

KYOTO CONCERT HALL

KYOTO, JAPAN
1995

NAGATA
ACOUSTICS

Acoustics Consultant:	NAGATA ACOUSTICS, Inc.
Architect:	Arata Isozaki & Associates
Owner:	City of Kyoto
Sound & Communications:	NAGATA ACOUSTICS, Inc.
Construction Cost:	16,700 Million JPY

Opened in 1995, the Kyoto Concert Hall was planned as the memorial facility for the 1,200th anniversary of this ancient metropolis. Two concert spaces are contained in the building: the Main Hall with 1,833 seats which is the home of the Kyoto Symphony Orchestra (KSO); and the Ensemble Hall with 500 seats.

The shape of the Main hall is the classic shoebox, with two steps of asymmetrical balconies surrounding both the main audience floor and the stage.

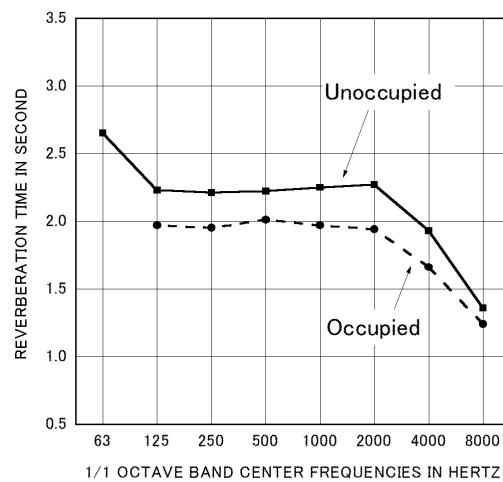
The important points of the room's acoustical design are as follows:

- (1) An 80mm-thick concrete ceiling supports low-frequency reflections, in conjunction with a light timber floor on wooden sleepers.
- (2) Random, micro-shaped elements were designed for the lower side walls and the ceiling to uniformly distribute sound reflections. The diffusing effect of the elements was confirmed in a 1:10 scale model study.
- (3) The audience seating was chosen to be highly sound-absorptive to minimize the differences in reverberation times between the occupied and unoccupied conditions.
- (4) The stage platform can accommodate electric-powered orchestra risers divided into 21 blocks. These permit a stepwise orchestra arrangement, including the strings sections.
- (5) The stage floor is constructed of 40mm-thick HINOKI, a Japanese cypress, which was selected by audition testing fourteen combinations of wood flooring and timber substructures.

On July 2, 1995, Paul Goldberger, architecture critic for *The New York Times*, wrote: "Like all first-rate halls, Kyoto blends a sense of intimacy with monumentality. The room is warm enough to feel comforting, spare enough to defer to the primacy of the music."

BUILDING DETAILS AND ACOUSTICS DATA

Location	1-26, Hangi-cho, Shimogamo Sakyo-ku, Kyoto, 606-0823 Japan
Tel	075-711-298
Seating Capacity	1,833
Room Volume	20,000 m ³
Surface Area	6,300 m ²
Stage Area	245 m ²
Reverberation Time (Mid-Frequency)	
Unoccupied	2.2 sec
Occupied	2.0 sec
Finishing Materials	
Ceiling	: Concrete 60 mm, Fiberglass reinforced concrete 30 mm
Wall	: Wooden surfaced gypsum board on concrete, Fiberglass reinforced concrete 30 mm
Floor	: 65 mm flooring joist supported
Seat	: Upholstered
Miscellaneous	: Orchestra risers (21 parts)
Pipe Organ	: 90 stops (Kleis Orgelbau, Germany)
Noise Level	: NC - 15
Other Facilities	: Recital Hall (500 seats)
Total Cost	: 16,700 Million JPY
Total Floor Area	: 3,590 m ²

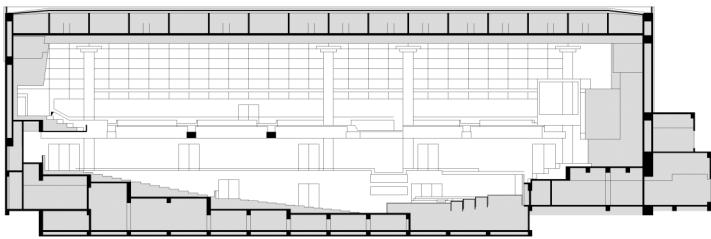


REVERBERATION TIME

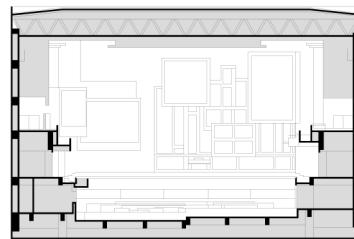
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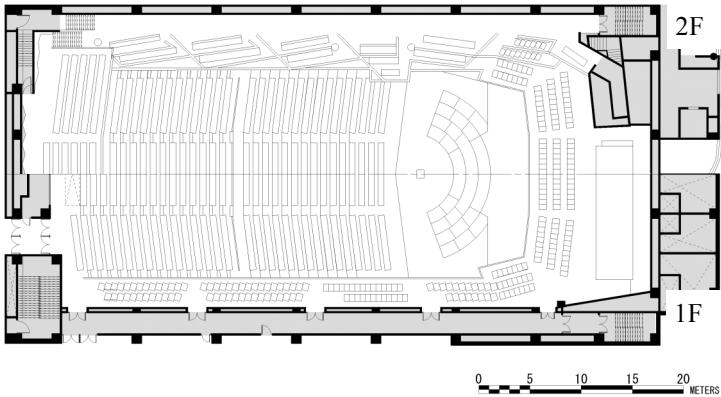
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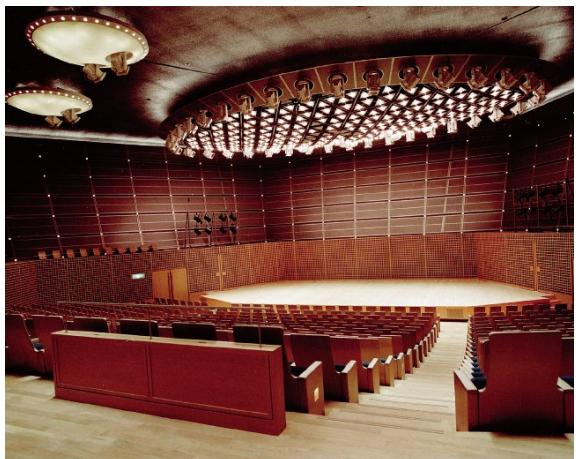
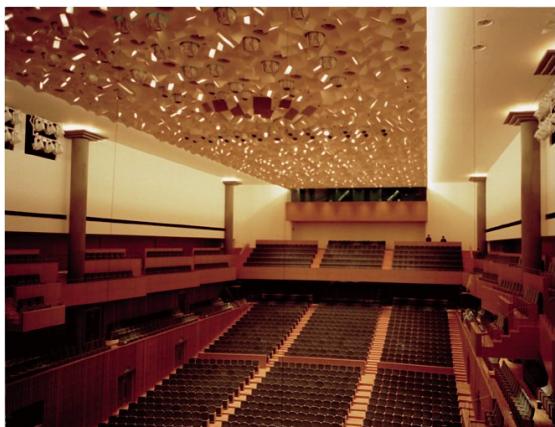
LONGITUDINAL SECTION



TRANSVERSE SECTION



PLAN



Recital Hall

