Digital

The Weiss DAC-204 Review: Incredible Sound and Versatility

The Weiss DAC-204 is one of the best DACs on the market. It's sound is second to none whilst it's versitility is truly remarkable.

There's something about the sound of a DAC that can either switch you on or off. The Weiss DAC-204 is here at Tannoyista and it's re-writing my experience in digital audio performance.

Back in the 90s, I worked in a recording studio, and there was gear that was used occasionally and not so impressive, and there was gear that was used and cherished on every recording. Back then, the shift from analogue recording to digital recording was on the rise, and although both were used, there were some pieces of kit that were always used: the Weiss EQ-1 and the wonderful DS-1 mastering unit.

Just about every major studio had one or both units, and they weren't cheap. Practically every album back then and many since still use these units and are still very highly regarded. This was my first encounter with Weiss.

So, after all those years, I'm very proud to review the Weiss DAC-204, something that is obviously much less of a studio workhorse but brings both professional robust build and performance to our more sedate world of Hi-Fi.

Over the years, I've tried some very fine vintage and modern DACs, from the olde TD1541A type to the more modern ones like the Allo Katana, Revolution, Denafrips Aries II, Topping D-10, DX-9, and a brief time with a Chord Dave.

The Chord Dave was the most impressive, in my opinion, and the Allo Revolution was also very good. I won't go into specifics with the others, but all had their positive and not-so-positive points; some left me cold in different areas and didn't impress me at all. But in general, I enjoyed most of them in different ways, and comparisons between them were academic, as each performed within their respective price range.

So, will the Weiss be something different? Something to bring everything I'm looking for together in one unit?

Read on.

Unboxing the Weiss DAC-204:

The DAC-204 comes well packed in a tissue-wrapped box, which is a nice touch. And inside QR-coded manual leaflet. the box is a QR-coded manual leaflet.

The first thing you notice when unwrapping the DAC is it's size and weight. It's a nice weight—not too heavy but enough to signify a quality build. It's weight also prevents it from rearing up once cables are attached in the back. The DAC is compact and nicely sized, which is a good fit for busy Hi-Fi racks.

The power supply is a medical-grade in-line block type, which is quite adequate. Although there is a matching power supply from Weiss, the

PSU102, which I would simply love to review at a later date,. For me, music starts at the plug socket.

A closer look and connections of the DAC-204:

From my perspective on today's design trends, I've always liked the simple nature of equipment. It has to be clean and functional. Most of the pro gear I used was easy to control and easy to understand, and this, like other Weiss equipment, is how the DAC-204 is designed.

The unit is elegant and free of complications. An understated design that will never be out of fashion. Simple toggle switches set the look together with simple LED lights. The sides have a nice, smooth black finish.

Connections:

The DAC-204 doesn't include the DSP functions, headphone preamp, or screen display of the 501; In contrast to the DAC 205, the DAC 204 has an INT 204 board built in. Which means it is a digital Interface as well. USB -> S/PDIF with a DSD to PCM conversion feature.

The INT-204 is also available as a separate, standalone unit. Starting at the business end, the back connection panel. It's probably the best layout of such a compact unit I've seen. Everything is well spaced out, labelled, and easy to get to.

All of the connections are top quality, from excellent RCA connections to gold-plated XLR sockets.

Here is Daniel to explain more:

Here is what you get on the connection panel:

Digital inputs:

- 1x USB B input
- 1x gold-plated RCA S/Pdif input
- 1x Optical S/Pdif input

The USB inputs can accept a multitude of sampling frequencies:
44.1, 48.0, 88.2, 96.0, 176.4, 192, 352.8, 384 kHz, DSD64, DSD128

The RCA inputs can accept:
44.1, 48.0, 88.2, 96.0, 176.4 or 192 kHz

The TOS link can accept:
44.1, 48.0, 88.2, 96.0 kHz on the Toslink input.

Analogue outputs:

- Stereo analogue gold-plated RCA outputs
- Stereo analogue gold-plated XLR outputs

Digital outputs:

- 1x AES/EBU gold-plated XLR output

- 1x gold-plated RCA S/Pdif output
- 1x BNC S/Pdif output

Other:

- 1x Power supply input

Output toggle gain attenuation switches.

These toggle switches allow you to adjust the output gain to suit your system. In all, there are four states to use, giving up to -30 dB. Because digital, especially CD, generally has a higher output, these switches are indeed very handy and help compensate for the difference in volume.

- State 1 = 0 dB (both switches open)
- State 2 = -10 dB
- State 3 = -20 dB
- State 4 = -10 dB + -20 dB = -30 dB (both switches in-line)

The front panel of the DAC:

The front panel has a series of toggle switches controlling inputs and conversion rates, as well as indicator lights.

- 1x Power switch

Input selector:

- State 1 = USB
- State 2 = TOS
- State 3 = RCA

DSD Conversion:

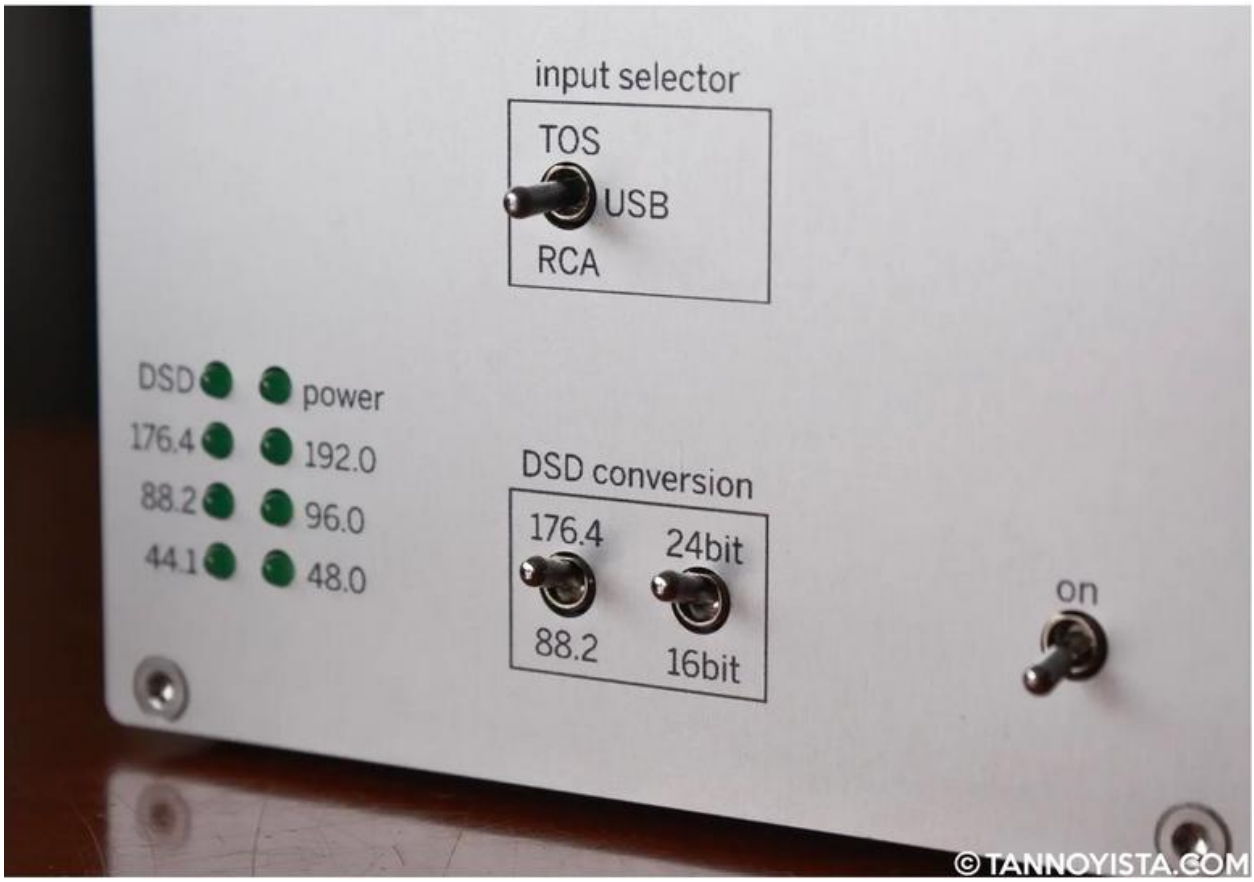
Sample rates:

- State 1 = 176.4 kHz
- State 2 = 88.4 kHz

Word length:

- State 1 = 16 Bit
- State 2 = 24 Bit

(A full list of specifications and measurements can be found at the bottom of the page)

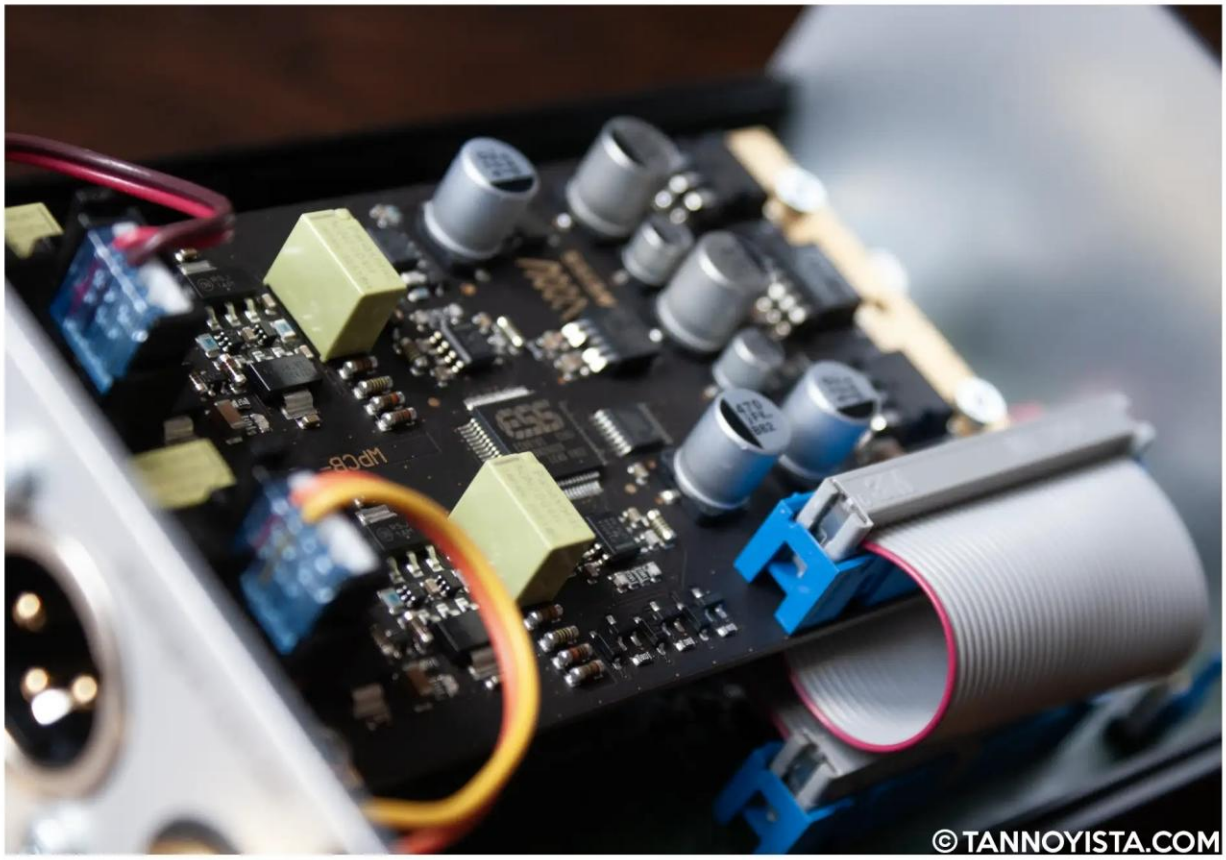


More about the DAC-204:

My preferred digital music format is CD, as I have lots of them, and occasionally, SACD, but, alas, my SACD player gave up the ghost, so my older Bluray player was dug out and put to work for this review.

My CD player is a Denon DN-961FA. This is a professional broadcast CD player that has an AES/EBU output. It's a vintage machine from around the late 90s and early 2000s.

I've been using the Denon as a transport for quite some time, and although it's 25+ years old, it's proven to be a very solid, reliable, and stable unit.



The Weiss DAC-204 brings things a whole lot further. Utilising the single ESS 9018S, it uses four oversampling Sigma-Delta D/A converters per channel. Now, I know that the 9018S has been around for some time, but take the TDA1541A for example. I've been stunned at what that chip can do, more so than many modern D/As. I really liked the sound of the TDA1541A, but only when it was done right.

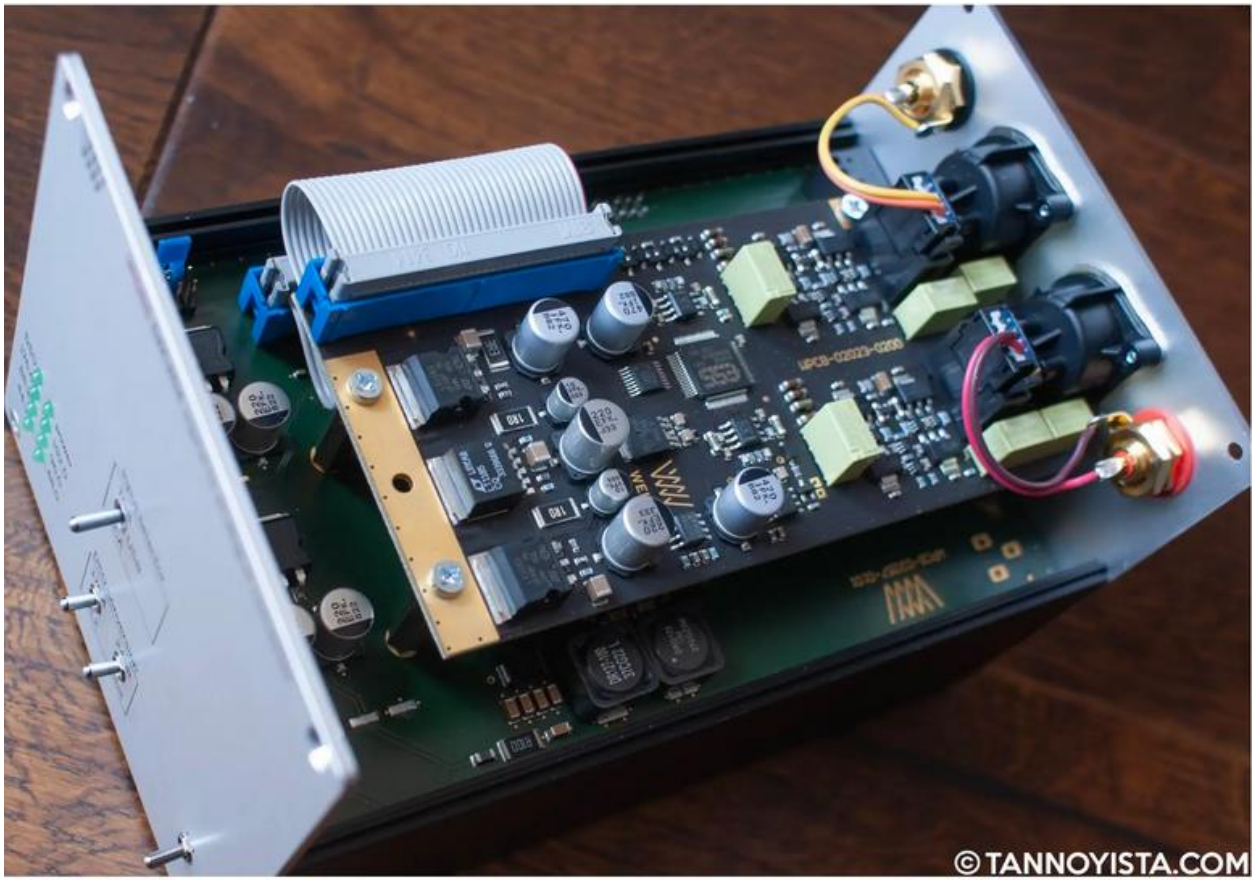
And this is where Daniel Weiss comes in to his own. Any DAC can be dressed up in as much fancy clothing as you want, but when you buy a DAC, you want it to be designed by someone who knows their onions, like Daniel; it becomes a work of audio art, if you like.

From my experience, it's about the design and the know-how in how it's implemented that matter.

The Weiss DAC-204 is very versatile, and Weiss themselves have given it the sobriqet of a ‘Swiss Army Knife’ which I find very fitting. It can convert normal CD 44.1 kHz signals as well as the higher-resolution DSD to PCM. Not only that, but you can use it as a pass-through to another DAC or preamp while simultaneously using it’s own DAC.

This is also a great feature if you want to convert USB audio directly to AES.

The great thing is that you can connect multiple digital sources to the DAC and simply flick a switch to swap between them.



Connecting the Weiss DAC-204:

In my system, I use both single-ended (RCA) and balanced (XLR) connections, but I use balanced the most. So, this DAC works well with my setup.

For standard CD redbook purposes, I’m using a 110-ohm connection from the AES output of my CD player to the RCA connection on the DAC-204. It was time to spin some CDs. For SACD/DVDA, I’m using optical.

For USB audio, I’m using Foobar, and I’ll be using normal redbook files and DSD files such as DSF.

For the audio output, I’ll be using both balanced and unbalanced connections.

What does the DAC-204 sound like?:

Once connected, my first thing was to check for any operation noise, and I found the DAC to be totally silent, which is a good start. I then left the DAC running for around an hour without a signal.

I find that with anything brand new, it needs a bit of time to get up to temperature. In this case, it felt like it was the longest hour ever, as I was very excited about this DAC.

Using a CD Transport

Flicking the input switch to RCA, I cued up a CD and pressed play.

The first CD I played was a copy of The Chemical Brothers - We Are the Night. The first track starts up slowly, with lots of details flying around the sound stage. And what a nice surprise! The sound stage seemed vast, wide, and deep. A few tracks in, it was evident that the 204 was starting to get it's mojo workin'.

Firstly, the bass. While I was used to the vinyl version of this album, the CD version with some other DACs could sound a little bit lifeless. The Weiss changed all that. I found myself standing up, a little perplexed. It sounded smoother, rounder, and more tape- or vinyl-like. With the bigger, more vast soundstage, everything clicked.

In my eagerness to see what else the Weiss could bring, I wanted to try something more rock-based. Van Halen, 0U812, was popped in, and, wollop! Yeah! This is what I was hoping for. From the first vocal intro from Sammy Hagar, followed by drums and guitar, I had to smile a BIG smile.

And that, my friends, is what I was hoping for. The separation of the vocals and the instruments was astonishing. The snap of the drums and guitars flew with energy. It was almost like someone had pulled the walls further apart—a great stage. Although it was recorded in 1987/88, it could still kick ass.

After a few more discs, I found myself enthusiastically digging out stuff I hadn't played in years. Very enjoyable indeed.

Using USB and Optical inputs

Moving on from the classic redbook format, it was time to give USB audio a try, along with a few SACDs.

I use Foobar and my laptop, and although setting it up took a bit of time, I got it working with no real drama. One thing you do need to do is download the XMOS USB Audio driver before anything else. This is available from the Weiss website.

First of all, I tried some normal 44.1 kHz files. These sounded the same as on my CD player with maybe a little more definition. Then I tried some DSF files. On the front of the DAC are two

conversion toggle switches, which Weiss recommends for 176.4 / 24 bit. But for this first case, I started with 88.2 / 16 bit, just for giggles. So I started with Queen, A Night at the Opera.

I know this recording very well indeed, and as it started, I instantly felt that as the music started to grow, it had a nicer, smoother, and more weightier sound than I had previously found via my SACD player which was surprising. As I went on, I couldn't fault the sound whatsoever. Everything was nicely placed, and again, the sound stage was nice and clear.

So I wondered what it would be like with it being converted to the recommended higher rate. Restarting the previous track, I flicked the conversion switches to 176.4 / 24 bit. And this is where it really hit me. Everything became a that little bit cleaner, smoother, and more expansive. It was then that I realised why these settings are recommended.

It's not a night and day difference, but, wow, once you have it on these settings, you just don't want to go back. It's like the icing on the cake; it would be rather bland without it.

Upon playing many more high-resolution files, I was becoming more and more hooked on Weiss's abilities. I also tried some physical SACD discs with my Bluray player acting as a transport, and again, they were fantastic.

However, my first love is standard CD, and because I have plenty of them, it's hard to let go. But I have to say, high-resolution are now going to be used a lot more from now on, it's pretty mind-blowing and because I can hook up a CD, SACD and USB audio to one unit, then just flick a switch to change the input, the Weiss has it for ease of use.

Encapsulating the sound:

The Weiss DAC-204 is more tonally accurate than the other DACs I've tried over the years which have sounded dry and clinical. The 204 brings a more weighty, full-bodied, tape or vinyl like sound, which, for me, is absolutely wonderful. It's timbre and imaging ability to present fine details with such grace, without sounding harsh or 'Digital' is an award on it's own.

Gosh, I've had many DACs that have been such a disappointment, just in that one aspect. It's not until you hear the Weiss that you realise the precise analogue sounding nature of it.

Like tape or vinyl, you have that liquidity and delicacy to the sound—an organic flow. And the Weiss steps in here with just that, dynamically keeping it all together.

And then there's the sound stage I mentioned earlier. That wide, deep, and expansive sound stage gives so much air around instruments. For a digital device to bring all this, it's not surprising that Weiss is still at the top of their game.

It really doesn't matter which source you choose, what outputs you use, or what switches you flick; the DAC-204 is something rather magical.

With the Weiss DAC-204, it's like the sound has finally come home.

The additional, matching PSU 102:

Weiss also offer a low noise, none-switching linear power supply for the DAC-204 called the PSU-102. This is something very interesting to me as my belief is that music starts at the power source. And for me, a custom-made PSU generally always adds that extra refinement to the sound.

The matching PSU-102, like the DAC-204, is priced for demanding users, no doubt. Although, as you can tell from my review, my enthusiasm and respect for the DAC-204 using the standard unit is

pretty high. But the PSU-102 has made me very curious, AND I hope to be able to review it along side the 204 very soon.

Watch this space!

Conclusion:

I wanted a DAC that would bring together all of the best qualities of many other DACs but in one unit. And the Weiss DAC-204 has done just that. In fact, even more so in regards to the flexibility of the unit.

After two weeks of daily use, it has settled in very well, and the sound has developed even further. Everything has become slightly more fleshed out in the case of tonal qualities, such as vocals. Quite breathtaking.

The Weiss DAC-204 gives you a unique sound—an expansive, organic, smooth groove that you just can't help falling into. And I can honestly say that it perfectly fits in it's price bracket.

Flexibility is second-to-none. A high-end compact, multi-format D/A-D/D converter that is easy to use and easy to listen to. And on that note, I can't fault. From the size and form factor of the unit to its design, layout, technology, and sound, everything about it is extremely high-end.

If you're looking for a new DAC, look no further.

Highly recommended.

Details:

Price: £2950 - $3495

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Specifications and Measurements:

Digital Inputs:

(1) RCA connector, (1) Toslink connector (optical)
- All inputs accept professional or consumer standard , i.e. accept AES/EBU or S/PDIF signals.
- Sampling frequencies: 44.1, 48.0, 88.2, 96.0, 176.4 or 192 kHz on the RCA input.
- Sampling frequencies: 44.1, 48.0, 88.2, 96.0 kHz on the Toslink input.
- Maximum input word-length: 24 Bits.

(1) USB connector
- Accepted sampling frequencies: 44.1, 48.0, 88.2, 96.0, 176.4, 192, 352.8, 384 kHz, DSD64, DSD128

Analog Outputs:
(2) XLR connectors (hot output on pin 2, notservo controlled), DC coupled, short circuit proof output circuitry, Output impedance: 44 Ohm
(2) RCA connectors, DC coupled, short circuit proof output circuitry, Output impedance: 22 Ohm

Output level:
Selectable by two toggle switches, 4 settings:

XLR outputs:
7.5 Vrms, +19.7 dBu, with a 0 dBFS sinewave input
2.3 Vrms, +9.7 dBu, with a 0 dBFS sinewave input
0.75 Vrms, -0.3 dBu, with a 0 dBFS sinewave input
0.23 Vrms, -10.3 dBu, with a 0 dBFS sinewave input

RCA outputs:
3.75 Vrms, +13.7dBu, with a 0 dBFS sinewave input
1.15 Vrms, +3.7dBu, with a 0 dBFS sinewave input
0.375 Vrms, -6.3dBu, with a 0 dBFS sinewave input
0.115 Vrms, -16.3dBu, with a 0 dBFS sinewave input

Digital Outputs: (1) XLR connector, (1) RCA connector, (1) BNC connector

Synchronization:
- Synchronized via the input signal in the case of RCA or Toslink inputs. In the USB input case the DAC204 is the master clock.
- Extremely efficient Jitter attenuation.
- Sampling frequencies supported: 44.1 kHz, 48.0 kHz, 88.2kHz, 96.0kHz, 176.4khz, 192kHz, 352.8kHz, 384kHz, DSD64, DSD128

Power: - DC input voltage: 6 to 9 Volt

- DC input current: 1050mA at 6V, 700mA at 9V
- Power consumption: 6.3 W

Measurements:

The measurements below have been taken at the following conditions (unless noted otherwise): 1 kHz measurement frequency, maximum selectable output level, 192kHz sampling frequency (Fs), 22kHz measurement bandwidth, unweighted, 0 dBr equals the output level at 0 dBFS input.

FrequencyResponse
Fs = 44.1 kHz, 0Hz-20kHz: within +- 0.25dB
Fs = 88.2 kHz, 0Hz-20kHz: within +- 0.25dB
Fs = 88.2 kHz, 0Hz-40kHz: within +- 0.8dB
Fs = 176.4 kHz, 0Hz-20kHz: within +- 0.25dB
Fs = 176.4 kHz, 0Hz-40kHz: within +- 0.8dB
Fs = 176.4 kHz, 0Hz-80kHz: within +- 2.5dB

Total Harmonic Distortion plus Noise (THD+N)
−116 dBr (0.00016 %) at −3 dBFS input level
−125 dBr (0.000056 %) at −40 dBFS input level
−125 dBr (0.000056 %) at −70 dBFS input level

Linearity
At 0 dBFS to −120 dBFS input level: less than ±0.4 dB deviation from ideal

Spurious components (including harmonics)
At 0 dBFS input level, maximum output level, 1 kHz, all components at less than −120 dBr
At 0 dBFS input level, maximum output level, 4 kHz, all components at less than −115 dBr

Crosstalk Better than 120 dB, 20 Hz–20 kHz

Interchannel Phase Response
+- 0.05° 20 Hz–20 kHz
+- 0.30° 20 Hz–80 kHz