

## T+A PSD 3100 HV Preamplifier and Streaming DAC

### Master of All Trades

Matthew Clott

**T**+A is a behemoth in other parts of the world, yet in the U.S. it is a name on the edges of many high-end electronic conversations. I have, admittedly, never heard anything but great things about T+A but have also never had the opportunity to truly familiarize myself with any single product, much less learn about the product line as a whole and what the company is about. Turns out the PSD 3100 HV is pretty impressive and worth knowing about, and the brand is equally impressive and worth knowing about.

So, let me tell you more about T+A...

Siegfried Amft (Siggi to those who know him) studied plasma physics at the Leibnitz Technical University in Hanover, Germany, where he received his diploma in 1977. In school, Siggi studied under Fritz Sennheiser (yes, *that* Sennheiser). As a hobby, he began playing with, designing, and building (mostly for himself and his friends) transmission-line loudspeakers. He quickly found a niche market for his speakers and founded T+A in 1978, just a year after he graduated. His meticulous nature and passion for perfection motivated him to embrace fully active loudspeakers, eventually incorporating digital integration internally—a design philosophy similar to that of Meridian (Boothroyd/Stuart). These design principles, incorporating sophisticated digital engines into their product line, eventually led to a complete source-to-speaker product lineup about 30 years ago.

For this review, I had the pleasure of working with Elliott Schultz, T+A's regional sales manager, and Jim Shannon, its international press relations liaison. Jim started out with Mark Levinson/Madrigal overseas and then transitioned to Wadia, eventually finding himself working for Siggi about 22 years ago.

Jim is essentially T+A's evangelist, spreading the word of Siggi's work to the world and sharing the joy and quality of products that he profoundly believes in.

From a design standpoint, T+A embraces advanced digital engines in most aspects of their signal path (again, think Meridian and CH Precision). Jim explained that T+A uses high rail voltages, which allows its products to operate in a much narrower, linear, more pristine voltage window. No op-amps are used, and everything is discrete and dual-mono in design to reduce crosstalk and noise and improve dynamics and imaging. Great efforts are made to avoid magnetic materials and reduce the intrusion of electromagnetic radiation. Screws and leads are all made of non-magnetic materials, and the transformer is ultra-shielded to keep its noise to itself. In addition, all components are thermally regulat-

ed and bias voltage adjusted to maintain a consistent thermal environment, which improves digital performance and further reduces the noise floor. Running with an ultra-high bandwidth (like 300kHz) overall, separating PCM and DSD decoders, and utilizing high-speed oversampling with advanced digital interpolation, the digital componentry takes on an analog persona while retaining the advantages offered in the digital domain. All preamps use discrete resistor-ladder volume controls, so performance is identical at every volume level. After listening, I can attest to what equated to a proud poppa for quite some time; these guys know their stuff and sweat the details, and we reap those rewards.

While this review is strictly for the PSD 3100 HV, which is T+A's preamp/streamer/DAC (\$22,000), I requested a matching A 3000 HV stereo power amplifier for the review, as I am a firm believer that preamps and amps are typically symbiotic and perform best with their matching symbiote. I mean, what would Venom be without Eddie Brock? Thus, I am obligated to spend a paragraph or so on the A 3000 HV, considering T+A was generous enough to comply.

The \$24,275 A 3000 HV is built like a fine Swiss watch, and I found myself frequently caressing it. (Is that weird? Probably, but I'm ok with it.) It provided a prodigious 300Wpc stereo into 8 ohms and 500Wpc into 4 ohms. Power bandwidth was said to stretch from 1Hz to 150kHz, with a damping factor of greater than 65. Needless to say, the amp had zero prob-



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lem powering any speaker I had in my room at the time. I was able to hear the PSD 3100 HV/A 3000 HV combo with my Wilson Alexx Vs, the more than competent Dyrtyque 160mkII magnetostats (review pending), the Estelon XB Diamond Mark IIs (see review in Issue 353), and my newest children, a pair of Rockport Atria 2s. Having the luxury of playing with several of the best speakers out there at different price points really allowed me to see what the T+A could do, and I have to say I was heartily impressed.

I also had on hand my old reference Pilium stereo amplifier and my new reference Lamm M1.2 Reference monoblocks for comparison. And while the Pilium and the Lamm each have insane strengths, with the PSD 3100 HV neither was able to merge into a uniquely cohesive unit like the A 3000 HV could; I am glad I asked for it. For the lion's share of the time, I reviewed the A 3000 HV with the PSD 3100 HV. Adding different amps will add their flavor. Adding the A 3000 HV was like adding soy sauce to my soy sauce. And that is all I will say about the A 3000 HV except that I was blown away at the value-for-performance it represented. Personally, if you do go for the PSD 3100 HV, I would strongly urge you to consider bringing along the A 3000 HV for a trial, at least.

OK, now for the guest of honor. The T+A PSD 3100 HV (this is a bit tedious so I'm just going to call it "Pre" from now on) is a newer class of component that seems to be taking a strong foothold in our hobby—the extended preamp. It is a preamp (Class A design); it is a streamer; it is a DAC; it is a radio tuner; and it is a headphone amp (4.4mm Pentaconn jack). The enclosure goes thud (and you go, "Ow"), when you rap your knuckles on it. Aesthetically, both the amp and PSD are luscious looking. The design is elegant and modern, and the finish is almost viscous. The designated touch buttons on the screens are simple and responsive, and the knobs roll beautifully and take commands with a sense of richness and purpose that well fits the cost of entry. I am, as I have said before, a knob snob, and I loved everything about the design, layout, and physical responsiveness of the components. The amp was connected to the preamp with T+A's HLink, so both turned on and off simultaneously. The PSD has a cornucopia of digital inputs, a USB Ethernet input for the server, and a single pair of RCA and XLR inputs. If I had one complaint with the PSD, it was that I wished it had a second pair of XLR inputs.

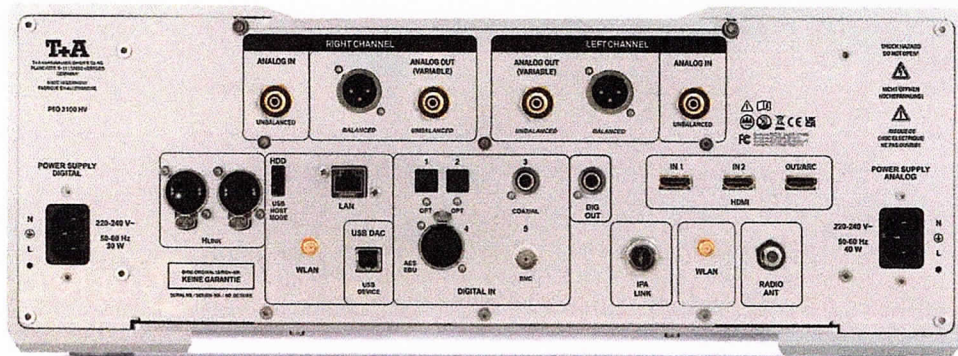
But as I learned more about it, it became clear that this was intended to be a digital preamp that accommodates analog inputs, as opposed to the other way round. I was impressed by T+A's use of completely isolated power cables for digital and analog, situated on opposite ends of the component; it shows the lengths to which T+A went to reduce noise and isolate internals.

The D/A section features two completely separate conversion circuits, one for PCM and one for DSD. The PCM converter uses a Double-Differential-Quadruple-Converter with four 32-bit sigma-delta D/A converters per channel and a 705.6/768kbps conversion rate. The DSD utilizes T+A's proprietary discrete True-1Bit DSD D/A converter, converting up to DSD512 (22.4/24.5MHz), native bitstream. Digital inputs include AES/EBU, BNC, coax, TosLink, USB DAC, USB host (HDD), HDMI, antenna, LAN, and W-LAN. The streamer uses T+A's third-generation streaming client (allowing native DSD streaming up to DSD256), and the USB receiver is a UAC-3 standard. The tuner does double-duty as a digital and analog tun-

er, managing Internet Radio, FM, FM-HD, DAB, and DAB+. Its Bluetooth capabilities include A2DP (Audio), AVRCP 1.4 (Control)/aptX<sup>®</sup> HD, SBC, and AAC. Jack of all trades, master of most.

Let's talk about the front controls, remote, and digital interface for a bit. Everything analog can be controlled both on the faceplate and from the remote. The T+A app (I used an iPad) allows control of most of the analog functions and adds extensive source selection, digital filter selection, control over sampling, input names, and frequently used inputs and sources. I am reasonably app literate, and it took me about 15 minutes to become familiar with T+A app, and about an hour of use to be comfortable with it. Twice during my time with the PSD, I was notified of an update; and both updates uploaded and installed with minimal effort and not a single glitch. I would call the software simple, straightforward, elegant, and easy to use, though it didn't have the visual and structural elegance of Apple's software. I don't think that is an insult really, considering that T+A is not a software company. But my second criticism would be to take the app aesthetic and design to the next level. You can see I am struggling for criticism, and this is the best I can do.

Digitally, I logged into my one on-line music source within the T+A app and was up and running. I also connected an external hard drive filled with music, and it was instantly available. One unit, no external DAC, no external server needed. PSD and amp





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and speakers and done. That is nifty, especially considering the sound I was hearing.

For those who wonder, the equipment we receive is frequently brand new. As such, most manufacturers or distributors (including T+A) urge a lengthy break-in period to allow the equipment to sound its best. I always take advantage of this and do not start my review-listening until the components have stabilized and show no further sign of change and maturation.

OK, I think that about covers everything but the way the stuff sounds.

So, the two things stood out most with all the equipment I had at my disposal. The first was how amazingly flexible T+A gear is. While some components are quite particular about what is connected upfront and behind and what cables are used, the T+A duo just sounded freaking amazing with everything I connected them to. The combo liked silver cable, it liked copper, it liked tubes, it liked solid-state, it liked planars, it liked big and small dynamic speakers, it liked expensive isolation, it liked no isolation, I think the damn things even liked Green Eggs and Ham! The second thing I learned was that, despite the extensive digital implementation, the T+A gear showed not a single sign of digital rendering. None. The analog stuff sounded analog, and the digital stuff sounded analog. I will say that while the internal DAC and server are certainly excellent, there are limits to what you can expect of each individual component in a \$22k jack-of-all-trades box. When I connected my external Light Harmonic DaVinci 2+ DAC (\$45k retail) and my new Lampizator Poseidon DAC (\$25k) with my Aurender N30SA (\$25k) music server, these reference-level external components added a significant level of performance. I tried using the digital SPDIF output from the

PSD into my external DAC and then back into the analog balanced inputs, and there was a distinct improvement over the T+A's internal DAC. I identified an equally impressive improvement when using my Aurender server running directly into the USB and AES inputs in the back of the PSD, bypassing the internal server. *But*, when I borrowed a friend's Weiss DAC 205 and Aurender N150 server, which are a bit more affordable (and, in truth, a much fairer comparison), the changes between internal and external became more horizontal than vertical.

I recognize and acknowledge the simplicity and convenience of having an all-in-one system (maybe an all-in-two with the Pre and amp). But I also like the option of upgrading at a later date to improve performance by adding external source components, spending some more hard-earned *dinero* to make your ears happier. The meat and potatoes are top notch, you can take the brown sauce (on the side) that comes with the dinner or upgrade to béarnaise sauce. We've even made the brown sauce so that it tastes good with a spoon of béarnaise right on top.

In general, I would call T+A's sonic signature neutral on the warm side. Not gooey-tubey SET warm, but not dead neutral and certainly not cold. To be honest, it's right where I want to live, and I immediately connected with what the T+A presented. I would call it meticulously engaging. While it lacks nothing in the areas of analysis, accuracy, or definition, it conveys all with a sense of ease and refinement that avoids any hint of sterility.

I started with my standard and asked Natalie Merchant to spin up "Peppery Man." She obliged with a presentation that was exactly what I expected and wanted it to be. Nothing offensive, nothing put-offish. Right out of the gate, Goldilocks components. Not too hot, not too warm, not too analytical, not too cold...juuuuuust right. And they stayed just right for the remainder of the time I spent with them. Natalie was husky and a touch angry, and I could hear every little spitty, raspy ounce of it. The instruments came from a properly black background and burbled boldly into my room like a bluesy brook. How's that for some serious alliteration? But you can see it now, right? I was struck by the (dare I say it?) musicality of the moment.

I jumped to "Hey Nineteen," and Steely Dan burst into my room. These voices, so thick and luscious and inviting. That double guitar riff intro lingered into that wonderful bass line, and it all came together: organ, guitar, bass, drums, and vocals—each performer occupying a solitary and separate space in my room, sounding more live than recorded. The stage was wide and deep, but not overly exaggerated. Gonna just say it: stupid good for the price.

OK, classical then. "Ein Mädchen oder Weibchen" (from *The Magic Flute*) separates the men from the boys. The stage is projected *my* forward, literally pushing at the front wall and beyond, and the recording itself has a sense of distance, forcing the perspective of sitting farther back in the audience. The sound of harpsichord hammer hitting string has made

## Specs & Pricing

**Digital inputs:** AES/EBU, SPDIF (x4), BNC, TosLink (x2), USB DAC, USB Master Mode (x2), HDMI with ARC (x2), IPA (LVDS)

**Analog inputs:** Stereo RCA  
**Analog outputs:** XLR and RCA (one stereo pair each), 4.4mm Pentaconn headphone jack

**D/A conversion:** Four delta-sigma DACs per channel (PCM), T+A proprietary True-1Bit (DSD)

**Features:** FM radio, FM-HD, Internet Radio, DAB, RDS/TDBS, Bluetooth

**Dimensions:** 18.1" x 6.7" x 18.1"

**Weight:** 57.3 lbs.

**Price:** \$22,000

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expensive equipment run away in tears. They can shriek and scream and sometimes downright hurt. The T+A did none of that. The tympanic percussion of the harpsichord hit fast, and the tones were crisp and clean, fading into a hollow echo of what was just there, as they should. The vocals had a sense of energy and vigor and felt right (I keep using that word).

Billie Eilish then, shall we? I usually go to “&Burn,” but “Bad Guy” called to me. Oh, that bass and percussion rhythm with Billie’s breathy (so breathy on this track) style. Her albums are always so well produced, and good equipment really highlights that. The T+A presented what the Brits call “pace, rhythm, and timing” exceptionally well, raising the energy in the room and having me snapping along. This is a great track as it can get sloppy when not done right. It’s a simple song with complex themes and instrumental pace that’s mixed just right. It’s edgy and modern. Play it on your system. If any part of it offends, audition the T+A to see what it should sound like.

One more? OK. But only because you asked.... Joni Mitchell, “Both Sides Now”? Don’t mind if I do. A song about clouds, love and life, and seeing both sides. Up and down, give and take, win and lose, and how in the end she really just doesn’t know. Yet to me, the song resounds with hope and her celebration of life. The airy atmosphere offered a stage with presence yet lack-

### But the performance is where the value truly lies.

ing any real viscosity; it’s there but it’s not. (You see what I did there?) Joni’s vocal performance is timeless and impassioned, innocent yet filled with wisdom. It all comes through. The tonal presence, the textural complexity, the hollow sonic character of the wafting strings and vocal resonance. As a friend of mine says, “Me likee.”

Have I mentioned the T+A Pre just sounds right? It’s not a component you evaluate; it’s a component you listen

to. The quality of design and fabrication correlates to the dollars required to acquire. But the performance is where the value truly lies. During my review period, there was never really a moment where I wanted it to sound different or do more or better. It delivered, and it impressed. I admit (don’t tell T+A) that I stalled giving the PSD and amp back as long as I could and missed them as soon as they were gone. For a reviewer, it was admittedly a bit too forgiving of other equipment to allow me to scrutinize and criticize everything that comes through my room. But for a listener...man, it just did everything right. Highly, highly recommended. **tas**

# STROMTANK

AUDIO POWER



*“Let me put it bluntly: I’m not sure I can live without this marvelous device.”*

—Jacob Heilbrunn,  
The Absolute Sound, November  
2024

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