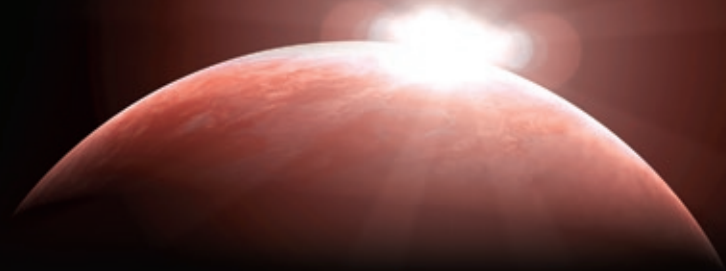


# 330A Power Amplifier



M O O N

Power

Emotion

Soul

The MOON 330A is a differential stereo power amplifier that effortlessly produces 125 watts/channel into 8Ω and 250 watts/channel into 4Ω. Think of tight, deep, authoritative bass with lightning fast speed, an incredibly low noise floor, excellent dynamic range, a transparent lifelike soundstage and the 330A will come to mind. This is the the result of a variety of proven technologies: Our highly acclaimed Advanced Renaissance amplifier circuit with zero global feedback, DC-coupled circuitry and our own proprietary bipolar output transistors. In the end, the MOON 330A performs in an exceedingly musical and accurate way.

A musically engaging experience



Our own unique heat-sink geometry allows for ultra-effective and efficient cooling. The amplifier's oversized power supply contains a large proprietary toroidal transformer and substantial energy storage. Finally, with both balanced (XLR) and single-ended (RCA) inputs, the MOON 330A represents the ultimate choice for performance, reliability and affordability.

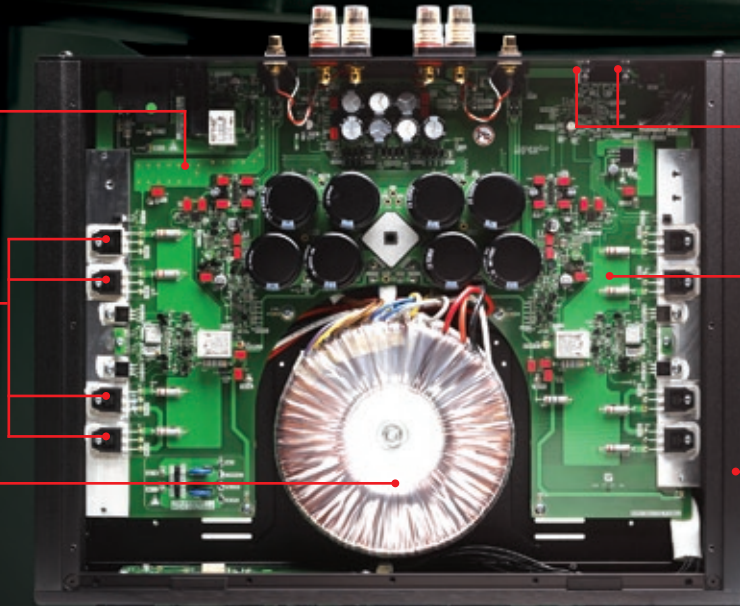
## Significant Design Features

PCB with pure copper tracings & gold plating that yields low impedance characteristics

Proprietary MOON Bipolar Output transistors with unprecedented signal linearity and ultra-low noise characteristics

An oversized power supply using a large custom proprietary toroidal transformer

- ▲ Class A output to 5 watts for greater efficiency.
- ▲ Low operating temperature for a longer than normal life expectancy.
- ▲ An exceptionally short signal path for a faster transient response.
- ▲ Balanced differential circuitry



RS-232 port for i) full unsolicited bidirectional feedback in custom installation setups and ii) firmware updates and 12 Volt Trigger input and output

Accurate matching of the very finest high quality electronic components in a symmetrical circuit design

Extremely rigid chassis construction to minimize the effects of external vibrations.

- ▲ Our own "no overall feedback" design resulting in genuine real-time amplification, a more accurate musical reproduction with respect to tonality, virtually non-existent intermodulation distortion and the elimination of common phase errors resulting from feedback



Simaudio Ltd. has been designing and manufacturing innovative, leading-edge audio and video products since 1980. MOON products have been globally recognized for their world-class performance, garnering numerous accolades for this outstanding achievement. Our products are engineered and built in Canada, utilizing advanced, efficient, "green" assembly techniques with strict quality control. Furthermore, our manufacturing processes are part of our philosophy, whereas the high quality and long-life of MOON products are the best way to preserve our environment, avoiding premature obsolescence. MOON products meet or exceed all international requirements for safety, performance and durability. At Simaudio, great music matters. However, great music for a lifetime matters most.

The transistors used in the MOON 330A's output stage perform what can be best described as electrical gain of the music signal. Higher quality transistors will yield an amplified signal with greater integrity. In addition, since each channel of an output stage uses numerous transistors, they must all be accurately matched to each other to maintain this integrity.

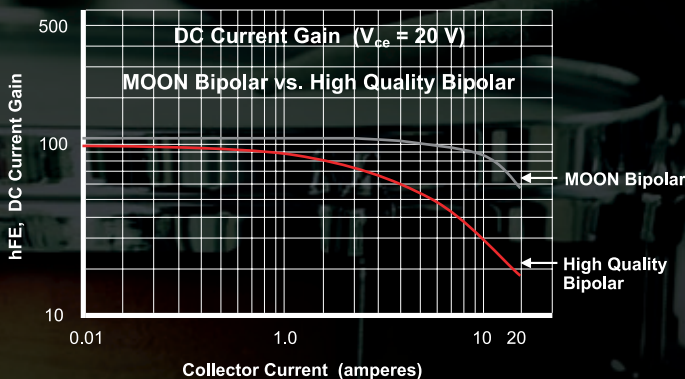
MOON amplifiers have always used bipolar transistors in their output stages for several significant reasons. When compared to other types of amplification transistors, bipolars offer:

- ▲ Wider bandwidth
- ▲ Lower distortion
- ▲ Excellent reliability and a longer life span
- ▲ High Efficiency
- ▲ High resistance to ESD (electrostatic discharge)

We have managed, at a great expense, to have bipolar transistors manufactured to our own exceedingly high standards and specific requirements. When compared to more readily available high quality bipolars for use in audio amplifiers, MOON Bipolars offer the following advantages:

- ▲ Unprecedented gain linearity
- ▲ A green component containing no lead
- ▲ Lower noise floor
- ▲ Even wider bandwidth
- ▲ Improved bass response
- ▲ Greater signal integrity
- ▲ Even greater reliability at higher output levels
- ▲ A more consistent hFE (the DC current gain of a transistor) which allows for more accurate and easier matching of multiple Bipolars.

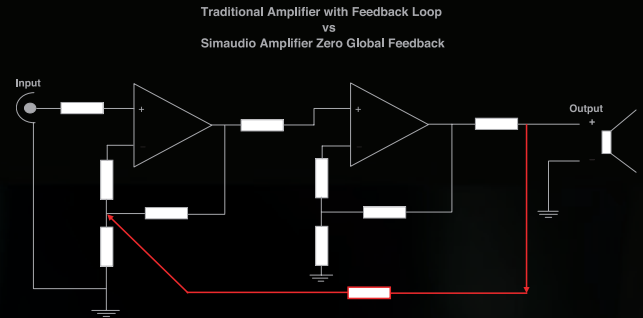
The exceptional gain linearity of MOON Bipolars is very significant in the sense that it results in many of these aforementioned advantages. To illustrate the significant effect of this gain linearity when compared to a quality bipolar transistor found in a high-performance audio amplifier, refer to figure 1 below which shows the difference in DC current gain as a function of the transistor's output current:



Optimal sonic performance is always achieved regardless of the amplifier's output level.

## Technical information

Advanced Renaissance Circuitry was introduced in 1998 and can be found in all MOON amplifiers since. This circuit topology features a no overall feedback design also known as "Zero Global Feedback". By eliminating the need for signal correction, amplifier speed is greatly increased. MOON amplification designs allows for superb performance into difficult loads, which further improves sound quality



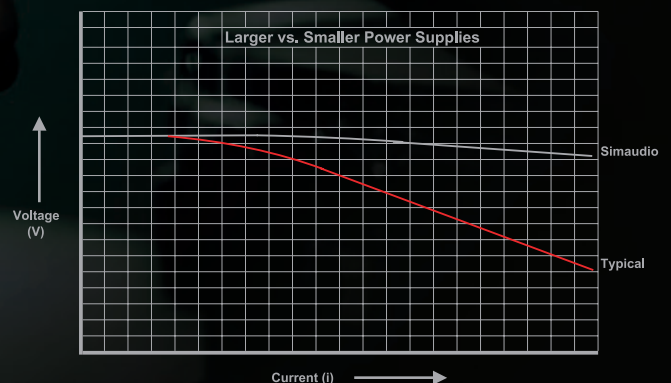
Power amplifiers employing feedback require additional circuitry (feedback loop in red) which takes a sample of the audio signal from the amplifier's output stage, applying it as negative feedback to the gain stage of the amplifier. The sole purpose being to reduce the amount of Total Harmonic Distortion (THD) the more feedback used, the greater the reduction in the amount of measurable distortion.

Benefits resulting from Advanced Renaissance circuitry:

- ▲ Real-time amplification
- ▲ More accurate musical reproduction with respect to tonality (i.e. no sonic colorations)
- ▲ Non-existent intermodulation distortion (IMD)
- ▲ The elimination of common phase errors
- ▲ With this circuit topology, the speaker cannot send back its counter-reaction, to the amplifier, after a musical impulse which normally leads to a reduction in clarity of the music, a lack of tonal accuracy and the feeling of the live performance being lost
- ▲ Improved dynamic range
- ▲ More dynamic and at ease with virtually any known speaker load, short signal paths, very little signal resistance and degradation
- ▲ An amplifier which is much less affected by a loudspeaker's non-linear electro-mechanical properties

Better transparency ... The realistic separation and space between instruments in complex musical passages results in the recovery of the faintest of musical notes.

With a typical power supply, as the current draw increases the available voltage decreases. However, an oversized power supply, such as the one used in the MOON 330A, will minimize this inverse relationship, yielding a voltage level that barely decreases as the demand for current increases. This allows for significantly improved performance.



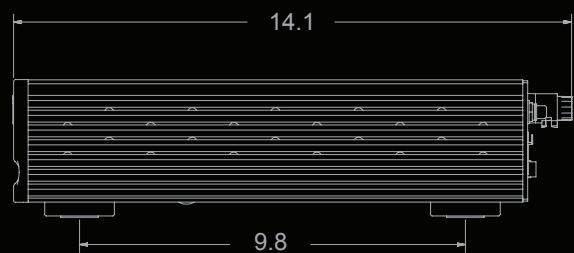
A greater power reserve results in a more effortless sonic character.

# MOON 330A Specifications

Configuration	Stereo
Power Supply Transformer	400VA
Power Supply Capacitance	85,000 $\mu$ F
Class Of Operation	A/AB
Design	Balanced Differential
Input Impedance	47,500 $\Omega$
Input Sensitivity	800mV RMS
Output Device Type	Proprietary MOON Bipolars - 8
Output Power at 8 $\Omega$	125 Watts per channel
Output Power at 4 $\Omega$	250 Watts per channel
Output Power – Bridged Mono	400 Watts @ 8 $\Omega$
Frequency Response	10Hz - 125kHz +0/-3dB
Output Impedance	0.02
Damping Factor (static)	400

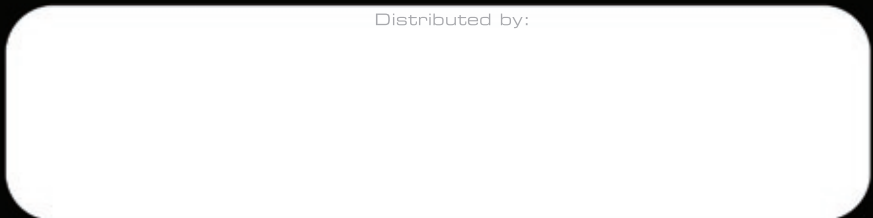
Gain	31dB
Signal-to-noise Ratio	> 100dB @ full power
Maximum Output Voltage	40 Volts
Slew Rate	42V/ $\mu$ s
Maximum Current – Peak	28 amperes
Maximum Current – Continuous	13 amperes
Intermodulation Distortion	Unmeasurable
THD (20Hz - 20kHz @ 1 watt)	< 0.02 %
THD (20Hz - 20kHz @ 125 watts)	< 0.05 %
Power Consumption @ idle	36 Watts
AC Power Requirements	120V / 60Hz or 240V / 50Hz
Shipping Weight	33 lbs / 15 Kgs
Dimensions (W x H x D, inches)	16.9 x 3.5 x 14.1

Specifications subject to change without notice



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