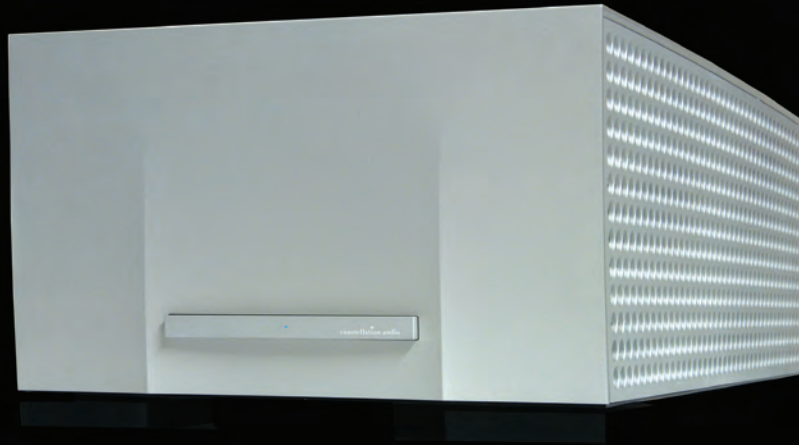


# HERCULES II / monoblock amplifier constellation audio



Available in 1,000 wpc mono or 500 wpc stereo

Convenient horizontal design for easy installation

Balanced bridged design assures optimum signal purity

Massive heat sink and hundreds of ventilation ports assure reliable cooling

Dual 3,000-watt transformers with increased power supply storage capacitance

In the original Hercules monoblock, Constellation Audio achieved the unprecedented: an amplifier with 1,000 watts of power that sounds as musical as a small, single-ended tube amp. The Hercules II is essentially the same amplifier circuit, reconfigured from the original tower-style design to a more standard horizontal design. Not only is it more convenient to install, the horizontal chassis allowed substantial upgrades to the amplifier's power supply.

Another advantage of Hercules II is that it is now available in a 500-watt-per-channel stereo version for systems that do not necessarily demand the incomparable power of the original 1,000-watt monoblock configuration. The two amplifiers are sonically and electronically identical; the difference is that the

stereo version has half the power and double the inputs.

Like the Hercules, the Hercules II uses a modular design. Each module is a separate 125-watt amplifier, meticulously designed to deliver the detail and subtlety audiophiles crave. To achieve the desired power, we simply add more modules. The result is a 500- or 1,000-watt amplifier that sounds identical to the original 125-watt design.

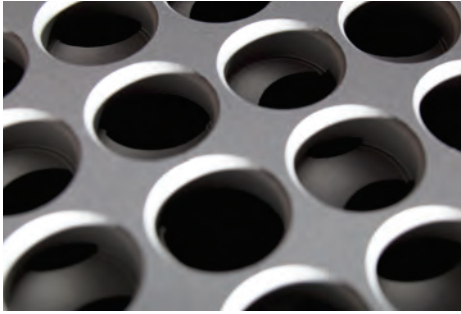
## The Circuit

The reason for the Hercules II's incomparable combination of power and finesse is our unique balanced drive configuration. This design combines multiple single-ended amplifiers into a powerful fully balanced design, in which separate

circuits amplify the positive and negative halves of the audio signal.

Other balanced amps use N-type output transistors for the positive half of the circuit and P-type transistors for the negative half. The differences between the two types of transistors cause an imbalance between the positive and negative halves of the signal, which robs the music of its natural timbre and emotion.

In the Hercules II, we solve this problem by combining two matched single-ended amplifiers using only N-type output transistors. The two amplifiers are bridged together to deliver the full audio signal. Like the low-powered single-ended amplifiers many audiophiles prefer, the Hercules II uses only one type of output device, so every element of the musical



signal passes through exactly the same circuit components. Balance between the positive and negative halves of the signal is as perfect as can be achieved. The design also permits the driver circuits to run in full Class A mode. The balanced drive design is inherently stable into a wide range of speaker loads, so it can drive any loudspeaker without strain. No Zobel network is needed at the outputs in order to assure high-frequency stability.

The result is as radical as the circuit topology: an amplifier with more than sufficient power for any application, yet with the musicality of amps rated at only one-hundredth as much output.

### The Input Stage

The Hercules II's performance can only be as good as the signal it receives. If the signal comes from our Altair line stage via our Constellation Link balanced audio interface, all is well. But if the signal comes from another brand of preamplifier, it will not be perfectly balanced.

This is why we equip the Hercules II with our Line Stage Gain Module for input conditioning. This module is essentially the same topology as the output section of the Altair, with hand-matched FETs, a servo circuit that assures ideal positive/negative balancing, and a machined aluminum shield protecting it from interference. The FETs we use in this circuit have the lowest noise of any we have found. They are also quite rare because their manufacturer has discontinued production. Fortunately we have amassed a sizeable inventory.

### The Power Supply

The finest amplification circuit in the world makes little difference if it is not supplied with clean, abundant electrical power. To this end, we use two custom-wound, 3,000-watt toroidal power-supply transformers, encased in shielding that prevents their electromagnetic energy from influencing the audio circuitry, and suspended so their vibration cannot leak into the audio circuits or the listening room. Their considerable mass contributes to the 220-pound weight of each Hercules II.

Massive storage capacitors—even larger than the ones used in the original Hercules—provide ample energy for dynamic peaks and deep bass notes, even into low-impedance speakers. The pure copper bus bars used for the power supply rails and the speaker outputs are twice the size as in the original Hercules, for even lower impedance and better power

delivery. For lower-level circuitry, we use active voltage regulation to provide a noise-free, stable source of DC power.

### The Design

Upon first encounter, the Hercules II is as arresting to the eye as it is delightful to the ear. The eye notes the distinctive design and the flawless finish. The hand senses the perfect fit of the components and the immaculately machined chassis.

Hundreds of round ventilation ports perforate the sides of the chassis. These ports are not mere design elements—they allow flow-through ventilation for the Hercules II's massive aluminum heat sinks.

### The Result

With almost limitless reserves of power, yet with the sonic sophistication of the most exotic single-ended amps, the Hercules II delivers everything any audiophile could possibly want from an amplifier. Only our dream team of the world's best audio engineers and industrial designers could accomplish this feat. Audiophiles have long envisaged the perfect amplifier, one that simply leaves nothing to be desired. For the fortunate few who acquire the Hercules II, the dream is now realized.

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

## SPECIFICATIONS

Hercules II Amplifier	Monoblock	Stereo
<b>Inputs</b>	2 XLR (1 Constellation Link) 1 RCA	4 XLR (2 Constellation Link) 2 RCA
<b>Power output, 8Ω (1 kHz @ 1% THD+N)</b>	1.1 kW.....	525 Wpc
<b>Power output, 4Ω (1 kHz @ 1% THD+N)</b>	1.5 kW.....	750 Wpc
<b>Power output, 2Ω (1 kHz @ 1% THD+N)</b>	2 kW.....	1k Wpc
<b>Outputs</b>	..... metal binding posts	
<b>Frequency response</b>	..... 10 Hz to 100 kHz, +1/-0.5 dB	
<b>Gain</b>	..... 32 dB	
<b>THD+N (1 kHz @ rated power)</b>	..... <0.05%	
<b>Output impedance</b>	..... 0.05Ω	
<b>Damping factor (8Ω load)</b>	..... 150	
<b>Input impedance</b>	..... 10KΩ unbalanced, 20KΩ balanced	
<b>Output noise</b>	..... <500 μV, -100 dB @ 250 watts	
<b>Weight</b>	..... 220 lbs / 100 kg	
<b>Dimensions</b>	..... 13"/330.2mm x 19"/482.6mm x 32"/812.8mm (hwd)	

 constellation audio

Simply, Light Years Ahead.

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