

Courtesy Project86 <http://www.head-fi.org/t/551173/review-vioelectric-hpa-v200-amp>

INTRO

I recently posted a review of the Vioelectric HPA V181 headphone amplifier. I found it to be a very nice product, driving all of my headphones exceptionally well and providing some stiff competition for other amps in the \$1000 price range. This is part two of the review, since I'm now discussing the Vioelectric HPA V200. I suggest reading part one prior as it lays the foundation for this current review and I don't plan on repeating everything. Here is a link:

<http://www.head-fi.org/forum/thread/548608/review-vioelectric-v181-balanced-headphone-amp>

The question that might be on the minds of people interested in the Vioelectric units: which is better, the V181 or the V200? Starting at the low end of the scale, we see a clear distinction and price increase from the V90 to the V100 to the V181. But the V200, while having a higher number, is priced the same as the V181, potentially causing confusion. I hope to clarify the differences, as well as help the reader decide which model might be a better fit for their situation.



DESIGN

The V200 shares the same chassis with the V181, but with obvious changes on the front panel. It offers dual 1/4" headphone jacks but does not have a balanced output like the V181. So although you can feed it a balanced signal via the rear XLR inputs, all listening must be done through single ended headphones. This configuration is the same as the Luxman P-1u. People might wonder why they would bother with XLR

inputs when there is no balanced output. On the Luxman, it does seem like kind of an odd choice, but it makes more sense when you consider that Vioelectric has their roots in studio equipment. Balanced cabling is very common in studio gear, so it only makes sense that the V200 should accept that sort of input in addition to standard RCA inputs. Once again the buyer has the option of paying a bit extra for their choice of integrated USB DACs: a basic 16-bit/48kHz model or a more advanced 24-bit/96kHz version. I opted to leave that out on my unit.

Internally, the V200 shares many features with the V181. They appear to have very similar power supplies, both consisting of a shielded toroid flanked by 16 filtering capacitors rated at 1000µF each. They also similarly use NE5534 opamps for low gain tasks such as impedance matching. As with the V181, these opamps are socketed so the user can try replacing them to see if there is any improvement. They both use the same high quality Neutrik connectors for inputs and outputs, and both use the same ALPS RK27 potentiometer for volume control. As for differences, I notice that the toroidal transformer in the V200 is a bit beefier, and most importantly the amplification section is different. While the amp section of the V181 used quad Texas Instruments BUF634 chips, the V200 goes in a different direction with a fully discrete design using a total of 16 transistors. During my discussion with Vioelectric CEO Fried Reim, he gave me some information on the background of the design, as well as what he feels are the benefits of such a design:

V200 incorporates a very sophisticated transistorized amp with 8 transistors per channel. The roots of this design go back to the late 70s with the Nakamichi Series 600 power amp. This was one of the first amps with stable idle current so no idle adjustment was necessary. Also they claimed a damping factor of 1000 which was sensational for the time. It was fast, reliable, and stable under any circumstances.

The amps from V200 are powered from a toroidal transformer with 60 V (+/- 30 V) secondary voltage. This is about double as much as can be found in most competitors amps. So a high output voltage swing is enabled, which is necessary for high impedance cans.+

I hope he doesn't mind me quoting him but I think it is a useful bit of information. I happen to know someone who used the Nakamichi 620 power amplifier for many years in a rather high end system, so hearing that the V200 is a distant relative of that amp makes me smile.

As with the V181, we find the same pre-gain function, which once again means that we should be able to properly pair it with absolutely anything you can throw at it. For example: if you started with an HRT Music Streamer II (output = 2.25 volts RMS) and later switched to a Music Streamer Pro (output = 4.5 volts RMS), you could easily cope with the level differences. Not every amplifier can make that claim. Combined with all the other little touches like a switchable ground lift and switchable DC coupling, one gets the impression that Violectric has planned for almost every contingency they could in order to ensure that the amp works flawlessly in every setup.

Here is a list of the specs:

Unbalanced Inputs	2
Balanced Inputs	(2)
Impedance	10 kOhms
Unbalanced Outputs	(2)
Balanced Outputs	0
Number of Channels	2
Nominal Input Level	+6 dBu
Amplifier Gain	8 dB
... with Pre-Gain	-4/+2/+8/+14/+20 dB
Frequency Range (-0,5 dB)	5 Hz - 60 kHz
Damping Factor (in 50 Ohm Load)	800
Dynamic Range (A-wtd)	128 dB
Noise (A-wtd)	-100 dB
THD+N @ 10V / 100 Ohms (1W)	-110 dB
THD+N @ 4V / 32 Ohms (0,5W)	-103 dB
Crosstalk @ 1 kHz	-110 dB
Crosstalk @ 15 kHz	-95 dB
Output Voltage in 600 Ohms	18,5 V
Output Power in 600 Ohms	570 mW
Output Voltage in 100 Ohms	14,8 V
Output Power in 100 Ohms	2200 mW
Output Voltage in 50 Ohms	11,6 V
Output Power in 50 Ohms	2700 mW

Output Voltage in 32 Ohms	8,0 V
Output Power in 32 Ohms	2000 mW
Output Voltage in 16 Ohms	4 V _{eff}
Output Power in 16 Ohms	1000 mW
Number of Outputs	2
Power Supply	230 / 115 V
Power Consumption	10 VA
Dimensions (WxHxD) mm	170x49x225

If you look at the power delivery you can see how the V200 should have plenty of power even for demanding headphones. See also how it seems optimized for 50 ohm loads, which corresponds with the new high end planar drivers like the HE-6 and LCD-2. Compared to the V181 in balanced mode, the V200 looks to deliver about 15% less power into 600, 100, or 16 ohm loads. They are basically even into 32 ohm loads, and the V200 has the lead by about 20% into 50 ohms. Unless you were really on the edge of being able to drive a particular headphone, I don't think it really matters all that much one way or the other. Both should have sufficient voltage for higher impedance headphones, and sufficient current delivery for low impedance headphones, so there should be enough drive and headroom to handle anything you could plug in. Note that my comparison only applies to using the V181 in balanced mode. As I mentioned in my other review, operating the V181 in single ended mode gives you about ¾ of the power and 6dB less voltage. Using those calculations it seems that the V200 delivers a decent amount more current and voltage than the V181 in single ended mode. The only time I anticipate this possibly being a significant issue is when driving a HiFiMan HE-6: the V200 should have enough current to do the job, but the V181 in single ended mode might not. I don't actually have an HE-6 to test so I can't say for sure.



BUILD QUALITY

The V200 is a very well built amp. Externally it is essentially identical to the V181 except for the front panel, which has a slightly different configuration to accommodate the lack of a front panel XLR jack. It comes across as equally classy though with the soft blue power LED and silky smooth turning volume knob. It gives a similar impression during operation: excellent channel balance, a completely black background, and a relay preventing the dreaded power-off thump from killing your ears. It might not be as exciting as some elaborate tube amp would be, but it is very nice in its own way. Note that this is a stock photo, and this V200 has the USB option installed, so it appears slightly different.



PACKAGE

Again, exactly the same as the V181: nice box with a custom made foam cocoon that holds the amp, manual, and power cable.



EQUIPMENT

This is the gear that I used during my evaluation of the V181:

Source: Lexicon RT-20 universal disc player, dedicated music server fronted by a Squeezebox Touch

DAC: Aneodio D1, Yulong D100, Audio GD Reference 7

Headphones: YHD600 custom Ortho, AKG K701, Lawton Audio LA7000 Lite, Sennheiser HD800, AKG K240DF, 1964 Ears 1964-T, LiveWires Trips, Kozee Infinity X1, Ultrasono Edition 8, Westone AC2, Unique Melody Merlin

Amps: Luxman P-1u, Matrix M-Stage, DarkVoice 337SE, Yulong A100, and of course the Violectric V181

In this case I used the stock HD650 cable to run the custom Ortho in single ended mode. I burned the amp in for several hundred hours, used my usual non-fancy cables, and tried a wide variety of music in both CD quality and hi-res.



DISCLAIMER

These are just the impressions of one guy. I do these reviews for fun, not profit, and I don't claim to be any special authority. Many people have agreed with my assessments of other gear but some have also disagreed, and I totally respect that. We all hear differently on a physical level and we all have different preferences as well, so I think it is almost impossible for one person's impressions to apply to every other person. As with all my reviews, I hope you enjoy reading them and I hope they help our hobby to some extent, but I don't pretend that they are anything more than my opinion.

LISTENING

I've had both the V181 and the V200 in my setup for a decent amount of time now, and I've gone back and forth in an attempt to figure out their differences. I'll start off by saying that the V200 does not stray far from the basic sound signature offered by the V181. If you were expecting night and day differences to help you make your choice, I'm afraid you will be disappointed. The V200 retains what I'd call the "diodelectric house sound": dynamic and powerful, with great tonal balance and a silent background. The difference here is that the V200 turns everything up to 11.

It might be hard to reconcile that statement with my prior comments about the V181. I made it sound like it was an excellent performer. And it is. But the V200 just goes one small step further in almost every category: more clarity, more transparency, even more obscene bass extension. And it does all this while retaining that touch of musicality but not going overboard and losing balance.

Starting with one of my favorite aspects of both amps: the lows. The V200 seems to have even better deep bass extension, as well as more control with difficult headphones like Orthos. This shows up during really complex passages but also surprisingly during more simple music as well. I've been listening to lots of reggae lately, in an attempt to remind myself that there is more to the genre than just Bob Marley. Some favorite albums include Third World's 96 Degrees in the Shade and Seven Seals by Matumbi (the latter being a vinyl rip as it is unreleased on CD to my knowledge). For me, reggae has its foundation in the interplay between the bass and the percussion, and the V200 excels at capturing this aspect. It manages to be extremely technically accurate while at the same time capturing that dynamic rawness that is usually reserved for live performances. You can really hear the layering and texture in the bass, and it sounds almost live. Combined with a world class bass performer like the Lawton LA7000 or the Unique Melody Merlin, the V200 seems just about perfect to my ears.

Mids once again are very clear and vibrant. I like how they are so balanced: not overly lush and full, but certainly not dry or sterile either. They have lots of weight to them but are still quick and explosive, like a young Mike Tyson in his prime. The mids actually bring to mind some of the best aspects of tube amps that I love, without overdoing it by becoming syrupy. If someone built a big fancy wooden case with various tubes sticking out of the top, hid a V200 inside, and let listeners think it was a new high end tube amp, I doubt people would suspect anything. It also seems to have the ability (even slightly more so than the V181) to handle incredibly complex passages with ease and grace. Most of the time this improvement is barely noticeable, but certain classical pieces bring it out, as do some fast metal tracks. Again, I never felt that the V181 was lacking per se, but when played back to back I did notice the V200 had more authority, while still displaying the required delicacy when called upon to do so.

Highs also follow the Vioelectric blueprint by having an emphasis on smoothness. They are extended and accurate, but like the V181 they are still not the main focus of the presentation. This is definitely not what I call a bright amp. Because of this, the V200 is probably a little more forgiving than something like a Meier Concerto or HeadAmp GS-1. But I don't find that there is any detail missing: transients are fast and clean, and there is enough air and sparkle up top to make things like cymbals or triangles sound startlingly real. The only limitation is that I probably wouldn't pair the V200 (or V181 for that matter) with a really dark source - my Sigtone Shek NOS DAC is just about at the limit as far as being too dark for my tastes when paired with the V200, and I know some other NOS or tube designs go even further in that direction. Aside from that the V200 paired well with every CD player or DAC that I tried, and even sounded damn good straight from the analog outputs of a stock Squeezebox Touch. I suspect this is because the high frequencies are where you most easily spot digital harshness, and the V200 is somewhat more forgiving there.

As I mentioned earlier in my V181 review, a massive expansive soundstage is not the strong point that Vioelectric seemed to go for. That remains true here, but we do get somewhat of an improvement. The V200 certainly has more depth and a little more width than the V181 in single ended mode and just about matches when running the V181 balanced. It's hard to do a quick comparison when you have to switch from completely balanced to completely single ended, but I believe I can confidently say that the two perform similarly. The balanced V181 might still have a very slight edge, but that could be caused by other variables such as running the DAC balanced. I still enjoy the V181 single ended and it was not a problem most of the time, but occasionally it felt a little constricted. Not so with the V200. And despite there not being an ultra-wide left to right stage, there is still plenty of accuracy and space between the instruments. So while my DarkVoice 337SE wins in sheer width and overall space, the V200 outperforms it when it comes to image specificity and localization.

One aspect I really enjoyed from the V200 was the fact that it is just so amazingly dynamic. This is helped by the extremely black background that it has. You can be sitting there in complete silence between songs, and then BAM! Here comes the leading edge of a note or the thump of a bass drum. Even a soft female voice can almost startle you with the impact that it causes just by breaking the silence. At the same time it has enough restraint when called for; it isn't always on like some other amps. For example: I enjoy my Musical Fidelity X-Can V8 with X-PSU, especially with the Mullard ECC88 tubes, for its big bold sound. But I feel like it is lacking the finesse offered by the V200. There are moments when you hear a metronome in the background, a tambourine keeping pace, or just an acoustic guitar playing rhythm in a sea of electric guitars, and the V200 allows you to notice these despite whatever other excitement is happening concurrently. The X-Can nails the excitement but misses the subtleties. On the opposite end of that, some amps can present these little background events as too prominent. My Yulong A100 is guilty of this at times. I know it's exciting to hear sheet music pages turning or someone coughing in the audience, but it isn't the main musical event, and I don't want it grabbing too much of my attention. The V200 manages a perfect compromise in my opinion.

During my time with the Vioelectric amps, I found myself having an internal dialogue about the definition of %neutral+sound. On one hand I find these amps to be very balanced and neutral, but on the other hand they seem warm and musical. It seemed strange to me that these descriptions could co-exist. A bit of help came in the form of an email from Fried Reim. He was answering a somewhat unrelated question I had asked him prior, but the answer really helped me wrap my head around the Vioelectric sound signature. He was talking about their design philosophy and how he feels that they don't need to use any tricks or gimmicks, just solid engineering and design, using experience gained from working in the pro market since the 1980s. He told me that their design basically comes down to:

- low noise through lowest possible internal gain
- high output voltage to drive high impedance cans to their maximum potential
- high output power to supply low impedance and planar headphones with adequate current
- high damping factor (lowest output impedance) to control low impedance cans and minimize any interactions

Every aspect of their amps are built with those basic goals in mind. But back to my original point: Fried relayed a story to me about the microphone preamps that they offer (presumably under the Lake People brand) for studio use. Apparently they sell a model that has two configurations: a %standard+frontend and a %class-A+frontend. A customer gave them feedback stating that the standard version is neutral, to the point of being nearly boring, but the class-A version he described as %vivid-neutral+. I think that term really sums up the sound signature of the V181 and V200 amps as well. I suspect that my definition of %neutral+has somewhat changed over the years, and that I currently (wrongly) think of neutral as being sterile, dry, and thin. Any character to the sound and it must not be neutral, right? Thanks to these amps, I am now rethinking my stance on the matter. Neutral should be whatever is closest to sounding lifelike, and by that definition the V200 certainly is neutral. Or vivid-neutral.





CONCLUSION

It sounds almost too predictable, but it is true: The Violectric V200 sounds like an improved version of the V181, which makes sense because internally that's exactly what it is. They share a similar power supply, pre-gain stage, and other components, but the V200 has a more advanced output section and a beefier toroidal transformer. This results in improved sound quality all around, but comes at the expense of a balanced output. That won't be a problem for me because I don't run a balanced setup, but for some it would be a limiting factor. For those people I say go for the V181 and don't look back. But for folks like me who run a single ended system, the V200 makes an excellent choice.

I ranked the V181 as an entry level high end meaning that it was at the bottom of the highest class of headphone amps. The V200 edges itself up a little higher than that. In fact, I believe I could get rid of my Luxman P-1u and not miss it much. The V200 is just that good. If you are interested in a powerful amp that has the ability to cleanly drive difficult planar headphones, yet has the finesse to produce a hiss-free black background with sensitive in ear monitors, the V200 makes an excellent choice, and I highly recommend it.

I'd like to publicly thank Fried Reim for allowing me the opportunity to try both amps even though I can only buy one. I don't know about you, but I personally don't loan out \$1000 amps to people I barely know. So I appreciate his willingness to make this possible. Both models are winners in my opinion, but the V200 is a better fit for me, and I'd be sending the V181 back.