

# SOUND & VISION

Extended lab results on three budget A/V receivers from the "Cost Control" spotlight test report in July/August 2005 S&V.  
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## in the lab

	MARANTZ SR4500	PIONEER VSX-815	SONY STR-DE698
<b>DOLBY DIGITAL PERFORMANCE</b>			
<b>Output at clipping</b> (1 kHz, 8 ohms)			
1/2 channels driven	118/98 W (20.75/20.0 dBW)	110/95 W (20.5/19.75 dBW)	141/122 W (21.5/20.75 dBW)
5/7 channels driven	76/64 W (18.75/18.0 dBW)	70/61 W (18.5/17.75 dBW)	35/31 W (15.5/14.75 dBW)
<b>Noise level</b> (16-bit signal, A-wtd)	-74.6 dB	-74.5 dB	-73.1 dB
<b>BASS-MANAGEMENT BEHAVIOR</b>			
<b>Subwoofer output frequency response</b> (100-Hz setting)	-24 dB/octave rolloff above -6-dB point at 100 Hz	-24 dB/octave rolloff above -6-dB point at 100 Hz	-12 dB/octave rolloff above -3-dB point at 100 Hz
<b>High-pass-filter frequency response</b> (100-Hz setting)	-12 dB/octave rolloff below -3-dB point at 100 Hz	-12 dB/octave rolloff below -3-dB point at 100 Hz	-6 dB/octave rolloff below -3-dB point at 100 Hz
<b>MULTICHANNEL PERFORMANCE, ANALOG INPUTS</b>			
<b>Noise level</b> (A-wtd)	-82.4 dB	-81.5 dB	-79.9 dB
<b>Frequency response</b>	10 Hz to 100 kHz +0.001, -2.3 dB	10 Hz to 100 kHz +0.002, -3.6 dB	10 Hz to 100 kHz +0.00, -0.48 dB

At the bottom end of the dynamic range — the receivers' noise levels — the Marantz and Pioneer both beat the Sony by a small amount that may be audible under ultracritical conditions. At the top end of the range — output at clipping — the receivers performed within a decibel of each other with one or two channels driven (as indicated by the dBW equivalents of the wattage measurements), a spread that would be tough to hear even in a direct comparison. On the other hand, with five or seven main channels driven, the maximum outputs differed significantly, with the Sony falling some 3 dB below the others. (The falloff in wattage was even more pronounced, but the dBW figures indicate what you actually hear.) Our all-channels-driven test is *really* tough, perhaps unrealistically so with seven

channels, but the Sony seemed to run out of gas at high volumes on action-movie soundtracks even in 5.1-channel operation.

The most effective bass-management filtering was performed by the Marantz and Pioneer, with their steeper filter slopes. To avoid clipping the Sony's subwoofer output, you should keep its trim control turned all the way down and compensate by raising your subwoofer's level control. The Pioneer's subwoofer output overloaded some 3 dB below maximum signal, even with its trim control turned down. Here, too, our test signal presents demands unlikely to be encountered in program material. None of the receivers does bass-redirection or speaker-distance compensation for its multichannel analog input, but the Marantz lets you balance levels. — D.R.