

Music Républicain Performance Hall

Acoustical Data

Owner: Ivonne Atmojo and Ivana Atmojo
Acoustics Consultant: YP Hadi Sumoro K
Architect: Eko Effendy Sugianto
Audio System Consultant: YP Hadi Sumoro K
Lighting Consultant: Donie Debirkud

General Information

Music Républicain (Music Republic) is the new school for music and image, founded by Ivonne Atmojo and Ivana Atmojo in August 2008. Located in South Jakarta, Indonesia, the school is equipped with a performance hall. Music Républicain performance hall is a multi-purpose hall which has been used for different settings such as ensemble, orchestra, theatre, opera, Broadway show, music concert, music competition, etc. The concert hall is completed at the end of 2008 and is open for public. The school's website is <http://www.music-republic.com>.

Architectural and Structural Details

Walls: Red brick base, Hebel brick and Calsi-board.
Ceiling: Calsi-board. Floor: Wood and vinyl on wooden joists. Stage: Concrete enclosure with wood finish.
Seating: Portable steel chair. Volume: 579m³. Area: 126m². Seating capacity: ±140. Height: 4,6m. Stage area: 36m².

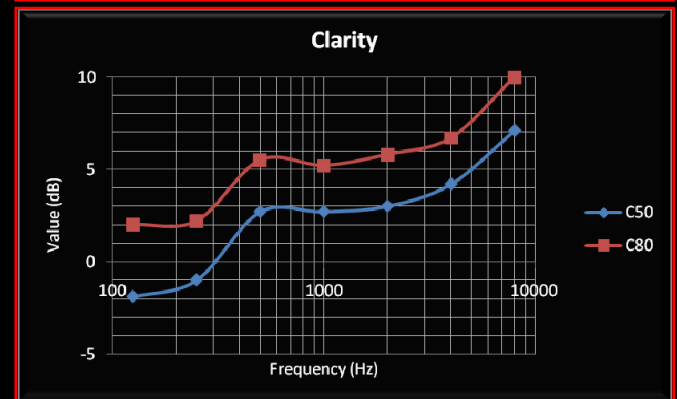
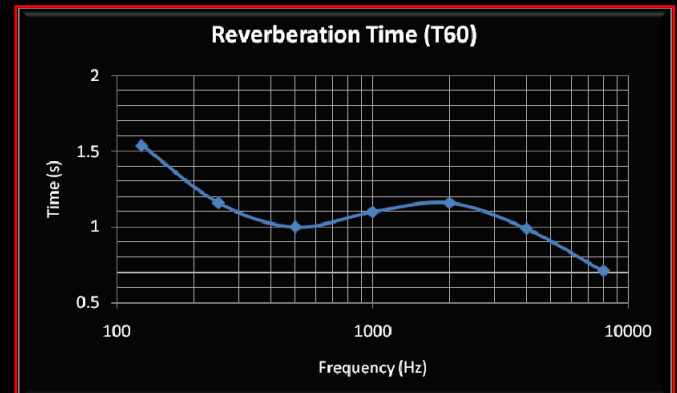
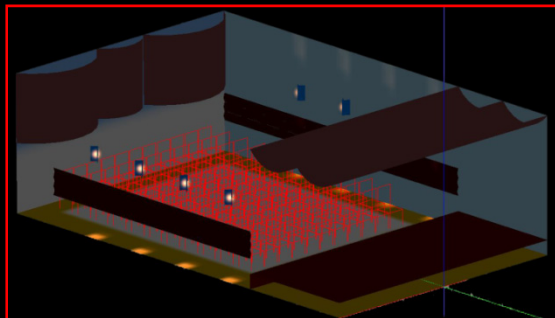
Lighting Equipments

24 LED Par Lights, 4 Moving Heads, 2 Laser Lights, 1 Follow Spot, 1 Fogger.

Acoustical Data

Reverberation time (mid-frequency): 1,07s (unoccupied). Articulation loss: 5,76%. STI: 0,63.

Note: Reverberation measurement does not follow ISO 3382



Sound System Equipments

Main full-range loudspeakers: Community SLS920.
Subwoofer: Custom 2x 12in, designed by Atok Purnomo.
Amplifiers: Dynacord S-1200, Absolute Design AD5000, Absolute Design DJ1200. Mixer: Yamaha MG24/14FX.
DSP: EV DC-One, dBx Driverack PA.

Note: All acoustical data is based on February 2009 measurement (courtesy Atok Purnomo).

Project: Music Républicain Performance Hall

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Three different conditions are shown on each graph.

1. Measured

➤ Acoustical measurement was performed in February 2009 (courtesy Atok Purnomo). Source: main loudspeakers with MLS 64k, 5 random microphone positions (ground measurement).

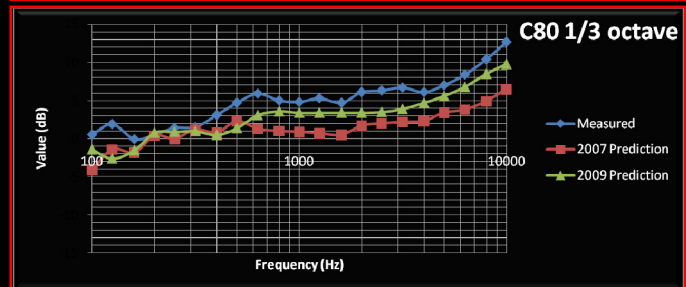
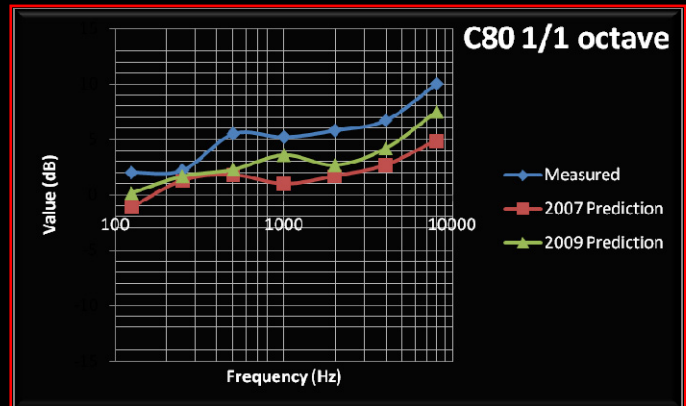
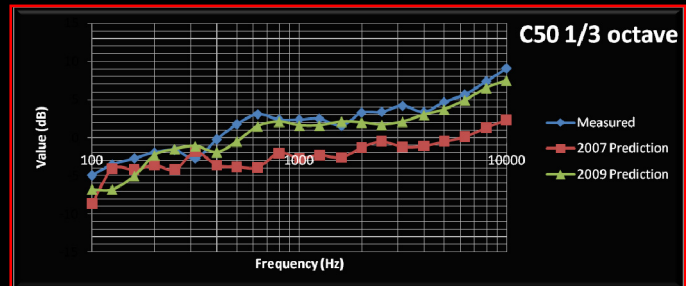
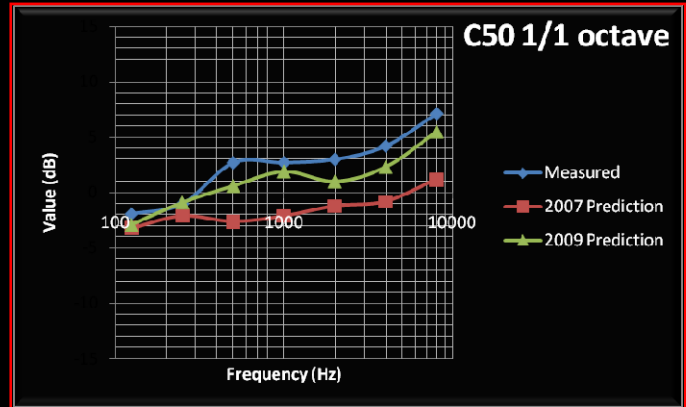
2. 2007 Prediction

➤ Acoustical data is calculated using EASE 4.2 ray tracing. Source: a virtual omni/sphere sound source at the stage, 7.500.000 rays, three random positions.

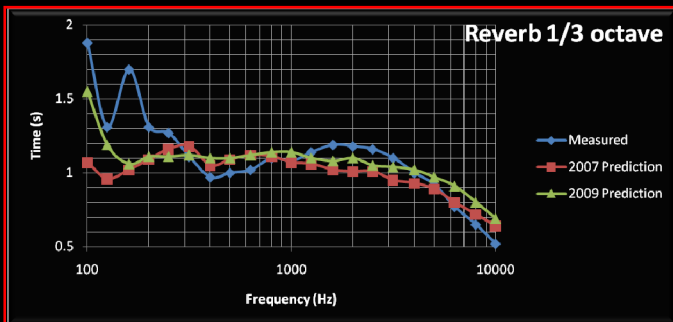
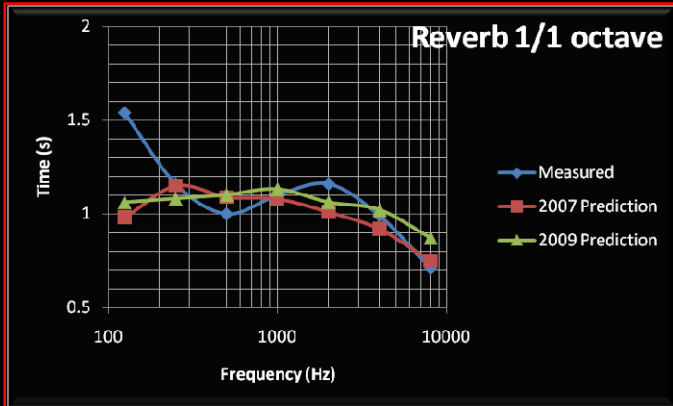
3. 2009 Prediction

➤ Acoustical data is calculated using EASE 4.2 ray tracing. Source: main full-range loudspeakers (one is evaluated for each position), 5.000.000 rays from each loudspeaker, 6 random positions.

Clarity (C_{50} and C_{80})



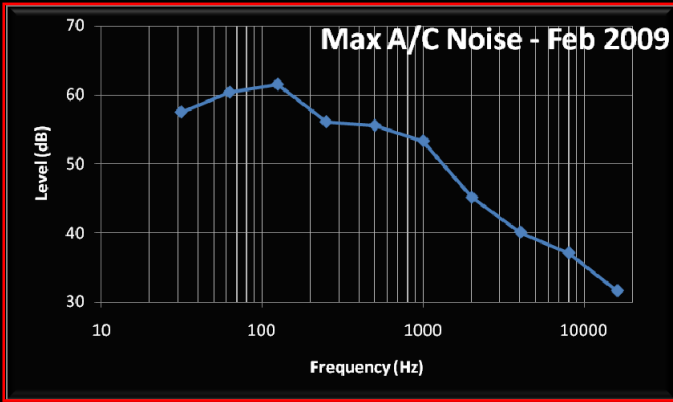
Reverberation time (T_{60})



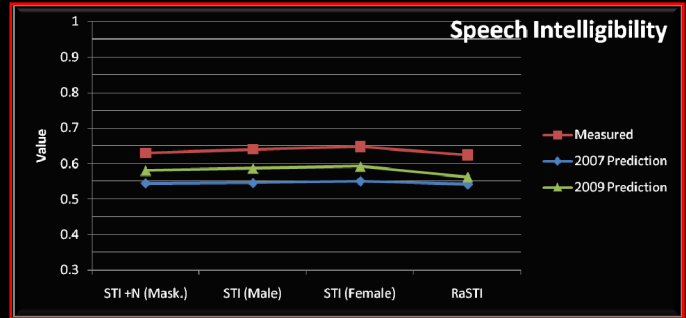
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Acoustical Data

Noise level with air conditioners at full power

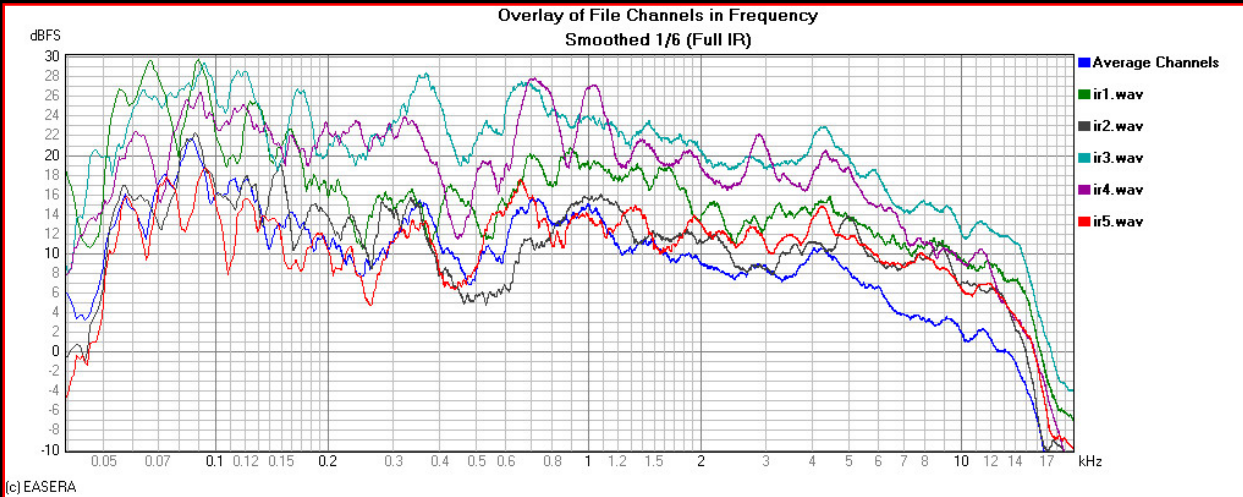


Speech intelligibility (measurement was performed with air conditioners at full power)

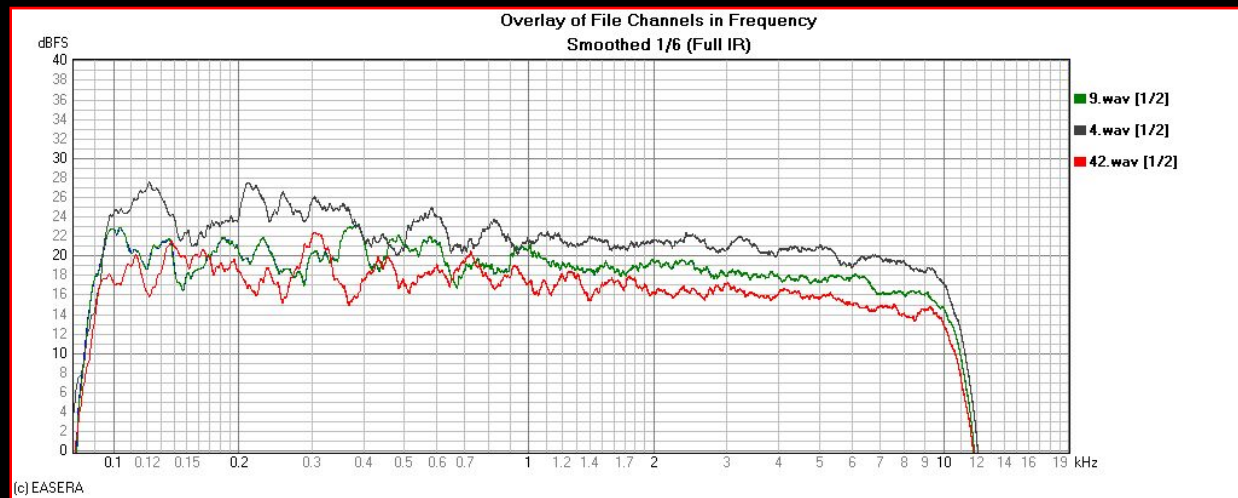


Frequency Response

➤ Measured (Feb 2009)



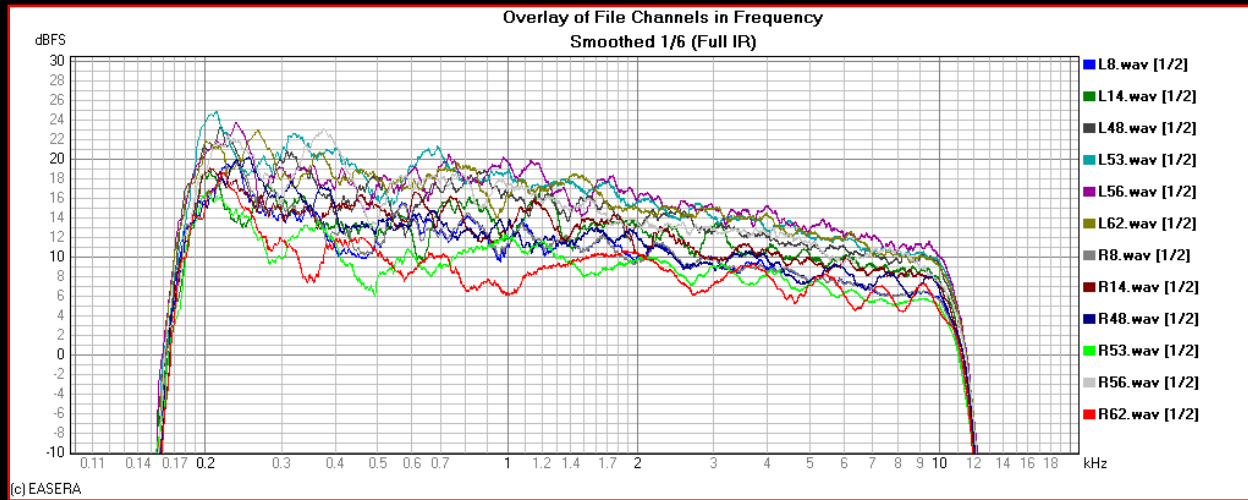
➤ 2007 Prediction



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➤ 2009 Prediction



(c) EASERA

Additional Information					
Data Source	Reverberation time at 500-4000Hz	Articulation Loss	Frequency Response Variation at 100-10000Hz	Sound Source(s)	Listeners
Measured (2009)	1,07s	5,755%	+/- 7dB	MLS 64k length: 1365, L or R loudspeakers (random) with subwoofer	5 random positions, mic on the ground (total: 5 measurements)
Predicted (2007)	1,03s	8,912%	+/- 4dB	One Omni Point Source at Stage	3 random positions, 1,2m above the floor (total: 3 measurements)
Predicted (2009)	1,08s	7,536%	+/- 6dB	L and R loudspeakers for each positions	6 random positions, 1,2m above the floor (total: 12 measurements - with L and R loudspeaker for each position)

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Construction pictures (courtesy Ivonne Atmojo)

➤ February 2008



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➤ August 2008



➤ October 2008



➤ December 2008

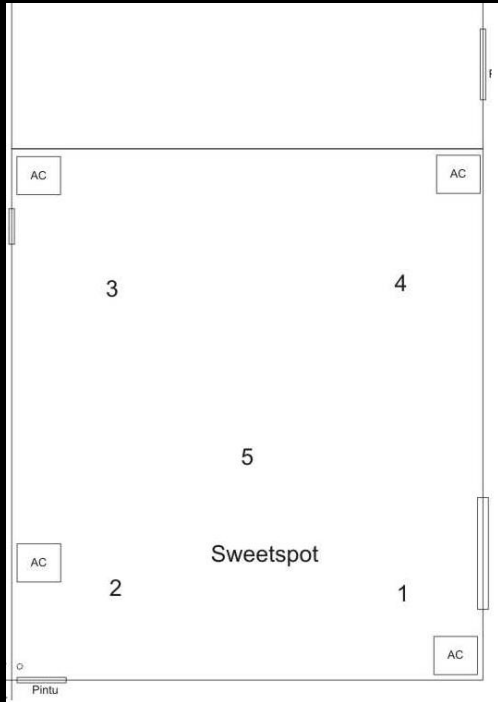


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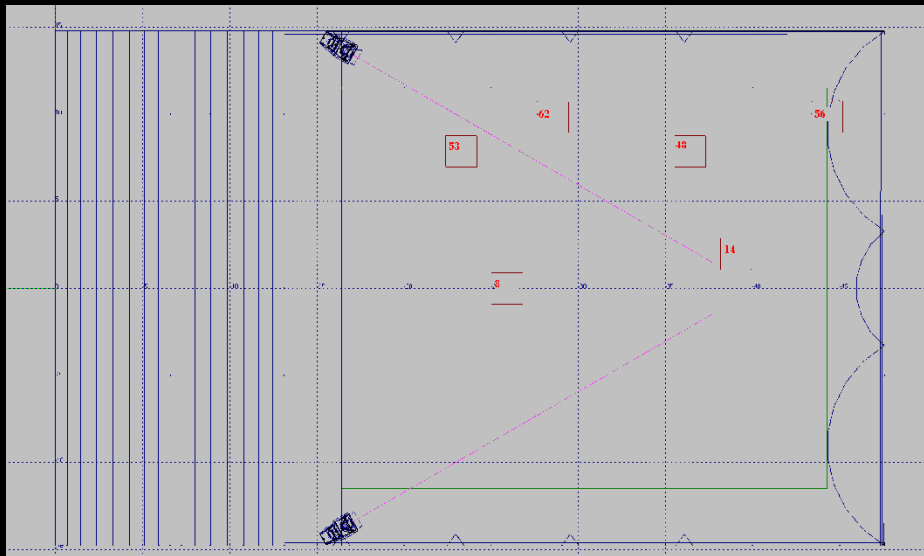
Acoustical Data

Microphone/listener's positions:

➤ Measured



➤ 2009 Prediction



Note: Acoustical data may change due to upgrades/renovations. Reverberation data does not follow ISO 3382 (ground plane measurement).