



The MOTHER

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of All Receivers

Make way for the Yamaha RX-Z9.

by Darryl Wilkinson

Like most red-blooded, testosterone-motivated American males, I have a thing for Swiss Army Knives. Years ago, I had one of Victorinox's big honkers. With that magnificent machine, I could—with equal ease, mind you—crochet a lace doily, gut a bear, or fell a towering redwood (not to mention the attractive bulge it created in my

pocket). Then a coworker “borrowed” that glorious device, and the dirty slob has yet to return it. Today I'm lusting after a model with an alarm clock; it'll come in handy during my continual quest to annoy Geoffrey Morrison, our fearless video editor, when Maureen (Editor and Surrogate Mom) Jenson forces the two of us to room together during



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conventions. I may opt instead for one with a built-in butane lighter. Imagine how strategically positioned holes burned in his underwear would lead to serious concerns about Geoffrey's digestive processes.

There's simply no way to do the RX-Z9 justice in the space allotted. Suffice it to say that, if you've got the financial wherewithal to spend north of \$4,500 (including sales tax), Yamaha's flagship receiver—an odds-on favorite for the title of Outstanding Receiver—

will soon have you wondering why it's priced so low.

From an audio standpoint, this baby rocks, due in part, no doubt, to the nine onboard amplifiers (rated at 170 watts times seven and 50 watts times two for a 1,290-watt total) and the THX Ultra 2 processing (the first appearance in a Yamaha receiver). Yamaha has always been justifiably proud of their Digital ToP-ART (Total Purity Audio

Reproduction Technology) design philosophy, but the RX-Z9 takes it to the extreme. Indeed, the most obsessive-compulsive engineers must have created this receiver. Yamaha gave each of the 11 output channels (seven for the main theater, a selectable pair for either presence or zone 2, and two subwoofer preouts) their own Burr-Brown 24-bit/192-kilohertz digital-to-analog converters. The digital audio, video, and line-level analog

audio sections, as well as the power supply, are enclosed in independently shielded chambers, making the RX-Z9 essentially a set of separate components in a common outer housing.

This whole is definitely greater than the sum of its parts: You get the performance of separates with the convenience of an all-in-one design. Sonically, this is the finest Yamaha receiver I've heard yet; the bottom end is stout and powerful, while the mids and highs remain unfettered and light. It's a sound that's eminently enjoyable whether you're listening to the finely tuned soundtrack from *The Cat in the Hat*, a musically oriented work like *Chicago*, or the more-raucous shenanigans of *Once Upon a Time in Mexico*. I won't even begin to enumerate all the possible decoding formats. They're all here, plus a plethora of DSP modes to provide even more variations.

SACD and DVD-Audio discs sounded exceptional via the multi-channel analog input. Using the iLink connection to the Pioneer Elite DV-47Ai universal disc player (the RX-Z9 is also compatible with iLink-equipped Yamaha and Sony players), however, made an unexpectedly huge difference in the overall soundstage and depth of resolution; multiple layers that weren't there through the analog input suddenly became vividly apparent. *Truth Be Told*, the new Blues Traveler DVD-Audio disc, tightened up in the low end while becoming more expansive with the guitar and harmonica. *Dr. Chesky's Magnificent, Fabulous, Absurd & Insane Musical 5.1 Surround Show* SACD became more absurd, more insane, and



A. The 9.1-channel, THX Ultra 2-certified RX-Z9 features DCDi processing and the usual Dolby and DTS processing modes.

B. Back-panel highlights include six component video connections and an iLink digital audio input.

All of this (knives, not holes in underwear) leads me to Yamaha's RX-Z9. Without a doubt, this bad boy is the Swiss Army Knife of A/V receivers. Unlike the indomitable Swiss Army Knife, highly versatile but intended for light duty rather than heavy labor, the RX-Z9 is a massive powerhouse that can stand up to a stack of separates and frighten them into submission without breaking a sweat.



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especially more fabulous. “Circle of Voices” and “Chimes of Serenity” were exquisitely detailed and alive without a hint of becoming clinical.

With all of the RX-Z9’s processing power, I’d wager that it could give former World Chess Champion Garry Kasparov and IBM’s Deep Blue supercomputer a run for their money in simultaneous speed rounds...and still sound great. No less than eight 32-bit Yamaha YSS-930 DSP processors are at the heart of this digital prowess, with four of the mighty processors dedicated to the RX-Z9’s most interesting audio feature: the Yamaha Parametric Room Acoustic Optimizer, or YPAO for short. Although the acronym sounds like dinner in a Chinese restaurant (“I’ll have an order of YPAO chicken and two egg rolls, please”), it’s seriously sophisticated and stupidly easy to use. (I like stupidly easy, highly sophisticated stuff.) Essentially, YPAO is designed to evaluate less-than-ideal listening conditions (such as mismatched, out-of-phase, or poorly positioned speakers and wicked room acoustics) and automatically rectify the most egregious problems. Although YPAO is found in Yamaha receivers starting at \$800,

the RX-Z9’s iteration is the finest and most extensive. All nine full-range channels get individual, dedicated parametric equalizers. (Parametric EQs adjust level, frequency, and

Q factor—the width of the band of frequencies affected—whereas standard graphic EQs only adjust the level of cut or boost at a fixed

frequency and Q factor.) With 10 bands of parametric equalization per channel plus equalization for both subwoofer outputs, there are a whopping 92 bands of equalization. Factor in the five Q settings and 23 steps for each, and, well, it’s pretty darn amazing.

Extensive manual settings are possible. In reality, though, unless you’re Tomlinson Holman (and that’s a compliment), you’d go crazy attempting a complete manual setup. And, most likely, you’d never come close to anything resembling acceptable sound as a result of all your troubles. Fortunately, YPAO fully automates the process; it’s so quick and easy, you can pop the top on a can of your favorite brew, and the system will be calibrated before you see the bottom of the can.

YPAO is as simple as plugging in the included microphone. Yamaha conveniently placed the jack on the front so it’s easy to redo the calibration if you move furniture or speakers. After a few taps on the compact GUI remote control, the RX-Z9 starts popping, hissing, banging, and bumping. It’s not broken—that’s how YPAO calculates speaker distances and tonal qualities. At the end of the process, the RX-Z9 determines the proper time delays and parametric-EQ settings for the speakers’ best performance in your room.

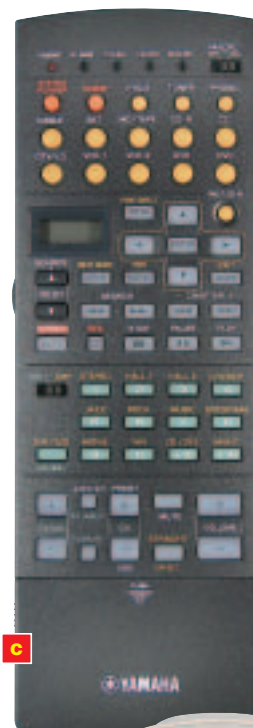
As you can tell, the YPAO’s power totally impressed me (or was it the beer during the calibrations...). It’s amazingly astute at

figuring out the particulars of the listening area and attempting to correct for the best sound. It was uncannily accurate at distance measurements, including my first setup attempt in which I mistakenly configured the zone 2 speakers in another room as the theater’s presence speakers (Yamaha’s proprietary front effects channels). YPAO correctly discovered that the presence speakers were 20-some feet away, even though the front speakers were only 8 feet from the listening position—and it valiantly attempted to compensate. The RX-Z9’s YPAO even handled a complete bipolar system of the exotically beautiful Mobius speakers from Artistic Audio (including the bipolar Hemisphere as the center channel)

with nary a fret nor a worry.

The RX-Z9’s Swiss Army Knife versatility and exceptional performance aren’t exclusive to the audio section. The video section is equally capable of handling the highest—and lowest—quality sources you can hook up to it. It

has about the most extensive up-/downconversion capabilities of any receiver in the



C. It takes a lot of buttons to handle everything this receiver can do.

D. Yamaha has included a separate, smaller remote that’s designed to help you navigate the onscreen menus.

HIGHLIGHTS

- Enough inputs and outputs for two systems
- Sophisticated video-conversion circuitry
- Automated room/speaker correction



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free world. Hook up a set of component video cables to your HD monitor, and the RX-Z9 will upconvert composite, S-video, and component video sources to 1080i or 720p noticeably better than the upconversion circuitry in most HDTVs. It will also up- or downconvert analog component, S-video, or composite to any of the three variants. About the only thing it doesn't do is downconvert high-def to lower resolution (possibly due to copyright issues), something that might be useful via the

zone 2 composite video output. The converted video is free of the obnoxious smearing and other annoying artifacts you'll see with less-expensive conversion circuitry, and the RX-Z9 did a truly admirable job of upconverting my awful over-the-air NTSC TV signal.

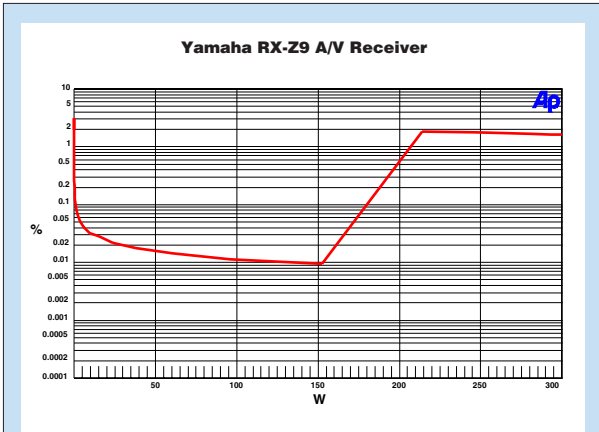
The video purist can turn off the video processor and let the RX-Z9 perform as a high-quality video switcher. (Unless you've got a really good scaler, I doubt you'll want to.) Audio purists aren't left out, either. The Pure Direct mode for the dedicated two-channel and the multichannel analog inputs bypasses all digital processing completely and turns off the front display. The Straight mode utilizes the speaker configuration, tone control, and speaker-level parameters from the YPAO but avoids all post-processing. The less-pure (but more-adventurous) listeners can choose to hear Kid Rock (transported through the magic of Yamaha DSP) as if he were singing in the middle of the Parisian Royaumont Abbey refectory (or a more-suitable rock-concert venue).

Dealers and installers can access Yamaha's RX-Z9 Receiver Editor software (Windows only), which allows control of virtually every adjustable parameter in the RX-Z9 via RS-232. It's not available to consumers (although it should be), but enterprising, computer-savvy RX-Z9 owners should pester their dealer to give them a copy. The Receiver Editor

makes it exceedingly fast and easy to program a broad range of parameters and save them as one of six Home Preset memories. Incorporate a Home Preset into a macro sequence on the primary remote, and you (or your installer) have just turned the RX-Z9 into one of the most automated, best performing receivers you can buy.

I could go on and on about the flexible zone 2 capabilities (using internal or external amps), the Silent Cinema (listen to any surround sound format through headphones), the substantial input and output array, the additional easy-to-use GUI remote control, the Faroudja DCDi processing with time-base-corrector

and image-adjustment function modes, and even the ability to turn speakers A and B on/off by remote. I'll sum it up this way instead: About the only thing missing from this amazingly versatile piece of gear is a popcorn machine (maybe in the RX-Z9 mark II). If your heart aches for performance but your head (and family) demands convenience and simplicity, look no further. Switzerland can keep its knives; we've got Yamaha's RX-Z9. 📺



HT Labs Measures: Yamaha RX-Z9 A/V Receiver

This graph shows that the RX-Z9's left channel, from CD input to speaker output with two channels driving 8-ohm loads, reaches 0.1% distortion at 179.8 watts and 1% distortion at 206.7 watts. Into 4 ohms, the amplifier reaches 0.1% distortion at 318.4 watts and 1% distortion at 361.5 watts. With five channels driving 8-ohm loads, the amplifier reaches 0.1% distortion at 166.6 watts and 1% distortion at 186.2 watts.

The analog frequency response measures -0.81 decibels at 20 hertz and -0.09 dB at 20 kilohertz. Looking at a broader bandwidth, the response measures -2.39 dB at 10 Hz and -0.47 dB at 50 kHz. In modes that involve signal processing, the response is -3.43 dB at 10 Hz, -1.06 dB at 20 Hz, -0.25 dB at 20 kHz, and -9.66 dB at 50 kHz. Response from the multichannel input to the speaker output measures -2.44 dB at 10 Hz, -0.83 dB at 20 Hz, -0.10 dB at 20 kHz, and -0.48 dB at 50 kHz. THD+N from the amplifier was less than 0.015% at 1 kHz when driving 2.83 volts into an 8-ohm load. Crosstalk at 1 kHz driving 2.83 volts into an 8-ohm load was -80.73 dB left to right and -74.01 dB right to left. The signal-to-noise ratio with 2.83 volts driving an 8-ohm load from 10 Hz to 24 kHz with "A" weighting was -96.73 dBra.

From the Dolby Digital input to the loudspeaker output, the left channel measures -0.52 dB at 20 Hz and -0.23 dB at 20 kHz. The center channel measures -0.34 dB at 20 Hz and -0.21 dB at 20 kHz, and the left surround channel measures -0.20 dB at 20 Hz and -0.24 dB at 20 kHz. From the Dolby Digital input to the line-level output, the LFE channel is $+0.15$ dB at 20 Hz when referenced to the level at 40 Hz and reaches the upper 3-dB down point at 91 Hz and the upper 6-dB down point at 113 Hz.—*MJP*

RX-Z9 A/V Receiver	\$4,499
Yamaha Electronics Corporation (800) 4-YAMAHA www.yamaha.com/yec Dealer Locator Code YAM	

