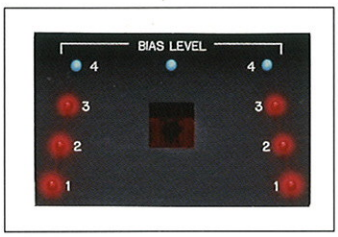
The S-Series Amplifiers

A New Era

In

Power

Amplification



KSA-100S

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KSA-200S

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KSA-300S

THE KRELL S-SERIES AMPLIFIERS ARE A REMARKABLE UNION OF NEW DESIGN CONCEPTS AND REFINEMENTS OF EXISTING TECHNOLOGIES. NEVER BEFORE HAVE POWER AMPLIFIERS BEEN DESIGNED WITH THE INTELLIGENCE TO DELIVER ON THE CONTRADICTORY GOALS OF IMPROVED POWER DELIVERY AND REDUCED AC POWER CONSUMPTION.

The Bias Level Meter displays the active bias plateau. The display can be turned off, leaving only the blue pilot light illuminated.

EVOLUTION IN ENGINEERING: SUSTAINED PLATEAU BIAS

Concern for the environmental impact of high power amplifiers in and out of the listening room, combined with a desire to deliver more Class A power, has inspired the development of an important new technology: Sustained Plateau Bias. Developed initially for our Audio Standard monaural amplifier, this patented system contains the control and logic circuitry that insures Class A operation of the amplifier while reducing overall power consumption and heat.

KRELL THE LEADER IN AUDIO ENGINEERING

The S-Series amps can be controlled remotely from either a dedicated or Krell preamp remote. Remote functions are Power On/Off and Bias Level Meter display On/Off.

Rather than continue the spiraling process of increased power use for higher powered amplifiers, Dan D'Agostino and the Krell engineering team have developed technologies to improve sonic quality and increase usable Class A power, while lowering overall power consumption. Just as Class A operation is acknowledged as the bias system of choice, the S-Series amplifiers will establish a new frame of reference for musical presentation and overall performance.

Each S-Series amplifier has five bias levels, or plateaus. The Sustained Plateau Bias circuitry analyzes the preamplifier output and selects the correct bias level. The selected bias level is sustained until the program material requires either a higher bias level or the next lower bias level.

The key element in this system is the Anticipator circuit. The Anticipator constantly evaluates the input and determines the correct bias level. Operating at a speed many times faster than the amplifier, the Anticipator is able to initiate changes to higher bias levels before the audio signal is passed through the output stages. The significance of this point cannot be overstated. The bias level must change in advance of the program to maintain Class A operation and consistent sonic quality. The extraordinary rise time of the Anticipator and the amplifiers, which greatly exceed any musical program, guarantee that the output stages deliver Class A power to the speakers, regardless of input.

The Sustained Plateau Bias system also controls the length of time a bias level is maintained and when shifts to lower bias levels are made. The sustained concept of this system allows the outputs to operate at one of five predetermined levels, rather than fluctuate constantly as in sliding bias designs. Upward bias level changes can be made at any time. Downward changes are made only when the next lowest bias level would accommodate the input for approximately 20 - 30 seconds. This insures that bias changes are made only when needed.

NEW CONSIDERATIONS: POWER CONSUMPTION AND HEAT

Power consumption and generated heat are vastly reduced in comparison with constant, high-bias designs. Because the S-Series amplifiers operate at the Class A level required by the input, current consumption and heat are issues only at high listening levels. At low to moderate levels, the amplifiers run at warm temperatures and consume little power. Also, the amplifiers can idle for extended periods, fully ready for critical listening, without overheating the room and wasting electric power.

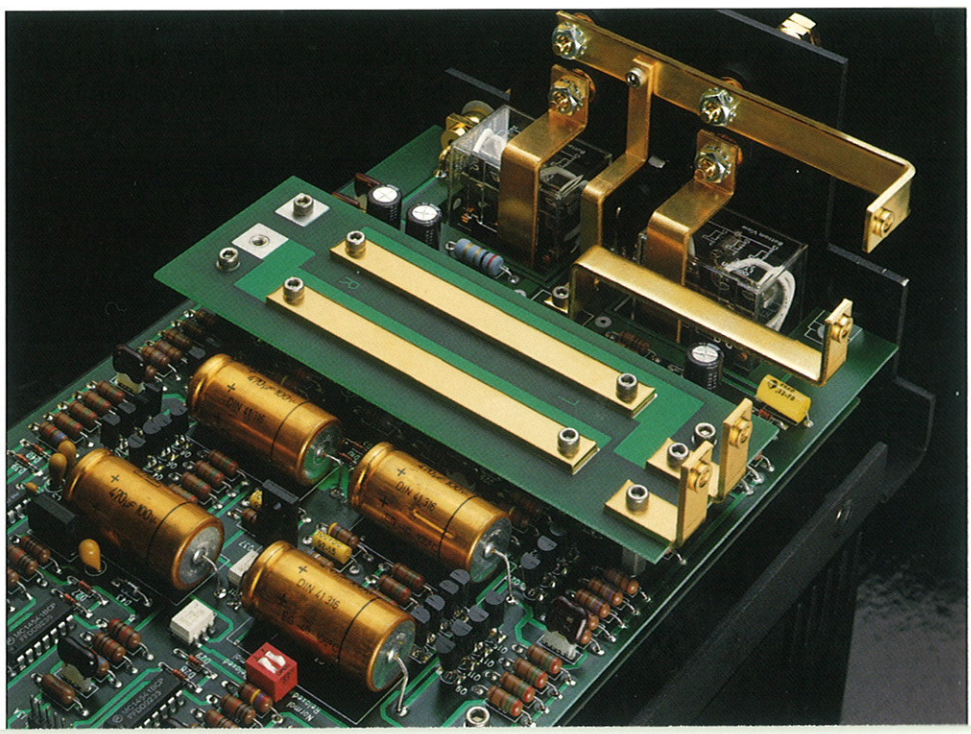
In conclusion, the Sustained Plateau Bias system adds intelligence to the legendary Class A power of Krell amplifiers. With less of the power supply utilized in maintaining a high constant bias, the S-Series amplifiers deliver more Class A power to the speaker and superior transient response. The musical result of this technology alone is a sonic presentation distinguished by exceptional transparency and grace, extraordinarily robust, deep low bass and sparkling highs.

THOUGHTS ON AMPLIFIER POWER

Speakers do not present a constant impedance to the amplifier. The actual impedance of frequencies in the audio band varies, with dips below 1 ohm and rises above 8 ohms not uncommon. With a background in speaker design and manufacturing, Dan D'Agostino has made the following point a design prerequisite for every Krell amplifier ever made: for accurate audio reproduction, the amplifier must be able to deliver its full power into virtually any impedance. This means the amplifier must double its output as impedance is halved. Simply stated, there is no substitute for raw power. This is, after all, one of the amplifier's primary functions.

Review the ratings for the S-Series amplifiers. The output into 1 ohm is a direct multiple of the 8 ohm rating, meaning the amplifier has enough transformer and supply capacitance to drive 1 ohm at full power. The ability to deliver full output into the most difficult loads explains part of our legend: Krell amplifiers generate higher sound pressure levels and extract the best sonic quality from any speaker, regardless of listening volume.

There is a common misconception that high power amplifiers cannot sound as good as lower powered units. This may be true with some manufacturers, but it is definitely not true with Krell. Unlike other designs, the S-Series amplifiers are designed throughout to support high power and low impedance drive. Pre-driver, driver and output stages are all optimized for high power delivery. They will maintain a consistent sonic character under all load conditions. A second misconception is that large amplifiers are slow. On the contrary, the large S-Series transformers have very low source impedances, guaranteeing a higher speed response time. Coupled with a design which employs no global feedback and high damping factor, these amplifiers generate extraordinary transient attacks.



CIRCUITRY HIGHLIGHTS

Technical advancements for the S-Series amplifiers include new refinements in audio and supply circuitry. Front-end driver circuits are typically all high-bias Class A. Gain is distributed among several discrete stages, allowing each to have a large linear operating area. Precisely matched FETs are used to insure that the balanced input signals are properly combined. All circuits are direct-coupled, including the output stage, which provides a low end bandwidth approaching DC. All circuits are designed for excellent supply noise rejection. Combined with exacting layouts on heavy copper-clad PC boards, this results in extremely low output noise. Further, these amplifiers automatically self-calibrate bias and DC offset adjustments. This unique technology insures peak performance regardless of line voltage conditions and an unchanged sonic character throughout the life of the amplifier.

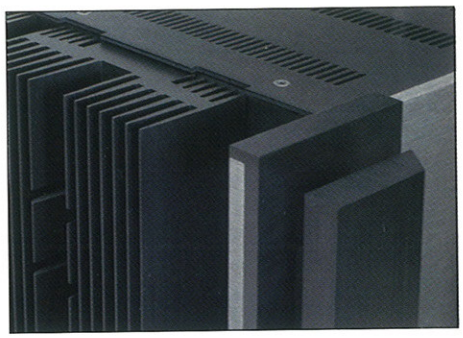
Power supply technology has always been an important contributor to the Krell sound. In the S-Series, utilization of the supplies is extremely sophisticated and controlled. Fully regulated, low impedance supplies provide each front-end gain stage with an almost perfect voltage source. Multiple-point decoupling further decreases the power supply impedance, even at high frequencies. Taken as an integrated system with the high current output stage supply, S-Series power supplies provide a foundation for their unmatched high speed, high power performance.

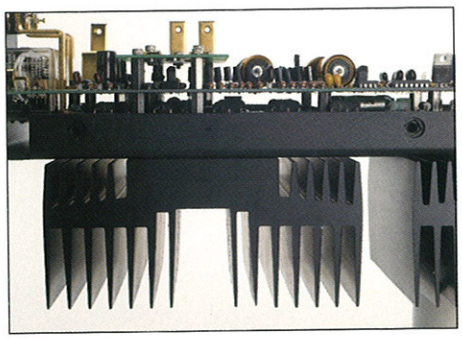
Wireless output stage construction allows for efficient, consistent production and improved performance over conventional wiring.

Krell continues to deliver the best value in high end audio in terms of parts to labor ratio and parts cost allocation. Efficient, modern designs keep production labor to an absolute minimum. Expensive parts and techniques that have no tangible benefit, such as certain exotic PC board materials or audiophile caps, are avoided. Several cases in point: S-Series amplifiers utilize heavy plated, four layer boards which allow the most effective circuit layout, shielding and grounding. Gold plated beryllium copper bars are used for critical power supply, output stage, and ground connections. These bars are more easily installed, more reliable, and perform better than the wire they replace. A final example is power supply cost. As detailed above, the supply is an amplifier's single most important subassembly. No manufacturer spends as high a percentage of parts cost on the power supply as Krell. When you purchase an S-Series amplifier, you are assured of getting real hardware and performance.

WHICH AMPLIFIER IS RIGHT FOR YOU?

The KSA-100S, KSA-200S and KSA-300S use the same circuit families, optimized for the output capabilities of each model. Consequently, their sonic characteristics are very similar. The obvious difference is in power. Increased power generates improved sonic quality in additional to higher volume levels. Control over the speaker is gained with higher output capability, providing more accurate reproduction of transients, spatial information and detail resolution. Your choice, then, will be based on your personal requirements and budget. Ultimately, you will make a correct decision with an S-Series amplifier from Krell...the leader in audio engineering.





Top: The front panel end caps, handles and center piece are custom-extruded for Krell. They are hand-brushed before anodizing to create the classic Krell finish.

Bottom: The proprietary KSA-200S and KSA-300S heatsink represents evolution in efficient thermal packaging. This heatsink dissipates more heat at a quicker rate than previous designs, while lending an interesting aesthetic to the overall design.

Center panel (opposite page): Two sets per channel of our custom brass gold plated, laser engraved binding posts allow for easy multi-wiring of any speaker system. They provide for tighter connections and are mechanically more reliable than common speaker output terminals.


KSA-100S
POWER
DISPLAY
BIAS LEVEL
4
3
2
1
KSA-200S
KSA-300S

The S-Series rear panel layout allows for convenient connection of input and multiple speaker cables. Tri and quad wiring is quickly accomplished due to the large opening of the custom Krell speaker binding posts.

SPECIFICATIONS

	KSA-100S	KSA-200S	KSA-300S
Frequency Response:			
20 Hz - 20 KHz	*+0.0/-0.1dB*	*+0.0/-0.1dB*	*+0.0/-0.1dB*
1 Hz - 150 KHz	*+0.0/-3dB*	*+0.0/-3dB*	*+0.0/-3dB*
Distortion: *1KHz, full out*	*<.1%*	*<.05%*	*<.1%*
20KHz, full out	*<.5%*	*<.2%*	*<.3%*
Slew Rate	*100 v/ms*	*100 v/ms*	*100 v/ms*
Input Sensitivity	*1.4 Vrms*	*2.1 Vrms*	*2.6 Vrms*
Gain	*26dB*	*26dB*	*26dB*
Damping Factor	*>60*	*>80*	*>120*
Continuous Power, per channel			
8 ohms	*100*	*200*	*300*
4 ohms	*200*	*400*	*600*
2 ohms	*400*	*800*	*1,200*
1 ohm	*800*	*1,600*	*2,400*
Power Consumption, idle	*100w*	*120w*	*130w*
@ full power	*1,400w*	*2,800w*	*5,000w*
Transformer	*1,400va*	*2,800va*	*5,000va*
Supply Capacitance	*136,000mf*	*272,000mf*	*272,000mf*
Remote Included	*Yes*	*Yes*	*Yes*
Dimensions: 8.5"H x 19"W x	*19.25"D*	*21"D*	*24"D*
Weight: Unit only for shippment	*80*	*110*	*185*
Packed	*95*	*125*	*200*

COMMON INFORMATION

Inputs: *Balanced XLR & single-ended RCA*
Outputs: *2 sets per channel of brass, gold plated, laser engraved custom Krell binding posts*
Remote Control functions: *Power On/Off, Bias Level Meter On/Off*
Available Remote Link Cable coordinates the remote functions of two or more amplifiers
Can be set up for turn on by remote AC switch
Discrete, complimentary and direct coupled circuitry from input to output
Warranty: *5 years, parts and labor*

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