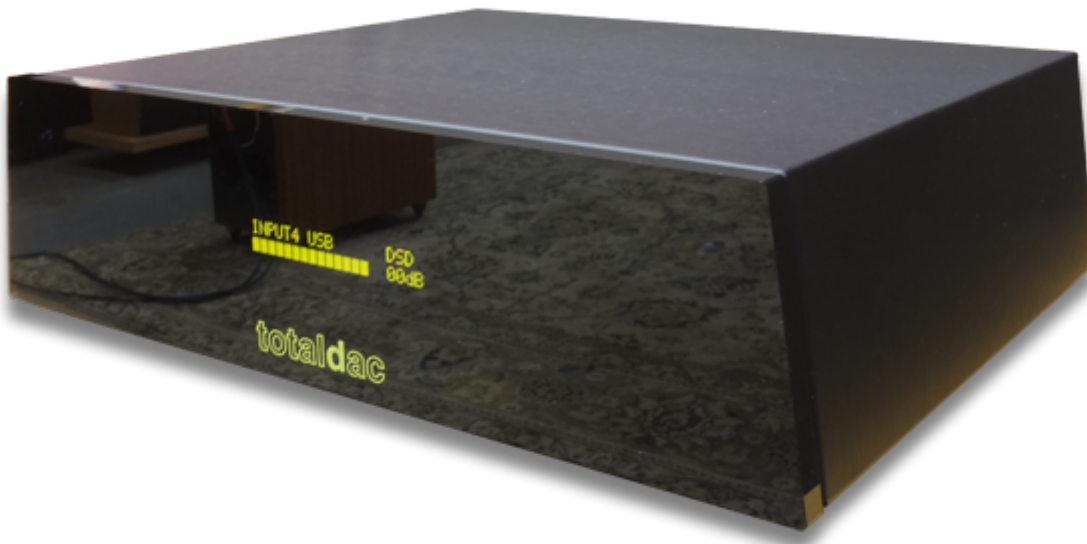


# totaldac d1-tube-mk2 DAC

Michael Lavorgna | Oct 15, 2015



**Device Type:** discrete R2R ladder DAC

**Input:** USB, AES/EBU, Toslink, Coax S/PDIF

**Output:** single-ended on RCAs and XLRs

**Dimensions:** height 110mm, width 360mm, depth 290mm

**Weight:** 6.5kg.

**Availability:** Authorized Dealers and Direct

**Price:** 9900euros incl VAT in EU, 9100euros excl VAT out of EU plus DSD option for DACs d1 series: 350euros incl VAT in EU, 320euros excl VAT out of EU

**Website:** [www.totaldac.com](http://www.totaldac.com)



## Data in, Analog out. What could be simpler.

Our phones have DACs. Our computers have DACs. Digital to Analog converts are a dime a dozen (literally in some cases) so why the hell would we want to spend around \$10k on a DAC? The answer—quality of life.

Before we get huffy, no one *has* to spend \$10,000 on a DAC to improve the quality of their life. However for people who listen to music on their hi-fi as an activity unto itself,

the quality of that experience matters. It can, depending on the person, matter a whole lot (you know who you are). What's more, some people make a living making the things we listen through, others by selling it, while others write about what's made, also for a living. So hi-fi is a hobby and it is also more than a hobby but in the end we're all talking about the same thing; the enjoyment of music. Since music is found in every culture dating back as far back as we humans go, you could say that the enjoyment of music feeds our humanness. Some of us just happen to be hungrier.



0.01% VAR bulk metal-foil Vishay resistor

If you read my review of the totaldac D-1 dual DAC (see [review](#)) or Steve Plaskin's review of the totaldac D-1 monoblock DAC (see [review](#)), you'll know that we liked them a lot. Every totaldac is a discrete R2R ladder DAC which means no chips. In the case of the totaldac dual DACs, 200 0.01% VAR bulk metal-foil Vishay resistors [[footnote 1](#)] are used to convert the incoming digital data to an analog signal. There's no I/V conversion stage, no oversampling, no op amps, and no digital reconstruction filter in a totaldac.

When you connect to the totaldac from your server of choice, you'll see that it employs an XMOS-based asynchronous USB receiver. There's also a field programmable gate array (FPGA) within the works wherein Vincent Brient, Mr. totaldac in every way, has coded a number of things to happen including buffering and reclocking of all incoming data, an optional (via the included remote) FIR compensation filter to smooth out the high frequency response of the DAC's output, and a digital volume control (69-bit resolution).



The main difference between the original totaldac I reviewed and the d1-tube-mk2 DAC are the pair of ECC82/12AU7 dual triodes used in the output stage [\[footnote 2\]](#) instead of the discrete class A transistor circuit found in the D-1 dual DAC. The review sample also has the DSD option included so it can handle DSD64 (DoP), which the original D1 couldn't, as well as PCM resolutions to 24-bit/192kHz (Toslink input maxes out at 96kHz).

The totaldac's chassis is all black aluminum while the front panel, which comes in black or silver, is polymethylmetahcrylate (PMMA) and there's a "massive pure copper antivibration plate" under the hood. I happen to like the look of the lopped off pyramid and the defeatable front panel display that shows the volume level, incoming sample rate, and selected input. There's a matching outboard power supply, which to my mind is a great place to put a power supply for a DAC, and an included umbilical cord for leashing the two units together.

For nearly the duration of this review I used my MacBook Pro running the latest version of Roon Server controlled from my iPad Mini running Roon, the totaldac USB cable/filter, the Ayre AX-5 Twenty integrated amp, and the DeVore Fidelity X.



### Bits in, music out.

I've been at this AudioStream gig for over four years and it has been my experience that most DACs I've heard fit on a scale from digital sounding to really-good-sounding digital. I listen to my reference Auralic Vega DAC (\$3500 see [review](#)) most days and to my ears it sounds like really good digital. For the price, I also think that's very special. The totaldac d1-tube-mk2 DAC doesn't sit anywhere on that scale.

When I say digital sounding, one thing I'm referring to is the perception that there's something in-between me and my music. Of late, I've come to picture this barrier as a sheet of glass. Listening through the totaldac late at night in the relative darkness, I can listen in to my music as deeply as I care to go. There is nothing in between it and me except my thoughts, so when I connect to the music and quiet my brain's activity, it's as if space (and time) are defined by the music. This is in distinct contrast to most other DACs I've heard where that same experience is cut short, as if my journey into the music's space (and time) bumps up against a pane of glass. I can 'see' through it, I can mostly ignore it, but it's there. I prefer when it's not.

With no barrier, I am free to explore everything music holds. What that means is we don't bother about this or that sonic trait or treat, we skip all that jazz and head right to

what the musicians are doing. With the totaldac, its not great bass, it's a great bass player. I could go on to all of the other players but you get the picture. With singers, I'm thinking about what they're singing about and how they're singing about it. All of this happens on the edge of my seat, even when reclined. The space of the recording is presented as realistically as I've heard with a dimensional quality very much like the real thing. Overall there is a nearly uncanny clarity that remains even throughout the most complex layered musical passages, which lesser DACs can turn into mangled mush.

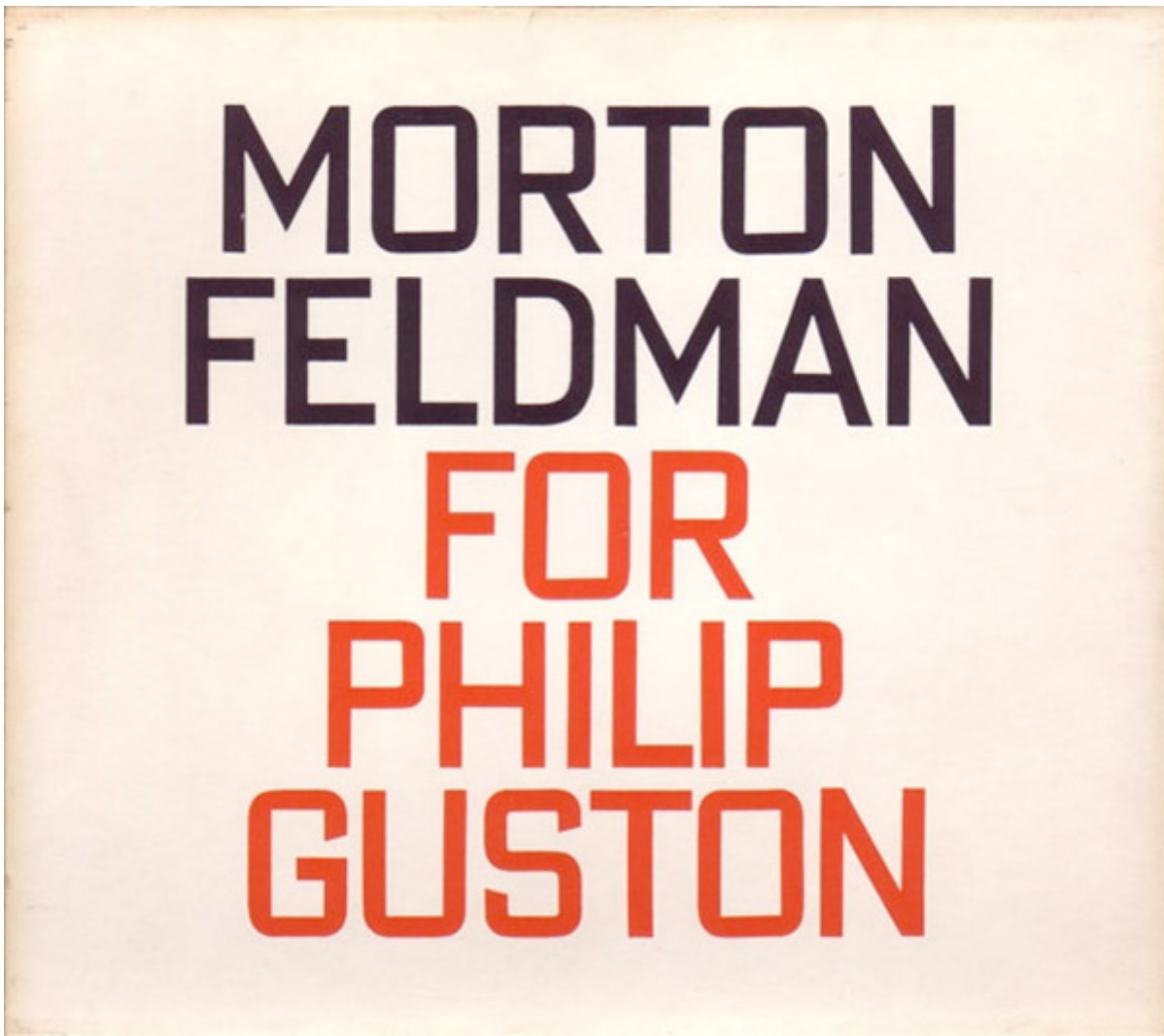
I began listening to the totaldac through its single-ended outputs using my Auditorium 23 RCAs. Many weeks later, I switched over to the XLR outputs using Kimber Kable cable and I was not happy with the resultant change. Everything got a bit more clinical, a bit more calculating sounding, and colder. Hmmm. I spoke to my friend John DeVore about this and he asked if I tried the Auditorium 23 XLRs. I hadn't because I didn't own pair. Now I do. While I certainly preferred A23 over Kimber, I still prefer the RCA output over XLR. According to the totaldac website, "The XLR connector carries only the unbalanced signal, so it is equivalent to the RCA output." Equivalent but different.

To my ears, I'm perfectly thrilled with the totaldac's RCA outputs and don't consider this an "issue" one way or another. YMMV (but I doubt it). On file formats and resolutions, everything sounds equally wonderful including CD-quality, higher res, and DSD. If you're anything like me, you'll find that listening to your music through the totaldac erases all thoughts of such distractions because, again, we're dealing directly with *the music*. Just to be clear, I am not saying, "It's all about the music". I would never say that. What I am saying is that some gear just gets out of the way completely and in my digital experience that is a) really rare, and b) really special.



If you've read [[footnote 2](#)], you'd want to test Vincent's theory. I did. Back in our old house, I had two separate rooms for two of my hi-fis; the work/digital room, and the analog/fun room. Today, we all live happily together in the barn. My analog system consists of an Auditorium 23 Nouvelle Platine turntable with Shindo RF-773 Mersault tonearm, Shindo SPU and Auditorium 23 Hommage step up transformer, a Shindo Monbrison preamp and Shindo Cortese amp. Cables are Shindo ICs and the A23 speaker cables ran to the same DeVore Xs.

I simply sat the totaldac on my custom Box Furniture rack along with my MacBook Pro, wired everything up and hit play on my iPad Mini after letting Shindo get warm (to the idea of computer audio). Holy, sweet, sweet, technicolor holography! Vincent's totaldac aced this test and I could very easily live happily ever after in this system's warm embrace.



I very much enjoy the music of Morton Feldman. To say that his compositions concern themselves with the "infinitely small" is an understatement so if your hi-fi doesn't give you a very good helping of every last ounce of everything, you just won't get it. In this system, I sat enrapt through Morton Feldman's *For Philip Guston* [[footnote 3](#)], hanging on every beautiful nuance.

I included the following quote from Jean-Marie Piel, Journalist and Joint Editor-in-Chief for Diapason, in my very first review some 10 years ago and this is the first time since then I've felt it relevant to include it again:

"The essence of an interpretation lies in working on the infinitely small -- be it an attack on a note held back for a fraction of a second (perceptible if the preceding note is reproduced neither too short nor too long), or be it a note that develops in itself; or, on a larger level, a crescendo or diminuendo encompassing several notes -- all of which gives music a sense of direction, its palpable dynamics, its quivering life, and all of which, in the end, lies in the nuances."



## Music In, Music Out

During the course of this review I looked around for things to sell. Nothing was safe; my car, art, hi-fi gear, books, furniture, etc. How about that Princeton Reverb amp? What about all those jars of change! Alas, sometimes things just don't add up to the price of a totaldac but it's nice to know that all of the music we have lying around in bits can be released from digital's decades-old death-like grip and turned back into music.

If things add up for you and your DAC budget, I would give the totaldac d1-tube-mk2 DAC a good, long, listen. You may find, as I did, that music speaks to you through it in a more meaningful manner.

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**Footnote 1.** The 0.01% tolerance Vishay VAR Series metal foil resistors cost roughly \$15/piece if you buy 1 at a time. Figuring for a bulk discount, the 200 Vishay resistors in the d1-tube and d1-dual DACs will run you around \$2,000+. For comparison purposes, in a Delta Sigma DAC using an off-the-shelf chip(s), you're looking at a cost of anywhere from a few bucks to around \$50 per chip. There are 400 resistors in the d1-monobloc, and 600 resistors for the d1-twelve.

**Footnote 2.** When I spoke to Vincent about this review at the Munich High-End show earlier this year, he explained that the d1-tube-mk2 DAC was well suited for a system consisting of high efficiency speakers driven by tube electronics.



**Footnote 3.** I was fortunate to be able see a wonderful show of Philip Guston's works on paper while in Munich for the Hi-Fi Show.

### Associated Equipment

Also in-use during the totaldac d1-tube-mk2 DAC review: Lots of music