



BAT VK-23SE PREAMPLIFIER



SUPERB TRANSFORMER-COUPLED OUTPUTS

Fully balanced, VK-23SE is optimized by transformer-coupled outputs that prove superior to any capacitor-coupled design. Electrically, they significantly elevate VK-23SE's ability to drive low-impedance loads. Sonically, they provide improvements in every area of musical reproduction.

PERFECT AUDIO SYMMETRY

Touting circuitry based on N-Channel MOSFET devices, VK-23SE features perfect audio uniformity. In this cutting-edge component, identical mechanisms—in identical circuit configuration—handle both sides of the waveform and ensure ultimate symmetry of the resulting signal.

TUBE-LIKE SONIC CHARACTER

State-of-the-art technology—including a programmable user interface and 140-step shunt volume control—taken from BAT's top-of-the-line devices complement the tube character, engrossing transparency, and bell-like purity that make VK-23SE a unique high-end value.

SPECIFICATIONS

Number of Channels	2	Input Impedance	100 k Ω minimum each phase
Output Per Channel (8 Ω /4 Ω)	150W / 300W	Frequency Response	2Hz to 100kHz
Inputs	2x XLR + 3x RCA	Main Outputs	1x XLR + 1x RCA
Preamplifier Outputs	1x XLR balanced output	Maximum Gain	20dB
Volume Control Resolution	0.5db	Power Consumption	50VA
Volume Control Steps	140	Dimensions	19" x 5.75" x 15.5"
Absolute Polarity	Switchable	Weight	30 lb.
Noise	-96dB unweighted	Maximum Output Signal	12V
Distortion at 2V Output	0.02%		

On the surface, VK-23SE is Balanced Audio Technology's entry-level solid-state preamplifier. Yet it's packed with much of the same technology found in the company's flagship solid-state and vacuum-tube preamplifiers. VK-23SE combines BAT's trademark high-current Unistage™ topology with the transformer-coupled outputs that anchor every BAT Special Edition preamplifier. They work in conjunction with a symmetrical N-channel Unistage™ gain block to provide BAT's hallmark high-current operation. An easy-to-use programmable user interface and discrete 140-step shunt volume control are the same as those found on BAT's top-of-the-line REX II preamplifier—right down to the Vishay bulk foil resistors used in the volume-control circuit.

TRANSFORMER-COUPLED OUTPUTS BASED ON INFALLIBLE ENGINEERING

Exchanging BAT's venerable Six-Pak of output capacitors with custom-designed output transformers, VK-23SE joins every BAT SE preamplifier in featuring transformer-coupled outputs. This change is rooted in solid engineering fundamentals.

All devices have inherent imperfections. 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. This benefit does not come easily. Executing a linear and close-to-ideal transformer is a highly involved process. Also, some applications are more suitable for transformers than others. Plus, the highest-quality transformers are higher in cost. For these reasons, good transformers remain relatively uncommon in high-end audio.

In order to achieve our "transformational" goal, BAT spent years prototyping and testing various alternative output transformer designs. That's why our new transformer-coupled output stage proves substantially superior to any capacitor-coupled output stage in maintaining a purity of signal transmission. Electrically, these custom transformers significantly elevate VK-23SE's ability to drive low-impedance loads. Sonically, they offer improvements in every area of musical reproduction.

UNISTAGE™ DESIGN CONSTITUTES A SONIC IDEAL

Simplicity of design, especially in the direct signal path, continues to be a hallmark of Balanced Audio Technology's purist approach to circuit topology. Some advocates of the technique like to talk about a "direct wire with gain" as being the ideal circuit. VK-23SE deftly meets this simple design criterion. The signal in VK-23SE is transmitted through only one gain stage. This design is free from the negative

artifacts attributable to both extremes of modern preamplifier design—passive preamplifiers on one end of the spectrum, and multi-stage buffered active circuits on the other.

The leading benefit of the Unistage™ circuit relates to the sheer simplicity of amplifying the incoming signal only once, and using no global feedback to double-back on the signal's straight-through integrity. Imagine telling a joke to friends and saying, "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.

HIGH-CURRENT N-CHANNEL MOSFET CIRCUIT

The VK-23SE circuit is based entirely on N-Channel MOSFET devices. In solid-state design, it is customary to use complementary N- and P-Channel devices in the gain stage. Such configurations are easier to build, but they all suffer from an important drawback: P-Channel devices are inherently inferior to their N-Channel brethren in that the former are simply much slower. Pairing faster N-channel devices with slower P-channel devices constitutes a mismatch on par with placing a stock engine in a Lamborghini. You will never get a perfect symmetry when using devices with such wide speed discrepancy. In VK-23SE, identical devices—in identical circuit configuration—handle both sides of the waveform and ensure ultimate symmetry of the resulting signal. Preamplifiers—right down to the paper-in-oil signal capacitors. And the user interface offers the superb flexibility and ease of use that helped BAT set the industry standard. Even the included VK-R3 remote is machined from a solid block of aluminum. To literally cap it off, the VK-3000SE features a gorgeous aluminum top cover and side panels that add to its signature look. Inside and out, this integrated amplifier possesses an impeccable pedigree.

WHY FULLY BALANCED IS BETTER

Naturally, VK-23SE 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. Why do we believe that balanced is better? Balanced topology simply provides a complete signal representation. Something magical happens when you free yourself from the limitations of the single-ended structure and its associated half-signal processing. If a one-handed craftsman is very good, imagine what he could do with two hands.

It is fairly common to associate the benefits of balanced design with improved signal

integrity when dealing with long interconnects, for example. However, the true benefits of a balanced approach to circuit design go much further than signal transmission. Advantages include such fundamental aspects of design as the interaction between the power supply and its associated gain stage. Common wisdom holds that the power supply should be considered a part of the signal path. However, whereas the sonic contribution of the power supply can be overwhelming in a single-ended design, it is much less of a concern in a balanced circuit. As the circuit becomes more symmetrical, the residual effect of the power supply becomes less intrusive. In effect, the demand on the power supply is reduced, making it easier to design a balanced circuit that conforms more closely to the engineering ideal. For added convenience, VK-23SE incorporates a mix of balanced and single-ended inputs and outputs.

STELLAR USER INTERFACE, CUSTOMIZABILITY, AND OPTIONAL PHONO MODULE

Simple to use right out of the box, VK-23SE is just as easy to customize. You can dim the display from the comfort of your chair by using the BAT remote. Fade music at the touch of a button. Switch phase to see if a recording is made in reverse absolute polarity. Even name your sources. For example, name your home-theater playback input "THTR." Then, fix the volume for your THTR input to control your home-theater system from your pre/pro remote. VK-23SE can also be ordered with the outstanding VK-P20, a solid-state phono module designed to compete with external phonostages twice its price. It offers switch-selectable moving-magnet or moving-coil gain settings, and provides a convenient, high-performance, single-box solution for vinyl aficionados.

SUMMARY

VK-23SE serves as an accessible gateway to the outstanding performances Balanced Audio Technology preamplifiers have provided listeners for more than two decades. Transformer-coupled outputs, Unistage™ topology, a shunt volume-control, stellar user interface, and optional phono module make VK-23SE unique in an industry filled with staid designs that often offer little more than upgraded passive parts. Offering relief from the fatiguing and astringent sonics associated with solid-state preamplifiers, VK-23SE combines a tube-like presentation with see-through transparency and a bell-like purity of tone. Proud to anchor any system, VK-23SE constitutes the perfect complement to BAT's VK-225 and VK-225SE solid-state power amplifiers.