Thrax Enyo Modular Integrated Amplifier

- REVIEW
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- Sep 27, 2021

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It's all too easy for Americans to forget just how international the high end has become. There are so many U.S. firms that there is natural bias towards U.S.-made products. We do, however, need to remember how much American designs owe to British speakers, British and Czech turntables, Japanese cartridges and turntables, Swiss analog and digital tape recorders, French electronics, and a host of other international high-end products.

I mention this because the all-tube integrated amplifier under review is the first high-end component that I've seen from Bulgaria, and is definitely a luxury item made for something of a niche market. The firm that produces it is called Thrax, and it has already established a good reputation in Europe. It was established by Rumen Artarski, who started out as an audio dealer, moved on to professional audio and video, and then decided to meet a local demand for a "no-limits" remote-controlled tube preamplifier.

His story follows the precedents set by a number of other high-end manufacturers in the U.S. and worldwide. After some attempts to get outside manufacturers to produce his design, he met Dave Wilson at the Munich audio show. He describes the experience as follows: "I told Dave the story of my preamp. His comment was 'get me one,' and 'you should start making them if no one else does.' With that motivation, in 2009, I registered Thrax as a brand and booked my first trade show. Making the product was a pain, as I had zero experience in manufacturing, and subcontracting in Bulgaria did not work for the quality level I was seeking. So, parts were made all over the world and assembly was a lab exercise, but sales were ramping up, which led to the decision to invest in state-of-the-art CNC machines to get that issue dealt with. Little did I know at the time the amount of investment needed and the steep learning curve ahead.

"We are still a small company with 22 staffers and no plans for major expansion. At least 30% of our revenue goes to R&D, and we are one of the very few companies with such broad

competence in the audio field that we can look at the whole signal chain and the interaction between components."

Thrax is now large enough to introduce some 3–4 new products a year, and the Enyo modular integrated amplifier reviewed here is one of them. It is a relatively compact integrated stereo tube amplifier that Artarski says uses the best components regardless of price—although "compact" is a relative term in a unit that, though highly compact, still weighs some 60 pounds. In spite of its small size, it has an output of 50 watts RMS per channel from 20Hz–20kHz, and its modules include an optional phonostage and optional digital front end. This modular system allows the voicing and sonic nuances of all the active electronics to be controlled by Thrax, with no third-party interconnects between the phono and digital sections. Moreover, the modular setup of the phono and digital boards mean that they can be upgraded over time.

Having auditioned the Enyo at length, I've found it lived up to its demanding design goals, but I should stress that much depends on a given audiophile's needs, system, and taste in sonic nuances. As is always the case in the high end, a "no-limits product" also means luxury pricing. The basic Enyo integrated amplifier alone costs $12,500. The phono board module is another $1175, and the DAC streamer module is $3500. The total price for all three is $17,175.

Features and Technology

Thrax is new to the American market, and my review unit was one of the first to enter the U.S. Its physical design and construction were obviously excellent, clearly built to luxury standards. Not surprisingly, the initial technical literature on the Enyo was relatively sparse, but Rumen Artarski provided full details on the unit. It is clear that the Enyo was built to couple the latest solid-state phono and digital/streaming technology to a full vacuum-tube power amplifier.

The whole front end is passive, and all input-switching and attenuation is handled by a resistor matrix with relays. This approach can sharply reduce the coloration in a good design, and almost certainly contributes to the Enyo's sound quality.

The power amp circuitry is fully differential and balanced from input to output. It features an auto-bias servo on the output tubes and does not require any fine-tuning readjustments. The same goes for the input and driver tubes. The output stage features an Ultralinear and cathode feedback arrangement with custom-made output transformers. There is no global feedback in the design.

As noted, the Enyo's rated power is 50 watts RMS continuous from 20Hz–20kHz at -1dB with both 4- and 8-ohm nominal loads. Distortion is dependent on level and load, but will be below 1% at peak power output, and below 0.1% at normal listening levels. Artarski also says that the Enyo can deliver peak music power of 100W.

This is scarcely massive power output by today's solid-state and digital standards, but the Enyo is designed for speakers with a recommended minimum sensitivity of 87–88dB. This level of efficiency means that the Enyo will operate at 4–5 watts 95% of the time.

All its circuit boards are well laid out, and its components are clearly of top quality. The Enyo is also engineered for a long operating life. It was only warm to the touch after a day of

operation. Its tube array includes ECC88 (input), 6N6P (driver), and GU50 (output) tubes. Artarski indicates that estimated tube life is 1000 hours on the output tubes, and 2000 hours on the input and driver. All tubes are widely available worldwide, and re-tubing should cost below $200.The power supply is robust and uses choke filtering.

The Enyo's control features are a bit problematic. The front panel has a full range of small, unlabeled buttons that need to be used in fixed, non-intuitive sequences. There is a 4.3″ color TFT display, on which major commands are readable from the seating position, but many details will probably require the user to stand near the unit. I did not find that the display was particularly bright or clear, and the size of the lettering on parts of the set-up menu were often close to the electronic equivalent of fine print. Operation and setup become more complex and menu-driven once you add the phono and digital modules, and the provided remote control does not have any set-up features, and only numbers the inputs, rather than naming them.

At the same time, the design and sound quality of the solid-state phono and digital modules live up to the outstanding quality of the sound of the "passive" preamp and tube power amplifier. Artarski reports that the phonostage is a solid-state circuit with gain of 40dB for mm (with a 47k ohm load), and 60dB for mc cartridges, with selectable loading via DIP switches on the card and a factory preset of 300 ohms. (The dealer has to set up the desired load, because, at present, it is not user selectable).

The phono module is a proprietary design. It uses an OPA211 op-amp as input and another op-amp for RIAA equalization. It is DC coupled, which means frequency response goes from 0Hz to beyond audibility. With an average mc cartridge, SNR can reach 80dB. In practice, it will be 66–70dB with ordinary recordings. This is very good, but do ask your dealer to match the impedance load to your cartridge.

The current upgradable DAC and network module can accept data up to 32-bit/384kHz and DSD128. SPDIF/AES and optical are limited by their format to 24-bit/192k. Artarski states that the network player is an embedded Linux module with proprietary software allowing the use of AirPlay, DLNA, and Roon (pending certification) protocols. The digital motherboard board hosts an XMOS-based USB interface supporting all formats up to 32/384 and DSD128, as well as a Bluetooth module with support for aptX. The board has a built-in format and sample-rate converter and a re-clocking system fed by dual NDK super-low-phase-noise oscillators. The DAC is on a daughter board and takes an R-2R, dual-differential approach to digital-to-analog conversion, adapted from the industrial rather than the audio world. The digital section has a completely separate power supply unit from the analog part of the amplifier.

Sound Quality

There may be a number of audiophiles who will treasure the Enyo simply because it provides high-quality tube sound in a package that weighs 29 kilograms and is only 440mm wide, 190mm high, and 480mm deep. Space and wife/partner acceptance often really matter.

When a modular design like the Enyo is done right, however—and the Enyo *does* do it right—there are many other advantages to an integrated approach. You not only avoid a forest of expensive interconnects; you also get a unit that is voiced as an integrated design, rather than as the blending of nuances—and often more marked colorations—of separate components. As every experienced audiophile knows, every company takes at least a slightly

different approach to voicing the sonics of its designs, even in components produced by the same company and design team.

Equally important, the Enyo's sonic consistency and lack of coloration in its high-level input, phono, and digital modes are all notable. The phono and digital modules have very little sound character of their own, and the same is true of the passive preamp and tube power amp. The Enyo modules provide a clean, neutral sound; the power amp is also neutral, rather than a classic or "warm" tube amplifier. You don't hear "new" aspects of the music in the upper midrange and the highs. You hear what is on the recording. The lower midrange has equally accurate timbre, and there is no added emphasis on low-level detail, or tendency to provide more exciting dynamics than you find on the recording or source material. If you are looking for a unit that changes or accentuates some aspect of your recordings, has a euphonic emphasis that suits your musical taste, or complements some favored coloration in your speaker or cartridge, this simply isn't the unit for you.

What the Enyo does do is its job. It is very revealing. It clearly communicates the differences among different instruments and voices in great detail. Percussion resolution and dynamics are very good. Natural acoustic recordings clearly reflect the age of the instruments used, the character of the hall, and even very low low-level detail.

This is not the amplifier for inefficient speakers or ones with designs that soak up power. With moderately efficient speakers, however, dynamics have their proper life and detail until you reach high levels of truly low bass, which often really do require lots of power—although really deep bass and really high energy are only found in a limited number of organ, bass guitar, and electronic music recordings.

To the extent the Enyo has any clear "voicing," I feel it lies in the areas that lead many audiophiles to prefer other clean tube and Class A solid-state designs. Digital or analog, there is no hint of emphasis and hardening in the upper midrange that goes beyond what is musically natural. Flute, harpsicord, and the top register of older violins do not suffer from any added hardness. Female voice is very natural, and breathing issues and vocal strain are not emphasized.

With properly matched speakers, I think you'll find that the Enyo's only nuance lies in a slight warming of the character or ambience of music—a little like going from a harder and more reflective hall or from a close-miked performance to a top concert hall or to a recording with a more natural microphone setup. This effect, however, is limited and nuanced, and a bright or hard recording will sound just like what it is (and should not be).

As for soundstage and imaging, I really liked them, especially with complex recording and ones that really require the ability to properly reproduce low-level detail. The Enyo's soundstage has exceptional realism with really good recordings, and this makes the music significantly more involving—particularly if you make fine adjustments to the balance control if there is a slight imbalance in left-right energy in the original recording.

Summing Up

The Thrax Enyo in a luxury product, but its quality lives up to its price. The phono, digital, analog preamp, and power-amplifier sections all offer high sound quality, and there is an equally high degree of consistent voicing in the digital and phono modules.

I should again stress that this is not a unit designed for inefficient speakers, or one that will deliver really high levels of low-frequency power. The Enyo should be paired with speakers of the sensitivity that the manufacturer recommends, or ones that are paired with or have powered subwoofers. I also feel that you should be careful to audition its performance with the specific speaker you will use it with. Speaker sensitivity ratings are based on average levels and say nothing about actual performance. I find that the speaker (and long speaker-cable) loads also impact performance with a moderate-power amp. Synergy is demonstrated by actual performance, not by technical specifications.

The Enyo also will work best when it is used with its modules. Their sonic consistency and lack of coloration are some of Enyo's greatest advantages, and the freedom from interconnects is another.

Specs & Pricing

Type: Integrated amplifier with two mono, Class A, tube gain stages
Power output: 50Wpc, 4 and 8 ohms
Gain: 32dB, balanced and unbalanced
THD: Less than 1% at 50 watts
Digital inputs: 1x network (LAN); 1x coax (RCA); 1x TosLink; 1x AES (XLR); 1x USB; Bluetooth
Analog inputs: 3x RCA (unbalanced),1x XLR (balanced)\
Outputs: 2x pairs binding posts
Dimensions: 440mm x 190mm x 480mm
Weight: 32kg (70 lbs.)
Price: Integrated amplifier, $12,500; optional DAC Streamer Board, $3500; optional mm/mc phono board, $1175

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