

Elysian 100 Specification

All specifications are subject to change at any time.

Single Channel Mono-block Amplifier.

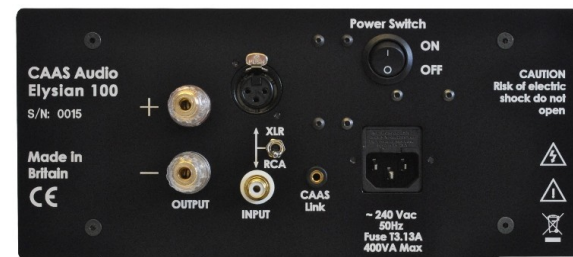
Gain	25.5dB (into 8ohms)
Frequency Response:	0.8Hz to >300kHz (-3dB) DC Coupled
Maximum Input	10V peak
Maximum Output	44V peak
Rated Output	100W into 8ohms (1st 20W Class A) 200W into 4ohms
Input Impedance	33kohms (single ended RCA) 66kohms (balanced XLR)
Output Impedance	0.1ohm
Input Sensitivity	1.6V RMS (for 100W output into 8ohms)
Speaker Impedance	Any (output power will vary)
Total Harmonic Distortion	<1% @1kHz (100W into 8ohms) <1% @1kHz (200W into 4ohms) <0.01% @1kHz (1W, 0dBW into 8ohms)
Transient Intermodulation Output SNR (A-WTD)	Too low to measure Better than 90dB (0dBW output, input grounded)
Slew rate	100V/us (No input filter, max output)
Output DC Offset	<10mV
Power Consumption	100W (Idle) 400W (max)
Fuse Rating	T3.15A, 240V (slow blow)
Operating Temperature	45 degrees C - 55 degrees C 25 - 35 degrees C above ambient.
Input Connectors	1 x Unbalanced gold plated RCA 1 x Balanced silver plated XLR
CAAS Link Trigger	12V Trigger (0V for ON)
Output Terminals	2 x High current gold plated
Mains Transformers	1 x 300VA (toroidal) & 1 x 50VA (toroidal)
Dimensions	140mm high, 260mm wide, 340mm deep.
Weight	11kg / channel



E100 Reference Mono-Block Amplifier (Silver)



E100 Reference Mono-Block Amplifier (Black)



E100 Reference Mono-Block Amplifier - Rear

The Reference standard E100 features:

- CAAS Audio's proprietary "Coupled Symmetric Drive" (CSD) open loop, voltage gain topology.
- CAAS Audio's proprietary "VAS perfect isolation" system (VPI), producing zero VAS loading and unprecedented levels of THD for a zero feedback topology.
- DC coupled from input to output (NO capacitors in the signal path).
- A true zero feedback design (NO global or local feedback).
- Six bespoke, discrete regulated power supplies with over 100,000uF of power supply capacitance.
- The application of RF circuit design, layout and stability techniques.
- Ultra low Transient Intermodulation Distortion (TIM).
- Linear phase response with zero feedback essential for a truly open sound with high clarity, detail and dynamic.

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Elysian 100 The Reference Mono-Block Amplifier



CAAS Audio

State of the Art Class A Audio Systems

CAAS

Audio

Reference Mono-Block

Power Amplifier (E100)

The Elysian 100 Mono-Block Amplifier

CAAS Audio is dedicated to the art of ultimate high quality audio reproduction. The last 6 years of research and development have culminated in the realisation of the reference standard Elysian 100 mono-block power amplifier.

The Elysian 100 series amplifier is a statement in audio design, an elegantly minimalist aesthetically pleasing power amplifier housing a true state of the art, zero global and zero local feedback, ultra wide bandwidth, Class A operating amplifier circuit.

The Elysian 100 will unlock the musical performance and move it from within the speaker and into the listening room, offering a spacious and truly immersive musical experience.

The Elysian 100 incorporates CAAS Audio's proprietary short signal path, minimal component, two stage, voltage gain topology "CSD" (Coupled Symmetric Drive). The Elysian 100 uses a fully symmetric DC coupled design from the input, right through to the output. By taking advantage of the higher bandwidth, speed and lower distortion offered by a two stage fully symmetric topology a true zero feedback system can be employed thus producing one of the most dynamic, open, transparent and realistic sound you'll ever hear.

The Elysian 100 operates in a push-pull configuration and is biased to operate in Class A mode while driving 8ohm speaker loads at normal listening levels. This means that the heatsinks, once up to temperature, operate at around 50°C (approximately 30°C above ambient).

The Elysian 100 is capable of driving any speaker load and will deliver 100W into an 8 ohm load and 200W into a 4 ohm load.

The Technology

The Elysian 100 is a hand built single chassis monaural power amplifier. Each channel / E100 has two power supplies. The output stage PSU is derived from an independent 300VA high efficiency toroidal transformer. The voltage amplifier stages PSU is derived from a 50VA high

efficiency toroidal transformer. Each output stage supply has its own dual rectifier system and over 100,000uF of high quality, low impedance, smoothing & storage capacitors.

Each power supply unit has two dedicated high speed, low output impedance, high current, proprietary discrete stabilised power supply, offering pure ultra low noise current delivery. The input stage current sources are further regulated to offer the ultimate in pure current delivery. The Elysian 100 has in total 6 dedicated discrete regulated supplies. All of the power supply sections are decoupled by an array of high speed, high quality polypropylene capacitors.



The Elysian 100's output stage consists of a bespoke Voltage amplifier Perfect Isolating "VPI" driver stage driving ten complementary, matched output transistors. The output stage operates in a push-pull open loop (NO feedback) topology that provides almost unlimited power and near zero output impedance. This means that no speaker load is too much for the Elysian 100.

The Elysian 100's voltage amplifier circuit is based on CAAS Audio's "CSD" topology. The input stage consists of a fully balanced symmetrical differential stage with a small voltage gain. The input stage uses ultra high linearity complimentary transistor pairs, operating in class A mode with NO feedback except emitter degeneration. The input stage drives a balanced symmetrical push pull voltage amplifier stage again operated in class A mode with NO feedback and a moderate voltage gain. Input stage current sources are coupled and

our proprietary non-intrusive DC servo circuit continuously fine tunes these current sources (at an ultra low sub sonic frequency) to maintain a very low DC output level without any adverse affects to the sound reproduction.

At normal listening levels the Elysian 100 will always be running in Class A mode irrespective of the speaker load. In fact the Elysian100 will deliver around 20 watts of pure Class A power into an 8 ohm load. If extra power is required the Elysian100 will seamlessly move into Class A/B operation and deliver 100W into 8 ohms and 200W into 4 ohms.

All output stage resistors are low inductance wire wound, while all other resistors are high quality metal film. To minimise distortion and maximise performance, the Elysian 100 uses NO capacitors in the signal path.

All components are matched to 1% tolerance or better this includes the large banks of output devices. All the internal signal wire is high grade copper and all connectors are gold plated.

The Design Philosophy

The Elysian 100 has been designed using the philosophy that excessive components in the signal path can only add noise and distortion and ultimately degrade the overall sound quality. For this reason the main criterion for the Elysian design was minimal signal path component, which included silicon junctions.

CAAS Audio have used their expertise to produce a fully discrete, 2 stage voltage amplifier with true zero feedback "CSD" and exhibiting very low levels of Total Harmonic Distortion (THD), Inter-modulation Distortion (IMD) and Temporal Distortion (TD).

To reduce Total Harmonic Distortion (THD) and Inter-modulation Distortion (IMD) levels the Elysian 100 uses high quality super linear transistors for all stages and all operating in class A mode. Distortion is further reduced through ideal biasing, RF design techniques for stability compensation and a voltage amplifier stage (VAS) isolating driver stage "VPI" to minimise any VAS loading.

To reduce temporal distortion (TD) or transient inter-modulation distortion (TIM) to an inaudible level the Elysian 100 has been designed around a true zero feedback topology, NO local feedback, NO global feedback, just emitter degeneration.

This all amounts to an amplifier that (after the input filter) has a 3dB bandwidth in excess of 600kHz, a slew rate greater than 100V/us and an almost perfectly linear phase response over 20Hz to 20kHz.

CAAS Audio believe that regulated output stage power supplies can seriously impede the amplifiers performance and quite often do. This is mainly due to slow response times and increasing impedance as current is sourced from the regulator. For this reason a huge amount of design time has been dedicated to producing a high speed, high current, discrete stabilised power supply that can react several times faster than the audio amplifier section and deliver pure low noise current with no limiting effects. This all results in an amplifier with output noise and hum reduced to an inaudible level and a sense of transparency and clarity is achieved that is rarely obtained.

Sound Performance

The Elysian 100 is dynamic, spacious, agile and full bodied yet neutral sounding without superposition of its own signature on the audio signal. Bass is extended to a level rarely heard, while being extremely fast and precise yet open and transparent. The mid band is full bodied with definition and layering that is unsurpassed. The ultra wide bandwidth of the Elysian allows the treble to be detailed, open with fast transients yet delicate and refined with perfect time coherence. The depth of image is truly astonishing while the sound stage is unbelievably wide and detailed.

The imagery of the Elysian 100 offers pin-point accuracy with zero dynamic compression and a poise and precision to rival the very best. We believe the Elysian 100 to be the most detailed, dynamic and spacious sounding amplifier on the market.