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ROGIER VAN BAKEL

Balanced Audio Technology REX 500

POWER AMPLIFIER

There was a period in the 1970s when many pop ballads that should have had understated arrangements instead turned grandiose and even maudlin. Take Gilbert O'Sullivan's sensational single "Nothing Rhymed" (a track that went deep for a pop hit, referencing famine, duty, and morality). Soon after the start, O'Sullivan's piano is overshadowed by a loud, saccharine string section.

Another example is "Lotte," German singer Stephan Sulke's portrayal of a dying love affair. The devastatingly wistful chanson is burdened by a mawkish orchestral track—the equivalent of glitterbombing an Edward Hopper painting.

Contrast this with Roberta Flack's definitive version of Ewan MacColl's "The First Time Ever I Saw Your Face." Apart from Flack's voice and her emotional delivery, the gently strummed guitar and quiet piano do all the heavy lifting. An unhurried double bass and a couple of minimally bowed string instruments leave swaths of negative space, helping to give her interpretation its hushed, reverent character.

Drum recordings revealed top-notch, grippy bass, the agility of a mountain goat, and phenomenal dynamics.

I reflected on all this after spending several months with Balanced Audio Technology's REX 500 solid state power amplifier ($25,000), which has more in common with the Roberta Flack track than with the bombast of "Nothing Rhymed." I don't mean to say that the REX's sonics are understated—that might imply shyness, and it definitely isn't a shy-sounding product, but it's a far cry from the amplifier equivalent of O'Sullivan's bombast. But enough about this for now: more after you've met the amplifier in question.

Attack of the forklift

You'll need help moving and unboxing this beast, which is deeper (23.5") than it is wide (19") and weighs a grueling 140lb. I experienced its bulk and weight more than once because the first time I received the REX 500, it had to go back for repair. What seemed at first like an inconsequential tear in the shipping box was, upon closer scrutiny, the likely result of a forklift blade punching through the cardboard and ramming the REX's right side. The bend in the casework looked like it was part of the swooping design of the flanks, and the damage to the heatsink was invisible except when the top cover was removed. What was easily noticed was a loud hum from the speakers. Hours

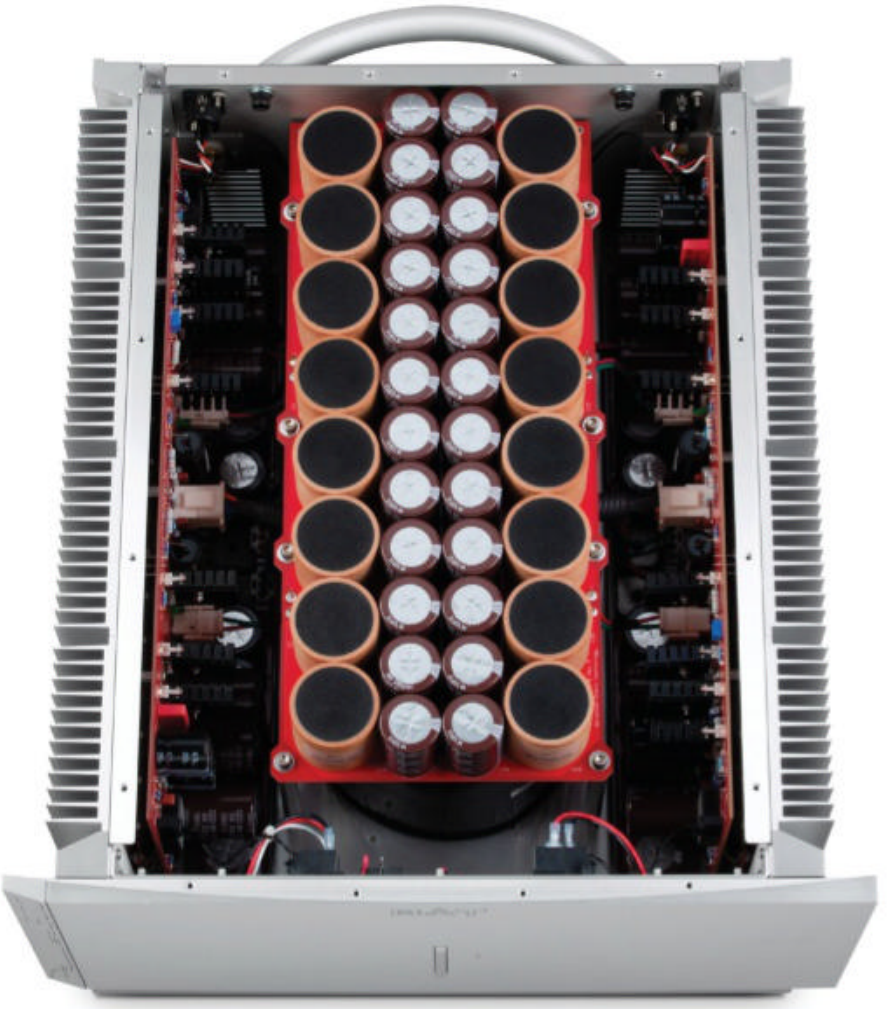
SPECIFICATIONS

Description Fully balanced, dual-mono, class-AB stereo amplifier heavily biased into class-A with high-current differential driver stage, dual power transformers, no global negative feedback, and fuseless protection circuit. Power output: 500Wpc into 8 ohms, 1000Wpc into 4 ohms (both 27dBW). Input impedance: 215k ohms. Bandwidth: 3Hz–250kHz. Slew rate: 200V/µs. Gain not specified. Power consumption: 400W at idle, 3000W at full power.
Dimensions 19" (482mm) W × 10" (254mm) H × 23.5" (597mm) D. Weight: 140lb (64 kg).
Finish Silver or black anodized aluminum.
Serial number of unit reviewed 0R5000062. Made in USA.
Price $25,000. Number of US dealers: 13; sold online at MusicDirect.com. Warranty: 5 years.
Manufacturer
Balanced Audio Technology, 1300 First State Blvd., Suite A, Wilmington, DE 19804.
Tel: (302) 999-8855.
Email: info@balancedaudio.net. Web: balancedaudio.net.

of troubleshooting got me nowhere. The buzz was impervious to different outlets, power conditioners, interconnects, power cables, and assorted sources. It did go away when I substituted either my Krell or Anthem amplifiers. At that point, I knew that the REX needed a bench check, so back it went to the Wilmington, Delaware, BAT cave.

The company determined that a hard impact had dislodged one of the SuperPak capacitors and broken some solder joints. (The build quality of the REX 500—all aluminum except for a thick steel bottom plate that supports the supersized transformers—is sterling,[1] but in a deathmatch with a carelessly driven 9000lb forklift, it lost.)

About 10 days later, I took possession of a replacement Rex 500. Other than my poor back, after that, all was well.



Visually, the REX means business. Forty-eight heatsink fins adorn each side, hidden behind the fascia when you view it straight-on. The front of the amplifier is almost but not perfectly symmetrical: On the left edge is a 1"-wide vertical billeted-aluminum strip, mounted at about a 20° angle toward the rear, milled to read "Rex 500" with a swoopy, vaguely art deco–style R. Positioned in the middle of the front plate is a springy, narrow, 2"-tall power switch. The blue LED just to its right, slightly off-center, has a simple function: It merely indicates whether the power is off or on—it doesn't flash during the roughly eight-second turn-on sequence or turn red when

1 Damage aside, removing the top cover reveals this to be a very handsome amplifier on the inside—at least as attractive as its outside. That assumes, though, that it hasn't been rammed by a forklift.

MEASUREMENTS

I examined the Balanced Audio Technology REX 500's measured behavior with my Audio Precision SYS2722 system.[1] Before I started the testing, I made sure that the four Reset buttons, two for each channel, were pushed in, as advised in the manual. I preconditioned the REX 500 by following the CEA's recommendation of running it at one-eighth the maximum power into 8 ohms for 30 minutes. At the end of that time, the temperature of the top panel was 99.9°F (37.8°C) and that of the heatsinks 134.0°F (56.7°C). The REX 500 has sufficient heatsink capacity for its high output power. The amplifier also ran hot during the testing, which suggests the output stage is heavily biased into partial class-A operation.

I performed all the testing using the BAT's balanced inputs, then examined the gain, polarity, and input impedance of the single-ended inputs using a Cardas RCA-XLR adapter. Both input types preserved absolute polarity, ie, were noninverting. BAT specifies the REX 500's input impedance as 215k ohms; I measured a lower but still very high 180k ohms at 20Hz, 172k ohms at 1kHz, and 66k ohms at 20kHz for the balanced inputs. The single-ended input impedance was just above half those figures, which is still usefully high. The voltage gain was 26.67dB for the balanced inputs, 26.55dB for the single-ended inputs.

The REX 500 amplifier's output impedance, including the series impedance of 6' of spaced-pair cable, was relatively high, at 0.45 ohms at low and middle frequencies and 0.6 ohms at the top of the audioband. As a result, the variation in the frequency response with our standard simulated loudspeaker[2] (fig.1, gray trace) was ±0.3dB. The response into 8 ohms (blue and red traces) was flat in the audioband, then started to roll off above

1 See stereophile.com/content/measurements-maps-precision.

2 See stereophile.com/content/real-life-measurements-page-2.

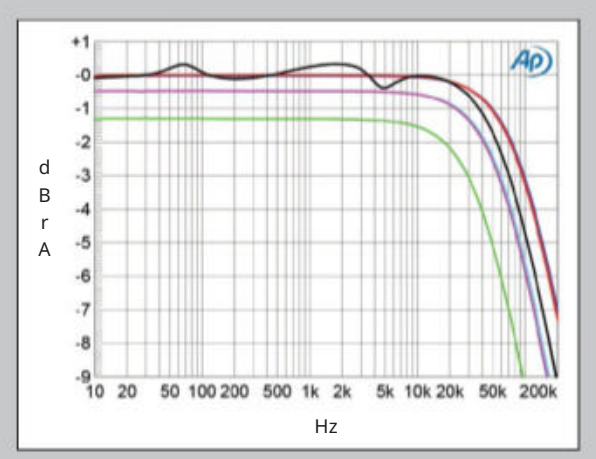


Fig.1 Balanced Audio Technology REX 500, frequency response at 2.83V into: simulated loudspeaker load (gray), 8 ohms (left channel blue, right channel red), 4 ohms (left cyan, right magenta), and 2 ohms (green) (1dB/vertical div.).

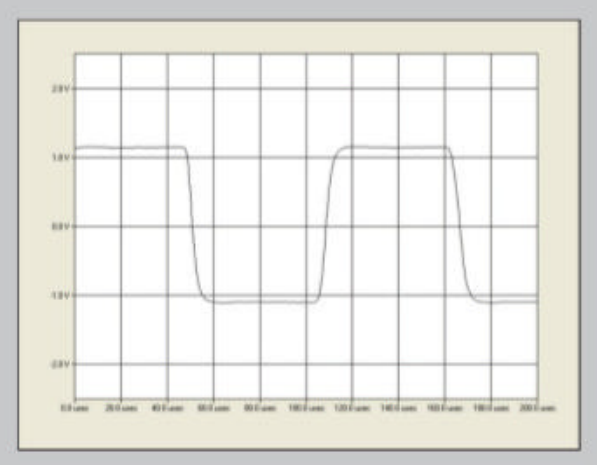


Fig.2 Balanced Audio Technology REX 500, small-signal 10kHz squarewave into 8 ohms.

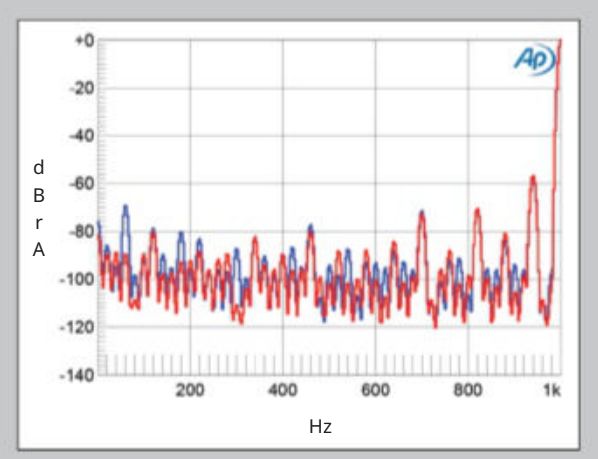


Fig.3 Balanced Audio Technology REX 500, spectrum of 1kHz sinewave, DC–1kHz, at 1Wpc into 8 ohms (left channel blue, right channel red; linear frequency scale).

the protection circuit kicks in.

Protruding from the back panel is a curved metal handle that's intended to assist in lifting the REX—but it's not enough by itself. BAT advises using a rope or cloth sling tied around the front so that two people can lift the REX from the box and move it into place.

Also on the back, you'll find loudspeaker binding posts, a pair of XLR inputs, and two each—one per channel—IEC connectors and fuse holders.

BAT makes a point of avoiding fuses inside its amplifiers: "The best-sounding fuse is no fuse at all," the company says. BAT's auto-protection circuit does away with the need to replace internal fuses. The absence of internal fuses has the secondary benefit of allowing

measurements, continued

20kHz. The high-frequency rolloff started lower in frequency into 4 ohms (cyan and magenta traces) and into 2 ohms (green trace), where the output was down by 0.8dB at 20kHz. The response into 8 ohms reached –3dB at 95kHz; this wide small-signal bandwidth correlated with short risetimes in the BAT's reproduction of a 10kHz squarewave into that load (fig.2). Commendably, the waveform didn't have any overshoot or ringing.

As expected from the dual-mono topology, channel separation was superb, at >100dB below 2kHz in both directions. The unweighted, wideband signal/noise ratio, taken with the balanced input shorted to ground, was a good 69dB (average of both channels) ref. 1W into 8 ohms. The right channel's ratio improved to an excellent 85.0dB when the measurement bandwidth was restricted to 22Hz–22kHz but in the left channel was only marginally improved, at 69.5dB. Switching an A-weighting filter into circuit improved the right channel's ratio to 92.3dB, the left channel's to 81.9dB. Spectral analysis of the low-frequency noisefloor while the BAT drove a 1kHz tone at 1Wpc into 8 ohms (fig.3) revealed that the lower S/N ratio in the left channel was due to a higher level of the supply-related spurious tone at 60Hz (blue trace). The random noisefloor is higher than I would have expected, and there are sidebands at ±60Hz present in both channels around the spectral spike that represents the 1kHz tone. This behavior will be due to magnetic interference from the massive power transformers.

BAT specifies the REX 500's maximum continuous power as 500W into 8 ohms and 1000W into 4 ohms, both equivalent to 27.0dBW. With the clipping power defined as when the THD+noise reaches 1%, with both channels continuously driven with a 1kHz tone the REX 500 clipped at 416W into 8 ohms (26.2dBW, fig.4) and 680W into 4 ohms (25.3dBW). At 3% distortion, the amplifier exceeded its specified power into 8 ohms, clipping at 520W (27.16dBW). It clipped at 850W into 4 ohms (26.28dBW) at 3% THD+N; the AC wall voltage had dropped from 118.4V with the amplifier idling to 113.1V at this power. The distortion is relatively low below 10W in these two graphs but steadily rises as the power increases, presumably due to the absence of global loop negative feedback. When I

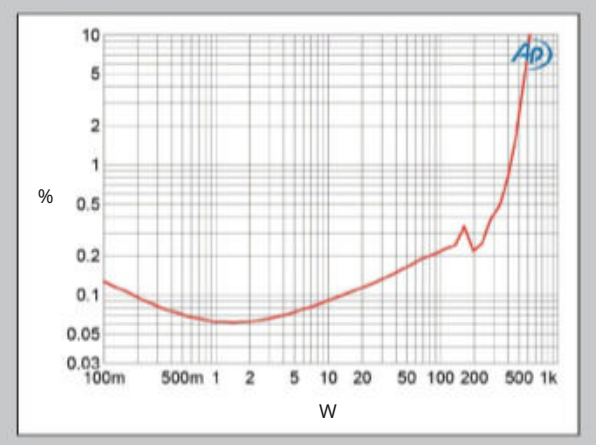


Fig.4 Balanced Audio Technology REX 500, THD+N (%) vs 1kHz continuous output power into 8 ohms.

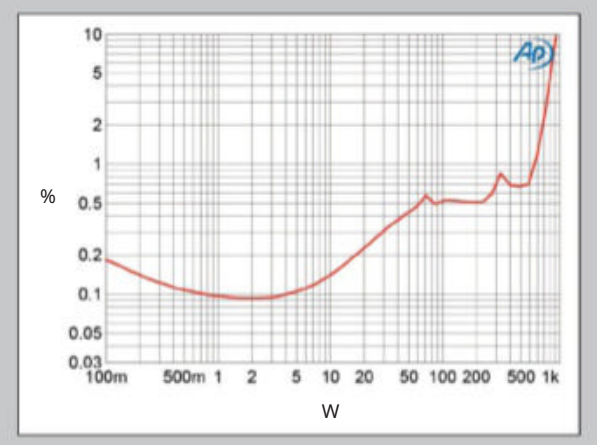


Fig.5 Balanced Audio Technology REX 500, THD+N (%) vs 1kHz continuous output power into 4 ohms.

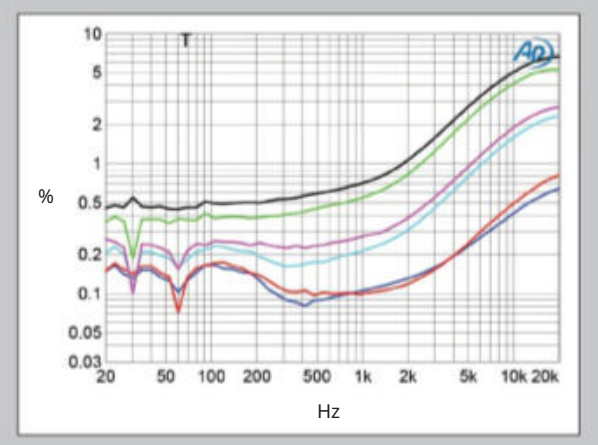


Fig.6 Balanced Audio Technology REX 500, THD+N (%) vs frequency at 12.67V into: 8 ohms (left channel blue, right red), 4 ohms (left cyan, right magenta), and 2 ohms (left green, right gray).

the REX to handle higher currents without crippling the circuit's operation.

Those fuse holders you see? They're in line with the AC, to protect the whole amplifier from external power surges. Why two? Because the REX 500 has separate left and right power cords and power transformers.

Speaking of protection circuits, if your speaker cables are terminated with spade lugs, as my AudioQuest Thunderbird Zeros are, I'd advise caution. The posts are close enough together that large spades are only separated by a millimeter or two. Once, with the amp turned on and everything connected, I decided to tidy up the speaker cables a bit. As I moved the first one, its positive and negative lugs torqued around the binding post stem ... and touched.

The only anomaly I experienced during my time with the REX involved the auto-protection circuit, which kicked in seemingly at random three or four times over a few months. The puzzled BAT team asked if it shared the AC line with another piece of equipment with a large power draw, such as a refrigerator. It didn't. In fact, my listening room has a dedicated line for audio, with a pair of 20A circuits. Perhaps, we speculated, intermittent voltage drops or surges caused the cutouts.

Then again, since I began using the new room more than a year ago, no other straight-to-the-wall amplifier seemed affected by voltage irregularities.

None of this is worth obsessing over considering that the BAT's better-safe-than-sorry protection circuit activated infrequently and that getting the amp back to normal was always a quick affair.[2]

To preamp or not to preamp

Because my equipment console is only 15" deep—about 8" too short for the REX—I used an impressively beefy Finite Elemente Pagode HD-10 amplifier stand, centered on the floor between the speakers. Atop the amplifier, separated from it by a 4"-tall Townshend Seismic Podium that allowed for good separation, I placed the REX's preamplifier brethren, the tubed VK-90. BAT had sent the VK-90 along with the REX 500 in the expectation that it would prove an ideal pairing.

I decided to evaluate the amp in three ways. First, I went without a preamp, using the volume control of my main source, an Aurender A20 digital transport and server. Then I listened to the REX with the Aurender connected via the line stage of my Benchmark HPA4. Finally, I pressed the VK-90 into service, again using the A20 as a source.

While I did indeed prefer the sound with the BAT preamp in the chain by a small margin, I spent the least amount of time with that combination because I wanted to home in on the sonics of the REX without the wild card the VK-90 presented.

BAT co-founder Steve Bednarski told me he's keen on listening with a preamp in the system. I asked him why: What's the downside to feeding a power amp the output stage of a DAC or other digital source? "A well-designed active line stage will provide greater current delivery from its output stage than almost any source

2 I swear that right as I was typing that sentence, the amp's protection circuit kicked in. An all-day storm is raging outside, with 65mph coastal winds that tax my state's antediluvian power grid.

measurements, continued

examined the maximum continuous power into 2 ohms with one channel driven, the amplifier clipped at 800W (23dBW, not shown), but the distortion exceeded 1% at powers above 68W.

The THD+N percentage at 12.67V, equivalent to 20W into 8 ohms, 40W into 4 ohms, and 80W into 2 ohms, was relatively low below 1kHz into 8 ohms (fig.6, blue and red traces) and as expected from figs.4 and 5, was higher into 4 ohms (cyan, magenta traces) and 2 ohms (green, gray traces). However, the THD+N rose significantly in the top audio octaves into all loads, which implies that the REX 500 has a limited open-loop bandwidth. The distortion at this voltage into 2 ohms was >3% at frequencies above 6kHz.

The distortion waveform into 8 ohms was predominantly the second harmonic (fig.7), though the third harmonic was highest into 4 ohms (fig.8). Commendably, there are no crossover distortion spikes visible in this graph, which confirms the high output-stage bias. With the circuit's reduced linearity at high frequencies seen in fig.6, the REX 500 didn't do well when handling an equal mix of 19 and 20kHz tones at a peak level of 50W into 8 ohms (fig.9). While the second-order difference product lay at an okay –76dB (0.015%), the higher-order intermodulation products at 18kHz and 21kHz were higher in level, at –60dB (0.1%). A plethora of supply-related products is visible in this graph. The high-order products rose to –50dB (0.3%) at the same peak voltage into 4 ohms (not shown).

The Balanced Audio Technology REX 500's performance on the test bench indicates that it offers high powers but with higher-than-usual levels of both harmonic and intermodulation distortion. In this respect, it resembles a tubed amplifier, which might be expected from a company known for its tubed designs. That the relatively innocuous second and third harmonics predominate in the distortion signature is a note in its favor.—**John Atkinson**

Fig.7 Balanced Audio Technology REX 500, 1kHz waveform at 50W into 8 ohms, 0.129% THD+N (top); distortion and noise waveform with fundamental notched out (bottom, not to scale).

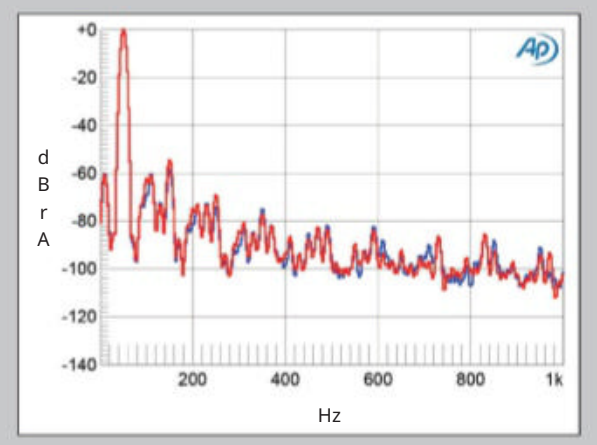


Fig.8 Balanced Audio Technology REX 500, spectrum of 50Hz sinewave, DC–1kHz, at 100Wpc into 4 ohms (left channel blue, right red; linear frequency scale).

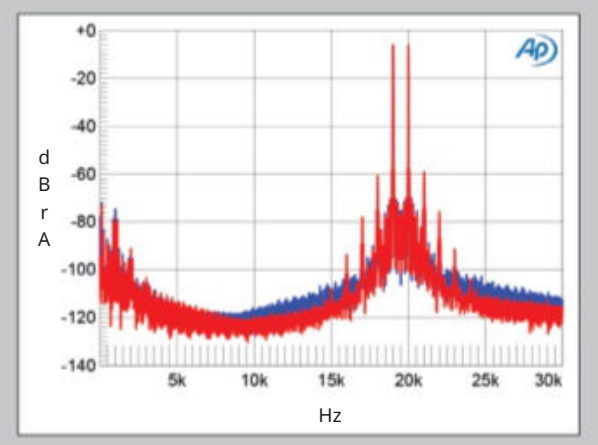


Fig.9 Balanced Audio Technology REX 500, HF intermodulation spectrum, DC–30kHz, 19+20kHz at 50W peak into 8 ohms (left channel blue, right red; linear frequency scale).

component," Bednarski emailed back. "Current delivery gives a sense of liveliness and joie de vivre to the reproduction of music. For instance, a CD player that uses an op-amp–based output stage will provide weak current delivery. When such an output stage is connected directly to an amplifier, the music can sound flat and uninvolving."[3]

Bednarski wanted me to experience the REX with a tubed line stage like the VK-90 because he feels that combining a valve preamp with a solid state amplifier can better flesh out colors and textures. This regard for tubes goes back to the company's very beginning, in 1995. For almost three decades, BAT has built high-end valve and solid state components, the latter culminating (for now) with the REX 500, BAT's flagship power amp.

Is it me, or is it hot in here?

The REX 500 is a class-AB amplifier that uses 24 high-current output devices per channel, giving it stupendous power: 500Wpc into 8 ohms, 1000Wpc into 4 ohms. (There's no official rating into 2 ohms.) Considering that amplifiers have to produce only a few continuous watts to make most speakers sing (very low-sensitivity and low-impedance loads excluded), you might think that such specs are overkill. To justify such a beast, Bednarski cited JA's measurements of Wilson Audio's Alexx V speakers,[4] whose equivalent peak dissipation resistance (EPDR) drops below 2 ohms over most of the midrange and mid-treble, with minimum values elsewhere in the 1 ohm neighborhood.

"That's the type of load for which an amplifier like the REX 500 will be a requirement," Bednarski said. He allowed that for most speakers, "you'll never need the power" that his amp delivers—but that doesn't mean that speakers with 4 to 8 ohm specs and 90+dB sensitivity won't benefit from a little of that REX elixir. In that application, "the speakers can reproduce the dynamics of a drum kit or the crescendo of a symphony orchestra with greater realism." Think of it this way, Bednarski proposed: "I've driven to the top of Pikes Peak a number of times. It's humbling how little power you have in reserve. You can think of the dynamic peaks in music as scaling mountains. The current delivery of the REX 500 allows peaks to be scaled with ease."

As you might expect, the REX is quite the space heater, using 400W at idle and 3000W full tilt. After a day's worth of music in the 80–85dB range at the listening position, I brought out my touchless infrared thermometer and measured 111°F on the top cover and 124°F around the fins. That's about 10°–12° hotter than my Krell but well within BAT's operating standards.

Despite the temperatures emanating from the aluminum chassis, the price of running the REX isn't prohibitive. At my request, team BAT calculated that based on an average electricity rate of 15 cents per kilowatt, when using the amp four hours a day, the owner would spend around $100 a year. That not likely to deter someone who's in a position to drop 25 grand on an amplifier.

A cut (or two) above

To learn more about BAT's design approach and about the REX 500 in particular, I read the very informative white paper that Bednarski emailed me.[5] These are the principles on which the REX 500 was designed.

Don't restrict the signal. Restricting signal flow, BAT says, results in "loss of detail, anemic bass, and lackluster dynamics." Other amplifiers restrict signal flow by having too many voltage-gain stages, each with too little quiescent current—as little as 2–4mA. That keeps those products affordable, because boosting quiescent current means an increase in the required power; that in turn necessitates bigger and more expensive power transformers and filters. The REX 500 contains only two gain stages, one of which runs at a whopping 200mA per channel.

Who needs negative feedback? Some years ago, Bednarski and his business partner, audio designer Victor Khomenko, built a prototype amplifier with feedback controls. They and a cadre of testers found that as little as 3dB of negative feedback audibly shrank the soundstage and restricted air around reproduced voices. "Notwithstanding the improvements that negative feedback brings to an amplifier's measured performance, every listener preferred the zero feedback position," BAT says. Consequently, the REX 500 uses no global feedback.

These ain't your sister's transistors. BAT uses only N-channel MOSFETs in the REX 500, deeming the P-channel variety "simply much slower."[6] The common combination of N-channel and P-channel transistors is a crutch, the BATmen say. "In the REX 500, both sides of the waveform are handled by identical devices in identical circuit configuration, assuring ultimate symmetry of the resulting signal."

This is perhaps even more radical than it sounds. As Mark Craven pointed out in his REX 500 review in *Hi-Fi News*, *Stereophile*'s sibling publication, "While the amplifier does not use complementary PNP/NPN transistor pairs, neither is its design quasi-complementary in the fashion of so many early transistor amps from the 1960s. Instead, the REX 500 takes its design cues from the Circlotron triode tube circuit patented by Wiggins in the US in 1958, though others had published similar topologies earlier. In fact, all BAT's amplifiers, whether tube or solid state, have employed a modified form of the bridged Circlotron configuration." It is, in other words, an unusual and clever design.

Getting an earful

Specsmanship aside, how does the REX 500 perform as a music-making machine? Did it please the ear and gladden the heart?

There's often a point during break-in when, all of a sudden, a piece of music demands your attention. That's your clue that serious listening can begin. With the BAT amp, that piece of music was Maurice Ravel's *Pavane Pour Une Infante Défunte*, in a woodwinds-heavy version by Vince Mendoza and Germany's WDR Big Band[7] (*Sketches*, 16/44.1 FLAC, ACT Music/Tidal).

At the 1:11 point in that track, Charlie Mariano comes in with his alto sax. With lesser gear, this passage can sound as if a soprano vocalist is producing the first six notes. That's an interesting effect, but I prefer not to have to guess what instrument I'm listening to. The REX 500 left no confusion about the timbre.

Elevated levels of transparency and resolution were also evident on Paddy McAloon's masterful *I Trawl the Megahertz* (24/44.1 FLAC, Sony Music UK/Qobuz).[8] I could hear every word of American guest Yvonne Connor's spoken part on the 22-minute title track—not necessarily a given. The BAT seemed to improve her enunciation. Soundstaging, too, was stellar. You could circle each instrument with a fine-tip Sharpie.

The BAT rendered the overtones of Alex de Grassi's acoustic-

3 There are other arguments in favor of using an active preamplifier. For one of the more convincing, see the post by Benchmark Media's John Siau at benchmarkmedia.com/blogs/application_notes/benchmarks-256-step-relay-controlled-attenuator. Scroll down and start reading at the subhead, "The 'Fully Passive' Myth."**—Jim Austin**

4 See *Stereophile*'s December 2021 issue.

5 You'll find it at shorturl.at/emBY3.

6 Trying desperately to remember semiconductor physics, which I learned 30 years ago: Charge-carrier mobility is much higher in an N-type MOSFET (in which the carriers are electrons) than in a P-type MOSFET (in which the carriers are holes), so an N-type switches faster and has lower resistivity.**—Jim Austin**

7 I've never been thrilled about German jazz cognoscenti calling the genre *yats* (luckily, most say *tschezz*, which is close enough. That *yats* pronunciation should be as much of a crime as calling a nipple a Brustwarze ("breast wart"). It's an interesting language, *nicht wahr*?

8 The album is often credited to McAloon's old band, Prefab Sprout, but it's very much a solo effort, with little involvement from others.

guitar strings on "Eulogy in a Low Voice" (The Bridge, FLAC 16/44.1, Tropo/Tidal) with velvety ease, and reproduced the shimmer and decay of all manner of cymbals beautifully, whether played by Simon Phillips, Buddy Rich, or John Bonham. Drum recordings revealed top-notch, grippy bass, the agility of a mountain goat, and phenomenal dynamics. The REX took every pianissimo–fortissimo transition and ran with it, making music seem effortless.

On David Bowie's "Bring Me the Disco King," off *Reality* (16/44.1 FLAC, Columbia/Qobuz), I sensed an increase in continuousness in the reproduction of lower piano notes—the same mosaic made with smaller bits of colored tile.

The upshot

The BAT REX 500 walks that happy line between reticence and bombast, giving preference to neither and varnishing nothing. It doesn't insert its own drama, but it renders sound that's both dramatic and refined—if that's what the recording calls for. Not to get too cute about it, but the REX is *balanced* in more than just topology.

Listening to this amplifier reminded me of the moment after I turned on and calibrated my first 4K television. I wasn't exactly slumming when I watched movies on the previous 1080p set, but with the higher-resolution screen, suddenly there was more there there.

Unfortunately for audiophiles, while a good 4K TV can now be had for less than $500, the REX costs 50 times that. I can get a little salty over skyrocketing equipment prices that seem to cater to oil sheiks and hedge-fund managers—Herb Reichert famously dubbed this Oligarch Audio[9]—leaving us poor schlubs in the cold. On the other hand, quality costs money, and the REX 500, expensive as it is, comes in multiples below the most expensive competing products.

The REX 500 has superb articulation and slam, zero glare, grip that could embarrass a bench vice, and as much truthfulness as the best power amplifiers I've heard. If a $25,000 purchase makes you neither wince nor whimper, this powerhouse deserves to be on your shortlist. It's good to be the king. ■

ASSOCIATED EQUIPMENT

Digital sources Aurender A20 streamer and DAC, controlled via the Conductor 4 iOS app. Hifi Rose RS520. 16" MacBook Pro M1 Max running Roon.
Preamplifiers Benchmark HPA4. BAT VK-90.
Power amplifier Krell FPB 200c (recapped).
Integrated amplifiers Anthem STR. PrimaLuna EVO 400.
Loudspeakers Focal Utopia Scala Evo. Tekton Moab Be.
Cables Speaker: AudioQuest Thunderbird Zero. Interconnects and power cords: AudioQuest, RSX, Clarus Crimson.
Accessories Townshend Seismic Podiums. Finite Elemente Pagode HD-10 amp stand. AudioQuest PowerQuest PQ-707 power conditioner. Puritan PSM156 mains purifier. Puron plug-in AC enhancers. Nordost QKoil, QSine, and QWave.
Listening room Custom-built 21' × 15' space with 10' walls and a 16' vaulted ceiling. Hardwood floor over gravel and concrete. Four bass traps, two skyline diffusers, and various absorption panels.—**Rogier van Bakel**

9 See for example stereophile.com/content/gramophone-dreams-39-jsikora-initial-turntable-grado-aeon3-phono-cartridge.