

Synästec Audio

# Bivium Pre-amplifier

Music that inspires



## The Bivium Pre-amplifier

The Synaestec team, honoring our commitment to absolute accuracy and truthfulness to every musical note, has developed groundbreaking technologies that bring fidelity to unprecedented heights long considered impossible. Meet the Bivium pre-amplifier.

What exactly do preamplifiers do? Audio power amplifiers deal with the macro world in electronics – amplifying audio signals so that they are powerful enough to drive loudspeakers. By contrast, preamplifiers tackle a completely different challenge – resolving audio signals on a microscopic scale. In this world of microscopic signals, everything is so sensitive that even the tiniest amount of disturbance will seriously ruin the final audio performance.

### Power of the Union

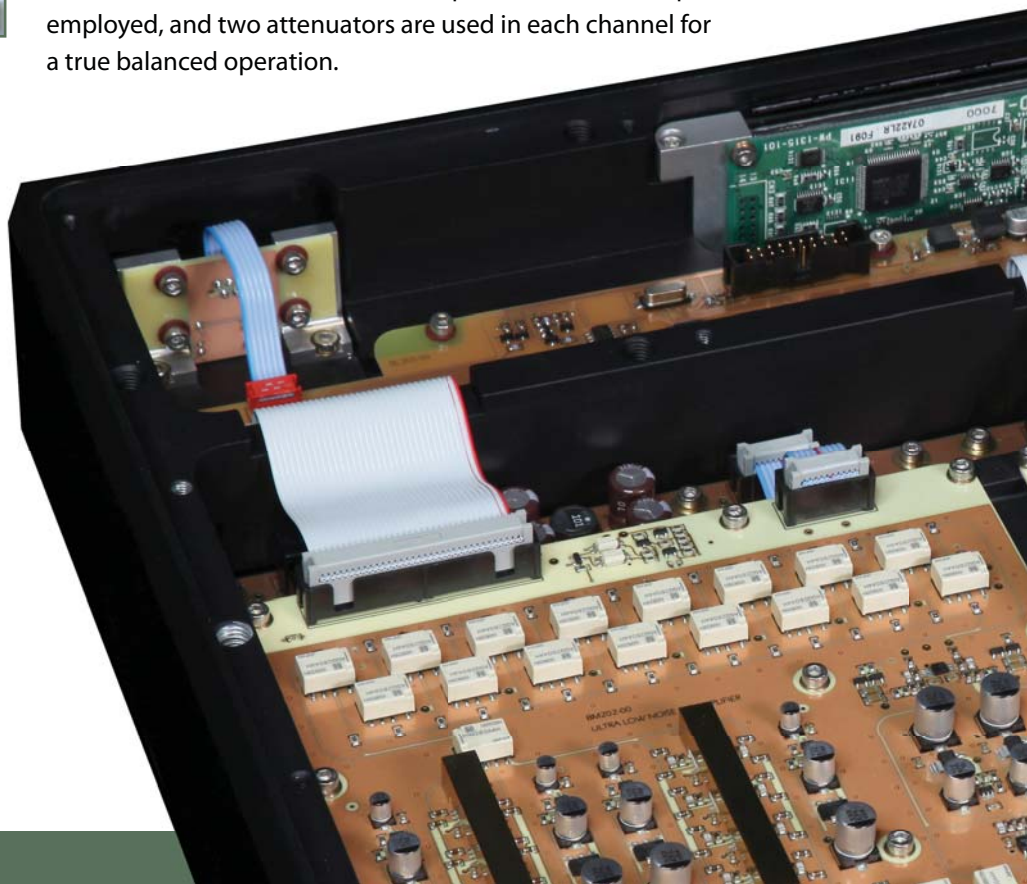
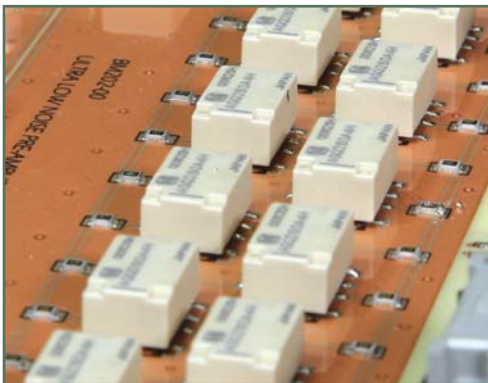
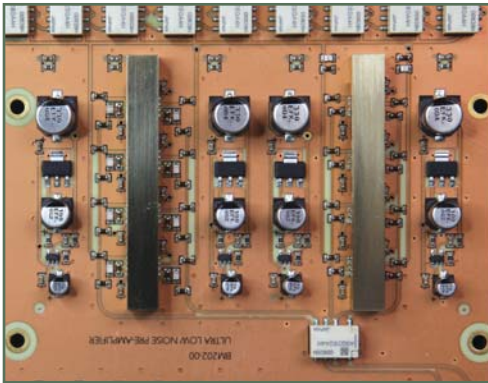
The Bivium features at its input stage a unique quad collaborated amplifier. This is an innovative collateral technology that employs four individual amplifiers working together flawlessly, delivering four times the available driving current, ultra low distortion and substantially lesser noise.

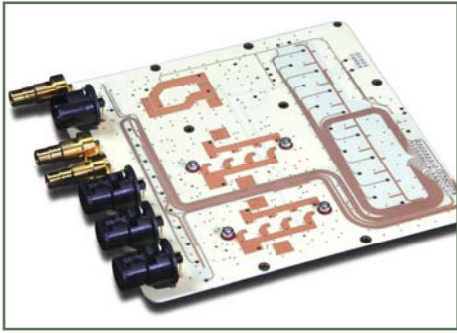
### Perfect Symmetry

The Bivium audio circuit is a true balanced, dual differential configuration all the way from input to output. This means that audio signals do not go through any additional balanced-to-unbalanced converters that could induce coloration.

### Minimal Resistance to Perfection

Whereas ordinary preamps use high impedance potentiometer in tens of Kilo-ohms, the stepper attenuator used in the Bivium is under 200 ohms – several hundred times lower than usual. Since Johnson-Thermal noise is directly proportional to resistance, lower impedance means lower noise. This ultra low impedance attenuator is connected in shunt mode so that there is only one resistor within the audio signal chain, rather than dozens of resistors and relays in series as featured in other connection modes, such as the “R2R” network. Low current noise, low temperature coefficient precision resistors are employed, and two attenuators are used in each channel for a true balanced operation.





## Redundance Hurts

Excessive gain will bring up the system noise floor, worsen signal clarity. The Bivium eliminates excessive gain by allocating two separate sets of amplifiers – one a unit gain buffer and the other a fixed gain amplifier, and each optimized according to their specific operation conditions. When listening at low or moderate volumes, the buffer section will be used. When you turn the volume up to certain level, it will automatically switch – seamlessly and imperceptibly – to the fixed gain section. Using this adaptive gain management, the Bivium produces equally excellent performance at any volume level.

## Pure Source

The Bivium uses ultra low noise voltage regulators built with discrete transistors, which only exhibit 1/10th of the noise compared to their so-called low-noise IC counterparts. Dedicated regulators are strategically located right alongside each critical amplifier circuit.

## Ideal structure

Delicate electronic parts are installed in a massive solid aluminum housing, an ultra stable platform against EMI and vibration. Every functional block has individually isolated compartments for zero interference. Noisy power transformers and AC power circuit are installed in separate housing, which is also machined from a solid block of aluminum.

## Possibly the World's Quietest Preamplifier

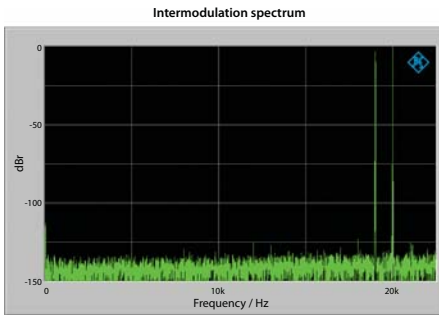
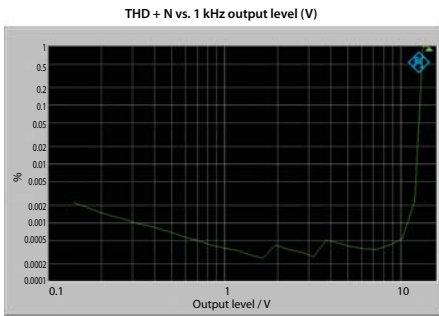
Using a host of cutting-edge technologies, complemented by thoughtful layout, exquisite craftsmanship and premium material, this piece of art exhibits immeasurably low distortion and an astonishing signal-to-noise ratio exceeding 116dB. Bivium is simply the quietest audio line stage preamplifier ever!

## Music After All

The ultimate goal of any HiFi system is music. Crafted with extreme precision to achieve the highest fidelity, the Bivium Preamplifier allows you to forget the equipment and immerse yourself in the music. Because we know that that's what it's all about.



## Bivium Preamplifier Specification:



Inputs:	3 symmetrical 2 asymmetrical
Outputs:	1 asymmetrical 1 symmetrical
Frequency response:	10Hz to 180KHz +/-0.5dB
Volume control range:	-74dB to +9dB
Volume control resolution:	0.5dB per step
L/R balance adjust:	Maximum 6dB in 1dB increment
L/R volume tracking error:	< 0.1dB
Channel separation:	> 120 dB
THD+N:	< 0.0005%
Signal to noise ratio:	> 116 dBA
Input impedance:	20 KOhm
Output impedance:	100 Ohm
Minimum loading impedance:	600 Ohm
Power consumption:	28 Watt maximum, 18 Watt standby
Dimension:	400 mm x 307 mm x 87 mm (W x D x H)
Weight:	21.7 kg
Color:	Black, Stainless Steel, Silver



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