

## EQUIPMENT REPORT



### LAMM Industries LL2.1 Deluxe Line Preamplifier

Tube Sparkle and Drive

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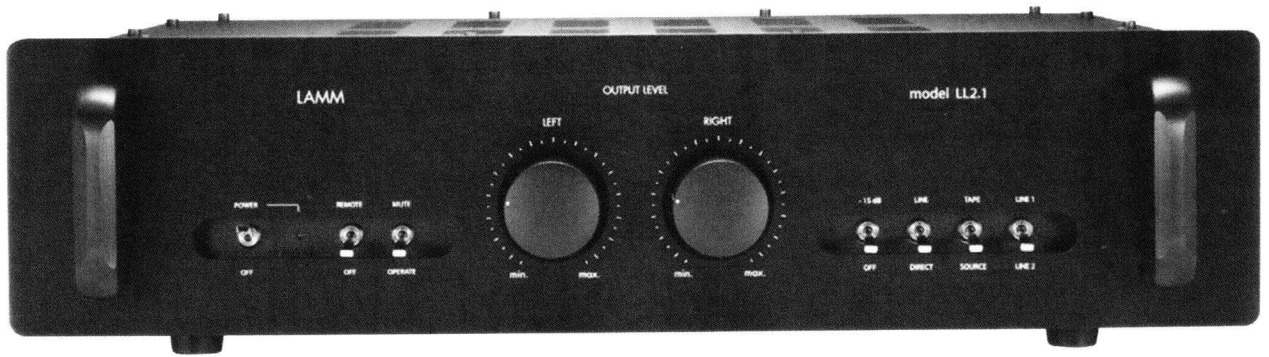
**D**esigner Vladimir Lamm, who is equally at home with tube as well as solid-state circuitry, has refreshed the LL2 design, LAMM's long-standing entry-level tube lineage preamp. The LL2.1 is a direct replacement for the LL2. Aside from a few new parts and slight changes in the schematic, the most important modification, at least from my perspective, is the introduction of a switch-selectable 15dB gain attenuator. With this switch on, the gain drops from about 18dB to only 3dB. Now that's still plenty of gain for a CD player input in the context of a sensitive power amp (e.g., the Audio Space Reference 3.1 300B) and a high-efficiency loudspeaker such as my Basszilla Platinum Edition Mk2 DIY. Otherwise, I could barely crack open the volume potentiometers.

Unlike most modern tube preamps, the LL2.1 is actually an all-tube design, featuring tube rectification in addition to tube amplification. This, in my experience, is an important distinction. I happen to think that tube rectification offers a direct highway to tubeland's magic kingdom. Most solid-state-rectified tube preamps leave me slightly

disappointed, wanting for more tube magic. In fact, I'd be very curious to audition a tube-rectified solid-state lineage if an intrepid designer were to undertake such a challenge. Here a 6X4 full-wave rectifier is used followed by a pi filter circuit. The input voltage gain stage consists of a single 12AU7A twin triode wired in parallel. The signal is then capacitively coupled to a driver stage, a single 6922 twin triode configured as a series-regulated push-pull stage (SRPP). The SRPP stage, also known as a Mu follower, offers excellent current drive and decent output impedance. A bit of global feedback is used to lower the output impedance even further to an impressive 250 ohms and guarantees minimal load interaction—even with solid-state amplifiers. The ascendancy to the highest sonic throne isn't necessarily a function of a particular circuit topology. There are many paths to sonic nirvana, though the task is certainly made easier by this simple yet elegant circuit. My review sample came outfitted with a Philips 6189W, a ruggedized longer-life version of the 12AU7 and a 6H23П-EB—a Russian version of the 6DJ8/6922 tube.

The front panel is visually dominated by a pair of Noble potentiometers. There is no balance control *per se*, channel balance is adjustable by individual tweaking of the left and right volume controls. These controls are not motorized, so naturally there is no remote control. A nice protection feature is the automatic output muting that kicks in during power-up and power-down cycles. Popping off the chassis cover (you'll need a 7/64" Allen hex key for that) reveals a custom toroidal power transformer and some fancy audiophile-grade passive parts such as Vishay and Electrocube

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capacitors and Dale metal-film resistors. Note that the LL2.1 is available in two versions. Both the standard and deluxe versions share the same chassis, PC board, and stock parts complement. However, in the deluxe version power-supply energy storage is approximately twice that of the standard version and all critical film capacitors are paralleled by high-quality polystyrene caps. I haven't auditioned the standard version, but for only about a 5% premium why not avail yourself of the best available version?

A bit of patience is required during the break-in process. Plan for at least 50 hours of playing time before performance starts peaking, especially at the frequency extremes. Nonetheless, it was quickly evident that the star attraction was the midrange. Harmonic colors were vivid, saturated to a level I've yet to experience with any solid-state preamp and even many tube preamps. Live music spans a range of colors from dark to bright, and it seemed that the LL2.1 was approaching the real thing with admirable fidelity. In particular, it was capable of reproducing the sweetness aspect of harmonic textures without grain or gratuitous distortion products, its portrayal of violin overtones being quite masterful. In these respects, I preferred the LL2.1 to the recently reviewed Conrad-Johnson ET2. There were ample microdynamic sparkle and kinetic drive to propel the music forward, though it gave up a little in the boogie factor department relative to the much more expensive Concert Fidelity CF-080.

Some preamps seem hyperactive or nervous in their presentation of musical information. Symptomatic of such behavior is an etched, overly detailed sonic character, the sort of sound that is euphemistically referred to as analytic. Well, there wasn't a tidal wave of detail apparent with the LL2.1. That's not to say that it obscured low-level detail—far from it. It just was never in my face, emphasizing detail that should have been discreet. Instead, it framed detail organically within the fabric of the music.

After the initial couple of listening sessions I put together a small wish list of potential enhancements. There were problems at the frequency extremes. Bass lines could have been tighter. The treble was slightly closed in, which served to emphasize the midrange and blunt transient speed. And I could have used a bit more soundstage transparency. But I was confident that with the right tube complement these issues could be significantly mitigated. And I was right.

Tube substitutions for the stock Philips 6189W gave mixed results. For example, the Mullard CV4003 box-anode type improved the frequency extremes but gave up much of the vintage tube magic dished out by the 6189W. It became apparent that the roadblock might well be the driver tube, the Russian 6H23П-ЕВ. It took a while, but I finally hit the sonic jackpot with a Siemens E88CC gold-pin type. And before I forget, I should add that I also installed rubber-

ring tube dampers—always a good idea. This may well be the perfect 6DJ8/6922 brand for this preamp, and it works synergistically with the stock Philips 6189W. The bad news is that this tube is hard to find and expensive when you do find it. However, it tightens up the low end, opens up the highs, and lifts a veil off the soundstage. As a result, transparency is increased dramatically. The LL2.1 now sang beautifully with excellent image focus and spatial resolution to boot.

The LL2.1 is extremely easy to live with and integrate into an existing system. Without a doubt, when outfitted with the right tube complement, it captures 80% of cost-no-object performance for a fraction of the price. Now that is a winner in my book!

## SPECS & PRICING

Frequency response: 20Hz-20kHz (+0dB), 1.5Hz-400kHz (-3dB)  
Voltage gain: 7.87 + 2% or 17.92 + 0.2dB  
S/N ratio (unweighted): >84 dB (below 2V RMS output)  
THD: <0.03% (2 VRMS)  
Input impedance: 50k Ohms  
Output impedance: 250 Ohms (typical)  
Dimensions: 19" x 4.5" x 13.875" (add 1.375" for front handles)  
Weight: 20 lbs.  
Price: \$5990 (deluxe version); \$5690 (regular version)

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ASSOCIATED EQUIPMENT  
Analysis Audio planar magnetic/ribbon, Final Sound 1000i electrostatics, Esoteric

MG-20, Venture Audio Excellence III Signature, and Basszilla Platinum Edition Mk2 DIY speakers; Kuzma Stabi Reference turntable outfitted with Kuzma 313-VTA arm; Grado Reference, Dynavector XV-1s, and Shelter Harmony phono cartridges; Live! MC-10 step-up transformer; Air Tight ATE-2 phono preamplifier, Weiss Engineering Jason Transport and Medea DAC, Concert Fidelity CF-040 DAC, Altmann Micro Machines Attraction DAC; Concert Fidelity CF-080 line preamplifier; Esoteric A-100, LAMM Industries M1.2 Reference, Audio Space Reference 3.1 (300B), and Pass Labs XA30.5 amplifiers; Bybee Speaker Bullets; FMS Nexus-2, Acrotec 6N and 8N copper, Kimber Select KS-1030, Kimber KCAG interconnects; FMS Nexus speaker cable

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