

Speaker, Speaker on the Wall: IN THE LAB

	B&W FPM SYSTEM	CANTON CD 50 SYSTEM	DEFINITIVE TECH MYTHOS SYSTEM	JAMO D 400PDD SYSTEM	MARTINLOGAN FRESCO SYSTEM	POLK AUDIO RM7600 SYSTEM	SONANCE SILVERSCREEN 50 SYSTEM
Frequency response (at 2 meters)							
front left/right	85 Hz to 15.1 kHz ±5.0 dB	104 Hz to 20 kHz ±4.6 dB	96 Hz to 16 kHz ±3.9 dB	95 Hz to 20 kHz ±4.4 dB	97 Hz to 17.3 kHz ±3.2 dB	80 Hz to 20 kHz ±3.7 dB	94 Hz to 16.4 kHz ±4.7 dB
center	83 Hz to 17.1 kHz ±4.0 dB	113 Hz to 20 kHz ±3.9 dB	96 Hz to 16.5 kHz ±5.4 dB	76 Hz to 16 kHz ±3.2 dB	97 Hz to 17.3 kHz ±3.7 dB	80 Hz to 20 kHz ±3.8 dB	94 Hz to 16.6 kHz ±4.8 dB
surround	85 Hz to 16.4 kHz ±4.5 dB	131 Hz to 20 kHz ±5.5 dB	96 Hz to 15.3 kHz ±5.7 dB	95 Hz to 14.2 kHz ±3.0 dB	97 Hz to 16.3 kHz ±3.4 dB	80 Hz to 16 kHz ±4.0 dB	94 Hz to 15.8 kHz ±5.0 dB
subwoofer	26 to 119 Hz ±2.9 dB	42 to 202 Hz ±2.6 dB	30 to 120 Hz ±2.5 dB	25 to 73 Hz ±2.7 dB	24 to 78 Hz ±2.3 dB	30 to 98 Hz ±3.2 dB	43 to 143 Hz ±2.6 dB
Sensitivity (SPL at 1 meter with 2.8-volt pink-noise input)							
front left/right	89 dB	88 dB	89 dB	87 dB	89 dB	87 dB	88 dB
center	89 dB	88 dB	88 dB	88 dB	89 dB	88 dB	88 dB
surround	89 dB	86 dB	89 dB	87 dB	89 dB	87 dB	88 dB
Impedance (minimum/nominal)							
front left/right	3.5/5 ohms	4.6/7 ohms	3.3/8 ohms	4.1/6 ohms	4.0/7 ohms	4.7/4 ohms	5.3/9 ohms
center	3.5/5 ohms	4.6/7 ohms	3.3/8 ohms	4.0/5 ohms	4.0/7 ohms	3.6/5 ohms	5.3/9 ohms
surround	3/7 ohms	4.3/8 ohms	3.3/8 ohms	4.1/6 ohms	4.0/7 ohms	4.7/4 ohms	5.3/9 ohms
Bass limits (lowest frequency and maximum SPL with limit of 10% distortion at 2 meters in a large room)							
front left/right	80 Hz at 82 dB	80 Hz at 73 dB	80 Hz at 70 dB	80 Hz at 74 dB	62 Hz at 65 dB	80 Hz at 78 dB	100 Hz at 89 dB
center	80 Hz at 82 dB	80 Hz at 73 dB	80 Hz at 76 dB	62 Hz at 74 dB	62 Hz at 65 dB	80 Hz at 83 dB	100 Hz at 89 dB
surround	80 Hz at 83 dB	100 Hz at 69 dB	80 Hz at 70 dB	80 Hz at 74 dB	62 Hz at 65 dB	80 Hz at 78 dB	100 Hz at 89 dB
subwoofer	25 Hz at 87 dB	32 Hz at 96 dB	25 Hz at 78 dB	25 Hz at 84 dB	25 Hz at 75 dB	25 Hz at 90 dB	25 Hz at 86 dB
average SPL from 25 to 62 Hz	100 dB	100 dB	103 dB	100 dB	101 dB	104 dB	98 dB
maximum SPL	107 dB at 62 Hz	106 dB at 62 Hz	109 dB at 62 Hz	112 dB at 50 Hz	108 dB at 50 Hz	112 dB at 50 Hz	104 dB at 50 Hz
bandwidth uniformity	94%	95%	94%	89%	94%	93%	94%

All measurements for these on-wall speakers were made with the speaker centered on a large bare wall 5 feet from the floor. All dual-use speakers were mounted vertically for testing as a left/right front or surround speaker and horizontally for testing as a center speaker. The response curves in the graphs are weighted to reflect how sound arrives at a listener's ears with normal speaker placement.

Front left/right measurements reflect responses averaged over a ±30° window, with double weight given to the most typical listening angle of 30°. Responses for the center speakers was averaged over a ±45° window, with double weight directly on-axis of the primary listener. The curves for surround speakers reflects response averaged over a ±60° window, with double weight given to 60° because most surround speaker sound will reach listeners after being reflected from room surfaces.

The bass limits for all subwoofers were measured with them set to maximum bandwidth and placed in the optimal corner of a 7,500-cubic-foot room. In a smaller room, you can expect 2 to 3 Hz deeper extension and up to 3 dB higher sound-pressure level (SPL) from any of the subs in these systems.

The **B&W FPM 5** front satellite had a floor/wall interaction dip at 300 Hz, with reasonably flat response and uniform directivity. The FPM 4 surround speaker had similar characteristics over its full radiating area. When used horizontally as a center speaker, the FPM 5 suffered from significant lobing at radiating angles greater than about 15°. The ASW 675 subwoofer had good extension but relatively moderate overall dynamic capability. At the top of the crossover dial, the true acoustic crossover frequency was 20 Hz lower than the marked 140 Hz. In the middle of the dial, crossover frequency exactly matched the marked 60 Hz but with an overall level reduction of 5 dB. At lower frequencies, lowering the crossover simply lowered the overall level by another 4 dB. The EQ B setting cut output below 50 Hz by 6 dB per octave.

The **Canton CD 50** front satellite had reasonably flat response in its vertical left/right orientation, though with some floor/wall interaction at 400 Hz and some irregularities at middle and higher frequencies. And it had extremely uniform directivity over the ±30° listening window. Used as a horizontal center speaker, it suffered from mild lobing at 15°, which became progressively

worse at wider listening angles. The CD 10 surround had weak low-frequency response, with a rising bass to treble balance. Directivity was quite uniform, but frequency response roughened at wider radiating angles. The AS 25 SC subwoofer had extended upper-range bandwidth but limited low-frequency extension and dynamic capability. At the 180-Hz mark on the high end of the otherwise unmarked crossover dial, the measured acoustic turnover frequency was 204 Hz, at "noon" on the dial it was 97 Hz, and at the marked 30-Hz lower limit it was really 77 Hz. On the other hand, there was no level/crossover interaction.

The **Definitive Technology Mythos Two** left/right satellite had some floor/wall interaction, with moderate roughness above 500 Hz. Directivity was quite uniform in the horizontal plane, with extreme highs falling at wider angles. With the Mythos Three center speaker, horizontal lobing began at 15° and became more pronounced at wider radiating angles. The SuperCube 1 subwoofer could deliver about 109 dB SPL between 50 and 62 Hz, but response fell at 18 dB per octave below 50 Hz, and distortion limited the maximum SPL at 40 Hz to 100 dB. Although the crossover dial is labeled as 40 to

150 Hz, true acoustical response measured only 58 to 119 Hz. On the other hand, there was no crossover/level interaction at any setting, greatly aiding setup.

The **Jamo D 400** left/right satellite had some floor/wall interaction, a gently falling bass-to-treble balance, and tightly controlled directivity. The D 4CEN center speaker had a similar on-axis response, but off-axis lobing began mildly at 15° and became progressively worse at wider radiating angles. The D 4SUB had strong output at 62 Hz, but its dynamic capability fell at 18 dB per octave below that. With the D 4SUB's crossover control set to a marked 150 Hz, the actual acoustical crossover was only 73 Hz. At mid-rotation the crossover frequency was 64 Hz, and at a marked 40 Hz it was actually 50 Hz. There was a small (2 dB) amount of level/crossover interaction over the full rotation of the dial. Using the Boundary Gain Compensation input cut output below 50 Hz by 3 dB.

The **MartinLogan Fresco** satellite had a response bump at about 600 Hz and some roughness above 2 kHz that appeared in all response traces. Its directivity when used as a center speaker was remarkably uniform, with little lobing. But when used vertically as a

left/right front or surround speaker, strong lobing occurred at 30° and wider radiating angles. The Grotto subwoofer had good extension, the acoustic crossover frequencies matched the dial markings rather well, and there was only a 2-dB level change over the entire range of frequency-control rotation. The 25-Hz level control boosted or cut output at 25 Hz by a maximum of +8 or -10 dB.

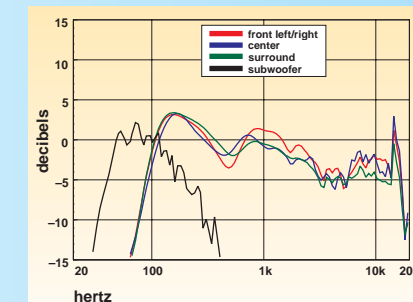
The **Polk Audio RM4300** satellite, when used as a front left/right or surround speaker, had a moderate floor/wall interaction, a mild peak at 630 Hz, followed by a balanced bass-treble response with moderate higher-frequency irregularities and well-controlled directivity. The RM4600 center speaker was similar, with a modestly downward-tilted high-frequency balance. Directivity was well controlled at radiating angles up to 22.5° although lobing was severe at 45°. The PSW505 subwoofer had a better than average SPL at 25 Hz even though its output fell at 12 dB per octave below 62 Hz.

The **Sonance SilverScreen 50** satellite had a gently downward sloping bass-to-treble balance with uniform horizontal directivity when vertically oriented, although the 15-kHz tweeter-reso-

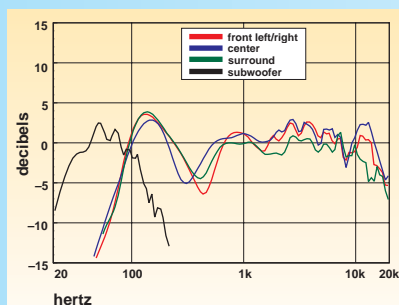
nance peak became more exaggerated at wider angles. When used horizontally as a center speaker, heavy lobing began at 15° off-axis and became progressively worse at wider listening angles. This speaker had a buzzy cabinet resonance that limited clean output at lower frequencies. The Son of SUB subwoofer's crossover control was marked from 50 to 250 Hz, but the true acoustical output spanned only 80 to 143 Hz. Overall dynamic capability was modest.

— Tom Noursaine

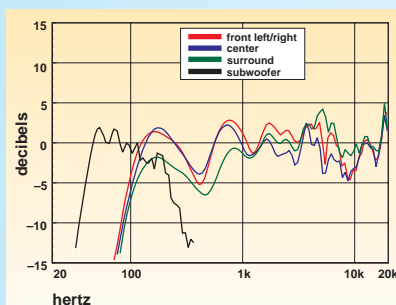
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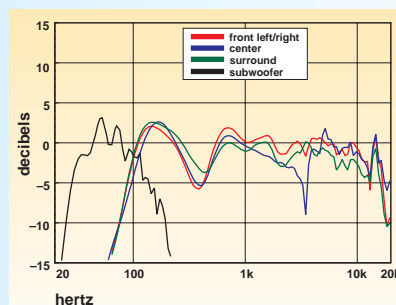
B&W



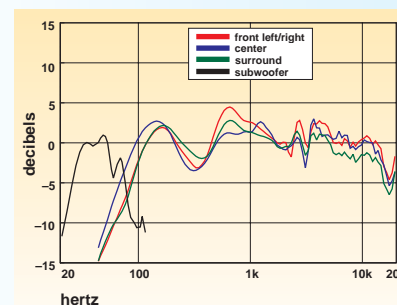
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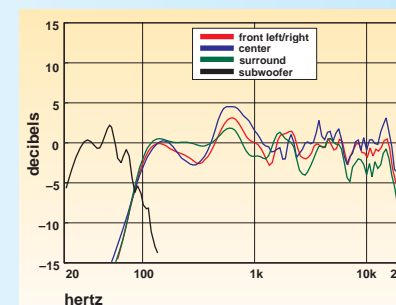
DEFINITIVE TECH



JAMO



MARTINLOGAN



POLK AUDIO

