



Harman Kardon

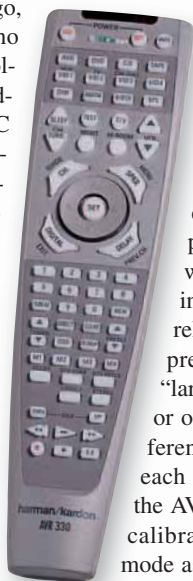
AVR 330 Digital Surround Receiver

The model numbers for Harman Kardon's latest line of A/V receivers recall those the company used for receivers it introduced some 20 years ago, and I'm betting that's no accident. Back then, HK scored a solid hit with a compact, simple, affordable stereo receiver called the 330C that was modestly powered but provided consistently good sound. Beyond being compact, simple, and affordable, the new 7.1-channel AVR 330 even echoes the ancestral Model 330C's two-toned black-glass styling, which makes it look very cool indeed.

The AVR 330 is relatively free of gimmicks or gizmos, but it does feature HK's EzSet automatic channel-balancing routine. Like most channel-balancing procedures, EzSet sends noise signals sequentially to each main channel, but it calibrates the relative levels automatically using a sound-level sensor that's built into the receiver's remote control. I've had mixed luck with this luxury

feature on previous Harman Kardon receivers, but either my technique has improved or the system has been refined, because the AVR 330's routine worked flawlessly. I couldn't have done much better manually.

Harman Kardon also endowed the AVR 330 with an unusual degree of setup flexibility. As with most A/V receivers, you can set each input's default for a digital or analog signal and your preferred surround mode. But with the AVR 330, you can also independently assign to each input relative channel levels as well as preferred speaker setup ("small," "large," or "none" and subwoofer on or off). And you can even select different combinations of speakers for each surround mode! Unfortunately, the AVR 330 doesn't copy your initial calibration settings to each input or mode as a starting point, so you have to manually enter channel-trim values into each new combination the first time you select it, or else you'll get the unbalanced, all-channels-zero default.



The AVR 330 also has prize-winning bass-management flexibility. You can either choose a crossover frequency for all the main channels together — the options are 40, 60, 80, 100, 120, and 200 Hz — or else select among these options individually for the front left/right, center, and surround channels. And since your crossover choices are part of the Speaker Settings menu, you can even save different arrangements as part of the presets for individual inputs or surround modes.

It's worth noting that the AVR 330's front-panel convenience inputs include both optical and coaxial flavors of digital audio, and its multiroom facilities include

fast facts

RATED POWER 55 watts x 7 or 65 watts

x 2 into 8 ohms with maximum 0.07% THD

DIMENSIONS 17 $\frac{3}{8}$ inches wide, 6 $\frac{5}{8}$ inches high, 15 inches deep

WEIGHT 30 $\frac{5}{8}$ pounds

PRICE \$799

MANUFACTURER Harman Kardon, Dept. S&V, 250 Crossways Park Dr., Woodbury, NY 11797; www.harmankardon.com; 800-422-8027

key features

- Dolby Digital EX and DTS ES 6.1-channel decoding
- Dolby Pro Logic II, DTS Neo:6, and Logic 7 processing for 5.1/6.1-channel playback from two-channel or matrixed four-channel sources
- Hall 1 and 2, Theater ambience-generation surround modes
- VMAx two-speaker and headphone virtual surround
- 2 HDTV-compatible component-video inputs, 1 output
- 5 A/V inputs (1 on front panel), 2 outputs, all with S-video
- 3 optical, 3 coaxial digital audio inputs (1 each on front panel); 1 optical and 1 coaxial output
- 192-kHz/24-bit D/A converters on all outputs
- Bass-management options include 6 crossover-frequency choices individually assignable to front L/R, center, and surround channels
- EzSet auto-level calibration using sound-level sensor in remote control
- 8-channel analog audio input, preamp out
- 2 stereo audio-only inputs; 1 record output
- Multiway binding-post speaker terminals for all channels; back surround outputs can be redirected to power remote-room stereo system
- 8-component preprogrammed system remote control with 5 (19-step) macros
- Multiroom capability with independent source and volume; basic second-room remote control

the option of diverting the back surround speaker outputs to power remote stereo speakers instead. What's more, a basic remote control for use in a second room is supplied, giving you unusually complete multiroom capabilities for a midprice A/V receiver.

Up and running, the Harman Kardon consistently impressed me sonically as a very clean, dynamic receiver. And don't let the comparatively modest seven-channel power ratings mislead you: 55 watts represents only 2.6 dB less potential dynamic output than 100 watts. This was born out by the AVR 330's having no difficulty at all in driving my modest-sensitivity speaker array to movie-theater volumes with convincing authority even on demanding program material.

For example, in the very well-produced DVD soundtrack of the hokey thriller *K-19: The Widowmaker*, the receiver's surround processing delivered the famous action sequences without a hitch. When the submarine surfaces from under the polar ice and launches a missile, I heard convinc-

ing impacts of rumbling, shattering ice and head-snapping blast-off effects as the ICBM comes more or less straight toward you. Of course, finesse is equally important. The 5.1-channel Super Audio CD mix of James Taylor's *October Road* requires plenty of finesse, and the AVR 330 conveyed the nuance and details evident throughout the disc, especially the lovingly recorded drum kit on the title track.

In addition to the now-common Dolby Pro Logic II (DPL II) and DTS Neo:6 processing for enhanced 5.1/6.1-channel playback of two-channel sources like CDs and Dolby Surround-encoded TV broadcasts and older movies, the AVR 330 also incorporates Harman Kardon's proprietary Logic 7 mode for the same purpose. Harman claims that Logic 7 is a quicker-steering



The AVR 330 convincingly delivered all the impact of the effects in the soundtrack of *K-19: The Widowmaker*.

and more enveloping process than DPL II, and I'm inclined to agree, at least with some kinds of program material. I often heard a more spacious, coherent surround bubble on TV broadcasts, such as *Monday*

in the lab

DOLBY DIGITAL PERFORMANCE

All data were obtained from various test DVDs using 16-bit dithered test signals, which set 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 -8. All level trims were at zero; all speakers were set to "large," subwoofer on. All are worst-case figures where applicable.

Output at clipping (1 kHz into 8/4 ohms)
1 channel driven.....95/148 W (19.8/21.7 dBW)
5 channels driven (8 ohms).....66 W (18.2 dBW)

Distortion at 1 watt (THD+N, 1 kHz)
8/4 ohms.....0.03/0.03%

Noise level (A-wtd).....-75.1 dB

Excess noise (with sine tone)
16-bit (EN16).....+0.4 dB

Frequency response
20 Hz to 20 kHz +0, -0.3 dB

MULTICHANNEL PERFORMANCE, ANALOG INPUT

Reference input and output level is 200 mV;

Harman Kardon's AVR 330 yielded several star-quality test-bench results. Its stereo digital-to-analog linearity was perfect, and noise was very low in all cases, even nearing the magic -100-dB point for 96-kHz/24-bit stereo signals (stereo data are omitted above for space but are available on our Web site). It also provided unusually strong subwoofer output (more than 9 volts), so driving any powered sub with an ample undistorted signal will be no problem.

The AVR 330 handily exceeded its rated all-channels power with five channels driven and was only a couple of watts shy of the 55 W x 5 spec even with all seven outputs active. When driving multichannel 4-ohm loads with sine-tone test signals, the receiver activated its protection

volume setting for reference output level was -6.

Distortion (THD+N, 1 kHz, 8 ohms).....0.04%

Noise level (A-wtd).....-85.4 dB

Frequency response
<10 Hz to 72 kHz +0, -1 dB (-3 dB at 156 kHz)

BASS-MANAGEMENT PERFORMANCE

Measured results obtained with Dolby Digital test signals.

Subwoofer-output frequency response
(crossover set to 80 Hz)
24 dB/octave above -6-dB rolloff point of 100 Hz
(-3 dB at 81 Hz)

High-pass-filter frequency response
(crossover set to 80 Hz)
12 dB/octave below -3-dB rolloff point of 81 Hz

Maximum unclipped subwoofer output
(trim at 0).....9.2 volts

Subwoofer distortion (from 6-channel, 30-Hz, 0-dBFS signal; subwoofer trim set to 0).....0.08%

modes after about half a second if it was asked to produce more than about 25 watts. Single-channel performance was unaffected, and real-world dynamic signals presented no problem with these low-impedance loads.

Bass management was very consistent, with no changes in crossover or rolloff slopes for different inputs or media. However, no bass management is provided for the multichannel analog input — meaning none for DVD-Audio discs or Super Audio CDs — and bass management is defeated for any analog stereo source when the DSP Surr. Off stereo mode is selected. All channels can be set to "small," and speaker-distance compensation is available for all channels except subwoofer.

— D.K.

Night Football. In at least one case — the title music to *The West Wing*, which inherently sounds a bit “pumpy” due to recorded compression — Logic 7’s presentation was dynamically a tiny shade smoother than DPL II’s. A bit surprisingly, the AVR 330 doesn’t offer access to any of DPL II’s adjustable parameters, such as Center Width or Panorama.

The AVR 330 was generally easy to use, though in this respect it didn’t quite match the high standard of its sonic performance. Menus and controls are logically



ordered, and the extensive setup choices allow about as much customization as you could want. However, the remote has no learning capability and is densely packed with micro-labeled, nonbacklit keys. Five of them (including the power button) can be programmed with macros — a string of related commands like: turn on the receiver, DVD player, and TV, switch the receiver to its DVD input, and commence playback.

In every important respect, the



PLUS

- Generous power, fine sound.
- Logic 7 processing for 2-channel material is useful option.
- Extremely flexible speaker/crossover-setup options.
- Impressive multiroom facilities for price.

MINUS

- Remote control could be easier to use, can’t learn codes for other brands.
- Abundance of setup memories could confuse some users.
- No parameter settings for DPL II.

Harman Kardon AVR 330 is a very fine receiver. True, if you were content to look only at watts per dollar on spec sheets, the conservatively rated AVR 330 might not make the top of your list. But if you look beyond the easy numbers to sonic refinement, configurability, and overall capabilities — as well as actual measured power — the AVR 330 should climb very high on your list indeed.