SOUND&VISION

Full lab results on the Onkyo TX-NR1000 digital surround receiver, tested for the June 2005 *S&V*.

in the lab

DOLBY DIGITAL PERFORMANCE

All data obtained from various test DVDs using 16-bit test signals containing dither, which sets limits on measured distortion and noise performance. Reference input level is –20 dBFS, and reference output is 1 watt into 8 ohms. Volume setting for reference level was –2.0 dB. All level trims at zero except for subwoofer-related tests; all speakers were set to "large," subwoofer "on." All are worst-case figures where applicable.

Output at clipping (1 kHz)
1 ch driven (8 ohms)..... 211.1 W (23.2 dBW)
1 ch driven (4 ohms)..... 356.2 W (25.5 dBW)
7 ch driven (8 ohms)..... 133.7 W (21.3 dBW)

Distortion at 1 watt output
(THD+N, 1 kHz, 8/4 ohms) 0.02%/0.02%

Noise level (16-bit signal, A-wtd) ..... –74.5 dB

Excess noise (with sine tone)
16-bit (EN16) .....+1.25 dB

Frequency response
20 Hz to 20 kHz +0.0, –0.2 dB

MULTICHANNEL PERFORMANCE, ANALOG INPUTS

Reference input and output level is 200 mV; volume setting for reference output was –9.

Distortion at 1 watt output
(THD+N, 1 kHz, 8 ohms).....0.018%

Noise level (A-wtd) ..... –82.4 dB

Frequency response (Direct mode)
below 10 Hz to 175.5 kHz +0.0, –3.0 dB

BASS MANAGEMENT PERFORMANCE

Measured results obtained with Dolby Digital test signals.

Subwoofer-output frequency response
(crossover set at 100 Hz)
24 dB/octave above –6-dB rolloff point of 100 Hz

High-pass-filter frequency response
(crossover set at 100 Hz)
12 dB/octave below –3-dB rolloff point of 100 Hz

Max. unclipped subwoofer output...8.3 volts

Subwoofer-output distortion (from 7-channel, 30-Hz, 0-dBFS signal, trim at 0).....0.01%

STEREO PERFORMANCE, DIGITAL INPUTS

Reference level is –20 dBFS; all level trims set at zero. Volume setting for reference was –2.0 dB.

Output at clipping
(1 kHz, both channels driven)
8 ohms..... 190.4 W (22.8 dBW)
4 ohms..... 313.1 W (24.9 dBW)

Distortion at reference level.....0.016%

Linearity error (at 90 dBFS).....+0.4 dB

Noise level (A-wtd) ..... –74.4 dB

Excess noise (with/without sine tone)
16-bit (EN16).....+1.25/+1.25 dB
quasi-20-bit (EN20).....+14.6/+14.6 dB

Noise modulation .....<0.5 dB

Frequency response
20 Hz to 20 kHz +0.0, –0.3 dB

The TX-NR1000 performed well on the test bench. Its power output was formidable, even under the high-stress condition of reproducing seven simultaneous channels of sine waves. Other figures were all nominal, with low distortion, low noise, and essentially flat frequency response. These measurements suggest that this is a textbook example of how to design a high-power multichannel receiver.

The receiver's bass-management performance was consistent with all inputs and sources, and bass management was available via analog input. Variable crossover frequency adjustments can be made in 10-Hz increments for all channels including LFE/subwoofer. However, if you specify the frequency of the front speakers between 40 and 150 Hz, you cannot select Full Band for the other main speakers. Speaker-distance compensation is provided for all channels, and it can be set independently for the Main A and Main B outputs. *— K.C.P.*