

PREAMP 1.0 / line stage




Some core circuit as in Altair II and Virgo II

Built with hand-selected FETs for ultra-low noise

Full dual-mono design with symmetrical audio circuit layout.

Triple-transformer power supply with separate left, right and control feeds

Front LCD touchscreen and remote for maximum versatility and ease of use

We were gratified by the high praise we received from veteran reviewers for our Altair II and Virgo II line stages. But we wondered what would happen if we used the same design concepts, the same core audio circuits—and wherever practical, the same exact components—in a single-chassis component sized to fit into a typical equipment rack. The answer is the Inspiration PREAMP 1.0, a product that distills the basic design—and all of the best performance characteristics—of the Altair II and Virgo II into a more compact, decor-friendly design.

Like our more elite Reference and Performance Series preamps, the Inspiration PREAMP 1.0 is based around our Line Stage Gain Module, a circuit that combines hand-selected, ultra-high-performance field-effect transistors (FETs) with an innovative servo function that preserves perfect signal balance. This is not a stripped-down

or simplified version of the circuit. It is the exact same circuit. Thus, the sonic qualities that so impressed reviewers of the Altair II and Virgo II remain.

The Inspiration PREAMP 1.0 also preserves other key design elements of the Altair II and Virgo II: the dual-mono audio circuit layout, the triple-transformer power supply, the front touchscreen control, and even the extensive use of machined aluminum in key chassis components. For those who want a more practical, affordable way to get Constellation Audio quality, the Inspiration PREAMP 1.0 truly will be an inspiration.

Line Stage Gain Module for perfect signal balance

Since the founding of Constellation Audio, achieving a perfect balance between the positive and negative halves of the audio

signal has been a primary goal—and since day one, we've gone to rather extraordinary lengths to achieve it. We started with a fully balanced design using separate, mirror-imaged circuits to amplify the positive and negative halves of the signal.

However, the balanced signal coming from source devices is typically not balanced as well as it could be, due to design imperfections and fluctuations in the operating temperature of circuit components. To correct this error, we created a unique servo circuit that continuously monitors the signal balance and corrects it if it's even the tiniest amount off.

As in the Altair II and Virgo II, we build the Inspiration PREAMP 1.0 using hand-selected FETs, chosen from our “private stock” of a now-discontinued model that has the lowest noise we've ever measured from an FET. The result is a preamp circuit

(more...)

that delivers a pristine, essentially perfect signal to the amplifier.

If you use a Constellation Audio amplifier, you can feed the Inspiration PREAMP 1.0's output to the amp's Constellation Link input, thus bypassing the amplifier's input stage. It's one less circuit between the music and your ears.

Dual mono design for superb stereo separation

Another key design characteristic carried over from the Reference and Performance Series components is the Inspiration PREAMP 1.0's dual mono design, which preserves the maximum possible stereo separation and prevents the left and right channels from interfering with each other.

The circuit layout of the Inspiration PREAMP 1.0 is mirrored, with the left half built exactly the opposite of the right half. Even the inputs and outputs are completely separated, with the left-channel inputs and outputs on one side of the rear panel and the right-channel inputs and outputs on the other side. Many preamps that claim to be dual mono may separate the circuits for the two channels, but recombine them at the inputs and outputs, thus sacrificing some of the benefits of the dual mono design.

As we'll see, the power supply also contributes to the Inspiration PREAMP 1.0's no-compromise dual mono design.

Shielded, triple-transformer power supply for low noise

To keep the Inspiration PREAMP 1.0 compact, we decided to move the power supply into the main chassis, instead of building a completely separate power supply as we do for the Altair II and Virgo II. Yet the design of the power supply relies on the same core concept: three separate transformers, each feeding discrete supplies.

As in the Altair II and Virgo II, two of the transformers are of an R-core design, which cancels electromagnetic interference. Each of these transformers feeds one audio channel, so heavy demands on one channel do not affect the operation of the other. A third transformer, using a conventional EI configuration, feeds the control circuits. Each channel has its own dedicated bank of 12 storage capacitors to filter and smooth the DC power while providing extra headroom when needed. The voltage for the audio circuits is fully regulated to minimize noise and ensure that the circuits operate exactly as intended.

A thick aluminum shield isolates the power supply from the audio circuits, to help keep any electromagnetic energy generated by the power supply from interfering with the operation of the audio circuits.

Purist performance with advanced control

While superb musicality and transparency were the main goals with the Inspiration PREAMP 1.0, we also wanted to make it versatile. To that end, we gave it an advanced LCD touchscreen control system with a menu that lets the listener fine-tune the preamp's operation with ease.

The touchscreen accesses basic control functions and also allows such conveniences as input gain presetting and home theater bypass. We use a high-contrast 432 x 230-pixel touchscreen with large, easy-to-read fonts. An elegant, machined aluminum remote controls the Inspiration PREAMP 1.0 from the comfort of your favorite listening chair.

While the Inspiration PREAMP 1.0 is certainly smaller than the Altair II and Virgo II, and offers fewer inputs, its core functionality—and its sheer musicality—are uncompromised. It's all the best aspects of our Reference and Performance Series line stages, distilled into a smaller and more practical component.

SPECIFICATIONS

Inputs	3 XLR stereo, 3 RCA stereo, USB (for control)
Outputs	2 XLR stereo, 2 RCA stereo, 12-volt trigger
THD+N	<0.001%, 20 Hz - 20 kHz @ 2V out <0.1%, 20 Hz - 20 kHz @ 10V out
Frequency response	10 Hz to 100 kHz, ±0.5 dB
Signal-to-noise ratio	>-105 dB, A-weighted
Input impedance	20 KΩ balanced 10 KΩ unbalanced
Output impedance	< 50Ω
Volume control resolution	0.5dB from 0dB to -90 dBFS
Weight	25 lbs/11.3 kg
Dimensions	5.25 x 17 x 15 in (hwd) 133 x 432 x 381 mm

Constellation reserves the right to change designs, and / or specifications


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Audio That Inspires

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