

# Illusion Preamplifier



Stereo Preamplifier featuring Krell CAST technology  
w/optional crossover functionality

# Illusion Preamplifier

The Illusion preamplifier extends the Krell tradition of separating the power supply from the audio circuitry in our flagship preamplifiers. Sharing the new Class A iBias power amplifier aesthetic and featuring Krell CAST technology, the Illusion preamplifier is the ideal match for the new Solo 375 and Solo 575 power amplifiers.

The optional crossover functionality offers the ability to use a subwoofer/satellite speaker arrangement and still maintain the highest quality sonic performance. Previous to the Illusion preamplifier, this system configuration would require signals to pass through a subwoofer's lower quality crossover circuitry. The Illusion preamplifier is the centerpiece of a world class audio system where space is at a premium.

## DESIGN

### Circuitry Highlights

The Illusion preamplifier is a dual monaural circuit design with the left and right channels afforded their own power supply regulation and individual full chassis sized boards. All signal gain is realized in surface mount topology using proprietary multiple-output current mirrors with nearly 500 times the open loop linearity of other designs 1.5 MHz open loop bandwidth in a zero feedback, balanced, Krell Current Mode design terminating in Krell CAST. A complete Krell system (source, preamp, and amplifier) system, connected using CAST interconnects reduces the number of voltage gain stages to the minimum, one. The resulting noise floor approaches the theoretical limit of technology. Negative feedback is not used anywhere in the preamp, nor is it necessary. Open-loop distortion is typically less than 0.003%. The volume control is realized with a balanced resistor ladder — bandwidth and transient response of the preamp circuitry are virtually unaffected by the volume setting.

### Crossover Highlights

Owing to Krell's work in the Modulari Duo Reference loudspeaker, the unique crossover feature is a highly sophisticated option. When the optional board is present, additional crossover menu items become available. Definable parameters include independently assignable crossover frequencies and filter types for the high and low pass sections. Choices include 40Hz, 55Hz, 75Hz, and 100Hz crossover points with 12dB, 24dB, and 48dB Butterworth or 24dB Linkwitz-Riley style filters. The high pass section of the crossover uses the full Illusion preamplifier circuitry for its output stage.

### Power Supply Highlights

The Illusion audio circuits receive power from a Krell Current Mode analog power supply housed in its own dedicated chassis. The power supply avoids the common integrated circuit topology used in many preamplifiers and instead mimics the design topology of Krell Evolution e Series amplifiers. The circuitry is completely discrete giving it the ability to respond quickly to current demands and also be unaffected by all but the most severe AC voltage power fluctuations. Oversized for a preamplifier, the power supply features a 290 VA transformer and 41,600 $\mu$ F of capacitance. Locating the power supply in its own chassis presents the ideal configuration for isolating stray electrical and magnetic interference from the critical preamplifier signal path. Capable of delivering current and voltage swing for any musical event, the Illusion power supply is gentle on AC requirements when not in use. A new eco-friendly design reduces standby power draw to 2W.

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## SPECIFICATION HIGHLIGHTS

- 4 pr. CAST via 4-pin bayonet connectors input/output
- 4 pr. balanced via XLR connectors input/output
- 7 pr. single-ended via RCA connectors input/output
- 3ea 12V Trigger input/output
- 2ea preamplifier link via RJ-45 connector
- 1 remote IR detector input via 3-conductor 3.5 mm connector
- Optional Rack Mount Kit
- 17.3 in W x 7.6 in H x 18.3 in D
- 43.8 cm W x 19.2 cm H x 46.4 cm D



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