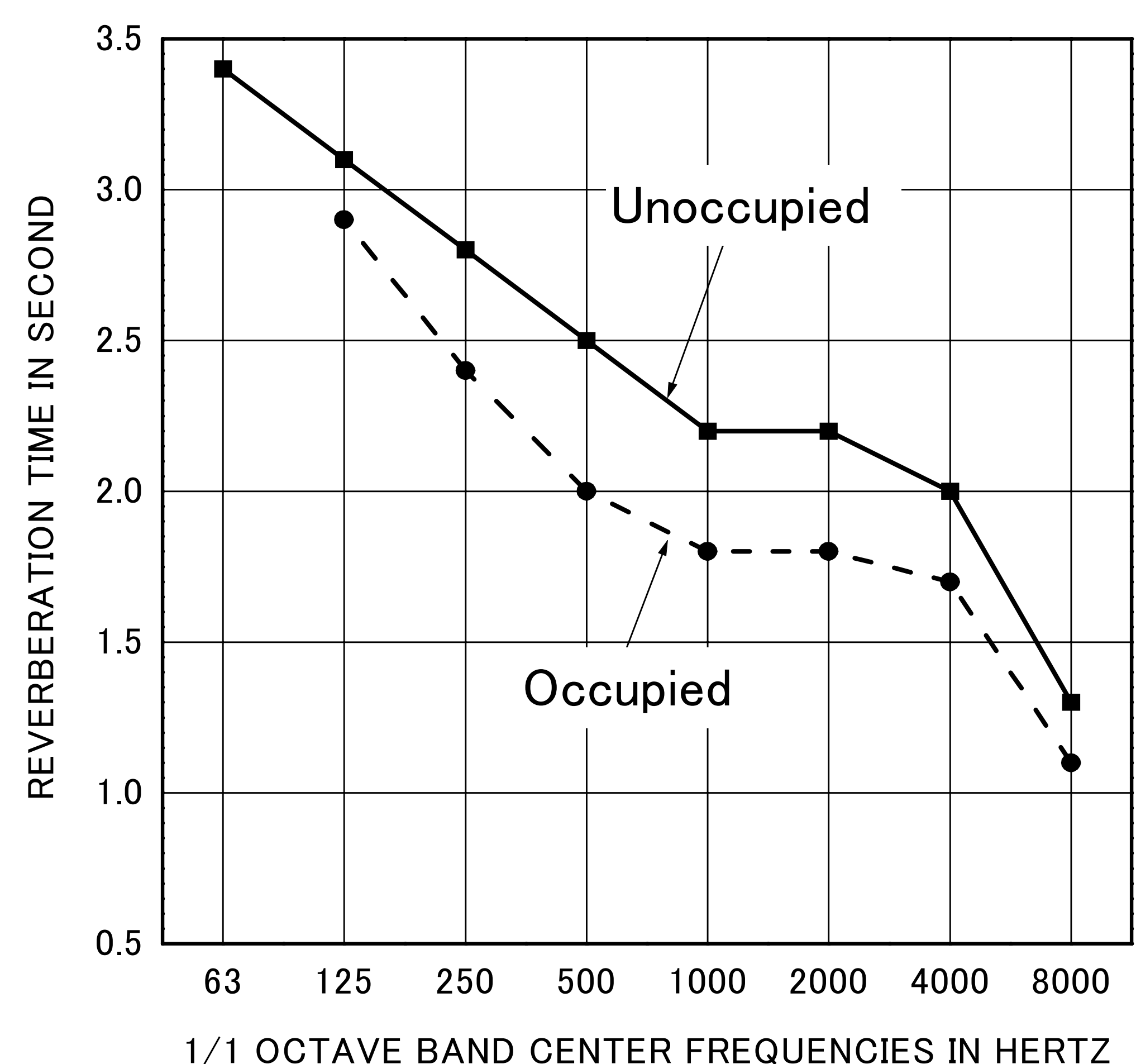
The large hall was designed to attain excellent sound quality as a concert hall for classical music as well as for other performances, such as pop music, ceremonies, and occasional opera and ballet performances.

The main issues of the acoustical design were:

- (1) One of the important acoustical problems was the sound isolation between the hall and the studios located directly below. In order to ensure the simultaneous use of both spaces, a double slab was adopted for each floor, and floating structures of heavy panels were constructed in studios. A sound isolation of 90dB at 500Hz was achieved.
- (2) Hall is basically a shoe-box shape with three balconies. In order to obtain effective early reflections for the audience, the proposed distribution of the sound reflections was investigated by a 1/50-scale model and by computer simulations.
- (3) Multi-use function was considered with movable stage reflectors and variable sound absorbers on the walls. The stage lighting and stage floor systems are provided too.
- (4) A movable speaker cluster for lectures, pop music and other performances is mounted on the ceiling.

BUILDING DETAILS AND ACOUSTICS DATA

Location	1-5-1 Omote-cho Okayama City 700-0822, Japan
Tel	086-234-2001
Seating Capacity	2,001
Room Volume	17,700 CM
Surface Area	5,870 SM
Stage Area	220 SM
Reverberation Time (Mid-Frequency)	
Unoccupied	2.5 sec
Occupied	2.0 sec
Finishing Materials	
Ceiling	: : 2 layers of glassfiber reinforced gypsum board (9mm x 2)
Lower Wall:	marble board on concrete
Upper Wall:	laminated glassfiber reinforced gypsum board (9 mm) on concrete
Floor	: 30 mm wooden board on concrete
Seat	: upholstered
Noise Level	: NC - 20
Other Facilities	: Event Hall (200 seats)
Total Cost	: ¥ 5, 700 Million JPY
Total Floor Area	: 33,642 SM



REVERBERATION TIME

OKAYAMA SYMPHONY HALL

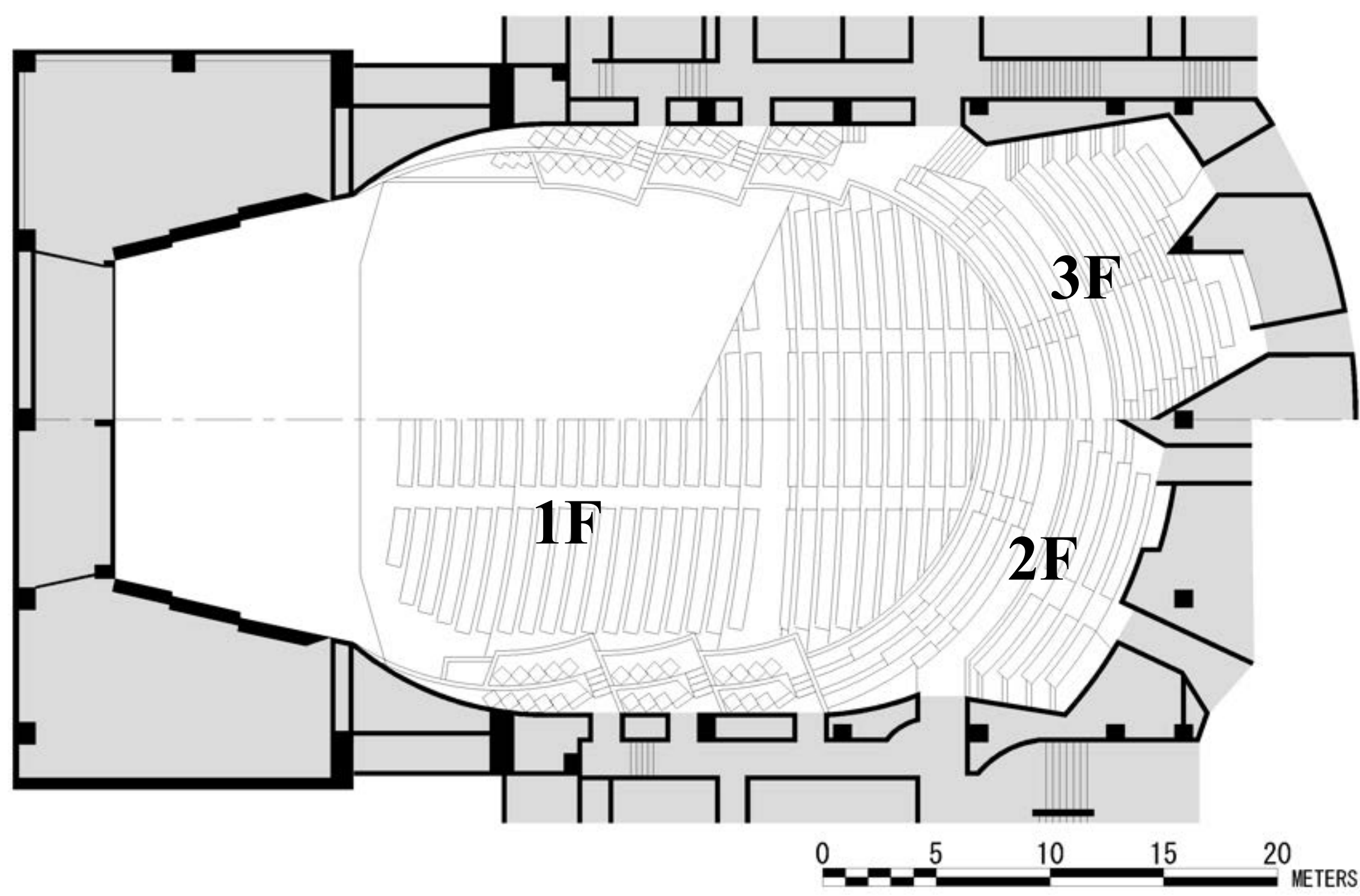
OKAYAMA JAPAN

1991

NAGATA
ACOUSTICS



LONGITUDINAL SECTION



PLAN

