EAR 890 Vacuum Tube Power Amplifier Review

Tim's higher power vacuum tube amplifier wonder.
Review by George Papadimitriou (Pappas)

I have always wanted to hear an EAR amplifier. Have chatted with many people and read quite a few reviews of their products. All of them seemed to fee that these amplifiers were excellent. Well, I had a chance to meet the big cheese, U.S. importer Dan Meinwald, at the recent CES show. Dan proudly imports England-based EAR products. I bugged Dan to review their amplifiers and he suggested one of their newer models, the 890 power amplifier. This amplifier is among EAR's higher-powered models and produces 70 watts per channel in stereo, yet is bridgeable to 140 watts in monoblock. For your information, EAR has recently unveiled some new products that include the 890 power amplifier plus an integrated amplifier version called the 899. They are also re-introducing the "Silver Jubilee Limited Edition" EAR 509, the classic 100 watt monoblock tube power amplifier using the designer's favorite 509/519 tube, plus a solid-state phone section called the model 324. It is said to employs circuitry similar to the Paravicini 312 Power Centre pre-amplifier. The 312 amplifier retails at an eye opening $18,000 and is available only by special order.

The Designer

By the way, Tim de Paravicini is the head designer of the EAR products (which stands for Esoteric Audio Research). Tim is a really interesting man as his accomplishments in audio are incredible. He has designed amplifiers for Lux Corporation (Luxman), Michaelson and Austin, and worked as a design consultant to Tangent Loudspeakers, Musical Fidelity and Alba Radio

Corporation. He also designs and builds professional audio gear under the EAR banner. This includes modifying recording equipment, studio equipment, record cutting equipment, tape machines like his favorite (and legendary) Studer C37. In fact Tim's recording studio work includes none other than famous musician and singer Paul McCartney!

In an interview for the former *Audio* magazine in January 1995, Tim is quoted as saying "I don't have to use tubes in my designs; I only do it for marketing reasons. I've got an exact equivalent in solid state. I can make either type do the same job, and I have no preference. People can't pick which is which. And electrons have no memory of where they've been: The end result is what counts. Most transistor-circuit architecture was different from tube-circuit architecture, and that's what people were hearing, more than the device itself. The main advantage of tubes is that an average tube has more gain than an average transistor. Second, tubes don't have the enormous storage times of transistors, so they are very fast. Tubes can go to 100MHz without trying." Hmmm-very interesting. Is it possible that the typical sounds from tube and transistor gear sounds different because of the circuit topology rather than the actual device? Interesting debate, is it not?"

Tim de Paravicini is also a very controversial individual. Some people have called him (among other things) arrogant, "the wild man of audio" and "the best tube circuit designer alive", as well as probably some less flattering names. This, writes *Hi-Fi News* in November 1994 "attests to both the fear he instills in his opposition and the respect which even his rivals hold for him." I met Tim at CES a number of years ago and he struck me in our short conversation as a very confident and extremely bright man, probably bordering on genius. I have heard from several sources that he has solved circuit problems in seconds that have baffled other designers for months or more. Quite an interesting man! he is an individual and something I believe we need more of. Tim's uniqueness is much needed instead of everyone trying to behave like the masses or like someone else.

Construction And Features

I was really impressed with the EAR 890 amplifier when first receiving it. It was double-boxed, which is a very good idea because the amplifier is *very* heavy and *very* substantially built. The chassis is very stiff and thick, providing great support for the transformers, tubes and circuitry. The tubes are held by circuit boards that are hang-fastened from the top plate. This gives the amplifier good aesthetics according to my eye as about one-quarter of the tube is below the top panel. There are two black tube cages -- one for each channel to protect the tubes. These cages are fastened in a really strange way that makes them very difficult and very time consuming to remove and install. The same bolts that hang-fasten the power tubes circuit board are the ones that fasten the cages.

To loosen the cages, you have to remove the bottom (yes, you read right) cover from the amplifier. Then you turn the amplifier on its side and remove the two center nuts that fasten the KT90 power tube circuit board. There is a total of six bolts holding each channels circuit board. Now you have the circuit board loose at the middle which flexes, thus allowing the removal of the bolts that screw to the tapped sheet metal of the cages. The tapped sheet metal covers are too thin to get a good grab and therefore the two center bolts appear to lack the

ability to become a tight fit and thereby hold the center portion of the circuit boards. In fact one of the tapped holes was already stripped!

Okay George, all this is confusing. So what does this mean? Well, this complicated fastening system creates a few problems. It makes swapping tubes, removing and installing the tube cages a very difficult and time-consuming task. It also does not allow the center bolts holding the circuit board to achieve a tight fit because of the little thread available at the cage. Finally, there is no center support of the circuit board when the cage is off, thus the board with the tubes sags and is very bouncy. On this last point, one can find an appropriate nut to fasten the bolt to, which will solve the problem.

Sadly, the cage can not be placed on a flat surface to aid in support. Surely on a product of this class there must be a better way of fastening the cage to the chassis. Perhaps this can be done by Allen bolts threaded to the top panel that will allow access to the cage and the tubes from the top without going inside the amplifier.

The eight power tubes are the relatively new KT90 manufactured by EI. Two tube amplifier designers told me that they use EI tubes in their pre-amplifiers. They agreed EI tubes are excellent and very quiet, but have low consistency, at least in pre-amplifier low signal tubes. They said one has to through about six to eight tubes to get one good one. Both also said they are the best sounding of the modern-made conventional tubes. As they say, "no pain no gain."

The front panel is very simple and very attractive. It is made from a thick piece of metal (brass, I believe) that has been chrome-played. There is an illuminated on/off switch on the right-bottom, though the one shipped was installed crooked. An easy fix and could be attributed to possible rough shipping. The power transformer (or mains transformer for you Brits) is quite a good size, very heavy and is positioned in the middle front of the amplifier complete with chrome bell caps. The output transformers are located at the rear corners of the chassis and are also topped off with chrome bell caps. Very nice.

There is a metal cover on top of the chassis with the amplifier's schematic printed on it. This cover screws off, allowing access to the soldered portion of the driver tube circuit board. The driver tubes face head down and are located inside the chassis. This arrangement would make it very easy to service the amplifier in allowing access to both sides of the board without removing it. it also places the smaller signal tubes [ECC85 (6AQ8) and ECC83 (12AX7)] inside the chassis facing downward. While unconventional, the net result is that the aluminum plate on the top chassis gets very hot to the touch. This may be a deliberate part of the design. I do not know for sure, but it strikes me as counterintuitive. The other disadvantage of this is it makes tube swapping or replacing more difficult. This is not the only hot area of the amplifier. The power (mains) transformer operates quite hot. I can only touch it for about a second or so before having to remove my hand. This may be a design feature as I also noted that the Art Audio's Diavolo single-ended power amplifier does the same thing. I am not a circuit designer, just reporting the facts.

One thing that I was not pleased with was the design of the loudspeaker binding posts. They were positioned too close to the output transformers and, as a result, I could not get these

knurled (round) posts tight. Because these posts did not have a six-sided design, I could not use the Postman or Audioguest wrench to tighten down the loudspeaker cables. About half of these posts also would revolve around their connection to the top chassis plate further preventing me from tightening the posts properly. The last problem with these posts is that the nuts have been tapered at the contract point. Therefore making it impossible to wrap bare wire loudspeaker cables around them. One has to place this wire through the "eyelet" hole, which crushes and shears smaller wires.

Looking at the inner construction of the mounted components and circuit boards was very interesting. One thing I was happy to see was that there was no "clip-on" connectors used anywhere. That's great! The snap-on connectors normally used degrade the sound substantially in my experience. The AC switch also felt very lightweight and not very substantial. This is something I have noticed with many amplifiers. It makes me wonder why I put an 8-10 gauge special power cord when the electricity then goes through typically light-weight AC switches and tiny chassis wire. Again, I am no designer so perhaps this does not matter, but I have experimented with temporarily removing the AC switch and the associated thin wires in my Audio Note Meishu integrated 300B amplifier and found it made a noticeable improvement in the sound. Perhaps this is the result of rational choices due to the reasonable cost of this amplifier.

One nice feature is the design of transformer wire connections. Normally the transformer wires inside the core have "pigtails" of chassis wire that are then soldered or connected to the appropriate locations. EAR employs a termination that I have never seen before. The transformer solid wires actually come out of the core and end in solderable clips, thus allowing the designer to choose the chassis wire of his choice.

Some of the assembly work also appeared amateurish to me. Black silicone was used in various locations such as fastening the chassis wires in several locations, around the tubes near the circuit board and the back of the AC switch was covered with it. This likely does not have any sonic consequences, but feel it may have an effect on the pride of ownership considering the cost of this unit at $4,995. To add to this, I also noticed that the solder joint quality on the main circuit board did not look neat or clean. Again, this may be just a visual item but would have felt better if the amp were soldered more neatly. In the final analysis it is how the amplifier reproduces music that is most important.

How Did It Sound, George?

I may have been a little critical on the design and assembly quality of this amplifier, but when it comes to the sonics this amplifier is a winner. It was nice to have a 70 watt per channel unit available to properly drive my Green Mountain Audio Continuum 2 loudspeakers to concert levels with ease. This is what I mainly used for this review. Other loudspeakers were the Spica Angelus floor standers and a highly modified pair of Energy 22 Connoisseurs.

The first thing that I noticed with this great amplifier was how easy it was to get good sound. It was not quirky or temperamental about placement, support, rack choices, wiring etc. It was a cinch to get this unit enjoyable sounding and highly listenable. I am not saying it was insensitive to these factors, it is. As an example, you can easily hear differences by swapping cables. What I

want to stress here is that this amplifier was extremely enjoyable and musical no matter what you did, within reason. Too many components, including amplifiers, are overly finicky to get sounding balanced and musical. I find this very frustrating because I am constantly on edge to change this or try that, in an effort to get the component to sound decent. Maybe this is a factor of my age (49)? I do not want to go to extreme and ridiculous measures to get a piece of gear to sound good.

When first installing the EAR 890 to my system, I had a brief listen and said, "Yeah, this sounds good." Over the next several days I listened to it with various recordings and thoroughly enjoyed them. While listening to the music I noticed at some point that there was no apparent need to get up and change anything. I did not feel like trying this interconnect, another loudspeaker cable, putting it on cones or doing anything. Just wanted to relax on the couch and enjoy the quality of the music. This might seem like a minor point, but have learned a lot from this episode. Specifically, if a component or music system does not force you to constantly get up and change things, it naturally encourages you to enjoy the music. This tells you a tremendous amount about the quality of the component or system. It means, to me, that something is *inherently right* about the sound. On some level, perhaps even sub-conscious, your brain, body, heart and guts connect with the music. The *emotion* of the music if you will. I think this is a big deal because if you do not "enjoy the music" (nyuk, nyuk) or if you are not getting the essence, nothing else matters. Thank you EAR and Dan for the lesson.

Power wise, this unit is *very* potent! It sounds more powerful than the 70 watts per channel rating would indicate. It drove my loudspeakers with ease and had plenty of reserve. This included my playing of large orchestral works or rock music. Sonically, this amplifier reproduces music a bit like the classic tube sound. I said *a bit*, not a lot. It did not sound thick or syrupy, or have that old bloated tube sound of yesteryear. Still, it did go towards the warm, euphonic side

of the medium. This amplifier would be a great match for many modern loudspeakers that tend to have a more analytical sound due to tipped-up high frequencies.

The EAR 890 is especially good at reproducing voices, particularly of the male variety. You can easily hear in Frank Sinatra's voice his power, depth, and resonance. The almost raunchy quality that makes his voice so enjoyable. The EAR 890 also gets the mass and chestiness of a person's voice nearly perfect. Voice actually sounds like it is coming from a human body and head instead of this ethereal voice from thin air.

The bass on this gem is a touch elevated in level, thus providing a warmer, more solid sound. Again, this would work really well with most modern loudspeakers and be an excellent match with some excellent minimonitors on the market. This healthy bottom end was also pointed out in a review of another EAR amplifier, the model 861 vacuum tube power amplifier reviewed by Dayna B. for *Ultimate Audio* (Winter 1999). While not a major concern, it makes bass instruments a little heavier than normal though still enjoyable. One thing I enjoyed about the EAR's bass is that it allowed the natural resonant sounds of many bass instruments to be expressed. Many times, some amplifiers sound tight and pinchy. Akin to constipated in the bass region with their overly damped sound. I notice this with solid-state amplifiers, primarily, more so than with tubed units.

High frequencies are very well handled, being light, airy and very well extended without any harshness or stridency of any kind. Very pleasing with a smoothness that allowed me to relax and absorb the music. I noticed with this amplifier that my Green Mountain Audio three-way loudspeakers were better integrated and sounded closer to the sound of one driver. The EAR is very cohesive and exceeds at integrating the lows, mids and highs extremely well.

Detail, attack, decay and resolution were excellent. The subtleties and nuances were there, yet not thrust in your face nor disembodied from the rest of the music. If you are a detail freak, or love that "hyped-up" inner detail and resolution, you would be better served to look elsewhere. This amplifier is so smooth and stress free that at first it feels as if you are loosing detail and resolution. Then you suddenly notice a singer's many tonal and pitch changes and realize the detail is all there. It just is presented in a smoother, more relaxed perspective.

I was also impressed with the soundscaping and imaging of this amplifier. The music was expansive with good depth, when it was recorded that way, many times going beyond the edges of the loudspeakers. The music extended far back as well as in front of the loudspeakers. The time and phase coherent Green Mountain loudspeakers are a great help here with their staggered drivers and phase-correct 6dB/oct crossover slopes.

Give Me The Bottom Line

All in all, this is a great amplifier! It is extremely easy to set up and sounds good with little or no tweaking. It is about enjoying the music and not a finicky or touchy piece of gear. It is very cohesive and the tonality is excellent and very well integrated from highs to lows. There is a slight boom in the bass that is noticeable, yet not very obtrusive and may be a benefit with most modern loudspeakers. I found it very enjoyable to have a well-rounded, fuller sound to create a proper foundation to the music.

Resolution and detail are excellent and they are presented in a relaxed, smooth manner. This EAR will not likely make "detail above all" types happy. The detail and nuances are there; they're not thrown at you, but are, more appropriately, part of the music's tapestry.

Sound staging and imaging are terrific. Tube amplifiers have an advantage here and the EAR 890 is no exception. The music, when thus recorded, extends beyond the edges of the loudspeakers with good depth and extension. This includes "throwing" sounds well in front of the loudspeakers and find this very engaging as one gets swept into the energy and mood of the music. True stress relief served here.

The USA importer, Dan Meinwald, told me that the EAR 890 is one of Tim de Paravicini's more tube-like sounding amplifiers. Generally his designs do not sound classically tube-like. I agree with Dan, this amplifier is slightly, *just slightly* to the warm romantic side, yet not so much so that it impedes the music. I will really miss the great musicality and powerful presentation that this amplifier produces. Amazing considering it demands very little or no tweaking on my part. Less stress and anxiety in my life is a good thing.

Tonality	93
Sub-bass (10 Hz - 60 Hz)	85
Mid-bass (80 Hz - 200 Hz)	90
Midrange (200 Hz - 3,000 Hz)	95
High-frequencies (3,000 Hz on up)	92
Attack	90
Decay	92
Inner Resolution	90
Soundscape width front	98
Soundscape width rear	92
Soundscape depth behind loudspeakers	93
Soundscape extension into the room	95
Imaging	93
Fit and Finish	90
Self Noise	90
Value for the Money	94

Specifications

Power: 70 watts per channel Class A
140 watts in monoblock strapping mode

Tubes: Four KT90 output tubes per channel
Two ECC85 (6AQ8)

Two ECC83 (12AX7)

Inputs: Balanced inputs (transformer-coupled) as well as unbalanced inputs, activated by a toggle switch.

Separate input level potentiometers for each channel

Stereo/monoblock strapping switch

Integrated Model: The 890 is also available with a six input passive pre-amplifier called the model 899

Price: $4,995

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