

INSPIRATION

stereo/mono
power amplifiers

constellation



Powerful performance in a compact form factor

200 watts per channel at 8 ohms, 400 watts mono

Same Balanced Bridged circuitry as our top-of-the-line amplifiers

Line Stage Gain Module input stage for essentially perfect signal balance

240,000 microfarads power supply storage capacitance for extended dynamics

Saying that the Inspiration Stereo and Mono retains all the best aspects of our Hercules II and Centaur amplifiers is perhaps too conservative a claim. The Inspiration Stereo and Mono amplifiers actually uses the same audio circuits, with most of the same components, as their big brothers. Some changes have been made in the layout to accommodate these amplifiers' smaller form factor, and of course they aren't as powerful as the Hercules II and Centaur. But the fundamental sound quality—or to be more precise, the fundamental lack of any particular sonic character or coloration—remains.

The Inspiration amplifiers continue the same innovative modular design we used for our very first amplifiers. We started by building the best amplifier we could, using our unique single-ended Balanced Bridged topology. Because this amplifier is designed as a module, we simply

add more modules to achieve the desired power, rather than bulking up the basic design and adding unwanted complexity in the process. The end result is an amplifier with the power and current to drive any speaker, but all the detail and subtlety of a small single-ended amplifier design.

Unlike our larger amplifiers, though, the Inspiration Stereo and Mono are compact enough to fit into a typical equipment rack, making them especially suitable for smaller rooms, environments where decor is especially important; and in multichannel applications that must employ several power amplifiers.

The Circuit

The core of the Inspiration amplifiers' design is our unique Balanced Bridged configuration, which combines the best aspects of small amplifiers and large ones.

Like many high-end amplifiers, the Inspiration Stereo and Mono employ a fully balanced configuration, with separate amplifier circuits for the positive- and negative-going halves of the audio signal. However, other balanced amps used N-type output transistors for the positive half of the circuit and P-type transistors for the negative half. Thus, they can never achieve a true balance between the two halves of the signal. The Balanced Bridged configuration employs two precisely matched single-ended amplifier circuits for each channel, so both halves of the signal pass through exactly the same circuitry—and even the subtlest details of the most high-resolution recordings and the best vinyl pressings are preserved.

To achieve the Inspiration amplifiers' impressive power ratings—200 watts per channel into 8 ohms for the Stereo, 400 watts into 8 ohms for the Mono—we

(more...)

combine multiple single-ended Balanced Bridged modules into a single amplifier. The end result is the exact same sound quality of the original modules, but with much higher output. We also designed this module to be inherently stable into a wide variety of load impedances, so the Inspiration amplifiers can achieve their maximum performance no matter what speaker you choose. Unlike many high-powered amplifiers, the Inspiration Stereo and Mono are stable at high frequencies without the need for a Zobel network at the outputs.

The Input Stage

Any power amplifier's performance is limited by the quality of the signal it receives. This is why the Inspiration Stereo and Mono use the same Line Stage Gain Module input stage as found in our Hercules II and Centaur amplifiers. This circuit uses hand-matched field-effect transistors (FETs) taken from our "private stock" of a now-discontinued FET that delivers the lowest noise of any we've ever found. It also employs a servo circuit that monitors the positive/negative balance in the output and corrects for any minute inconsistencies. Even an imperfectly balanced signal becomes perfectly balanced, from the input stage to the speaker.

All of our preamps, including the Inspiration Line Stage as well as the Altair II and Virgo II, also incorporate the Line Stage Gain Module. Thus, if you're using a Constellation Audio preamp, you can use and Inspiration amplifier's Constellation Link

balanced audio interface—and thus take an entire amplification stage out of the signal path. It's less complexity for more musicality.

The Power Supply

Of course, any audio component is only as good as its power supply. Without ample clean power, no component can deliver a low noise floor and uncompromised dynamics. This is why we equip the Inspiration Stereo with essentially the same power supply design as our Hercules II and Centaur amps, scaled down to suit the Inspiration Stereo's slightly reduced power and smaller form factor.

The core of the power supplies is a custom-wound toroidal transformer designed to deliver all the power the Inspiration amplifiers need, and then some. The transformer and rectification circuits feed a bank of 24 1,000-microfarad capacitors, for a total storage capacitance of 240,000 microfarads—and plenty of headroom when it's needed. For the lowest possible noise, the power supply for the line-level circuits is fully regulated.

The Design

We've received so many positive comments about the understated design of the Hercules II and the Centaur that we decided to follow the same basic formula for the Inspiration Stereo and Mono.

Industrial designer Alex Rasmussen kept the unique side vent design of our other amps, with interlocking ports that achieve an eye-catching modernist look while retaining free-flowing ventilation for the heat sinks. Key chassis components are machined from solid aluminum slabs, then receive meticulous matte finishing that is relaxing to the eye and perfectly smooth to the touch.

The Result

The Inspiration Stereo and Mono achieve sound quality second to none, in a compact form factor that fits into many more domestic environments than our large Centaur and very large Hercules II amplifiers can. We like to think of them as distilled versions of our larger amps, because all of the core elements—and most important, the core performance—remain. The Inspiration amplifiers may be smaller in stature, but their musicality and emotion are undiminished.

SPECIFICATIONS

	Monoblock	Stereo
Inputs	2 XLR (1 Constellation Link) 1 RCA	4 XLR (2 Constellation Link) 2 RCA
Power output 8Ω (1 kHz @ 0.2% THD+N)	400 W	200 Wpc
Power output 4Ω (1 kHz @ 0.2% THD+N)	800 W	400 Wpc
Outputs	metal binding posts	
Frequency response	10 Hz to 80 kHz, +0/-0.5 dB	
Gain	14 dB Constellation Direct 26 dB Balanced & RCA	
THD+N (1 kHz @ 90% of rated power)	<0.05%	
Output impedance	0.1Ω	
Damping factor (8Ω load)	80	
Signal-to-noise ratio	>95 dB, A-weighted	
Input impedance	10KΩ unbalanced, 20KΩ balanced	
Output noise	<70 μV, -116 dB @ 250 watts	
Weight	55 lbs / 24.9 kg	
Dimensions	8.5"/216mm x 17"/432mm x 19"/483mm (hwd)	

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


Audio That Inspires

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