

in the lab

	HARMAN KARDON AVR 7200	JVC RX-DP9V	ONKYO TX-NR900
DOLBY DIGITAL PERFORMANCE All data obtained from computer-generated Dolby Digital test signals incorporating dither, which sets limits on measured distortion and noise performance. Reference input level is -20 dBFS, and reference output level is 1 watt (2.83 volts) into 8 ohms, obtained with the volume controls set as indicated below. All speakers set for "large" except for subwoofer and high-pass-filter measurements, where they were set to "small" (or "normal"). All are worst-case figures where applicable.			
Volume-control setting for reference 1-watt output from all channels with reference -20-dBFS input	-10	-8	75
Output at clipping (1 kHz) one channel driven into 8/4 ohms	196/332 watts (22.9/25.2 dBW)	174/255 watts (22.4/24.1 dBW)	55/56 watts* (17.4/17.5 dBW)
five channels driven (8 ohms)	142 watts (21.5 dBW)	121 watts (20.8 dBW)	52 watts* (17.2 dBW)
Distortion at 1-watt output (1 kHz, THD+N, 8/4 ohms)	0.03/0.04%	0.03/0.03%	0.03/0.03%
Noise level (16-bit signal, A-wtd)	-74.6 dB	-74 dB	-75 dB
Excess noise (16-bit, with sine tone)	+1.25 dB	+2.75 dB	+0.7 dB
Frequency response (20 Hz to 20 kHz)	+0, -0.3 dB	+0.1, -0.2 dB	+0, -0.1 dB
* The Onkyo TX-NR900 exhibited thermally induced current-limiting consistent with current EIA standards for power-amplifier performance. The figures given here reflect long-term output at clipping with this limiting in effect. When measured before limiting triggered (typically, after 2 to 3 seconds), the TX-NR900 delivered approximately 151/178 watts (21.8/22.5 dBW) into 8/4 ohms with two channels driven and 101 watts (20 dBW) into 8 ohms with five channels driven.			
BASS-MANAGEMENT PERFORMANCE Measured results obtained with Dolby Digital signals.			
Subwoofer-output frequency response	24 dB per octave above -3-dB rolloff point of 80 Hz	30 dB per octave above -6-dB rolloff point of 85 Hz	24 dB per octave above -6-dB rolloff point of 81 Hz
High-pass-filter frequency response	12 dB per octave below -3-dB rolloff point of 80 Hz	12 dB per octave below -3-dB rolloff point of 81 Hz	12 dB per octave below -3-dB rolloff point of 80 Hz
Maximum unclipped subwoofer output (from 6-channel, 30-Hz, 0-dBFS worst-case signal at reference volume and channel-trim settings)	6.6 volts	8.2 volts	9.4 volts
Subwoofer distortion (THD+N with worst-case signal)	0.1%	0.4%	0.03%
Source consistency	user-configurable per input (defeatable for multichannel analog input)	none for multichannel analog input	none for multichannel analog input
Speaker-size selection	all channels can be set to "small"	all channels can be set to "small"	all channels can be set to "small"
MULTICHANNEL PERFORMANCE, ANALOG INPUTS All speakers set to "large," subwoofer off. Reference input level is 200 mV. Reference output level is 1 watt, obtained with volume set as indicated below. Results are typical, not necessarily worst-case.			
Volume-control setting for reference 1-watt output	-9	-1	79
Noise level (A-wtd)	-76.4 dB	-69.1 dB	-87.1 dB
Distortion at 1-watt output (1 kHz, THD+N, 8/4 ohms)	0.02/0.03%	0.05/0.06%	0.03/0.04%
Frequency response	20 Hz to 100 kHz +0, -1.1 dB	20 Hz to 100 kHz +0, -1.6 dB	20 Hz to 100 kHz +0, -1.2 dB

These three A/V receivers produced consistently excellent test-bench numbers — and many are superb. All three came within a decibel of theoretical perfection in our real-world stereo noise-level test with dithered digital signals (stereo results have been omitted for space), and all three did even

better with 96-kHz/24-bit PCM signals. Regarding the Onkyo TC-NR900's "low" wattage measurements: in real-world terms, there was comparatively little difference in useful power among this trio, as the dBW figures indicate (see footnote). — D.K.