



BAT REX II PREAMP



BAT'S PINNACLE COMPONENT: PURIST DESIGN WITHOUT PEER

Comprised of a vacuum-tube power module and separate control module, the 18-tube REX II features a transformer-coupled output stage called T-REX. An incredible user interface helps turn it into the world's preeminent preamplifier.

EXTREME PERFORMANCE, ENGROSSING REPRODUCTION

As easy to operate as it is to personalize, REX II provides beguiling levels of transparency, dynamic scale, and textural insight. Hear and feel the power and beauty of music in ways you've never imagined.

VACUUM-TUBE POWER MODULE

The separate REX II Power Module contains ten vacuum tubes supported by two, large toroidal transformers in a true dual-mono configuration. Vacuum-tube rectifiers and user-configurable current sources provide further refinement.

SPECIFICATIONS

Inputs	5x XLR	Distortion at 2V Output	0.005%
Outputs (Main)	2x XLR	Maximum Output Signal	50V
Outputs (Tape)	1x XLR	Absolute Polarity	Switchable
Maximum Gain	18dB	Tube Complement (Control)	8x 6H30
Global Feedback	None	Tube Complement (Power)	2x 5AR4, 4x 6C19, 2x 6H30, 2x 6C45
Volume Control Resolution	0.5dB	Power Consumption (Control)	220VA
Volume Control Steps	140	Power Consumption (Power)	250VA
Frequency Response	2Hz to 200kHz	Dimension (Each)	19" x 5.75" x 15.5"
Input Impedance (Minimum)	100kΩ	Weight (Control)	40lb
Output Impedance	200Ω	Weight (Power)	36 lbs
Noise (Unweighted)	-100dB		

The culmination of nearly two decades of design, the fully balanced REX II preamplifier represents the pinnacle of Balanced Audio Technology's purist approach to building a statement control center without peer. Featuring a vacuum-tube power module and separate control module, this groundbreaking two-box component features a transformer-coupled output stage (aka T-REX). The latter replaces BAT's Six-Pak of output capacitors with custom-designed amorphous core output transformers. Sonically, they offer greater dynamics, transparency, top-to-bottom extension, and a more organic portrayal of music. Easy to use, the REX II boasts an incredible user interface and myriad customizable options. And with the REX II's proprietary electronic shunt volume attenuator, you can always get the volume just right.

T-REX: TRANSFORMER COUPLED OUTPUTS

For the first time in Balanced Audio Technology's history, The REX II preamplifier features a transformer-coupled output stage. This Transformer-REX (code-named T-REX) replaces BAT's venerable Six-Pak of output capacitors with custom-designed amorphous core output transformers. Each transformer is encapsulated into a mu-metal shield for the ultimate in signal purity and noise isolation.

This change to a transformer-coupled output stage has a solid engineering foundation. All devices have inherent imperfections. Yet, while both capacitors and transformers can perform the same task of DC decoupling, in many cases the transformer can be designed closer to the ideal device model. This benefit, however, does not come easily. First, the design of a linear and close-to-ideal transformer is not trivial. Second, some applications are more suitable for transformers than others. And third, the highest-quality transformers are also much higher in cost.

In order to achieve this "transformational" goal, years were spent in prototyping and testing various alternative output transformer designs. The result: BAT's new transformer-coupled output stage proved itself to be substantially superior to any capacitor solution in maintaining a purity of signal transmission. Electrically, these custom transformers significantly improve the REX II preamplifier's ability to drive low impedance loads. Sonically, they offer greater dynamics, transparency, top-to-bottom extension, and a simultaneously more coherent and organic portrayal of music.

UNISTAGE DESIGN

Simplicity of design, especially in the direct signal path, has always been the hallmark of Balanced Audio Technology's purist approach to circuit topology. Some advocates of this purist approach like to talk about a "direct wire with gain" as being the ideal circuit. The REX II preamplifier deftly meets this simple design criterion. The signal in the REX II preamplifier is transmitted through only one gain stage. This approach is free from the negative artifacts attributable to both extremes of modern preamplifier designs—passive preamplifiers on one end of the spectrum and multistage buffered active circuits on the other.

The benefit of the Unistage circuit is that it provides the ultimate simplicity of amplifying the incoming signal only once, while using no global feedback to double-back on the straight-through integrity of that signal. Imagine telling a joke to your friends and telling them to "pass it on"... Pass it on enough times and you won't recognize the joke. Pass the music through too many gain stages, and you'll no longer recognize the genius and beauty of your favorite recordings.

BALANCED TOPOLOGY

Of course the REX II preamplifier is balanced. Balanced Audio Technology staked its reputation on this principal of circuit design from day one. Today, it isn't hard to find many followers in the industry. Why do we believe that balanced is better? In our opinion, balanced topology simply provides a complete signal representation. Something magical happens when you free yourself from the limitations of the single-ended structure with its half-signal processing. If a one-handed craftsman can be very good, imagine what he could do with two hands.

6H30 SUPERTUBE

In 1999, Balanced Audio Technology introduced the world to the 6H30 SuperTube with the release of the VK-50SE preamplifier. Today, many of our major tube competitors have followed BAT's lead by designing their own reference products based on this stellar vacuum tube. While imitation is the sincerest form of flattery, there is only one REX II preamplifier. The REX II preamplifier uses eight of the 6H30 SuperTubes in its Control Module to achieve an extraordinarily high-current, low impedance drive capability. As we had written upon introduction, "comparing the 6H30 tube to a standard 6922 is like comparing a Formula 1 race car to a family sedan."

Indeed, the REX II preamplifier would need thirty-two 6922 tubes to offer the same current delivery as its 6H30 SuperTube based implementation! But Balanced Audio Technology doesn't stop there in its flagship design. Imagine the robust nature of a vacuum-tube power supply designed to support this level of instantaneous current delivery.

VACUUM-TUBE POWER MODULE

In order to support the signal-handling needs of the Control Module, the REX II Power Module contains ten vacuum tubes. The tubes in the Power Module are supported by two large toroidal transformers in a true dual-mono configuration. Vacuum tube rectifiers and user-configurable current sources, as well as vacuum tube AC shunt regulators, provide the final level of refinement for this massive power supply.

The DC voltage undergoes several steps of filtering that include the use of sophisticated C-multipliers that minimize low-level noise in the power supply. The final stage of filtering uses BAT's newest SUPER-PAK of custom oil capacitors. These same capacitors are also used in the Control Module's SUPER-PAK.

The extreme performance for the REX II preamplifier does not stop with vacuum-tube

rectification, vacuum tube current sources, or Super-Pak capacitors. In this regard, the REX II is not just a preamplifier with an external power supply box. This conventional type of partition suffers from several well-known drawbacks, foremost being the high-impedance nature of the remote power supply. The REX II preamplifier is a very different beast altogether. In the REX II, the control box offers the benefit of a low-impedance local power supply—while also preserving an upgrade path for the owner of the VK-53SE preamplifier.

Indeed, the REX II preamplifier takes the Balanced Audio Technology tradition of massive and non-conventional power supplies to a new level of performance altogether. For the REX II preamplifier, BAT designed each box to contain the complete power supply for one polarity—positive in the Control Module, negative in the Power Module. And yes, the size of each individual dual-mono power supply is comparable to that found in many power amplifiers!

CUSTOM POWER SUPPLY OPTIONS

The REX II preamplifier incorporates a unique feature that allows the user to optimize its sound, tailoring it to one's individual taste or system requirements. The vacuum tube current sources incorporated in the REX II preamplifier are part of the signal gain stage and therefore have a direct effect on the preamplifier's final sound. In its standard configuration, the REX II uses the Russian 6C19 as current source tubes. This tube is basically a miniature version of the famous 6C33 tube, and provides, in our view, the best combination of sonic characteristics and electrical performance. However, the unique design of the REX II preamplifier allows any customer to also use other tube types as current sources.

SHUNT VOLUME CONTROL

The REX II preamplifier employs a proprietary electronic shunt volume attenuator that offers one hundred and forty steps of 0.5dB resolution. The series element used in this volume control is the Vishay bulk foil resistor – the most precise and low distortion resistor available. Discrete metal film resistors are used to bleed the unused signal to ground. These one hundred and forty steps give precise repeatable volume settings that sound continuous to the human ear. With the REX II preamplifier, you can always get the volume just right!

EXTREME PERFORMANCE, ENGRASSING MUSICAL REPRODUCTION

Easy to operate out of the box, REX II is just as easy to customize. Name your sources. Fix your volume for the MOVI input alone to allow easy master control of your home theater system from your pre/pro remote. Select a fixed balance adjustment for the phono input to accommodate an older phono cartridge. Most importantly, REX II provides a level of transparency, dynamic scale, and textural insight that is simply beguiling. This 18-tube statement design lets you hear and feel the power, finesse, and beauty of music in ways you've never imagined.