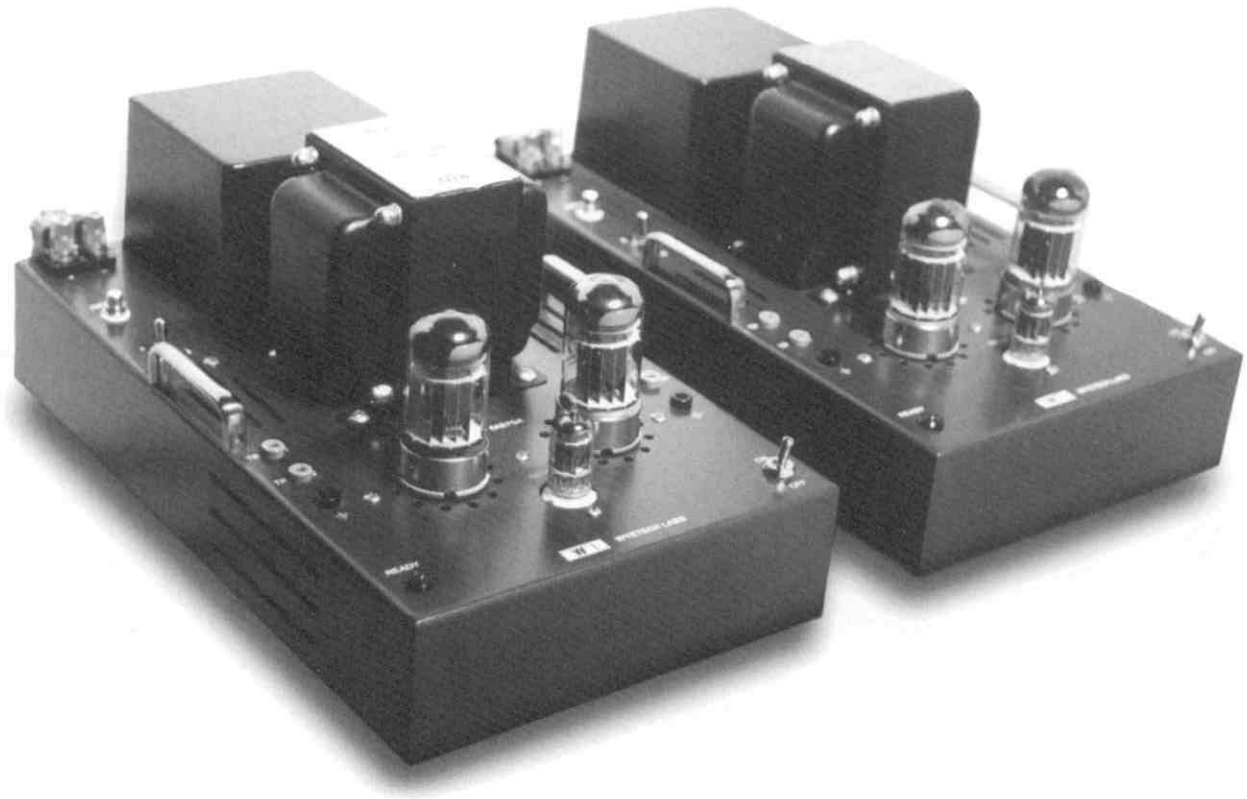
Wyetech Labs Onyx Monoblocks



Source:
Wyetech Labs

Price:
$6,500.00 Cdn
$4,500.00 US

Rating: ♪♪♪♪

Roger Hebert, the high-end designer of the fabulous Topaz amplifier, had been contemplating how to design a more cost efficient amplifier without jeopardizing sonic integrity. According to him, it wasn't an easy task and the pivotal matter was to find ways to avoid using substandard parts. His efforts are reflected in the Onyx design which, though much lower in price than the Topaz, maintains a comparable sound quality, as we shall see later. The new monoblocks are now part of a line of high-end designs marketed by Wyetech Labs which includes the Topaz, the Topaz monoblocks, the Opal and Jade preamplifiers and a phono preamplifier (made to special order).

Appearance:

The components of these amplifiers are mounted on a metallic purple chassis with brass name plates on top of the output transformers. The chassis is made from rugged 14 gauge steel—welded to further reduce vibration-induced signal aberrations. Polished brass handles accent the chassis' presence. Hebert used quality paint with a primer coat and conclude the process with a baked-on finish to further compliment the appearance. A deep lavender color accentuates the satin black finish of the output transformer and toroid cover and a cast aluminum box covers the power toroid transformer to reinforce the units' distinctive appearance.

Technology:

The audio circuit topology is based on the (expensive) Topaz amplifier, which is plate loaded single ended in all stages. Hebert uses readily available, low cost NOS (New Old Stock) triodes that were made in the USA and have met JAN (Joint Army Navy) military specifications and a custom Hammond output transformer designed to achieve wide bandwidth with exceptionally deep low frequency response. As single ended amps are more susceptible to power supply aberrations than push-pull designs, Hebert split the front end from the output by using completely separate power supplies.

This eliminates power supply feedback non-linearity. To reduce cost he opted for R-C filtering as opposed to the more expensive L-C used in the Topaz (R = resistor, C = capacitor, L = inductor). As well, electrolytic capacitors are employed in this design as they offer much larger storage capacity and offset the loss in filtering when using resistors in lieu of inductors. The dual DC power lines reduce the ripple (120Hz hum) to zero. To combat the resulting increase of heat dissipation, more air vents are included in the chassis construction. Although these amplifier run hot, the total power intake and heat dissipation is only 125 watts per channel—quite effective for an amplifier operating in pure class A1.

While the flagship amplifier—the Topaz—is completely hand wired, the Onyx design employs printed circuit boards. They feature a manually designed layout which is computer-assisted to meet the needs of analogue design, quite different from digital or computer layouts. Specifically, the large foot-prints for parts such as tube sockets was traced to result in short signal paths and precise positioning of components on the board. All wiring to the printed circuit boards is done with screw down connectors (except the test points). Wiring is achieved with single OFC coax cable for the signal input and Teflon-coated silver-plated OFC wire for the speaker connection and selector impedance switch. Wire-wound ceramic high power resistors and computer-grade, electrolytic capacitors are used in the beefy power supplies along with precision quality parts throughout.

Each unit employs 1 dual triode, 9-pin base 5814A in the input/driver stage and 2 dual triode octal base 6080WC in the output stage (which can be replaced with 6AS7GA).

All stages operate in pure single ended class A1 and have automatic self-biasing circuitry.

As in the Topaz, exceptionally large value Solen polypropylene coupling capacitors are used, Hebert states that these, together with the custom built Hammond output transformer, have "endowed this amplifier with very extended low

frequency response". Each of the four output triodes are individually self-biased, with only the plates tied together in a quasi-parallel configuration, nearly equivalent to having one high powered triode. The 11½ pound output transformer provides 13 watts RMS per monoblock with solid bass and absolute stability into all low impedance loads. The output windings can be toggled via two high current switches to allow selection of impedance for 2, 4, 8 or 12 ohms. The amps employ no feedback of any kind due to the low distortion ultra-linear amplification stage employed in the design.

The power supplies include toroidal power transformers which allow voltage input selection for 115V/230V 50-60 Hz operation via an internal toggle switch. Three output windings provide full- wave rectification using spike and noise suppression circuitry. Separate DC power supplies provide total isolation between the input and output stages. These consist of a triple filter for the 300 volt output rail and a double filter for the 450 volt input & driver rail. Rectified and filtered DC provides the power for the input tube filament of the first and second stages. The other two output tube filaments are provided with AC, connected in a balanced configuration to eliminate any possibility of hum induced distortions. This provides a very low noise floor, likely responsible for the amps' handling of inner detail. The amps provide auto-sequencing—a time-delay which stabilizes circuitry on powering up and extends tube life. The filament voltage is turned on for 45 seconds before applying the DC voltage power. Wyetech Labs have tested and burned in all vacuum tubes. A subtle improvement may be noticeable over time-but nothing very dramatic, as these tubes do not need an extended burn-in period. If you change tubes check the bias voltage using a voltmeter, The reading should be within 10% of 78 volts DC. Now to the most important element...

The Sound:

For our auditioning sessions, we connected three efficient pairs of loudspeakers—the JMlab Micro Utopias, the Fab Audio (both reviewed in Vol. 13 #3) and the B&W 801s, reviewed in this issue. Backup components were the Wyetech Labs Opal preamplifier, the Audio Aero CD player (reviewed in this issue) and the Magnum Dynalab MD 108 tuner. All wiring was done with Valhalla cables, supplied by Nordost.

Even before these monoblocks were fully burned in, we all noticed the sonic similarities to the more expensive Wyetech Topaz amplifier which we had in-house for a couple of years. All loudspeakers demonstrated the Onyxs' knack to extract crystal clear high and mid-range information from program material, not overly luscious as one might expect from single ended tube amplifiers, but faithful to the production quality of the material. There is, how- ever, a degree of enchanting bloom, just enough to handle complex harmonic textures without impairing fundamentals—the lower frequency component of a harmonic sequence. This trait is likely responsible for the amplifiers' ability to deliver heightened resolution, almost as their larger sibling, the Topaz. With the B&W 801s, resolution at top frequencies state of the art and, though the 801s sport a metal dome tweeter, not a hint of glare or hardness was apparent. Midrange purity was in line with high frequencies, delineated the speakers' smoothness and underscored inner detail, air, space and time. The 801s' robust bass complemented the Onyxs' resolving proficiency, resulting in deep, fast and dynamic bottom end information.

With the JMlab Micro Utopias, the Onyx amps also proved a great match. Though different in some ways, high frequency information was outstanding, well balanced with midrange and bottom-end. Inner detail, focus on instruments and voices and a slight, pleasant glow in the upper midrange established the Onyxs as precision components, As the Micros offer somewhat limited bass information (down to about 50Hz), the amplifiers didn't enhance or diminish bass, but concluded it with authority.

With the Fab Audio speakers, the Onyxs performed accurately at the top frequencies, though the Fab's metal dome tweeters occasionally sounded a bit hard.

Midrange on the other hand, was on par with the B&Ws, while bass-deep bass-was resolute, fast and altogether authentic right down to 30Hz. All system combinations established the Onyxs' mastery of imaging—front-to-back, horizontal and vertical dimensions. It is quite possible, for example, to count the row of musicians, pick out and "zoom in" on an instrument. With all auditioning speakers, horizontal dimensions are way out to either side of the speakers and the musical performance is on a well elevated stage.

Synopsis & Commentary:

We have listened to these monoblocks for quite some time now and still find it difficult to believe that we are hearing only 13 watts/channel. The amplifiers' dynamics are not good, not even very good, they are excellent. The Onyxs may not be able to drive all speakers under the sun, but those with efficiency ratings of 89dB and more can be used. It is important to choose loudspeakers which offer little or no colouration, as only then will one be able to determine these amplifiers' sonic integrity. We feel that the Onyxs do not introduce color or hue, as their "personality" is almost without distinctive and definite tonal characteristics, They do, however, possess qualities by which one could identify them, including resolution, inner detail finesse and tonal purity. These amplifiers aren't for those who seek specific sonic attributes; rather, they serve as a neutral cornerstone for a high-end sound system and allows the end-user to choose loudspeakers of their choice. This, of course, is how it should be, as music itself is without colouration.

We feel that the Onyx amplifiers are second only to the Topaz which offers a touch more definition, body and fuller bass and a trace more "blossoming". These enchantments, of course, do not come cheap, which makes the Onyx a veritable bargain.

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