



THE INNER EAR REPORT

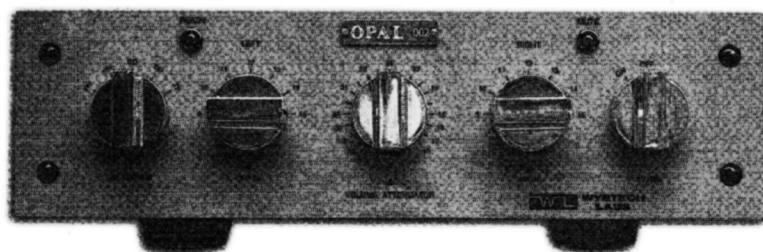
Authorized reprint of:
The Inner Ear Report
Volume 10, #2
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Opal Vacuum Tube Preamplifier

Source: Wyetech Labs

Price: \$6,500.00 US

Rating:



A little over a year ago, we introduced our readers to the Topaz single ended vacuum tube amplifier and we have had the unit in our studio almost ever since—courtesy of Roger Hebert, Wyetech Lab's president and chief designer. Regular readers may have noticed that a lot of loudspeaker evaluations in *TIER* included the Topaz as one of the amplifiers. The Opal was designed to complement the Topaz and to provide a no-holds-barred line level unit for the mature audio enthusiast. As one can see, it helps to have a hefty disposable income to afford the Opal, but the unit wasn't designed for mass consumption—it was built for the rather small specialty market known as high-end. Wyetech Labs first appeared on the audio scene in the summer of 1996 and has already impressed the high-end community with the aforementioned Topaz. Roger Hebert worked in the main-frame computer industry for many years, but decided to get out of the rat race and dedicate his time to his main hobby—audio. His experience with electronic circuitry and related elements enabled him to revamp and improve upon classic vacuum tube design, resulting in the Topaz. He has stated that he isn't interested in building "affordable" components, because

"affordable" means shortcuts and inferior sound. Thus, he uses but the best parts to assemble his equipment.

Appearance:

The Opal isn't your run-of-the-mill preamplifier. The chassis is made of aluminum tooled from one solid block. The faceplate, part of the chassis, is an exquisite mauve colour, offset by five large gold-plated rotary switches. These control—from left to right—the input selector, left channel gain, master volume, right channel gain and mute/standby. Above the last switch, two lights (same LEDs as used in the Topaz) are symmetrically placed equidistant from the sides and above the switches to indicate the unit's status—red for standby/mute, green for operating/use. There is also a hefty external power supply chassis with a red indicator lamp and the main power switch. This unit weighs 18 pounds, while the main chassis tops the scale at 38.5 pounds. Total shipping weight is about 66 pound (30KG). The preamplifier measures 19 x 14³/₈ x 5¹/₄ inches (W x D x H) and the power supply is 9 x 12 x 3¹/₂ inches (W x D x H). The Opal features the simplicity of a timeless audio component. Its exterior is striking and beckons—touch me. When one does, the feel of the switches

further communicates the unit's class, which brings us to its . . .

Technology:

The Opal is a dual mono design arranged on one main chassis. Its power supply is connected via a nine-foot umbilical cord. The main chassis is made from 1/4 and 3/8 inch thick aluminum bolted to square posts. The construction provides 100% shielding from external RF fields. A 14 gauge welded steel chassis is used for the power supply and acts as an efficient framework to contain magnetic fields. SHALLCO switches with coin silver contacts and stainless steel shafts are used throughout the design. The entire chassis construction is made with non-magnetic hardware. The umbilical DC cord is shielded and terminated with 30 amp Neutik connectors.

Handcrafted Vector boards with precision double turret terminal posts are used to accommodate the electronic components. These are mounted on the swagged terminal posts in two areas. Wiring is laid out on both top and bottom of the board, soldered to the bottom layer of the terminal post. This is point to point wiring at its best and allows component density while maintaining the shortest possible signal path. The components are soldered into place on the top layer of the terminal which allows the replacement of any part without removing the circuit board. Teflon-coated, silver plated OFHC copper wiring is used where appropriate and silver solder is used throughout. The Opal's circuit is based on a grounded grid configuration which is isolated by a cathode follower stage before and after. All three stages are non-inverting, maintaining

absolute phase. (The grounded grid configuration is known for its extremely wide bandwidth). The grounded grid stage drives two cathode followers and provides two isolated outputs for each channel. All stages are DC coupled and only one capacitor is employed in the output stage for DC blocking. No feedback is employed in this dual mono construction with separate circuit boards for each channel. Four 6SN7 (dual triode) and one 6X5 dual triode are used in the Opal. There is an automatic power sequence and muting function which delays operation by about seventy seconds to bring up the voltage to 200 volts. After about ninety seconds, the auto mute is disengaged completing the turn-on sequence. Muting is accomplished with a four-pole relay that shorts the preamplifier outputs. When disengaged, the muting circuit is not in the signal path.

Frequency response (reference to a 3.5Vrms output sine wave) is +/- 0dB flat from 20Hz to 100kHz, + 0dB/-1dB from 6Hz to 375kHz, +0dB/-3dB from 2.6Hz to 750kHz. Input impedance is 50kohms. The master gain control (left and right channel) is variable from 9dB to 15dB (seven steps of 1dB each). Attenuation is achieved via a 24 position stepped volume control (12 at 1.5dB/step). Output impedance is 425ohms, rated output is 3.5Vrms (maximum 20Vrms). Slew rate is greater than 40Volts/micro-second. There are two preamp outputs, one tape output, one line level output. Four line (high) level inputs and a tape input are supplied. Power requirements are selectable at 115/230 Volts, 50/60Hz, 50 Watts.

The power supply is made up of three filtering stages with the final stage a non-magnetic RC filter network. Each channel board has its own large value polypropylene capacitor as a final shunt by-pass cap. The unit eliminates all noise and ripple on the DC 200 volt line and maintains regulation of the voltage to within 0.002 volts/second of drift. Theoretically, this power supply far outperforms a battery pack and may be the realistic reason for the preamp's quiet operation. All in all, this unit has been overbuilt with top quality parts and craftsmanship. The smallest details have been addressed to assure mechanical integrity. The Opal's electrical and mechanical structure is in line with its classic appearance, but the nitty gritty is how it handles music.

The Sound:

For our first listening session, we connected the Opal to its sibling, the Topaz. Tannoy Churchill loudspeakers, Flatline Reference speaker cables and interconnects and Polyfusion CD transport and DAC (reviewed in this issue) were our back-up components.

As we all know, or should know, the proof of the pudding is in its taste; and the proof of a preamplifier is the way it sounds. In this system, the Opal didn't really establish a sound of its own. If it did, we couldn't hear it or pinpoint its sonic signature—nor can we describe this characteristic in simple audio language. This preamplifier simply provided better sound than any other units we have auditioned—bar none. There were better highs, better midrange information and better bass. Perhaps better isn't the right word to use and what ought to be used instead is the word MORE. The Opal offers more extension, more air, more dynamics, more resolution and more staging—in other words, the Opal manages to finish what the source components begin. (The only thing the Opal doesn't add is noise level). For example, we connected the MD108, Magnum Dynalab's flagship tuner, tuned it to the local CBC station and listened to an (uncompressed) broadcast. CBC's excellent signal made this an audio encounter comparable to listening to a CD; in fact, visitors to our studio thought just that. In another of our listening tests, we noticed that the Opal sustains single musical notes and entire chords a touch better while resolving all the information more realistically than any other preamp we had listened to. As well, no other preamp of which we know has ever finished deep bass information as proficiently as the Opal. In other tests we used the Opal with Polyfusion, OCM and Bryston power amplifiers with the same interconnects, speaker cables and loudspeakers. These tests produced interesting results which allowed us to hear the amplifiers' characteristics rather clearly. This confirmed the Opal's ability to communicate an amplifier's particular sound quality. By the way, we used program material ranging from complex to elementary music. All panelists recognized the Opal's elevated degree of musicality and its ability to recreate a "live" event.

Synopsis and Commentary:

We have always said that a good preamplifier is the nerve centre of an audio system. A preamplifier can

make or break a system's all round sound. If you have a superb amplifier, a pair of great loudspeakers, excellent cables and a poor sounding preamplifier, it isn't possible to extract the best audio signal from the system. Then again, there are a lot of super preamplifiers on the market which will introduce their very own sonic signature. A preamplifier's personality may be beneficial to the all-round sound by enhancing or altering the personality of other components within the system. In reality, it is the synergistic complement that yields the desired results and the only problem is to find the "right" mix of components. If, on the other hand, a preamp, such as the Opal, has little or no distinct sonic signature, the aforementioned issue is eliminated or diminished. This could well mean that the preamplifier will reveal shortcomings in the system such as weaknesses of interconnects, source components, loudspeakers or, of course, power amplifiers. However, when all components are of excellent quality, the Opal will work its magic to create great sound. The Opal, although a tube design, works well with solid-state components, thereby letting the end-user decide the type of sound he/she prefers. We believe that the all-round quality is neutral, although this cannot be established in terms of broad consent. While most designers/manufacturers in the high-end electronics business have a sound understanding of technology, even good sound, not many have an understanding of music. Roger Hebert is such a designer. He also has a comprehension of pristine workmanship, electronic parts and an open mind, which allowed him to listen to criticism. After countless evaluations and many hours of listening sessions involving knowledgeable folks, and only when the Opal had passed all tests, was it released to the market. The consequence is a preamplifier which surpassed our expectations and a unit which may well have set a standard in the industry. ¶

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