



JVC

RX-DP20V Digital Surround Receiver



The first THX-certified receiver from JVC, the RX-DP10V, created quite a stir around here when we reviewed it two years ago. Not only was it a superb performer — this from a company not traditionally associated with high-end receivers — but it was also more reasonably priced than other flagship receivers of the day. On the evidence of its successor, the THX Ultra2-certified RX-DP20V, that initial success was no fluke.

And the THX Ultra2 certification is no mere marketing ploy. It signifies more than just that the receiver is optimized for “7.1-channel” playback, with separate 120-watt amplifiers for two back surround speakers. In playback of any standard 6.1-channel material, such as movies encoded in Dolby Digital Surround EX or DTS-ES, the recorded back surround channel is, of course, mono regardless of the number of speakers you use to play it. The THX Ultra2 and THX Music processing modes, however,

make a pair of back surround speakers sound less uniform (less “mono”) by mixing in a controlled amount of signal from other channels. Two pages of the manual are devoted to a massive chart showing which of these two THX modes, or the two “legacy” THX modes (THX Cinema and THX Surround EX), you should use for different signal formats.

THX Ultra2 Cinema and THX Music can produce a distinctly more enveloping sense of ambience and smoother pans among the surrounds. The envelopment was evident when I played rock and classical concert DVDs. The smoother pans were most clearly evident, though, with test tones specially constructed to move among the surround speakers (few soundtracks have much activity like that, which would normally distract viewers from the onscreen action).

Beyond the THX surround-processing modes, the receiver offers standard Dolby Digital and DTS decoding, both 5.1- and

6.1-channel; Dolby Pro Logic II (DPL II), with fully adjustable parameters in its Music submode (Center EQ, Panorama, Center Width, and Dimension); as well as DTS Neo:6 with its own adjustable parameters (Center EQ and Center Gain). DPL II can generate 5.1-channel playback from mono, stereo, or four-channel sources, and Neo:6 can also generate 6.1 playback from them. If none of these modes float your boat, you can try one of the ten adjustable digital sig-

fast facts

RATED POWER 120 W x 7, channels driven individually or in pairs into 8 ohms, from 20 Hz to 20 kHz, with no more than 0.02% THD

DIMENSIONS 17½ inches wide, 7 inches high, 18¾ inches deep

WEIGHT 52 pounds

PRICE \$2,500

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test report

key features

- THX Ultra2-certified, with special THX 7.1-channel processing options
- Dolby Digital EX and DTS-ES 6.1-channel decoding
- Dolby Pro Logic II and DTS Neo:6 for multichannel playback from two- or matrixed-four-channel sources; ten DSP ambience modes
- Separate power amplifiers for two back surround speakers
- 5 A/V inputs, 3 outputs
- 3 component-video inputs, one output
- 3 optical, 3 coaxial digital audio inputs; 1 optical output
- Multichannel analog input and output (8-channel)
- 3 stereo audio-only inputs (including phono, switchable between moving-magnet and moving-coil), 2 record outputs
- Digital inputs compatible with 96-kHz/24-bit PCM stereo recordings
- AM/FM tuner with 30 FM and 15 AM presets
- Headphone jack with virtual surround processing
- Preprogrammed/learning system IR/RF remote control can operate up to 8 other A/V components

nal processing (DSP) ambience modes (Concert Hall, Jazz Club, and so on). In short, this receiver gives you enormous opportunities to enjoy a surround sound listening experience regardless of the number of channels of the original program.

There are other THX refinements that may or may not be important, depending on your setup and listening room. For example, if you're using two back surround speakers, you can set them as Apart (about 4 feet separation), Close (about 1 to 4 feet) or Together (less than a foot). These settings have an effect only when you're using the THX Ultra2 Cinema or THX Music mode. Then there's Boundary Gain Compensation, which corrects for the boost in deep bass you get when you use a THX Ultra2-certified subwoofer *and* put it in a corner. Now *that's* getting compulsive!

Perhaps the most important THX feature in this receiver — it's too fundamental to be considered a mere refinement — is the system for bass management and speaker-distance compensation. This is important because, unlike the systems found in nearly all other receivers, it operates completely correctly. It doesn't work differently when you change playback mode (from stereo to multichannel, for example), source component (from tuner to DVD to

tape deck), or signal type (Dolby Digital, DTS, PCM, or analog). And the system is applied to the receiver's multichannel analog input as well, allowing complete and accurate bass management and distance compensation for both DVD-Audio and SACD playback regardless of the capabilities of the player.

Even the bass-management system has refinements! There's a bass peak limiter as well as a bass-level test tone — you select the crossover frequency according to your satellite speakers' woofer size. Speaker-distance compensation can be set in 6-inch increments instead of the usual 1-foot intervals. The only missing refinement is that both the volume control and channel level-trim controls operate in 1-dB steps despite displays and menus implying 0.1-dB resolution. The ½-dB steps found on a few other receivers would have enabled dead-on level matching.

Despite this truly minor lapse, both hookup and setup were easy thanks to the logical flow of the on-screen menus and the sensible design of the remote. The handset only looks complicated. In fact, it's unusually well laid out, with the buttons in logical clusters and differentiated by shape and size, especially in the lower half of the remote, which contains the most used controls.

Extending the powers of the remote — which has very cool red backlighting, sort of like the all-red night-vision illumination you see in submarine movies — are its RF control capabilities. With the supplied rod antenna attached to the receiver's back panel, you can control it from up to 50 feet away using wall-penetrating radio frequencies, which the remote emits at the same time as infrared (IR). While JVC sees this as a way to encourage the use of the receiver's Zone 2 capabilities, it also frees



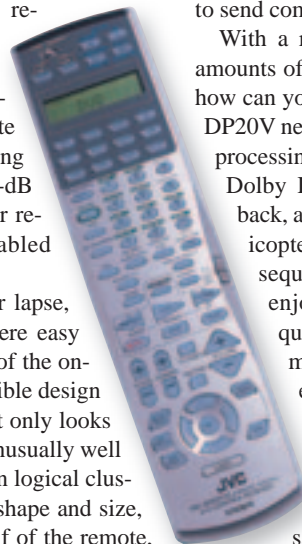
Yeah, baby! JVC's THX Ultra2 receiver let the groovy sound effects of *Goldmember* really shine.

up the placement of the receiver, as you don't have to point the remote directly at it to send commands.

With a receiver that can deliver huge amounts of clean power (see "in the lab"), how can you go wrong? Certainly the RX-DP20V never did. Its THX Ultra2 Cinema processing mode aided the vividness of Dolby Digital EX and DTS-ES playback, as in *Goldmember's* opening helicopter/motorcycle/"Shaguar" chase sequence (starring Tom Cruise). I enjoyed the following dance sequence more, as well as the other multichannel music segments, especially "It's a Hard Knock Life" rendered as a hip-hop music video.

The universal operation of the speaker-distance compensation paid particular dividends when I played multichannel SACDs using the multichannel input. Every SACD player we've tested so far has lacked distance compensation, so it was often a revelation to hear an SACD's frontal image slide into sharp focus when the receiver was adjusted correctly. In particular, classical orchestral titles, which are usually intended to have continuous front soundstages, benefited immensely, but you'll notice the improvement with almost any multichannel SACD.

With virtually flawless operation, ex-



HIGH POINTS

Excellent multichannel sound quality.
Numerous surround processing modes.
Absolutely correct bass-management operation for all formats and modes.
Nice RF/infrared remote.

LOW POINT

Measured noise levels good but not outstanding.

tremely fine sound quality, and a host of features designed to optimize the surround sound experience, JVC's RX-DP20V deserves an extremely close look by anyone shopping in its somewhat exalted price range. Even at \$2,500 it can be considered a bargain, since the closest comparable THX Ultra2 units we've seen from other manufacturers cost at least \$1,000 more! JVC seems to be well on the way to establishing its own, quite distinctive, high-end receiver tradition. **S&V**

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, which was obtained with the volume control set to read -4.0 dB. 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 into 8 ohms)
1 channel driven.....175 W (22.5 dBW)
5 channels driven.....119 W (20.75 dBW)
6 channels driven.....95 W (19.75 dBW)
7 channels driven.....90 W (19.5 dBW)

Distortion at 1 watt (THD+N, 1 kHz)
8 ohms.....0.042%

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

Excess noise (with sine tone)
16-bit (EN16).....+0.85 dB

Frequency response
20 Hz to 20 kHz +0.22, -0.21 dB

MULTICHANNEL PERFORMANCE, ANALOG INPUT

Reference output level is 1 watt into 8 ohms with a 200-mV input; volume setting for reference output level was -4.0 dB.

Distortion (THD+N, 1 kHz, 8 ohms).....0.015%

Noise level (A-wtd).....-75.6 dB

Like every THX-certified receiver we've tested, the JVC delivered gobs of amplifier power — far beyond its 120-watt-per-channel rating. And the numbers held up impressively even when all seven channels were driven simultaneously. At the other end of the dynamic range, the receiver's noise levels in Dolby Digital and 16-bit (CD-quality) playback were within 1½ dB of the theoretical limits.

On the multichannel analog input, however, the receiver's ultimate noise level proved to be only around 1 dB lower than in 16-bit playback. While that's not nearly as low as the new multichannel media can potentially deliver, most recordings have no better than a 16-bit noise level, so the receiver's dynamic range still sounded wide and free with all the material we played.

Frequency response
20 Hz to 45.4 kHz +0, -3 dB

BASS-MANAGEMENT PERFORMANCE

Measured results obtained with Dolby Digital test signals.

Subwoofer-output frequency response
32 dB/octave rolloff above -6-dB point at selected crossover frequency

High-pass-filter frequency response
12 dB/octave rolloff below -3-dB point at selected crossover frequency

Maximum unclipped subwoofer output (at reference volume setting, subwoofer trim at 0)8.6 volts

Subwoofer distortion (from 6-channel, 30-Hz, 0-dBFS signal; master volume at reference level; subwoofer trim set to 0)0.65%

Response consistency: no changes with source or media

Source consistency: all inputs processed, including the external multichannel input

Media consistency: bass management for all media, stereo and multichannel

Speaker-size selection: all channels can be set to "small"

Speaker-distance compensation: available for all channels, including the subwoofer

JVC says that its Compensative Compression (CC) Converter technology, activated by buttons on the remote and back panel, "eliminates jitter and ripples, achieving a drastic reduction in digital distortion." But it produced a rise of about 1 dB at 20 kHz as well as weird and distinctly audible distortion products with test signals above 5 kHz. Since the receiver measured, and sounded, superbly accurate without CC, engaged, I'd recommend keeping it switched off (it is switched off automatically whenever one of the THX modes is invoked, probably at THX's insistence).

The bass-management/distance-compensation system is one of very few that operate correctly on all inputs and with both analog and digital signals. This alone makes the RX-DP20V an exceptional receiver. — D.R.