

## One of the best headphone amps on the market today.

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**Pros:** Reference clean sound, unbelievable I/O flexibility, unique and rewarding 3D holographic system, luscious tube mode

**Cons:** XBass knob should be used with extreme caution, no tube rolling fun



## Introduction

As I sure many of you are already acutely aware of, we're big fans of [iFi Audio](#). You see unlike a lot of vendors who treat their circuit designs as if they were highly classified secrets, iFi is very open and honest about all of their products. In fact, iFi is one of the few companies I know of that even freely shares high-resolution pictures of every circuit board they fabricate. Couple that with the fact that these Brits are very community focused,

vetting feature and collecting feedback constantly, makes iFi, at least to our ears, one of the defacto leaders in the low- to mid-tier marketplace.

So when iFi announced their "Pro" line, aimed squarely at the high-end market, I was stoked. I already use their now well respected micro iDSD (\$499) on a daily basis, which I still maintain is one of, if not the best sounding headphone amp/DAC combos you can buy at its price point. But despite my affinity for the micro iDSD, I'm quite aware of its limitations too.

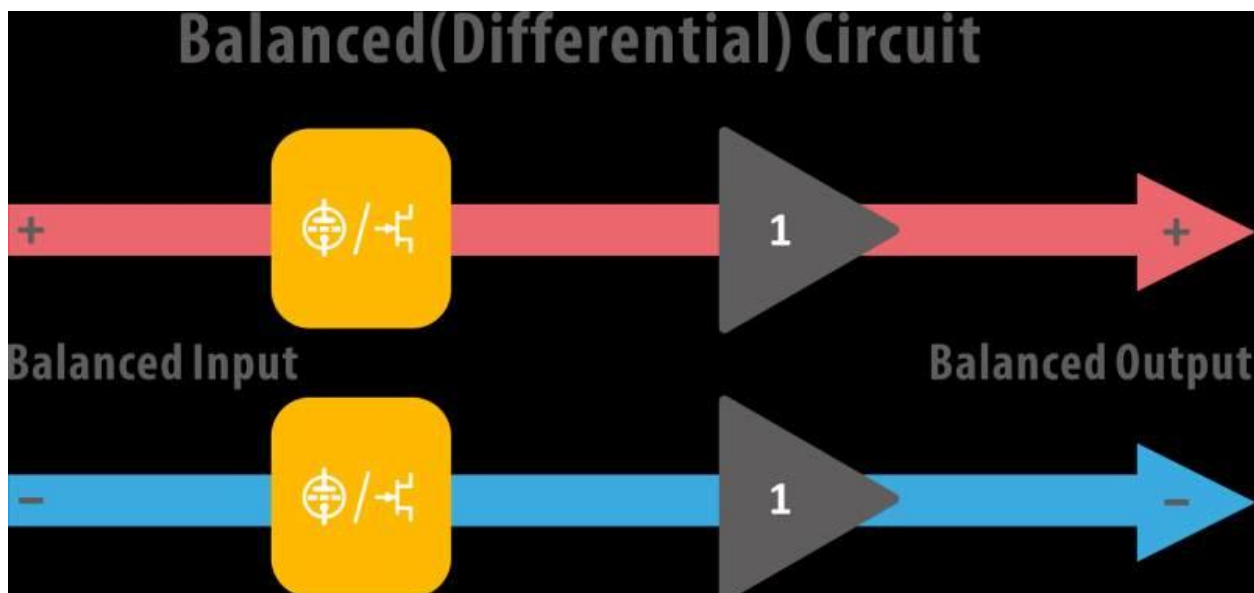
First off, the micro iDSD is without question a "jack of all trades" type of device than a truly dedicated component, and as such, comes with all the benefits and limitations that entails - no balanced outputs, only one input, solid-state only, etc. Secondly, I've always felt the micro iDSD is more DAC than amp, with the overwhelming majority of its feature set focused on accommodating headphones with a vast array of juicing requirements than outright performance. Finally, and most importantly, iFi can only squeeze so much performance out of a device that isn't exactly desktop sized and designed for portable use. Put simply, there is room for improvement (literally).

But going "Pro" also means having a pro price tag as well, with iFi's first offering in this line, the Pro iCAN headphone amplifier, clocking in at a hair under \$1700. Not outrageous in the high-end headphone amplifier market by any means, but certainly a price tag that puts it squarely in the prosumer market

nevertheless. So with all of that in mind, is the new Pro iCAN all go or just for show? Read on and find out.

## Living A Truly Balanced Life

I think given all the features the Pro has, the most important one bar none is that it is a *fully balanced* design. What that means in a nutshell is that from end-to-end this amplifier has two discrete channels, one for the left and the other for the right that the signal propagates through. Why is this so important? Because many manufactures claim that they have a balanced design when in reality it is "balanced" in name only, with just the output stage splitting the single-ended signal into two outputs. And thus won't reap the full rewards of a truly balanced design, which includes higher dynamic range and lower overall THD and cross talk.



The Pro is what iFi likes to dub as "True Differential Balanced" which is a very fancy way of saying that both the left and right channels go through discrete circuit sections. That also means double the parts since each chain has to go through their own input and output stages during amplification while keeping both channels matched. To that end, iFi has designed their own special potentiometer that is built custom by ALPS Japan exclusively for the Pro. It features 6-tracks with two sets of two tracks each to control the left and right channels respectively, and the last two tracks used to monitor volume operation. In English, when you turn the volume knob on the Pro, you are changing the volume of both channels simultaneously while keeping each channel in sync so one side doesn't sound louder or softer than the other. Again, a mark of a truly balanced design. It's also motorized too so you can use it with the included IR based remote as well. Slick.

## The Eye of Sauron



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If you wanted to live the valve life and still stick with iFi, then your only option was the micro iTube. However, with the Pro, iFi gives you a choice, with the ability to in real-time switch back and forth between the valve and solid-state input stages. Historically, hybrid amplifier designs would usually tack on a tube output stage on top of a solid-state one as an added effect. With the Pro, both the solid-state and tube-side are completely separated from each other and once switched over, the signal path continues to maintain the shortest route to the output stage through each. Nice.

The tube of choice as you can see is the venerable and well regarded General Electric NOS 5670, and the Pro ships with two of them (again, balanced). This is a premium version of the 6922 with a slightly different pin-out. With the Pro, you actually get two different tube playback modes, Tube and Tube+. The difference between the two is that in Tube+ mode the signal has less overall loop-gain because the J-FET circuitry is switched out for all-valve operation and thus sounds more "tubey" compared its non-plus counterpart, which tries to balance preserving the 5670's natural harmonics with transient response.

On the solid-state side of things, the Pro offers a fully discrete MOSFET-buffered bipolar Class A output stage. The circuit is also purely DC coupled with no coupling capacitors insight. For very sensitive IEMs and low impedance headphones, the Pro operates in Class AB mode.

Yes iCAN!



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Speaking of power, the Pro's output is insane. You have three gain stages, 0db, 9db, and 18db respectively. In 20V balanced-mode, it can output the equivalent of 100W into 4 ohm speakers! In fact, the Pro is so powerful that iFi had to put protection circuitry in it. Don't worry though, the added circuit is not in the audio path but rather implemented in the power supply. Basically, this circuitry allows short term, unrestricted peaks but will progressively limit the available current when the amp reaches a certain operating temperature or starts to clip. If the amp does find itself in this mode, it will continually step back the flow of electrons until it completely shuts off to avoid damage. With all that said, be very careful with this amplifier if you are using multiple headphones with vastly different amperage requirements, since very bad things can happen if you use the wrong gain stage or turn the dial too high, especially if you are in balanced mode.



## Finishing Touches

In addition to supporting highly sensitive IEMs, the Pro also inherits iFi's XBass Bass Correction System and 3D Holographic technologies too. Both are implemented as purely analog circuitry, with XBass boosting bass 12db at 10Hz, 20Hz, and 40Hz respectively. This is a great feature if you have very bass light cans or are a self-proclaimed bass head. Otherwise I'm going to be the first one to say to you to should never ever have to touch that dial. Never.

On the other hand, the 3D Holographic system they've implemented in the Pro is fantastic and can single-handily make hypercompressed music sound a lot more alive. Take note, this isn't your typical [Bauer crossfeed](#) circuit which I find unbelievably annoying. Rather, iFi has developed their own proprietary matrix that can translate a spacious stereophonic recording with good imaging when replayed on speakers into its equivalent when listening to headphones. I'll have more to say about this knob below.

The general fit and finish of the Pro just screams "pro" too, from the golden ratio variable thickness chassis to its nylon based quad damped isolation base mount. I also appreciate its

overall size too, which can easily fit on any desktop. When its co-conspirator is released in the next couple of months, the Pro iDSD, iFi plans to make a rack that will accommodate both. Sweetness.

## The Miracle Knob



I thought the best comparison would be to actually compare the micro iDSD with the Pro. That way both chains are using the same DAC and I can simply plug headphones in and out under the same approximate volume level to get a sense of what another \$1100 buys you. I used a pair of Focal Utopia (\$3999) and Audeze LCD-4 (\$3999) for the overwhelming majority of this review.

**LORN's** *Arrayed Claws* is just a phenomenal record and definitively an early contender for AOTY. What really sets this album apart from your prototypical black metal offering is this hypnotic, almost trance like quality to it. Couple all that with the fact that occasionally the album goes all *Random Access Memories* on you in a few spots, makes for a riveting yet unique listening experience to say the least.

Right out the gate, the main sonic difference between the iDSD and Pro is refinement - bass sounds deeper and more controlled, the midrange blossoms with all of *Claws'* distortion and reverb on full display, and the treble is crisp and clean. In fact, I've read a few impressions where the reviewer found the Pro somewhat clinical and I do hear that given the Pro's level of

cleanliness. But I'd argue that at least in solid-state mode, neutral would be a better description as I found the amp just let the Utopia do its thing. I can't say the same thing with the iDSD, which compresses the Utopias' already middle-of-the-road soundstage.

However, if the stock solid-state sound just isn't doing it for you, no problem. Flip the Pro into Tube+ mode, wait for the light to turn orange, and bathe in all that tube glory. I found Tube mode isn't really much to speak of, since the differences between it and solid-state is in the noise. But in Tube+, the Pro just sounds so luxurious, with a nice sheen of second harmonic goodness felt throughout that really livens things up considerably. In fact after deciding that the iDSD's amp stage was really no match for the Pro, I did most of my listening in Tube+ since I think it sounds a lot more musical with majority of my favorite metal recordings.

One thing that I also took me by surprise was just how much more spacious everything sounded. Which brings me to that 3D holographic knob on the right. As I stated above, iFi's 3D system is not just a simple crossfeed circuit, but their own proprietary design. And after playing with it for several weeks it is now what I like to call the "miracle knob." Turning the "miracle knob" to the 90 degree mark, which simulates a wide loudspeaker placement, felt like it added back a few points of dynamic range to *Claws* instantly (and this isn't even that compressed by DR standards). In fact, I was so impressed on how it transformed the sound, I thought to myself, "What could it do for **Ulcerate**?"

So if you're regular around these parts, then you already know [how I feel](#) about **Ulcerate's** latest, *Shrines of Paralysis*. This is an incredible record and easily could have made my year end list if it wasn't for its abysmal DR3 mastering job. I threw the 3D knob back to the zero mark and gave *Paralysis* another shot figuring the Pro could liven it up a bit. Yeah, still awful. But with that knob flipped to the 90 degree mark, not bad at all. The record suddenly felt like it had more sonic depth and sounded generally less crushed overall. In fact, for the first time ever, I was able to listen to *Paralysis* all the way through without suffering any ear fatigue. It's a miracle! If there is one aspect of the Pro you just have to try it is this one - flip that knob over to the 90 degree mark and prepared to be amazed!

Is it me or has Canada become *the* place for high-quality technical death metal these days? Must be something in the maple syrup. Anyway, **Gomorrhah's** *The Hauspex* was one of the unsung tech death metal heroes of 2016 and still manages to climb its way back into my rotation every so often. For this outing with the Pro, I went with the LCD-4 and listened to *Hauspex* in both balanced and unbalanced mode to compare the two. Unlike the Utopia, the LCD-4 requires a lot of juice given its 200 ohm impedance. Full disclosure: I don't think balanced mode makes that much of a difference with the overwhelming majority of headphones. With that said, I thought balanced mode did improve the LCD-4 slightly, mainly in the bass department. Bass was just outright thunderous on tracks like "Sitra Achra" and "Cerulean" in balanced mode to the point that I thought I had the XBass knob turned up. I didn't. The LCD-4's bass is just incredible when driven to the fullest. And that's what balanced mode gives you. Unfortunately, my custom Utopia balanced cable was not ready in time for this review so I can't

comment if there are any improvements in running the Utopia in balanced mode or not. My guess is like the LCD-4, bass extension would improve substantially since as [Tyll over at Inner Fidelity reported](#), there is a big jump to 300 ohms at 50Hz from its nominal 85 ohm impedance. In other words, even though the Utopias are very easy to drive, they do require a lot of on-demand juice to extract every drop of performance out of them and the Pro is more than up to the task.

## Final Thoughts



Is the Pro a reference level component? No question. I think \$1700 is actually quite a fair asking price given its sheer sonic performance and flexibility. And it certainly sounds better than all of its cheaper siblings by a wide margin. Moreover, iFi's proprietary 3D holographic system is just a godsend for the audiophile headbanger at large. I must have listened to hundreds of metal records over the course of this review, most of which were all hypercompressed, but with a simple turn of the knob, all of these recordings sounded significantly more open and dynamic. That in itself might be worth the price of admission alone.

If I had to nitpick though, I think some of its features could have been removed to save cost. For example, having a 3.5mm output is more or less superfluous on a system like this. If you bought the Pro for your expensive IEM or CIEM, you're audiophiling all wrong! And though I'm quite aware that bassheads will love cranking up that XBass knob, it is definitely not for me. Finally, even though I think serving the 5670 as the main course every night is fine and dandy, I still prefer a la cart. Especially since the 5670 won't last forever and eventually will need to be replaced.

Still, it's hard to argue with the Pro since it is such a joy to listen to and use. That's why I have no qualms giving it our highest honor even with its lofty price tag. The new Pro iCAN is definitely all go and no show (well, maybe a little show).

This review was originally featured on [Metal-Fi](#).