Joachim Pfeiffer's HiFi SOUND & MUSIC

IN TIME WE TRUST

Master Fidelity NADAC D and C Part Two: The C, the Clock, and the Shape of Digital Music

by Joachim Pfeiffer

HEARING TIME.
MASTERING TIME.
RECORDING MUSIC.

THE NADAC C


44.1
1 fs
2 fs
4 fs
1411.2
kHz
48
8 fs
16 fs
32 fs
ocxo
stable
enter
dimmer

One click on the remote—that's all it takes to shift a world. Alexander Chodak from Audio 2000 in Wuppertal drops by; in front of us sits the NADAC D. First, a renowned streamer feeds AES; then—click—the signal runs over USB-C. And because USB on the NADAC D isn't "just another input" but the gateway to a second system, a second player steps onto the stage: the NADAC C, Master Fidelity's master clock. Chodak switches back and forth, no drama: AES, USB, AES again, back to USB. Then he just stands there, quiet, a smile somewhere between amazement and disbelief: "That's no longer a difference—that's another world." No voodoo, no wishful thinking. Here, time decides.

When you listen to music, you're really listening to time. That sounds poetic—but it's physics. In a true 1-bit DSD system like the NADAC D, time isn't just a parameter; it's the language music is written in. Every bit flip is a tiny energy event. If that timing shifts by even a fraction of a trillionth of a second, the sound changes—immediately, with no filter, interpolation, or re-clocking available to "cover it up." While PCM thinks in amplitude—measuring how loud something is—true 1-bit DSD lives by when something happens. Music emerges from density here, not from columns of numbers. That's why the clock isn't a metronome; it's the foundation.

A small number makes the consequence tangible: DSD512 runs at 22.5792 MHz; one sample lasts 44.3 ns. A 1 ps deviation equals 1 ps / 44.3 ns = 0.00226 %. In a 1-bit system, even that whisper shifts instantaneous pulse density—heard as weaker microdynamics, softer transients, a flattened stage, a hint of grain. More insidious is low-frequency "wander" between 0.1 and 10 Hz: instruments drift, overtones lose confidence, the air in the room collapses, voices lose focus. Exactly this temporal calm makes analog tape feel so organic—and exactly this calm a precise, low-noise clock restores in digital.

The NADAC D isn't a bag-of-tricks DAC but a single-minded converter with a clear aim. At its core is true 1-bit: the actual analog conversion doesn't happen in many steps but exactly one—like a light switch flicking millions of times per second so precisely that amplitude is formed from time. Done right, that means near-ideal linearity and playback without makeup: calm instead of hype, focus instead of effects, structure instead of show. Master Fidelity doesn't realize this with off-the-shelf chips but with its own 1-bit ASIC architecture, backed by extremely clean clocking and a temperature-stabilized reference supply. A true 1-bit converter stands or falls with clock quality, algorithms, and power delivery—that's where the investment goes. The result may seem unspectacular at first because nothing is hyped; listen closely and you hear how naturally music suddenly behaves. Not different—right.

Unbelievable, yet true

Why that matters in a PCM world? Because most of the world's music archive is PCM—from new productions to digitized analog treasures. The NADAC D accepts that material, shapes it internally into a high-rate 1-bit stream, and converts at the very mouth of the output—exactly where timing rules. In doing so, it bridges the practical reality of massive PCM catalogs with the sonic virtues of

genuine 1-bit conversion.
The rest is interface literacy—and it's anything but dry. AES/EBU and coaxial S/PDIF send data and clock in the same stream; the clock is encoded, and the receiver must extract it with a PLL. It's practical—but the source leads and the DAC follows. An external reference can only assert authority where it actually rules the source or the DAC.

Clean signal conditions

That's why the NADAC C truly "zeros" time only when the data stream lands at the NADAC D without an embedded clock—i.e., asynchronously over USB-C, so the D itself sets the pulse and locks to the C's 10 MHz reference. (Over AES, the C can only bite if the source has an external clock input and slaves to the C's 10 MHz.) Two paths—two realities.

What does the C do when it's allowed to be in charge? It delivers an ultra-precise 10 MHz reference, built on an SC-cut crystal, oven-controlled at a constant temperature, powered by a supply with very low phase noise. That time solder sinks deep—but only when the D is the time master and locks to the C's reference. In that exact configuration, you get the relaxed order that doesn't feel sterile but human, because phrasing, breathing, and micro-tempo fall into place as a matter of course. This may sound like high-end acrobatics, but in daily use it's simply logical. An architecture that once sounded like heresy now works without fuss: a fanless MacBook Air as Roon server, USB-C straight into the NADAC D, plus the NADAC C's 10 MHz. Often, that's all it takes to give pricey streamers something to think about. Not because the Air is a high-end wonder, but because timekeeping is happening where it belongs—in the converter—anchored by a reference that calmly drags its neighborhood into line. The rest of the chain can simply work quietly and cleanly.

The logic proves itself not in the lab but in life. Andreas Baumann stuck to the sequence and bought the D first. Even with his test tracks, he got more than a hint of how music is actually put together. No one's claiming an integrated Burmester converter is a mere knockoff. But the small differences, once conquered, cast a long spell. Hear how a cymbal decays without fraying, how a double bass doesn't sound "bassy" but speaks notes, and you guard that knowledge like a treasure—it becomes your inner reference.

Pure, unbounded joy

For the hesitant, a trial that rarely fails: "Green Chimneys" by the Roy Haynes Trio—about twelve minutes of work at the instrument. A dry, punching kick, a springy ride pattern, finely shaded ghost notes, a room that reacts to impulses like stretched skin. With the NADAC D, transients and note onsets stand so naturally in space that the music's pulse is almost tangible. Add the NADAC C—of course in asynchronous USB mode—and the last veil of timing blur falls like dust from a picture. Attacks fire faster, decays fall in line, the silence between notes goes black. Spectacular and right aren't opposites—they depend on each other. Second example, big cinema: Wagner's Ring under Georg Solti. Here it sits as an original LP pressing, as a 192/24 file, and as DSD64 (thanks to Meik Wippermann). I am and remain a friend of vinyl—

the engrained tactility, the physical act. And yet I prefer the stress-free reproduction via the NADAC in the D-plus-C configuration. It's not just "as good"; at times it conveys even more of what Decca's engineers in the late '50s and early '60s thought and planned: how choir blocks stand in the room, how the brass fuses with the stage, how the orchestra in the tuttis doesn't compress but carries. When the C tightens the time chain, Solti's giant clockwork falls into order—tempo tiers, reverb tails, that delicate handoff between hall and tape—with a naturalness the best vinyl rigs don't always manage. Not different. Right.

Then—as a counterpoint, a pause to breathe—Arvo Pärt's "Für Alina," performed by Dora Deliyska, recorded by Bert van der Wolf in his own church, long more studio than sanctuary. A deliberately quiet piece, almost a single breath—gentle tones that keep living in the room once the keystroke has passed.

What a pianist's touch

Not just any old way—so naturally it grabs you. You don't only hear what Dora plays; you hear how the sound lingers, interlaces, returns, as if it were listening back. With NADAC D and C, that suspension becomes real: no reverb "effect," no studio gloss, just physical presence in time. You feel the duration between two notes stretch, the room itself becoming part of the composition. It's music that makes time its subject—and that's where its truth lies.Third example, intimate and immediate:

Dominique Fils-Aimé, “Birds.” Few tracks show as clearly how much time decides whether you’re drawn in and moved—or left standing, politely unmoved. The song lives on micro-fine interplay—breath, consonants, the elastic pulse of the accompaniment. If jitter stirs restlessness into the weave, the song goes flat—pretty, but distant. With the D and C in charge of time, nuances slide into place: consonants click without biting; the delay nestles instead of drifting; the voice stands, lives, and carries you along. Suddenly “simply beautiful” isn’t enough—the binding force is there.

When the critics fall silent

An evening that mattered sealed the picture. Markus Wittenmeier visited—not someone who types his audiophile reputation into existence, but someone who earned it. With the NADAC D, the pulse simply stood in the room, note onsets had posture, the stage snapped into focus. When the C joined—again, over USB-C, or it remains powerless—what pros call the “blackening of silence” happened: attacks ignited without hardness, decays fell cleanly, timing stretched the room like a drumhead. Moments like these make it clear a true 1-bit converter with an ASIC heart isn’t an effect unit, but an instrument—precisely guided in the domain where its truth lives: time.

Now to the practical side—no incense, no cult. For the NADAC C to have any effect, the NADAC

Six 10-MHz clock outputs, two word-clock feeds — the NADAC C distributes its time reference with absolute precision, turning every connected NADAC D into part of a single, unified timing system.

D must be connected to a source via USB-C; only then may the C lead, only then does its time order rule. (Over AES, the C can intervene only if the source has an external clock input and takes its clock from the C.) In my specific case, the USB source—hardly a flex—is a plain MacBook, connected with the very USB-C cable Apple includes in the box. Cringe? Maybe. But it works. And how. As unimpressive as that link looks, the result is unmistakable: in direct comparison, this unglamorous everyday setup sounds dramatically better than even a lofty source that feeds the NADAC D via AES—using a flawless reference cable. Why? Because AES delivers the digital signal with its clock and the D must follow. That already sounds phenomenal—far better than with nearly any other DAC I know. But the moment the D sets the pulse and locks to the C's 10 MHz reference, the balance flips.

In the end, it's all surprisingly simple

This isn't an "upgrade"; it's a tectonic shift — a clean reset to zero. From there you move on: to sources that pour digital audio more cleanly than a MacBook, to cables built not prettier but more precisely. The direction stays the same.

With the D alone, asynchronous USB often takes the lead, because the converter controls the timing — assuming the source is configured cleanly, bit-perfect, and quiet. At the same time, a serious AES streamer with an excellent clock can absolutely shine in these D-solo scenarios. In short: with the D alone, practice wins over doctrine.

Add the C, and the picture changes instantly.

The C assumes clock sovereignty, and USB becomes part of a tightly controlled timing structure. Suddenly a quiet MacBook feeds the D, the C provides 10 MHz, and time settles so naturally that even some costly AES flagships start to look a little dated. Not because the computer is "high-end," but because the baton sits where it belongs: in the converter, steadied by the C.

That doesn't make AES a lost cause — far from it. The next generation of Master Fidelity digital sources will intentionally feature clock inputs, allowing their AES outputs to lock to the DAC's master reference. That gives AES a clear, elegant path forward: no matter the interface, timing moves to the place where it can do the most good. The "USB vs. AES" divide becomes less a matter of faith, more a matter of engineering.

Whether an audiophile streamer with USB out still makes sense beyond that depends less on time-keeping itself and more on noise hygiene, stability, and system integration. Once the clock question is answered, everything else becomes a design choice.

Time in music is not a luxury — it's the backbone. When timing floats, even the most beautiful tone loses its poise. That's precisely where Master Fidelity goes to work.

Which is why the order remains clear:

Bring the NADAC D into the system first, live with it, learn it — then add the NADAC C. The chain grows not only in sound, but in understanding.

Step by step. Stage by stage.

The takeaway holds: music isn't amplitude; it's motion — and motion is time.

Master the time, and you master the sound.

Not different. Right.