

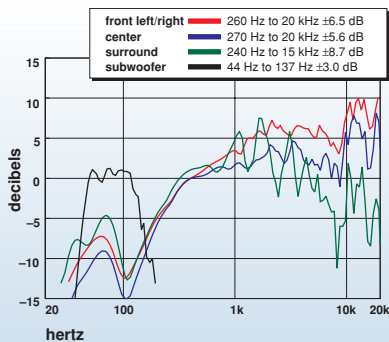
SOUND & VISION

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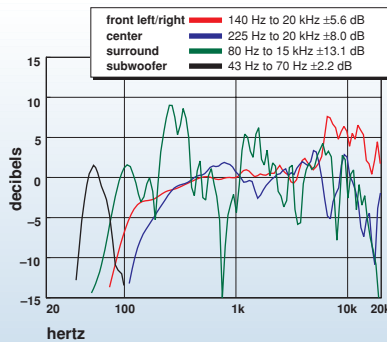
in the lab

	PANASONIC SC-HT1000	PIONEER HTD-630DV	DENON D-M71DVSXP
DVD-VIDEO PERFORMANCE (test patterns from various DVDs using composite-video output except for progressive-scan)			
100%-white-level error	-2 IRE	0 IRE	-2 IRE
Horizontal luminance frequency response (re 1 MHz) at 4/5/6/6.75 MHz (DVD limit)	-0.82/-1.0/-0.72/±0 dB	-0.18/-0.72/-1.2/-1.5 dB	+0.17/±0/-0.09/-0.09 dB
Onscreen horizontal resolution	540 lines	540 lines	540 lines
In-player letterboxing	good	good	good
SPEAKER/SYSTEM AUDIO PERFORMANCE (see graphs for frequency-response figures)			
Bass limits (lowest frequency and maximum SPL with limit of 10% distortion at 2 meters in a large room)			
system/subwoofer	32 Hz at 73 dB SPL	32 Hz at 72 dB SPL	32 Hz at 82 dB SPL
average sound-pressure level (SPL)	86 dB from 32 to 62 Hz	88 dB from 32 to 62 Hz	94 dB from 32 to 62 Hz
maximum SPL	96.4 dB at 62 Hz	97.5 dB at 62 Hz	102 dB at 62 Hz
bandwidth uniformity (25 to 62 Hz)	89%	90%	92%

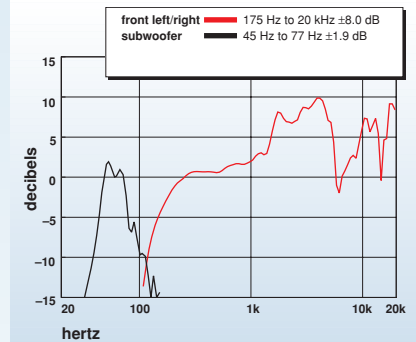
Panasonic SC-HT1000



Pioneer HTD-630DV



Denon D-M71 DVSXP



As DVD players, the three systems performed well. They all had black levels switchable between 0 and +7.5 IRE. Even the slightly rolled-off luminance response of the Pioneer was not visible with movies, and the equivalent onscreen resolution was 540 lines (the theoretical DVD maximum) for all three players. The slight color-upsampling smearing in the Panasonic's progressive-scan reproduction can be eliminated by switching its progressive mode to Video. As a recorder, the Panasonic provided 540-line resolution in its two best-quality recording modes (1 and 2 hours per disc). But resolution fell to 270 lines in the 4- and 6-hour modes, with increasingly visible video-encoding artifacts.

All of the response curves in the graphs are weighted to reflect how sound arrives at a listener's ears with normal speaker placement. Because these speakers are designed to be used with the supplied electronics, impedance and

sensitivity are irrelevant. The bass limits for the 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).

The Panasonic front L/R satellite had a fairly severe treble tilt, with an 8-dB elevation between 10 and 20 kHz. The center speaker began lobing at 15°, and the deep 8-kHz notch shifted lower in frequency at wider angles. The surround speaker had more uniform tonal balance and directivity but with strong irregularities above 800 Hz. All of the satellites in this test group had limited low-frequency capability. The Panasonic sub had moderate dynamic capability, and its response extended reasonably far above the bass, but this may still not be an adequate match with the sharply limited bandwidth of the satellites — a problem for all three systems here.

The Pioneer front L/R satellite also had an upward-tilted bass-to-treble balance, with a 6-dB elevation between 6 and 14 kHz. The center speaker had rougher response, but it was remarkably uniform over its ±45° measurement window. The wireless surround speaker had even rougher response, and it was even more uniform over its entire ±60° listening window. The Pioneer sub had limited upper-range bandwidth, with a sharp (24-dB-per-octave) low-pass filter. Dynamic capability was modest.

The Denon satellite had a large elevation from 1.5 to 5 kHz followed by notches between 6 and 9 kHz and at 15 kHz. The subwoofer had moderate dynamic capability and limited upper-range bandwidth. Although the crossover control was marked from 50 to 150 Hz, the actual output varied only between 73 and 77 Hz, but fell 12 dB when the control was set to 50 Hz.

— David Ranada and Tom Nousaine