

# Phillip Holmes elaborates on virtues of honesty and not brutal honesty via the \$5,600 NAT Audio Plasma R Linestage

Phillip Holmes



Frequency Response: 0.25 Hz to 300 kHz - 3dB; 20 Hz to 20 kHz  $\pm$  0.04dB  
Noise: < -104 dB "A" weighted @ 1V rms  
Gain: 10 dB(x3.2);  
Phase status: invert(180 degree)  
THD & N: < 0.03 % 20 Hz to 20 kHz @ 1V rms  
Input Impedance: > 20 kohms  
Stereo Separation: > 100 dB @ 1 kHz  
Tube Complement: 4 x 6N30P-DR; 2 x OD 3; 2 x EZ80 & 2 x 6N2P-EV  
Output Impedance: < 300 ohms @ 1 kHz  
Power Requirements: 110 VAC or 220 VAC @ 50 to 60 Hz, max. 100 VA  
Dimensions: 19" wide x 18" deep x 5.7" high  
Net Weight: approx. 31 lbs. (14 kg) unpacked  
Total Weight: approx. 53 lbs. (24 kg) packed

**MSRP:** \$5,600

**U.S. Importer:**

Musical Sounds  
6 Mayflower Court  
Milford, CT 06460

Tel.: +1 - 203-877-7776

Fax.: +1 - 203-783-0500

URL: [www.musicalsounds.us](http://www.musicalsounds.us)  
e-mail: [info@musicalsounds.us](mailto:info@musicalsounds.us)

While using the NAT Plasma R Linestage, I got the feel that I was using the audio equivalent of a B52 bomber or a freight train. Its solidity of build and sound, and the no-nonsense design gave me an impression of what the designers of the B52 might've concocted for **Curtis LeMay's** private stereo system. The military standards would start with the power supply (reminding me of those 8 turbofans of the B52).

No matter how sophisticated the circuit, if the power supply sucks, the sound will fall apart. It's an understanding that seems to permeate the NAT Audio linestages. Looking inside the Plasma R, the unschooled might get the impression that this is a *whiz-bang* unit, with lots of stuff in the signal path, multiple gain stages, or whatever. Having been around the DIY/FIY (fix it yourself) block more than once, I understood a lot of NAT Audio's ultra conservative design strategy: Build a massive power supply and put in a simple signal circuit with very good parts. It's a recipe that you can't argue with (okay, I guess you can, but you'd lose) and one that I feel is the best approach to high quality sound.

What differentiates this NAT model from their top-of-the-line unit isn't build quality or a wimpy supply. They start with a stout supply in all their preamp offerings, and increase the circuit complexity from there, balanced and what have you. The job of any amplification device is to modulate the voltage on its supply rails. With the NAT Plasma R, that is exactly what this stage does. It seems simple, but many seem to miss the point. Worse, designers go out of their way to create circuits that have high PSRR (power supply rejection ratio) and use it as a justification for a junky power supply. At some point, the shortcut catches up to the design and you will hear the limitation. I am digressing, but I want to stress that the Plasma is a rock solid

design with no shortcuts in the power supply, something you don't see very often at this price range.

Beginning with the toroidal power transformers, the unit is dual mono. During power up and idle, I didn't hear any power transformer hum. The tube complement of the power supply includes per channel: one EZ80 (a full-wave indirectly-heated rectifier, which provides a slow warm-up time for the signal tubes), one OD3/VR150 gas filled discharge tube (actually a voltage reference that is 150VDC, +/- 5.5VDC, from 5mA to 40mA DC current), and one 6N2P-EV (heavy duty Russian military dual triode, possibly used here as a series-pass regulator or the error amplifier for the power supply circuit). All the power supply capacitors are polypropylene (looks like they are appropriated from heavy duty AC "motor start" applications, and probably are better than any available electrolytic for both reliability and electrical characteristics). There are numerous transistors (some perhaps are rectification for the filaments) some with very heavy heat sinks. All of this supports what seems to be a relatively simple circuit, comprising two specially selected 6H30PI tubes per channel, the 6N30P-DR (or 6H30P-DP, 6N30P-DR, 6N30Pi-DR, etc...). It is an updated version of the 6H30pi, using gold grids, and supposedly must pass higher standards.

The Plasma R comes with a small remote that controls volume and mutes the unit. It does not change sources or power down/up the preamp. The inputs are CD, Tape, Tuner and Aux. The front of the unit has the POWER switch, MUTE switch, VOLUME knob, SELECTOR knob and indicator LEDs for warm-up, operate, and mute. On the rear of the preamp, there is a ground float switch, which didn't seem to change the background noise level in either setting (meaning that for once I didn't have a ground loop). There are two sets of output jacks, and a tape monitor output (don't see those very much any more and it is good to see their inclusion).

Besides the impressive power supply, the rest of the unit is well built. It has the military/industrial feel, with side panels made of extruded aluminum (kind of like an I-beam, but more complex). Not only is the unit impressively hefty, it is very rigid. I tried to torque the chassis with the top off, and it doesn't seem to give at all. The unit employs shock mounting techniques for the board, and at no time did I hear microphonics while the music was playing. I could cause the tubes to ring with a good knuckle thumping, but this is not unusual. In practice, the Plasma R has very good immunity from microphonics. All controls have a secure and precise feel to them. I'm not sure if it will last three generations like the B52, but it seems to have the kind of build that would give years of trouble free service.

I matched the Plasma R to the [StereoKnight M75](#) monoblocks, the Plinius SB-301 stereo power amp, [Blacknote CDP300](#) CD player, phono section of the Audible Illusions, [Jasmine LP2.0 SE](#) phono stage, Lyra Argo mc cartridge, Shure V15v, SME V, modded Maggie 2.6r, [Jaton Real AV-803](#), and cables from Aural Symphonics.



## Listening

Listening to Goldfrapp's *Supernature*, the Plasma R showed the capability of playing busy music while remaining calm. It made my old Audible Illusions sound like it was out of juice after a few seconds of this dynamic album. I could also hear that the power amps were running out of steam while the Plasma R was still putting out more. It was evident in my listening that this linestage has plenty of reserves for difficult amps, and may be a best choice for people driving very inefficient speakers with transistor amps, but who are in the market for a tube linestage. The bass impact and rhythm played with no compression or overhang. The starts and stops were quick and clean. The electronic effects were well outside and behind speakers, with vocals centered, focused and organic, as opposed to the synthesized sound-field.

On Tina Brooks' *True Blue* (Music Matters 45 rpm reissue), the Plasma R had a beautiful way with the lower midrange, fleshing out the horn's overtones. I jumped when the whole ensemble entered *tutti*. The dynamic swings on these 45 rpm releases are state-of-the-art, and didn't phase the NAT.

The Testament reissues of *Ravel Complete Orchestral Works* (AEMI 2476), with Paris Conservatoire Orchestra conducted by Andre Cluytens, showed that the Plasma R can reproduce classical music just as well as it does jazz and synth-pop. The sense of hall size was palpable. These EMI recordings aren't in the same league as the Decca masterpieces by KE Wilkinson, but they do have quite a bit going for them. With lesser preamps, the sense of hall size is diminished when these recordings get loud, something that has to do with the preamp's ability to play the whole signal when the volume goes from pianissimo to fortissimo. I've heard preamps that make the hall sound bigger as the recording gets louder, and preamps that make the hall sound bigger as the sound gets softer. I'm at a loss to completely understand why that would be. Nevertheless, the Plasma R doesn't lose focus with dynamic contrasts. Instrumental timber was beautiful, doing an especially fine job with double reeds, sax and clarinet.

Another test that the Plasma R easily passes is the ability to play a mono image. The Music Matters reissue of *Hank Mobley* is a late mono recording, made before RVG started recording to two-track. These were done with the same microphones, in the same room, but recorded on mono tape. Images were compact and well-centered between the speakers, but had more depth than the Audible Illusions, the passive stepped attenuator, and the StereoKnight TVC. It's as if you were at the studio in Hackensack, NJ, listening outside the studio through an open doorway. You would hear live musicians in a real space, with varying distances from you to the players, but not know exactly where they were located in relation to each other and to the microphones. Mono

recordings should not sound squashed into an infinite point source. Because when that happens, even if it is technically correct, it sounds like crap. The Plasma R's mono playback is not quite state-of-the-art, but it was better than most of what I've heard. The point is, it made listening to mono an emotional experience.

## *Honest, But Not To A Fault*

I was fooled several times into thinking the Plasma R was a little “rolled off”, then later that it was a tad “bright”, that it had great “slam”, that it seemed to be a little “wimpy”. I finally decided the Plasma R does a great job of getting out of the way, reproducing music with less of its own sound than many tube linestages. That being said, it does have a sound. Though it is fundamentally honest, it's like a veteran school



councilor who suggests that perhaps “rock star” isn't a realistic choice of profession. The Plasma R is honest, just not brutally honest.

The lower midrange and upper bass are slightly lush, which complemented my own system. I can think of only a few popular components that might lead to a sound that is overly rich when combined with the Plasma R: some full-range ESLs, and Koetsu cartridges, for example. If your system is already dark, or too “romantic”, the Plasma R might reinforce that sound. On the other hand, it makes a good pairing with my ribbon tweeters, digital (in general), my Lyra cartridge and SME V, all of which can sound analytical. This character did make the lower midrange and upper bass sound a little slower than the treble, but with careful system building, the effect could be minimized or completely negated – if you wanted a more “accurate” sound. For me, the balance was more inviting than either of my passive pres.

The highs were open, clean and just slightly golden-hued. Cymbals sounded like brass and/or bronze, never like compressed air or sand paper. Where recordings were hot or bright, the Plasma R did no further harm, and in some cases, made some borderline unlistenable tracks pleasurable. It is more neutral than some very expensive tube competition, and more involving than just about every transistor linestage I've heard. Details were very clean and fast, something attributable to a good power supply; bad ones leak noise into the amplifying circuits and the noise rides along with the music, make the sound grungy and slow.

On numerous recordings, bass lines were tuneful and fast. The NAT never sounded thick or sluggish; but it did sound lightweight when the music was recorded that way. It was a good balance that made the most of complicated rhythms, and music with multiple bass sources. There seemed to be no overhang that I could hear. Though not the best at subterranean bass, the Plasma R holds its own against modern tube designs.

Dynamics, small and large, are where the Plasma R beats up much of the competition. When called for, it has cojones. On music with large dynamic swings, cymbal crashes, bass drum whacks, explosions, organs, etc., it delivers the goods without flinching. The stiff power supply and polypropylene caps can source the current fast, and keep on delivering it. You won't get this kind of power with passive preamps, or integrated amps with a passive front-end. Its grunt and slam are balanced with clean releases and little overhang. It has the capability to play music with driving bass and unrelenting rhythms while vocals and non-percussion instruments exist in a serene space, undistracted by the commotion. This performance aspect is near reference grade. The Plasma R does its intended job of buffering the sources from the power amp, providing a friendly load for your sources, and a low enough output impedance to drive most amps. While there are many preamps with high input impedance and low output impedance, the high transconductance of the 6H30P tubes and the large power supply realizes the promise of what a line stage can do.

Sound stage width and positioning is very good, though not as good as the best transistor or passive units. However, most transistor and passive linestages can't do three-dimensions the way the Plasma R can. The unit puts flesh on bones, air between musicians, and delivers a superior impression of concert hall depth and volume.

A quibble I had with the unit has to do with the above-average gain, the volume control and the remote control. When used with a high-gain power amp, the lower end of the volume control seems too coarse. Especially when using the remote control, just a small push of the button would elicit 6-8dB of volume change. If you have a high-gain amp, you might need to adjust the volume with the knob, or risk getting blown out of the room. In the same category is a lack of balance adjustment. Especially with vinyl, I sometimes need to tweak the balance a small amount to bring the imaging into focus. One thing I wanted to try, but wasn't given the time, was to try NOS Euro and US power supply tubes. It may make no difference at all, but it could further elevate the performance.

The Plasma R is a well built preamp, using affordable tubes, and should last a long time. Even if it is outside your budget, I'd try to audition it anyway. In most important ways, the Plasma R is very musical while remaining accurate. Tonal balance is slightly warm and forgiving. In the areas of dynamics and imaging, it is extremely competitive with more expensive units. I heard nothing that took away from the enjoyment of the music. Without reservation, I can recommend an audition if you are in the market for a linestage.

