



MDA-500 Monaural Differential Amplifier



One of the primary functions of a power amplifier is to control, in the most absolute sense, the operation of the loudspeaker. This is a complex task not easily simulated in an engineering lab or quantified in specifications. The MDA series amplifiers employ a radical approach that redefines the amplifier/speaker interaction. This technology transcends common issues such as power output, distortion, slew rate, etc. The designation MDA, which refers to Monaural Differential Amplifier, merely hints at the unique nature of the MDA-300 and MDA-500.

Internal View:

Clean, uncluttered mechanical design contributes to overall efficiency and reliability.

DUAL-HEMISPHERE DESIGN

Monaural amplifiers have long been recognized as superior to their stereo counterparts. More recently, balanced operation has become recognized as essential in the pursuit of sonic quality. The MDA technology evolves both concepts. Each MDA chassis is, in reality, two amplifiers: one for the non-inverting (+) signal, one for the inverting (-) signal. The outputs of the two channels drive the speaker, meaning that the speaker is being driven from two "hot" outputs, as opposed to being driven from a hot and ground. This gives the amplifier tremendous control over the speaker. Further, the speaker is not referenced to signal ground. By eliminating current draw from signal ground by the speaker, interaction with other components is suppressed.

The dual-hemisphere approach also yields improvements in speed and power delivery to extract maximum performance from the speaker system.

Two additional unique design features of the MDA amplifiers are the complete absence of feedback from output to input and direct-coupling of the entire

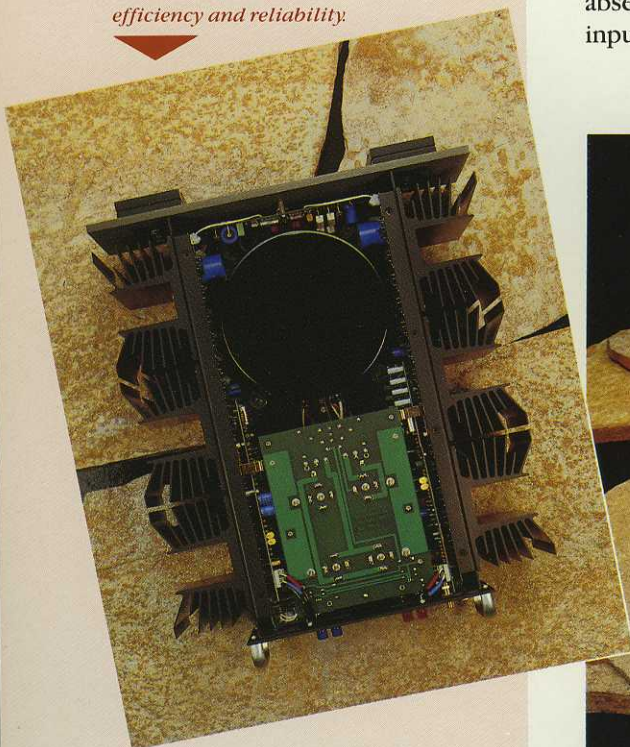
signal path. The MDA front-end circuits operate as pure, uncompromised gain stages. Direct-coupled circuitry eliminates all capacitors and their associated sonic impurities from the signal path. Servo amplifiers are employed to eliminate DC offset from being passed on to the speaker.

POWER & MUSIC

A cornerstone of Krell's philosophy is to manufacture high-powered amplifiers that deliver extraordinary sonic quality. The MDA-300 and MDA-500 further exemplify this commitment. Both amplifiers can deliver their full power into the most difficult loads. To understand their maximum output capability, consider the following: the MDA-300 can generate a 150 amp/150 volt peak; the MDA-500 can develop a 200 amp/180 volt peak, with a full 700 amp output capability.

Rear View:

The MDA rear panel supports single-ended and balanced inputs. Speaker bi-wiring is facilitated by two sets of binding posts. Note that the red and blue posts are the outputs of the non-inverting (+) and inverting (-) channels.



These stunning figures do not represent simple brute power. This is highly controlled power, capable of recreating the tremendous dynamic impact, delicate nuance and rich tonal quality of live music. The MDAs reveal subtleties previously unheard in new and old recordings alike. Imaging is presented with an increased sense of depth and width, with a startling sense of location.

| | MDA-300 | MDA-500 |
|------------------------------|------------------------------------|------------------------------------|
| Power: | | |
| 8 ohms | 300 watts | 500 watts |
| 4 ohms | 600 watts | 1,000 watts |
| 2 ohms | 1,200 watts | 2,000 watts |
| 1 ohms | 2,400 watts | 4,000 watts |
| Signal-to-Noise Ratio | 108 dB unweighted | 108 dB unweighted |
| THD | 0.1% | 0.3% |
| Slew Rate | 50 v/ms | 50 v/ms |
| Input Impedance | 47 K ohms | 47 K ohms |
| Damping Factor | 30 20-20 KHz | 50 20 Hz-20 KHz |
| Power Consumption | 400 watts continuous | 600 watts continuous |
| Warranty | 5 years, limited & transferable | 5 years, limited & transferable |
| Dimensions | 19" wide, 8.5" high 16.75" deep | 19" wide, 8.5" high 21.25" deep |
| Weight, unit only | 94 lbs | 132 lbs |
| Shipping Weight | 105 lbs | 144 lbs |

STABILITY & PROTECTION

One of the great virtues of the MDA amplifiers is stability. They are virtually impervious to interactions with system components, normal variations in AC line conditions, and other factors that negatively affect amplifier performance. Automatic bias and DC offset circuitry insures consistent performance regardless of these external conditions. These systems allow the MDA amplifiers to perform constant self-calibration. The long-term effect is consistent performance throughout their lifetime.

Large power amplifiers are often difficult to turn on due to the massive amount of current required to energize the power supply. Incorporated into the MDA protection system is sophisticated slow-start circuitry which regulates current surge at turn-on and allows the amplifier to power up slowly, avoiding problems with the AC mains.

Protection circuitry guards against shorts across the outputs and excessive DC at the input or output. A series of relays are quickly engaged in any of these events to shield the amplifier and other system components from being damaged.

CONVERTIBLE CONSTRUCTION

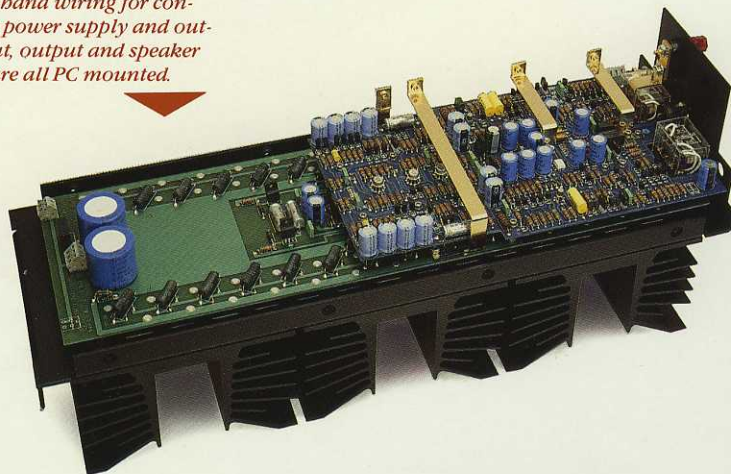
The MDA-300 and MDA-500 complete the current series of Krell convertible amplifiers. Our stereo amplifiers, the KSA-150 and KSA-250, can be remanufactured into MDA-300 and MDA-500 respectively. A program exists that enables KSA-150 and KSA-250 owners to have their stereo unit converted to monaural, purchase a single, new monaural unit, and receive the two units as a matched pair from the factory or distributor. This allows flexibility in assembling a system over time without the losses typical of trading or selling used equipment.

QUALITY IN EVERY DETAIL

Krell strives to create products that deliver perceivable quality—in concept, design, materials, reliability, and most importantly, sonic quality. We are equally committed to the evolution of our technology. Monaural Differential Amplifier design represents a quantum improvement over all current amplifier concepts. The MDA-300 and MDA-500 will clearly surpass any existing amplifier system in all aspects of sonic performance, with the MDA-500 being the ultimate expression of the MDA technology.

MDA-500 Input/Output Stage:

One entire MDA-500 channel is contained in one sub-assembly. The gold-plated solid copper bars replace conventional band wiring for connection to the power supply and outputs. The input, output and speaker connections are all PC mounted.





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