



motaxos & sins

marquis

depuis 1981

thank you for your
kind interest in my
work.

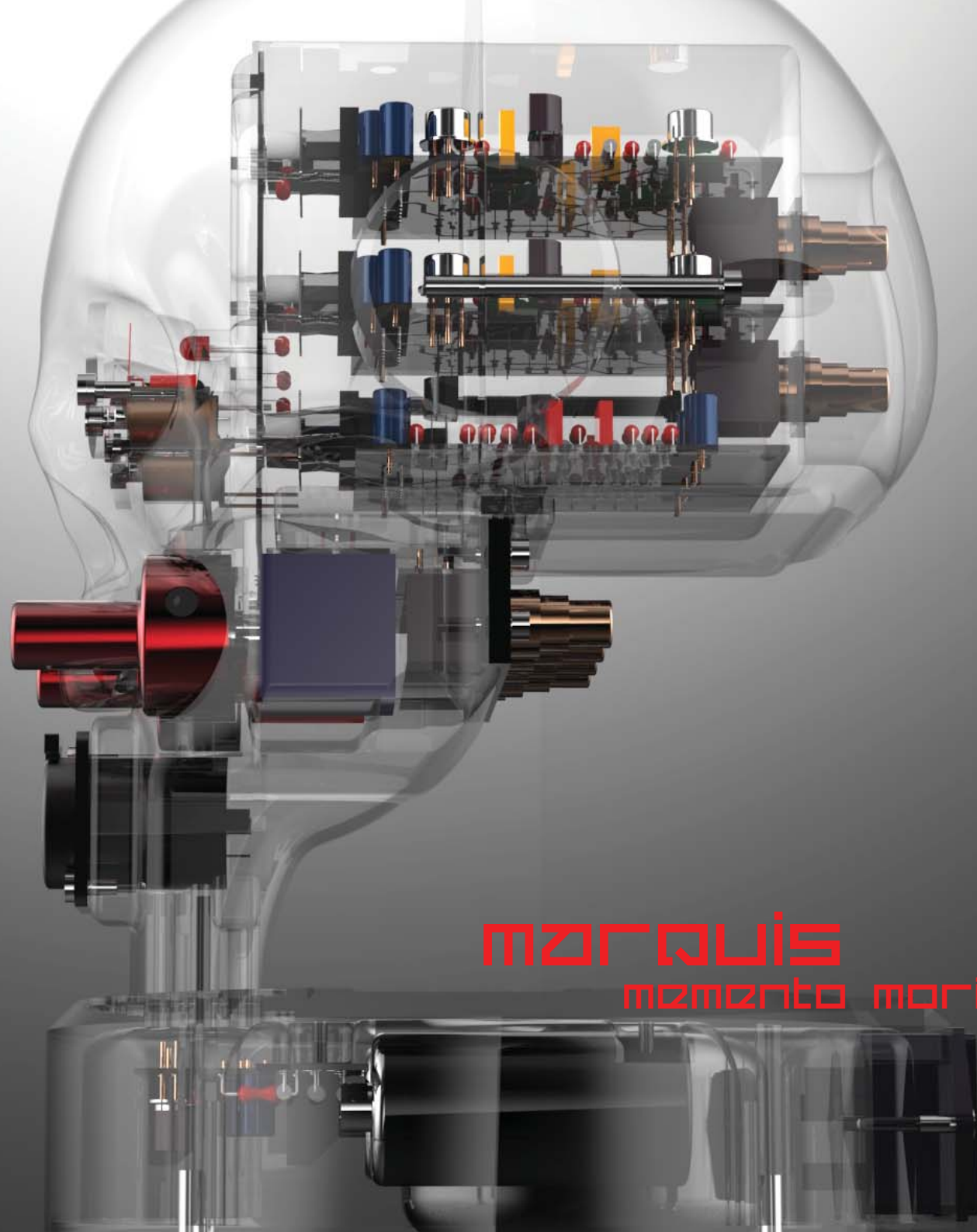
this amplifier is the
result of my 35
year fascination
with the art of
music reproduction
from concert
recording,
electrical engineering
and ultimately,
artistic design.

this marquis has
been totally
handcrafted by
either myself or
one of my sons.

i consider it an
object of art.

kostas mataxas





marquis
memento mori

specifications

The MARQUIS borrows from over 25 years of concert recording experience with serious headphone monitoring to produce an amplifier with unparalleled transparency and effortless realism.

Like all Metaxas & Sins amplifiers, the CNC-machined "head block" can be meticulously finished in a choice of 10 aluminium colours, or automotive painted finishes.

As well as a dedicated headphone amplifier and headphone stand, the MARQUIS also can be used as a minimalist preamplifier with a choice of 2 line-level inputs [RCA connectors] and a set of RCA outputs to connect to a power amplifier to drive a pair of speakers.

The solid CNC-machined base encloses the power supply to keep all stray RFI and noise from the delicate low-level signal stages, but also can be offered with optional "battery-pack" so that you can use the Marquis for over 5 hours before needing a recharge.

FREQUENCY RESPONSE : DC - 5.0MHz (-3dB)

VOLTAGE OUTPUT: 15VRMS per channel into 50 Ohms with no more than 0.05% T.H.D.

SLEW RATE : Greater than 1000V/us small and large signal

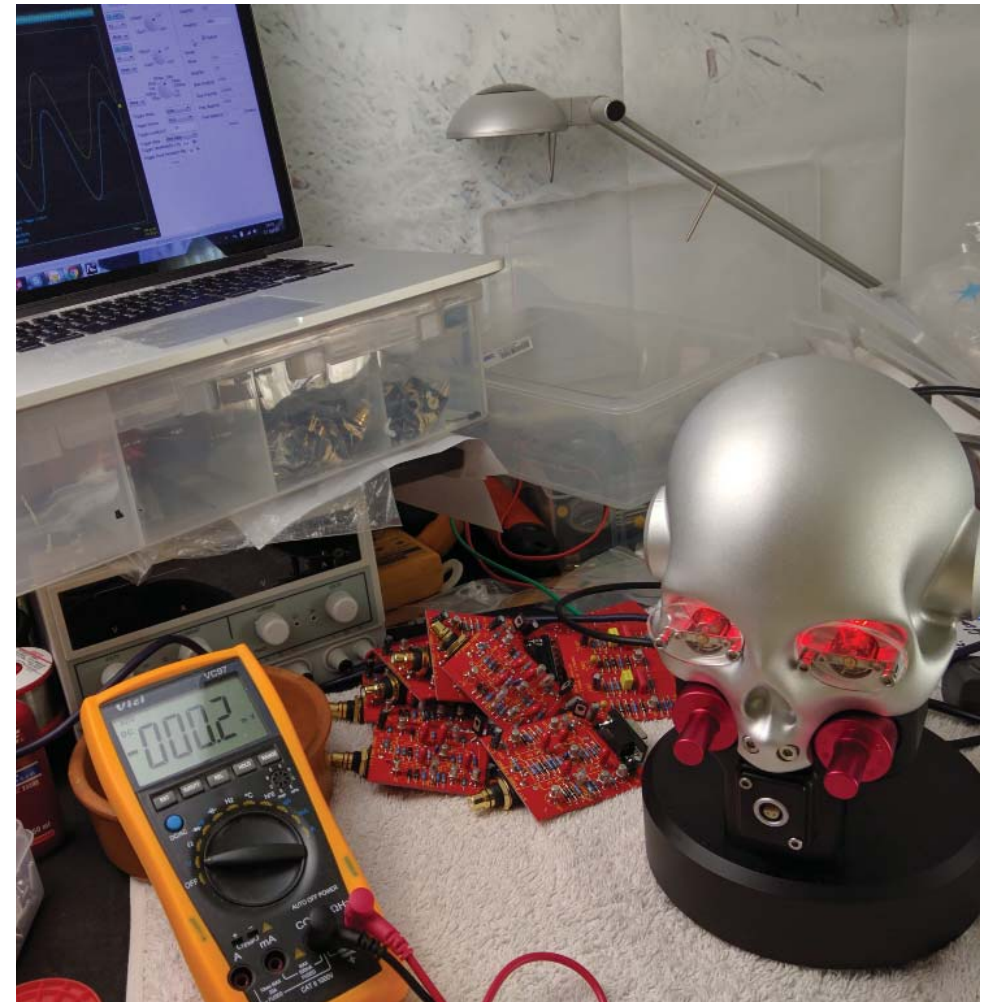
T.H.D. : Less than 0.05% 20Hz-20KHz

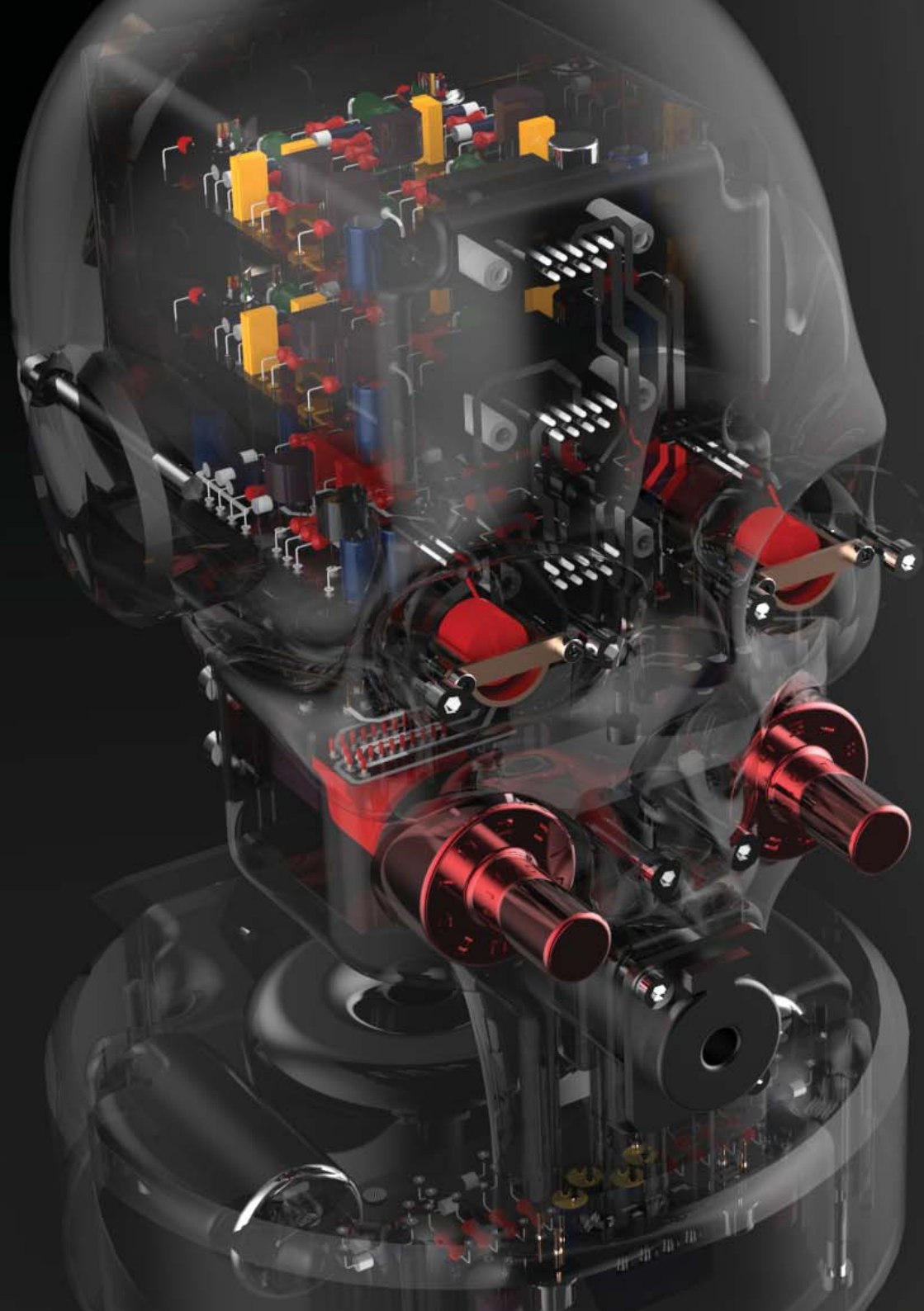
I.M.D.(S.M.P.T.E.) : Less than 0.05%

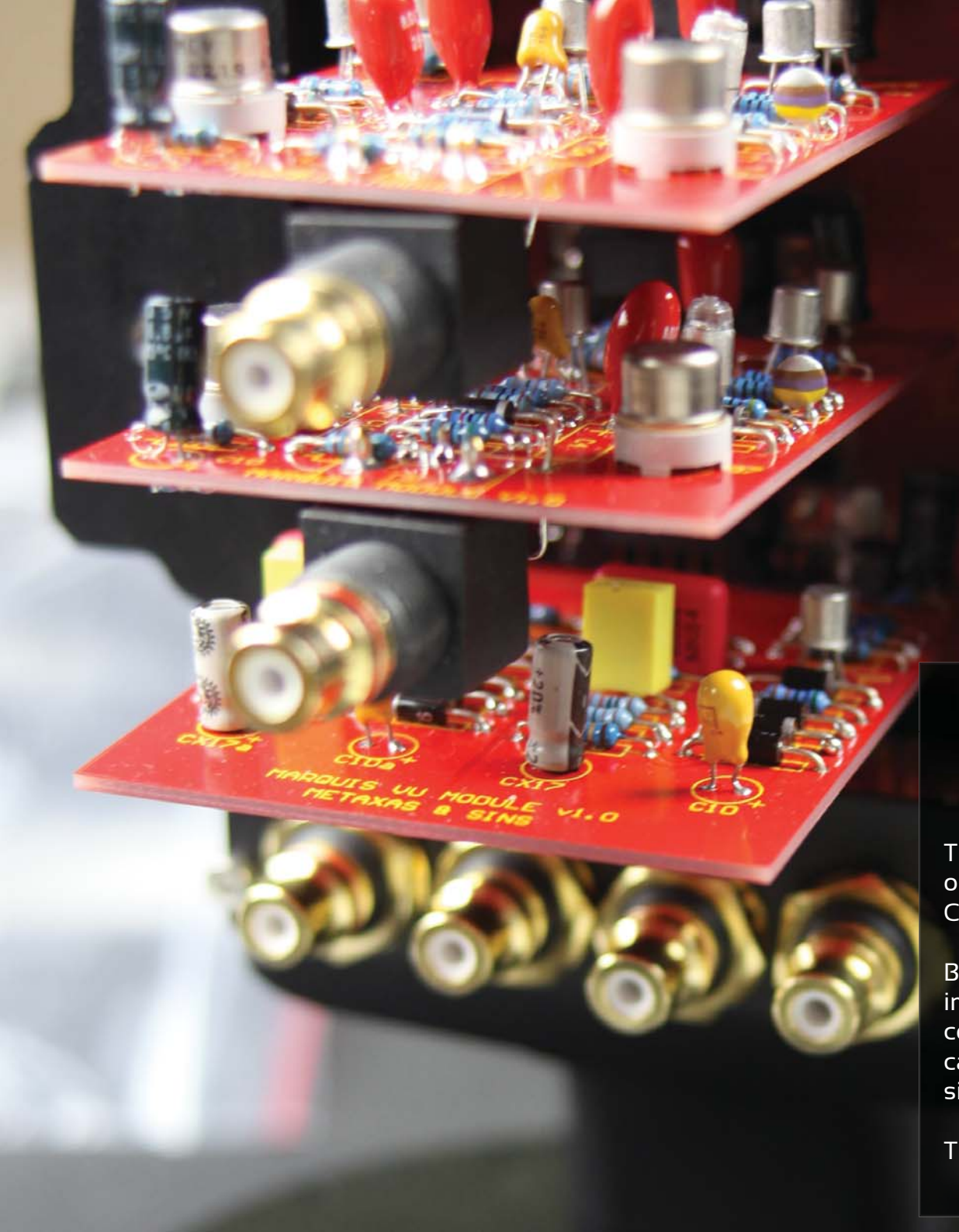
SIGNAL/NOISE : -117DBV unweighed input shorted

SENSITIVITY: 26dB

INPUT IMPEDANCE : 100kOhms







the heart

The heart of the MARQUIS is an easily accessible amplifier module on a 9 pin DIN connectors which resides inside an over 15mm thick, CNC-machined cranium.

By isolating the heart of the amplifier in this way, we can very easily improve and refine the sound quality as we experiment with passive components - newer, faster or lower noise transistors, resistors, capacitors, printed circuit board dielectrics using purer copper [or silver] tracks.

This makes your MARQUIS future-proof.





the making of a marquis

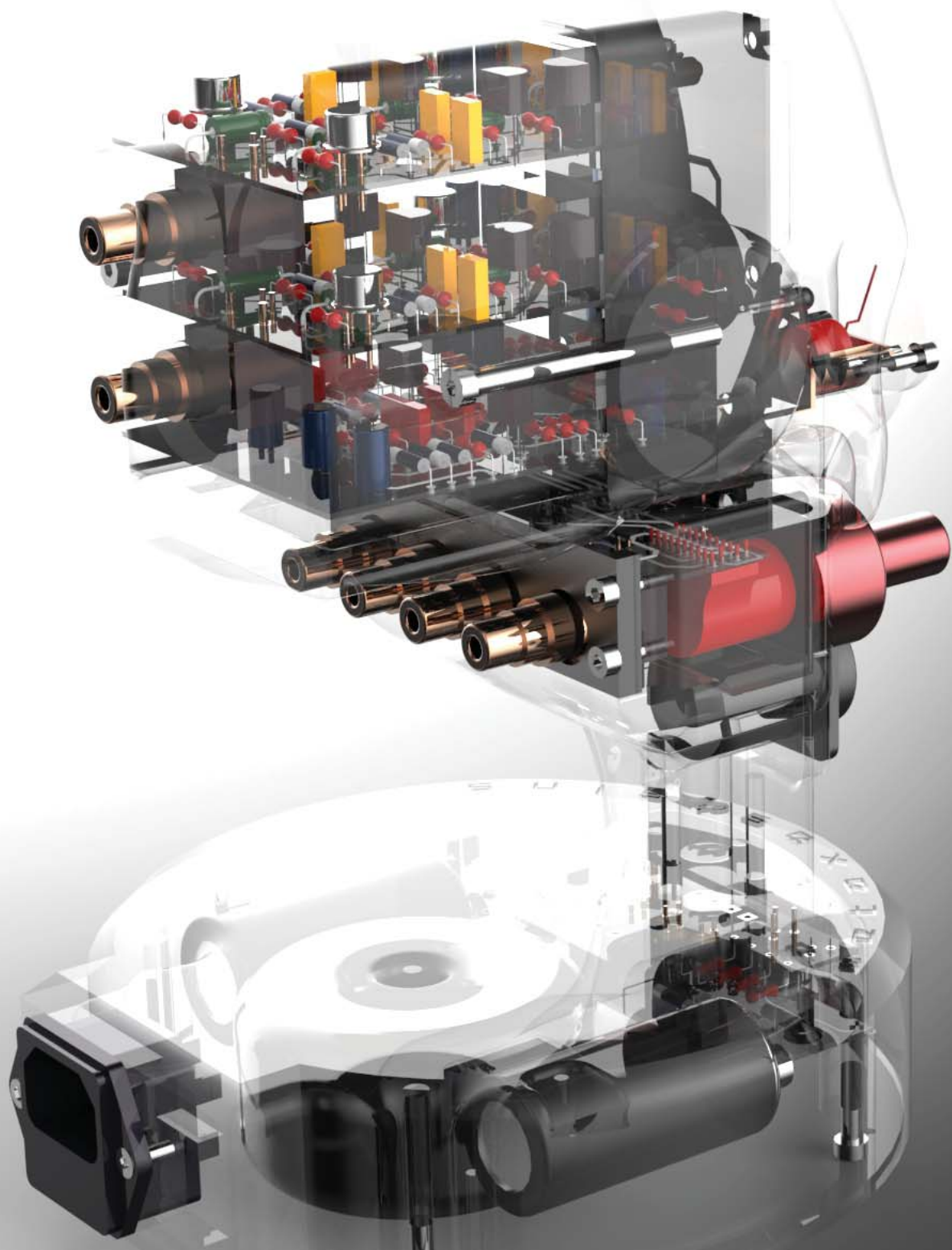
These videos trace the creative and manufacturing process of an MARQUIS.

Youtube:

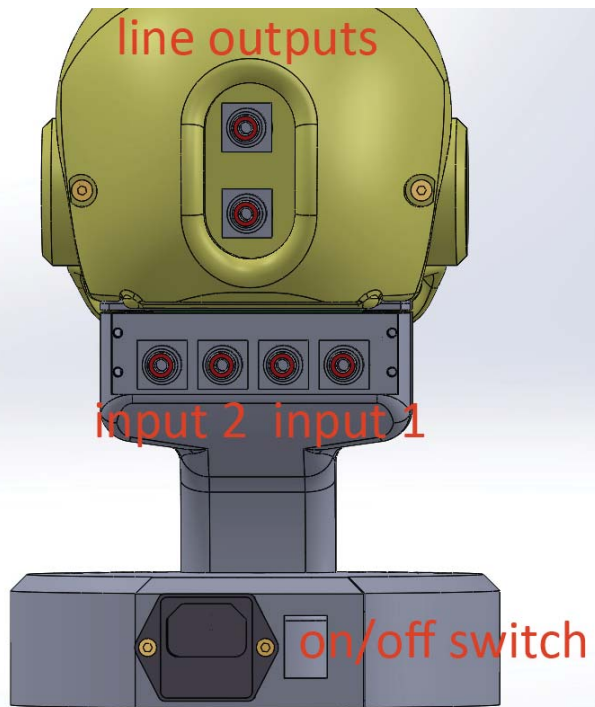
<https://youtu.be/ZSC12jbeseY>

VIMEO

<https://vimeo.com/200929449>



unpacking and connecting



UNPACKING

Carefully remove the MARQUIS from it's FOAM PACKING taking note of how it's inserted .

Steps for Connection

1. Ensure that the front ON/OFF switch is in the OFF position before connecting the amplifier into your system [VU lights are OFF].

Please note the inputs/outputs from the photo renders on the left.

Typically, a pair [stereo] of RCA cables from the preceding source connects to inputs 1 or 2. These are selected by the input selector.

The 1/4" [6mm] headphone jack connects to a pair of headphones.

For the best results, it is recommended that the unit is powered on for at least 15 minutes before critical listening is attempted.





PERFECT SOUND?

What is Perfect Sound?

If the words you think of when listening include - effortless, transparent, engaging, holographic, real...then you are close. More than that, you need to "feel" the performance. Both physically and emotionally. It MUST move you. .

My amplifiers are designed "to get out of the way of the emotional message of the music". To do this, they must have no sound of their own - be absolutely transparent.

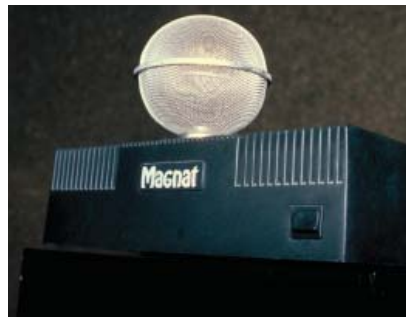
The only way to design audio equipment with these qualities is to have first-hand experience with the finest available recording equipment AND playback equipment.

This is important for two reasons; it ensures that your designs work and 'mate-well' with other products and that their resolution is not limited by the weakest link in the playback 'chain'.

Metaxas amplifiers have been conceived using extensive listening tests with a variety of state-of-the-art ancillary equipment [and the systems of many customers] over a 35 year period.

We have used the state-of-the-art phono playback equipment over the years but our ABSOLUTE REFERENCE is our library of over 300 in-house Master Tapes of acoustic Jazz and Classical concerts recorded using our Metaxas-modified battery-powered Stellavox SM-8 [and TD9] Tape Recorders with AGFA 468 1/4" tape recording using Bruel & Kjaer 4135 1/4" instrumentation and modified NEUMANN TLM-50 and MI50 condensor microphones.

Digital copies of these recording "Masters" are freely available to our customers.





memento mori

Combining a historic art oeuvre - "memento mori", contemporary sculpture with cutting-edge technology, the MARQUIS "Memento mori" is a sublime, minimalist Preamplifier-Headphone amplifier designed for music-loving audiophiles who require few functions but insist on the purest sound.

Memento mori means "remember that you must die" in the language of Latin.

For men living in antiquity all the way up until the beginning of the 20th century, death was seen as a motivator to live a good, meaningful, and virtuous life. It served to remind us of our own mortality, of our mistakes and failures and of the shortness and fragility of human life.

Memento mori "objects of art" compel us to meditate on the meaning of life.

According to the designer:

"I take every opportunity to infuse art into everyday objects. When I looked at what was being offered on the market, and the resurgence in serious headphones sales, I felt that there was room for something far more inspiring."

Life is too short to listen to expensive headphones through an musically uninvolved headphone amplifier".





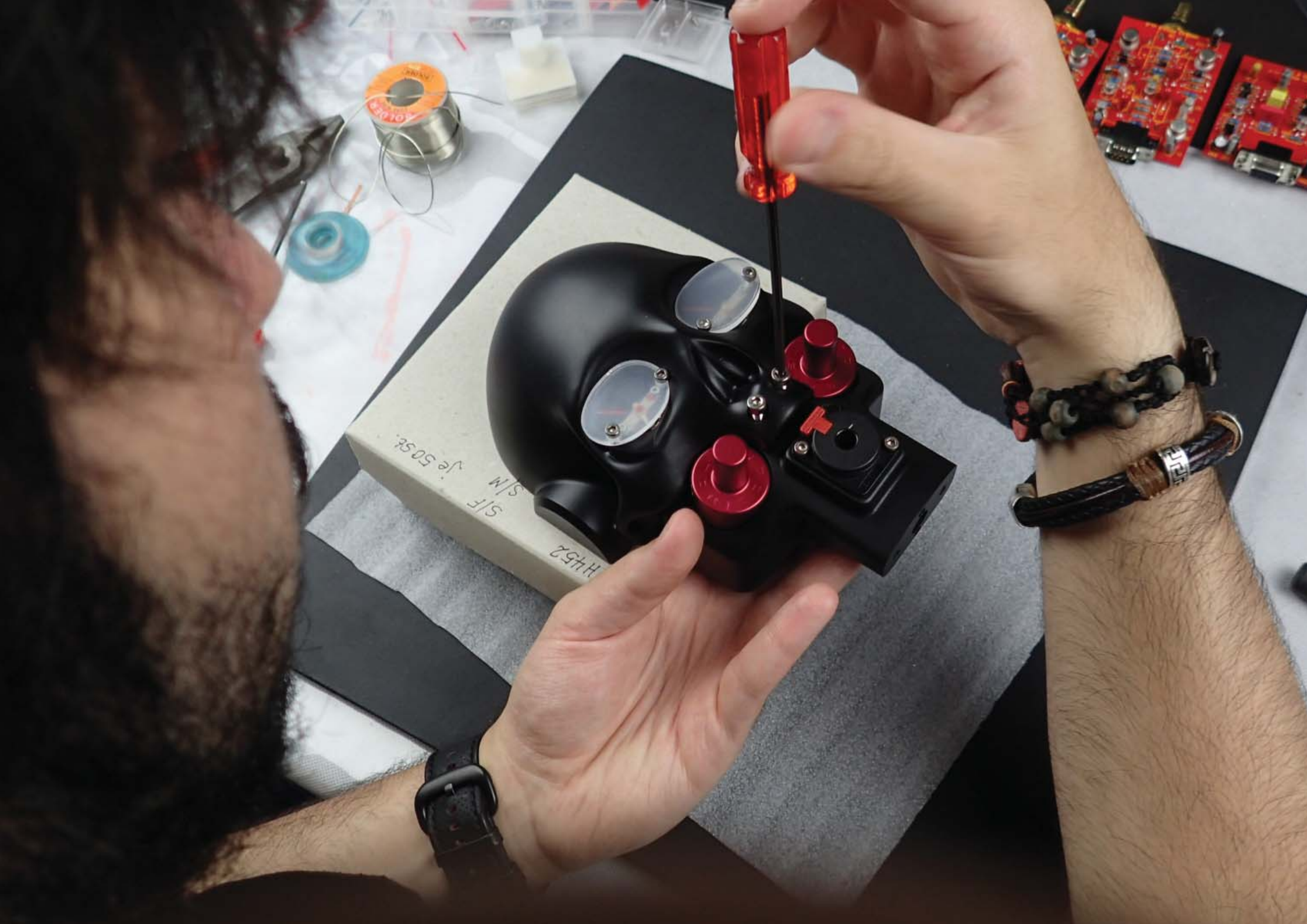
what the critics said in the past

“ The Marquis is as fast as the devil, creates a beautiful aura without any indication of overshoot, has glow and spirit, temperament and cunning. It has fire. In comparison to the Marquis, most so called super-preamps sound waste, flabby, boring.”
Ulrich Michalik, HI FI EXCLUSIV , Germany.

“ The Marquis Preamp imposes far less of itself on the signal, handling its chores with near invisibility”.
Ken Kessler, HI FI NEWS & RECORD REVIEW, England.

“ The Marquis constitutes in our opinion, pure gold and is already the reference point in this price category and will not be superseded in a hurry”.
Jean Hiraga/Patrick Vercher LA NOUVELLE REVUE DU SON, France.



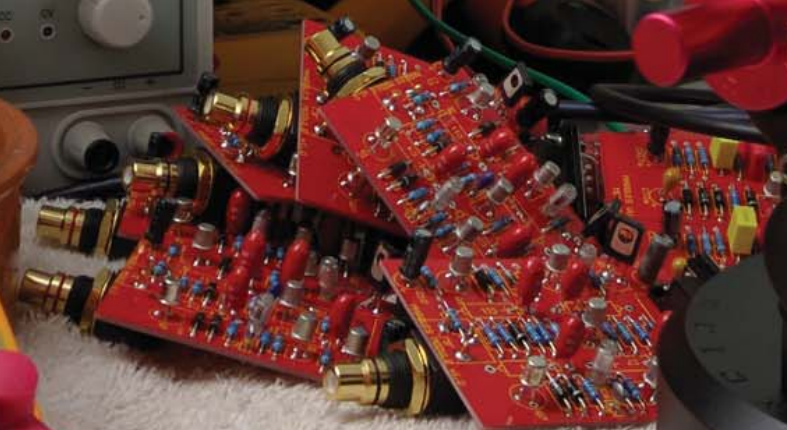
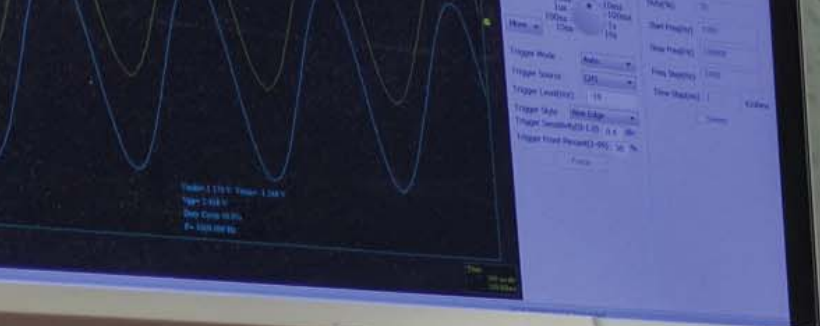




history

4 decades of design - 1980's in Brunswick Street, North Fitzroy



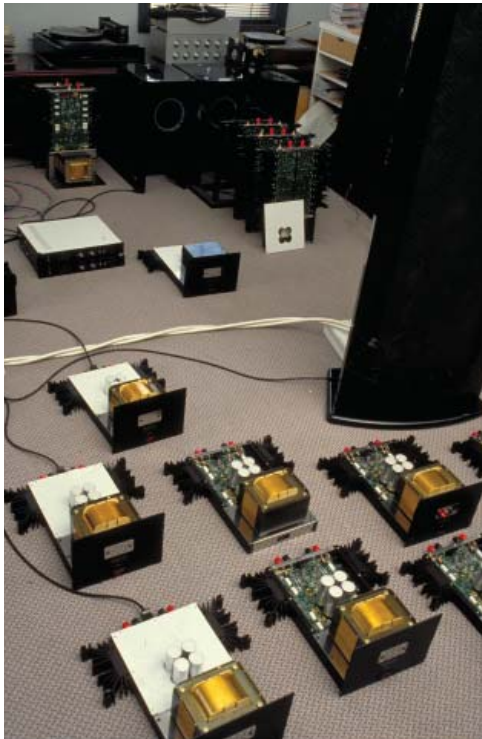


history

4 decades of design - 1990's in Rae St, North Fitzroy & Macquarie St, Prahran.



2000 designs
Stainless Steel
monocoque
construction







our master tapes







Georges Quellet & Kostas Metaxas 1986



master tape concert recordings

If your concert recording equipment is “exceptional”, you are at least 90% towards creating a great recording - it is then really up to the musicians.

It’s actually the same with Hi-End Audio. An exceptional system somehow actually makes MORE recordings sound interesting and involving.

Because there is no equivalent to a Hi-End press in the professional recording world, you are really on your own when it comes to assembling a “reference quality” recording system. And there are only a few individuals who “Hi-End Audiophiles” know who actually have some knowledge in this field. How can you tell if they are good or not? Simple. Listen to their recordings.

The professional world doesn’t share the same vocabulary of “soundstage width and depth”, “tonal neutrality” and “transparency”. In fact, most recording engineers [and there are very few exceptions] pick their microphones and equipment for the “known” colorations they impart to the sound. And the “sound” they tend to go for in general, has no depth of field as they are used to working in enclosed cubicles.

Acoustic music - Jazz and Classical, has been hardest hit. There are so many versions of Beethoven’s 5th [and most of the classic repertoire] recorded since the 50’s that there is no market for more “versions”. New Jazz recordings suffer the same “re-issue” fate. Why would you want to buy a modern recorded version of Miles Davis’ compositions and arrangements when you can purchase an exceptional 1950’s/1960’s re-issue of Miles Davis in 100, 200, 400gm vinyl?

Tuning or Voicing your equipment and making sure it can handle the levels of the music you want to record, is similar to selecting and assembling an Audio "playback" system.

My first recording in 1987 with my Stellavox SM8 and a pair of B&K 4133 mics convinced me that it could be the basis of a "reference" recording system with a performance beyond the best existing vinyl playback systems. I made up my mind very early on to ignore the pro-industry approach and instead focus on an almost Hi-End playback approach using the best recordings from the 60's as examples of what was possible - recordings from Bob Fine [Mercury], Ken Wilkinson [DECCA] and Lewis Layton [RCA], and of course a lot of experimenting during real recording sessions [mostly at the rehearsals].

The first experimentation was with microphones. Although I liked some of the colourations I could hear with AKGs, NEUMANNNS, SCHOEPS etc, some were adversely affecting the soundstage width and depth of a performance. I found that the faster 1/4" or 1/2" diaphragm microphones soundstaged better than the traditional 1" capsules . So I started with a B&K 4133 which is predominantly used for instrumentation testing. It was transparent enough that I could start to hear some of the limitations of the Stellavox SM8.

Georges Quillet is one of my heroes. His machine is mechanically the equivalent of a Patek Phillipe watch. He has picked his compromises well in terms of the sound quality of this machine. His very simple two-stage single-ended, battery operated [13V] modules are exceptional when you remove all the "unnecessary" compensations, limiters, etc needed for normal professional use.

Earthworks, B&K 4135 , Neumann TLM50



3 modified Stellavox SM8's & AMI48 Mixer



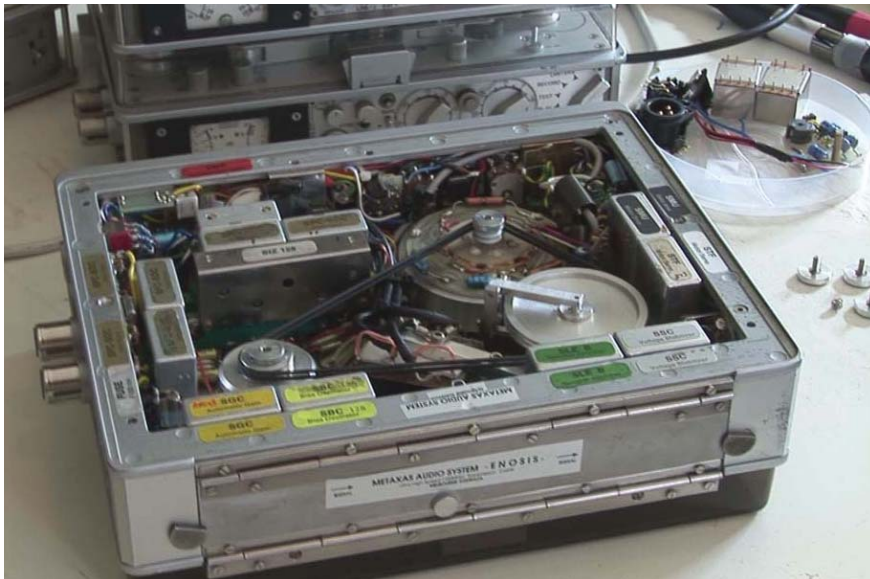
Pair Neumann TLM50



BMW EDGE Concert Series [sponsored by BMW]



The inner workings of one of 3 Stellavox SM8's



I could tell from my first recordings that he had gotten their soundstaging properties right. All that was missing were issues with forming 3D images on that soundstage because of "pro" circuit practices.

I replace the ceramic compensation caps used in the feedback loops, record and playback equalization with "blended" polystyrenes.

I also replaced the electrolytics in the signal path, rewired the signal path and the final huge improvement came with the substitution of a Lundahl mic transformer [1538XL] for the existing BEYER.

Apart from one small glitch during a concert, the modified SM8's and AMI48 mixers have worked flawlessly through over 300 concerts - testament to the genius of Quellet!

VIDEO: Metaxas speech on recording at the Munich High End Show 2012: <https://vimeo.com/144719554>

K.D. Lang launch of "ALL YOU CAN EAT" CD at Kostas Metaxas Hotel "BYBLOS" in 1997



design philosophy



ULTRA-SHORT SIGNAL PATH : NO-WIRE DESIGN

A prominent audio designer once described an amplifier as "A straight piece of wire with gain". We take this further by featuring the shortest possible signal path in a commercial amplifier. We minimize wire in any of our signal path and every component is directly soldered to one large printed circuitboard. From input to output, the signal passes through no more than 150mm of P.C.track.

The transformer is connected with only 40mm of wiring to the PCboard. This is only possible with our unique construction which features the complete amplifier (including filtering capacitors) is assembled onto one single rectangular Printed Circuit Board where the four sides connect directly to the inputs and outputs, power transistors on their heat sinks and power transformer.

The audio signal passes through ONLY ONE TYPE OF WIRE which is the highspeed, wave controlled oxygen free copper of our PC board.

HIGH SPEED POWER SUPPLIES

Conventional power amplifier use a large, high-current power transformer which feeds a 'high-current' bridge rectifier to convert the AC from the transformer into DC voltages which are then mains ripple filtered using massive, computer grade capacitors. The rectifier bridge that is normally used is relatively large, handles high-current and low voltage with very slow switching speeds because of its inherent high internal capacitance. It has a response time measured in milliseconds which if converted to frequency would mean that it would have a frequency response from DC to around 200Hz .

Frequencies above 1 kHz would be unable to draw current instantaneously from the power transformer and would need to rely on the charge stored in the power supply filtering capacitors. We replace this slow DC rectifier with ultra high speed diodes wired in parallel with switching times in 'nanoseconds' which when converted to audio frequencies have a frequency response from DC-10 MegaHertz. High and low frequency currents can be drawn from the power supply more effortlessly.



LOW NOISE, HIGH SPEED VOLTAGE REGULATOR DESIGN.

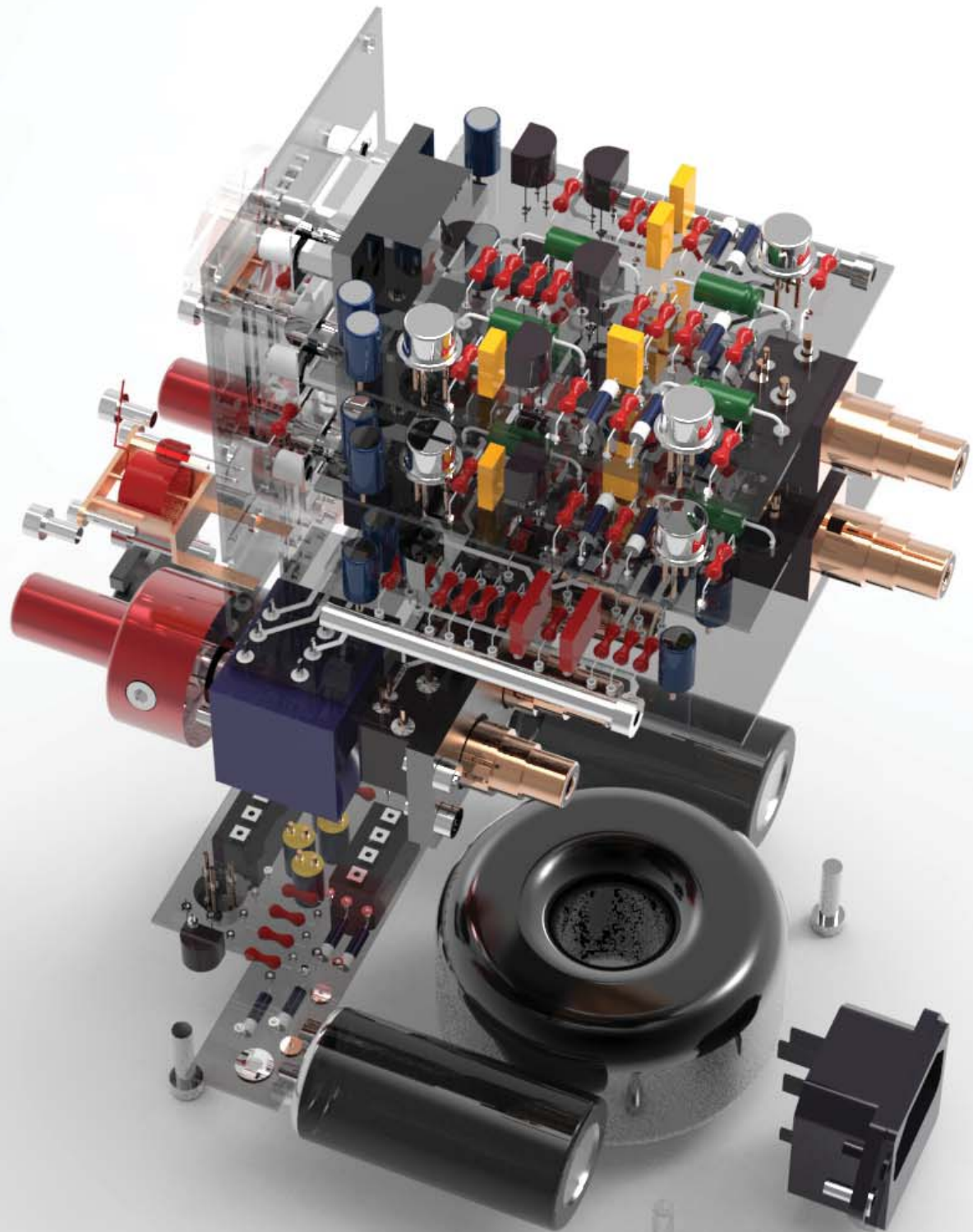
The most significant difference between VALVE and TRANSISTOR circuits is the amplifier/power supply interaction. In VALVE amplifier, the high voltages (from 200-400 Volts DC) result in a 50,000 to 100,000 Ohms value for resistor R. The equivalent transistor amplifier using much lower voltages (from 12-30 Volts) would have a substantially lower value of R between 200 Ohms-100 Ohms.

A normal power supply in a transistor amplifier is more likely to affect the transistor amplifier circuit compared to a Valve amplifier circuit. If we assume that the regulator impedance at V+ is around 2 Ohms just for the purpose of this illustration, then let us study the amplitude of the 10VOLT sine wave as it goes through R and returns back to the OUTPUT of the TRANSISTOR circuit and VALVE circuit. In the VALVE circuit, when 10 VOLTS travels across the 50,000 Ohms R towards the power supply impedance of 2 Ohms, the 10V signal is attenuated $50,000/2 = 25,000$ times.

Therefore $10V/25,000 = 0.0004$ Volts of 1,0kHz sinewave. On its way back to the OUTPUT of the circuit it is attenuated by the impedance of the amplifier (say 100 Ohms): $0.0004 \text{ Volts}/50,000/1,000 = 0.000008$ Volts. 0.000008 VOLTS of out of phase sine wave accompanies the 10 Volts sine wave as out-of-phase distortion in the VALVE CIRCUIT.

In a normal TRANSISTOR circuit, the 10 VOLTS going across the 200 Ohms resistor R would be attenuated only $10/200/2 = 0.1$ VOLTS. On the way back to the output, the voltage is attenuated by: $0.1V/200/1000 = 0.05$ VOLTS of out-of-phase sine wave added to the 10 VOLT output sine wave. In a normal Transistor circuit, the 'phase distortion' is 0.5% as compared to 0.000008% for a normal VALVE circuit.

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A4		
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If we monitor the V+ point of the transistor circuit using an oscilloscope, we would notice this 0.1 Volts, 1.0 kHz signal. If we were to increase the frequency to 10,000 Hz and up to 1.0 MegaHertz the speed of dynamic behaviour of the power supply becomes critical. Using a normal I.C. regulator would result in the signal at V+ actually increasing in amplitude as the frequency increases so that at 1.0 MegaHertz the 1.0 Volt sine wave is now over 1.0 Volt!

To fully understand this interaction between the amplifier and power supply, it is necessary to understand how a voltage regulated power supply works. A voltage regulated power supply is essentially a D.C. amplifier (not unlike a normal power amplifier) which instead of having an audio signal at the input which is then amplified to become a larger audio signal at the output, has a fixed D.C. voltage reference at the input which is then amplified and becomes a larger DC voltage at the output. The output impedance of the regulator, not unlike the output impedance (or "Damping Factor") of a power amplifier is less than one ohm at D.C. If we use a 2.0 Volt zener diode as our fixed DC voltage reference at the input of the D.C. amplifier which has a gain of 10, the resulting output voltage is 20 Volts D.C. The negative feedback loop of the amplifier which fixes the gain of 10 times the 2.0 Volt zener reference is very important because it maintains the output voltage irrespective of an increase or decrease in the power supply voltage to the amplifier as long as there is a minimum voltage for the regulator circuit to operate (for a 12 Volt regulator, the minimum voltage is 15 Volts).

This is the STATIC performance of a voltage regulator which although important, does not affect the overall sound of the amplifier as much as the regulator's DYNAMIC performance which is influenced by the speed and 'open loop gain' of the regulator.

To understand why the Dynamic performance of a voltage regulator is so important, we need to go back to our basic amplifier circuit and investigate what happens to the 1.0 Hz, 10 Volt output signal as it goes across resistor R and encounters our voltage regulator.

To ensure an absolutely stable D.C. at V+ the residual of the 10 Volt sine wave at the OUTPUT is fed through the negative feedback loop of the regulator to force the amplifier to correct this error by applying an inverted signal identical to the residual sine wave to totally eliminate the residual sine wave at V+.

A high speed regulator would therefore treat a signal at 1.0 MegaHertz in the same manner as a signal at 1.0kHz. The ultimate voltage regulator would effectively have a theoretical output impedance (or 'Damping Factor') at V+ of zero ohms at all frequencies as a result of its wide bandwidth before the addition of negative feedback. In this way, the attenuation of the 10 Volts across the resistor R residual would be complete, and no attenuated component of the 10 VOLT sine wave could be deflected and return to the OUTPUT of the circuit and cause severe phase anomalies by adding to the new signal presented at the output - remember that it would take a few nanoseconds for the signal to go through the resistor and come back.

This extraneous out-of-phase information if allowed to add to the new OUTPUT signal, would then destroy TIME/ PHASE characteristics of the amplifier circuit. In real world power supply circuits, the impedance of the power supply actually increases with frequency because the open loop gain rolls off at high frequencies.



Version with 4 pin LEMO connector
[comes with matching socket] for pure
"DUAL MONO" operation.



If we go back to our basic circuit and analysed the performance of an I.C. positive voltage regulator (say a LM78LXX from NATIONAL SEMI-CONDUCTORS) it would have an output impedance at the pin of its output lead of around 0.2 Ohms from DC to 10kHz, and then an increase to 0.4 Ohms at 20kHz, then 4.0 Ohms at 1 MEGAHERTZ which clearly illustrates the open loop frequency response has a turnover point around 10 kHz.

When you add the normal distance between the regulator output and amplifier circuits which may be as little as 60mm to as much as 200mm in many circuits, the overall impedance increases 5 to 10 times. Also, to stabilise the operation of this I.C. regulator, it is essential to use an output capacitor for stability. Clearly, this is not good enough for high performance, high speed transistor circuits.

For this reason, we have approached the design of our regulators as PART of our amplifier circuits, rather than make the fastest amplifier circuit and add a slow I.C. voltage regulator with an output capacitor and call it a finished design. Our discrete voltage regulators are designed to have the absolute lowest noise, reject mains ripple, but more importantly to have a speed (1000 V/microsecond) which is a result of their wide bandwidth design (an open loop frequency response greater than 500kHz) and output impedance which is an order of magnitude better than any I.C. The regulator stability is achieved without ANY capacitors by varying the ratio between the local and overall feedback of each device. We position the regulators within mm's of the active circuits (in the case of the OPULENCE, the regulator is 3mm! from the active circuits) and the regulator impedance is flat from DC to beyond 5 MegaHertz at less than 0.05 Ohms.

Beyond this electrical design aspect, we listen to the sound of our regulators whilst developing each amplifier circuit to ensure that every component change or substitution produces an audible improvement from the selection of transistors to best biasing currents, choice of voltage references zeners and degree of local feedback





SOME AWARDS

Recipient of 2 AUSTRALIAN EXPORT AWARDS,
BHP STEEL DESIGN AWARD,
runner up in AUSTRALIAN SMALL BUSINESS AWARDS.
USA: International Design Award
ITALY: A'DESIGN SILVER AWARD WINNER



Certificate of Excellence

This is to certify that

Kostas Metaxas & Sins

*has won the Silver A' Design Award
in Bathroom Furniture and Sanitary Ware Design Category
in 2014 - 2015 period with design #36279:
Oasis - Bathroom Sanitaryware*



Oasis by Kostas Metaxas
<https://competition.adesignaward.com/design.php?ID>

About The Silver A' Design Award
The Silver A' Design Award is a prestigious award given to top 1% percentile designs that has achieved an exemplary level of excellence in design. The designs are judged by a panel of three different Jury which is composed of 5 Academic, 5 Professional and 5 Focus Group Members for each different competition. The designs are evaluated with score normalization to remove any biases and are voted on aspects such as functionality, ergonomics, engineering, presentation, innovation, usability, fun details, technology, and any other specific points that could be considered, each of these points are further weighted for different jury groups.

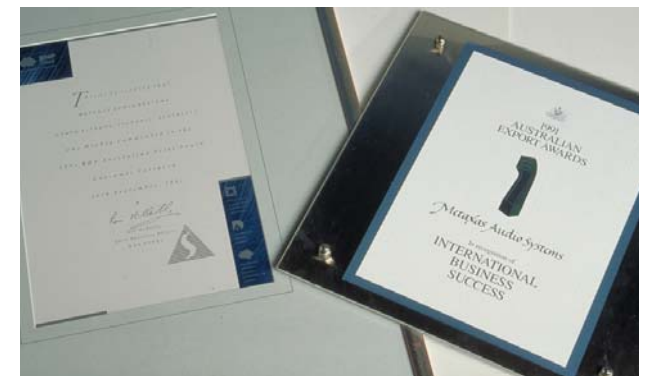


15 April 2015, Milan / Italy.

Alexander Dierckx
PRESIDENT
A' DESIGN AWARD & COMPETITION

Francoise Murru
VICE-PRESIDENT
A' DESIGN AWARD & COMPETITION

Olav Madsen Colvill
COORDINATOR
A' DESIGN AWARD & COMPETITION

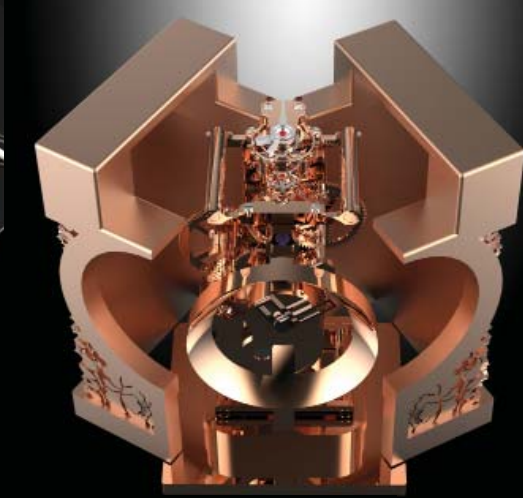




Meet Mr. Kostas Metaxas, an award winning artist and audio designer, electrical and recording engineer, Magazine Editor/Publisher and a Filmmaker/Broadcast Producer who covers fashion, design, gastronomy and the arts with over 1000 documentary interviews and two awarded feature films [www.ikon.tv] to his credit.

Drawn to the shapes and textures of old master painters and sculpture since he was a teenager, about the same time, he was introduced to Hi Fi equipment and fell in love with the art of the reproduction of music. To him, art and design is “visual music”. Unable to afford expensive Hi Fi equipment, he taught himself electrical engineering and started producing, which turned into his first business. Hungry for knowledge about art and design, Metaxas started a magazine so he could interview great artists and designers worldwide, learn from them, and feed his own creativity.

For Metaxas, designing feels euphoric. He enjoys working with various materials – metal, glass, ceramic, plastic and subverting technology, like using dental techniques to create jewelry and watches. Both the traditional manufacturing methods and the latest software or their combination work great for him. He thinks of the big picture first, then the details and the best methods to create them.



He strongly believes in balance with a twist, in the fight between the chaos and control, and a little intrigue thrown in. A bit of theatre, and a bit of utility – there needs to be substance, it should be useful, and it should also invoke experimenting and playfulness with infinite possibilities..

Some advice from Metaxas to young designers:
“Research the breathtaking work of others, and wait until your idea exceeds that standard, otherwise it has no reason to exist. Do your absolute best. If you’re not motivated, don’t do it. Give life to an object which never existed before”.

That’s what he’s doing, and he loves every moment of it.





EC Declaration of Conformity

Metaxas & Sins declare under sole responsibility that the MARQUIS HEADPHONE AMPLIFIER to which this declaration relates is in conformity with the following standard(s) or other normative document(s).

Directives this equipment complies with:

LVD – 2006/95/EC
EMC – 2004/108/EC
ErP – 2009/125/EC
RoHS – 2011/65/EC

Amsterdam / 12 January, 2017

Mr. Kostas Metaxas
Owner/Designer,
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1062XK Amsterdam
THE NETHERLANDS