

## ANALOG SHIELD



Difficult as the final product of forces of large and beautiful, mighty and powerful, extremely quiet and musically compelling. Preamplifier 'no compromise' is well priced compared to the actual competition, it was made of excellent quality materials and interesting ideas. Analogously, it was not in this kind of form a few decades ago, to the happiness of those who continued to believe.

NAT Audio is a brand created about ten years ago, and which was designed by Dejan Nikic (Nikic Audio Team) a young Serb passionate about electronics, which found its way into music. Nat products are already known and appreciated by both the European and American markets, and all electronics from the catalog is always related to clear and precise Nikic's ideas on how to implement a top product by not-so-high and not-so-popular prices compared to the prominent brands, who's name already determines values of their products.

In a word, Nat wants to present itself as a brand leader in its class, and he does that by being a true representative of top electronics, which is the very essence of music. We should think about this device by not paying as many attention on its design, but considering the fact that it's the most interesting product I held in my hands, even though I have, I must say, a big affection for this kind of devices.

## DESCRIPTION

NAT Signature is electronic-tubed preamp with input for high-signal cartridge MC High, with 40dB of gain, and input for low-signal cartridge, MC Low, which, thanks to the interposition of active circuit before the two step up transformers Jensen 44k-DX, with the gain ratio of 1 / 10 (fully analog - so it could be recommended to those who mounted preamp Audio Research Reference) gains additional 20dB, carrying by that gain of overall 60 dB, which is sufficient in many situations, especially because of the amount of the bottom noise, which is extremely low in this preamp, even lower than that which is much praised by the not so small competition.

From the projects point of view, I think that this device constitutes as an very interesting piece of electronics, with unique solutions above all. In fact, the real personality is that, as the inventor wanted to powered electronic tubes by anode voltage (the level of several tens of volts in this case), using military tubes 6N23P-EV, which are equivalent to E88CC/6DJ8, using the five military-developed batteries, whose weight and dimensions were tested. This solution is very interesting, because the anodic voltage for electronic tubes will be constant and deprived of not so small disturbances that are present in the circuit, coming from the electricity network, with a notable gain of silence and performances.

Charging these batteries, whose functionality is under five-year warranty, is intended for use in sophisticated circuit, which is independently supplied for this function and thus excludes the user from any task.

As for the rest, the product is filled with pure and absolute principles that relate to a musical act and, in accordance with these, active circuit which is deprived of any feedback, so RIAA is passively set between the first two stages with an independent third degree.

## GFDS 31 • Valutare • NAT SIGNATURE

The parts are of excellent quality, both for the parts supplying in the traditional manner, using dual mono type with toroidal transformers, stabilization and regulation with solid state, and for the amplifier circuit, which is designed for a network of high quality resistant equalizers and Wima FKP condensers, while two output capacitors are of the Mundorf brand - their Supreme series (Wima capacitors were among first products of aforementioned brand).

Constructor wanted to provide this preamp with a wide variety of uses, access to large number of possible inputs, with the help of a series of resistors placed at the entrance, and active thanks to micro-switch which proved to be too small and relatively non-functioning when it comes to continuous use. Therefore, it is advised to maintain one certain value with no further changes, after several tests.

But I think that we should note that one disadvantage when using certain low signal cartridge, with MC Low input, which provides the possibility of changing with the help of the two step-up value of resistance with weight resistance located over the cartridge, it is only a theoretical possibility (or perhaps practical, but not in my case) that if I was changing the value with switch away from the standard value presented by Jensen transformers of 430 ohm, I had a sudden loss of gain which made me give up, because of the reasons I tried to explain in the framed area, therefore using such an input, always with above value, proving to be the proper management of the two low-input cartridge that I used.

Furthermore, I must say that these electronics are absolutely satisfactory, with only two manual controls located in the front, with little predictive use (it is turning on by moving switch on 'power' and is activated by placing the second switch input to the right position, where it is written 'mute', so that's it ...) but it is still silent and deprived of poor performance, the framework is robust and well crafted, so that he can endure quite large weight of internal components with aluminum frame worthy of a top electronics, where the signature for sure tend to belong to, and I say that it is going in the right direction.

I used the NAT at different times, it's not necessary to control it, mostly because it's not heated after long hours of work. After it's turned on, it's enough to stand-by a minute until it starts to play, and less than half an hour until it reaches its maximum.

Personal system is now lining up one thin new analog base, one



Interior of NAT, fully dual mono and with a battery of voltage power 6N23P-EV

### **Theory and practice are not always the same thing (in analog almost never ...)**

As already described in the beginning, the high gain input called MC Low, uses two Jensen transformers 44K - DX on the front of the active platform of electronic channels, for a total gain of 60 dB, with 40 dB obtained from the pipe plus 20dB from step-up, the choice that is often shared by other designers. This solution provides several important advantages with regard to the extremely low noise and thanks to many low input speakers that are connected to the transformer, but not directly from a feeder resistor, which is supposed to belong to an active platform.

Imperfection is in a complete uselessness of everything (transformers that are staying as they are) and in rigidity of the independent values associated with the cartridge, which in this case, given Jensen 1 / 10 transforming ratio which is correspondent to the relationship between the voltage and current electricity flow of 1: 100, will be approximately

430ohm at first, taking to 47kohm later on. But, Nikic wanted to avoid at least this second element, giving an opportunity, as it is already described in the handbook, to vary the load and with the transformers set on alternative values of 80, 40 and 30 ohms, in a way that, in my opinion, is not completely freed of the problems of electricity nature, who really emerged.

In fact, as I opened the electronics I saw exactly that resistors activated by the switch (especially 7 and 8) were the same as those that operate at input MC High, regarding the one without a transformer, and therefore are placed after Jensen, i.e. between them and an active circuit. In short, realizing a low effect of secondary transformers that acts on resistors stated above, because of the transformation it will be displayed on the primary, and therefore on the cartridge as well, in lower values than those chosen by the designers of 80.40 and 30 ohm. So, where is the problem? The problem is in the distance, lifetime and even in electronics, problem is between theory and reality. This could be verified without any trouble if Jensen transformers were ideal. Ideal transformers do not exist, so if those step up were made to work loaded by secondary load, which is different from 47 ohm predicted by the American designer, and even much lower than those values, then they will no longer be working within their specifications, and will lose capacity besides linearity to gain on voltage. With Lire or Ortofon loaded with values of 80 or 40 ohms, gain level has drastically gone down, essentially closing to one that an active circuit MC High has, disabling the work of step up. I got a bunch of e-mails from Dejan Nikic over friendly Italian importer Anthony Fera from Esperienze Audio firm, in which he, in the end, very honestly expressed the opinion that the necessity of load alternation on transformers must be looked at as the additional possibility, and must be verified on every particular case. Anyway, I was introduced to a very sympathetic, always available, person, open for cooperation, with right approach to certain things, and I highly appreciate such a person after all, no matter how much he achieved in life. All this does not put aside the fact that the Signature is a product of the absolute level, made to get the most from the low signal speaker, where, if the user doesn't want so, and has no passion for experimenting in that field, it is better not to be included.



turntable Wilson Benesch Circle with Act. 0.5 switch and, in my opinion, excellent performance, which I used with three cartridges, one Van Den Hul MC Two with MC High input set to 800 ohm (thanks to its particular voltage output), one Lyra Lidian and Ortofon Kontrapunkt B (the one with the ruby console) with MC Low input, leaving the Jensen load from well-known reasons (430 ohm), both with similar electronic characteristics if not placed one opposite the other, would have a little lower burden, especially Ortofon, but they already have excellent recorded performances. The rest of the system predicted one Dormos Metis line stage equipped with NOS Philips and RCA, one Pass XA 30.5 in the end and Martin Logan SL3 speakers, with MIT and JPS cables, which is auto-constructed in pure silver. Usefulness of this pre-phono is at the highest level, which is very similar to the best products in the market. I know that this assertion may seem deprived of all complaints, but it really is. The sound is dramatically neutral, accurate as very good electronics, but few of them, in my opinion, can glorify magic and worrying presence of instruments, that is, virtually reproduced reality. Range of frequencies is logically connected, especially at lower levels, and with Ortofon in particular, with all attributes of power and accuracy that are really full of enthusiasm. In my opinion, the two inputs provide very similar characteristics, but I would say that Jensen transformers succeed to provide certain level of clarity and fluidity at the level of medium-high to high range, so perhaps only the active platform is not up to it. Everything seems perfectly functional, marked by the real ecstasy, transparency and details that are very close to the top models, with deep picture, which with classic details manages to fit orchestras in a persuasive and accurate manner. In order to try this pre-phono, he should be introduced to a more demanding task, since it proved that he is able to fully answer and state all the useful energy when it comes to soft and rock music, thanks to very clear and specified macro dynamics, with decisively convincing fast pulse. The same could be stated for those simpler music programs, though they are refined (ones that often can be heard in hi-fi exhibitions), that I know, two guitars and flute, you need something totally different to test the highest quality of preamplifier.

**WAGNER will be my choice**

I decide to choose "Lohengrin" (Klemperer - EMI), something I have always loved in a special way, it is recording in the old way, its display is widely known, and has perfect timbre. In the prelude of the first act, you can be fascinated by the beauty, the bow is imbued with steel and wood in balanced proportion, distant horns, soaring, fantastically represent the Holy Grail and his descent to earth. The sound is powerful, clear and sparkling, not sharp, filled with a minimum, that is, notable degree of fluidity deprived of any difficulties. Sounds that this pre-phono is able to produce are always reliable, familiar, same as we can hear them during the day, which comes as a result of accuracy and notably present harmonic content. I'll look back at Billie Holiday and Muddy Waters, the voices which make the heart and the soul come together in an imaginary way, and if there's anywhere we can notice this, it would be right here. Path to emotions and to some kind of hypnosis that this product can achieve is opening up. With Mozart, especially in his piece The Magic Flute (Von Karajan - DG), the soloists are located entirely on an imaginary stage and they are moving, speeding up and slowing down, interpret, speak. Orchestra, which is less exalted here than that of Wagner (and that is the way it should be), is playing compactly and cheerfully, and with fast and the sublime note emphasizing, that only Austrian genius could present without any difficulties in his pieces without much effort and interference.

On the other hand, it is a preamp, which seems to be very successful after all, compared with not so many analog counterparts, focusing primarily it's own good characteristics (precision, dynamic, strong depth and definition).

**CONCLUSION, PLEASE**

Final conclusion of this analog war machine for me is easy to explain like never before: it represents an exceptional approach to an absolute analog, which is the best way of listening to music. As a result of its product range and as a clear picture, deprived of spatial constraints, it gives its strong performance, but other parameters oscillate from great to excellent, in one convincing, final alchemy, deprived of any weak points. Certainly, there is strong competition, which is perhaps better than the NAT Signature, but it's still small especially in price category, where even that 'small' difference can cost you twice, sometimes even three times more. However, for me it is without any doubt that an extreme balance combined with music and pleasantness of hearing provided by this electronic device, is setting it within the framework where we can certainly talk about one well defined object, one variable burst of fire (in life there is only one definite thing that I don't want to mention). I made friends with this musical friend of mine, and, besides all of my other emotions, I owe him a discovery of many of the finest engravings I thought that I forgot (for some of them thought that I don't possess at all), that have returned to a new life. My sincere compliments to the designer.