Network-attached/USB DAC
Made by: Métronome Technologie, France
Supplied by: Absolute Sounds Ltd
Telephone: 0208 971 3909
Web: www.metronome.audio; www.absolutesounds.com
Price: £18,998

Métronome Technologie DS^{C}1

No longer just a simple DAC, the latest model from France is a network-connected 'Digital Sharing Converter'. Is this all the digital front-end you will ever need?
Review: **Andrew Everard** Lab: **Paul Miller**

We've come a long way since a DAC was just a simple way of updating an old CD player with the latest digital technology – 30 years on from the arrival of the original Arcam Delta 'Black Box' [*HFN* Jun '88], today's digital-to-analogue converter needs to do rather more than accept an S/PDIF input and spit out analogue audio into an amplifier. Having fallen out of favour for a while as integrated CD players got really rather good, the offboard DAC has reinvented itself for the computer audio age, spawning desktop DAC/headphone amps, tiny portable versions of the same concept, and the idea of a digital hub, able to bring together computers, portable devices and conventional digital sources.

SMARTER STUFF

That 'hub' concept is very much at the heart of the Métronome DS^{C}1, yours for £18,998 in a choice of black or silver finishes. The model designation suggests this is smarter than the average DAC and, in fact, this 'Digital Sharing Converter' combines normal digital inputs with a USB Type-B input for a computer and an Ethernet port enabling it to accept network-stored music.

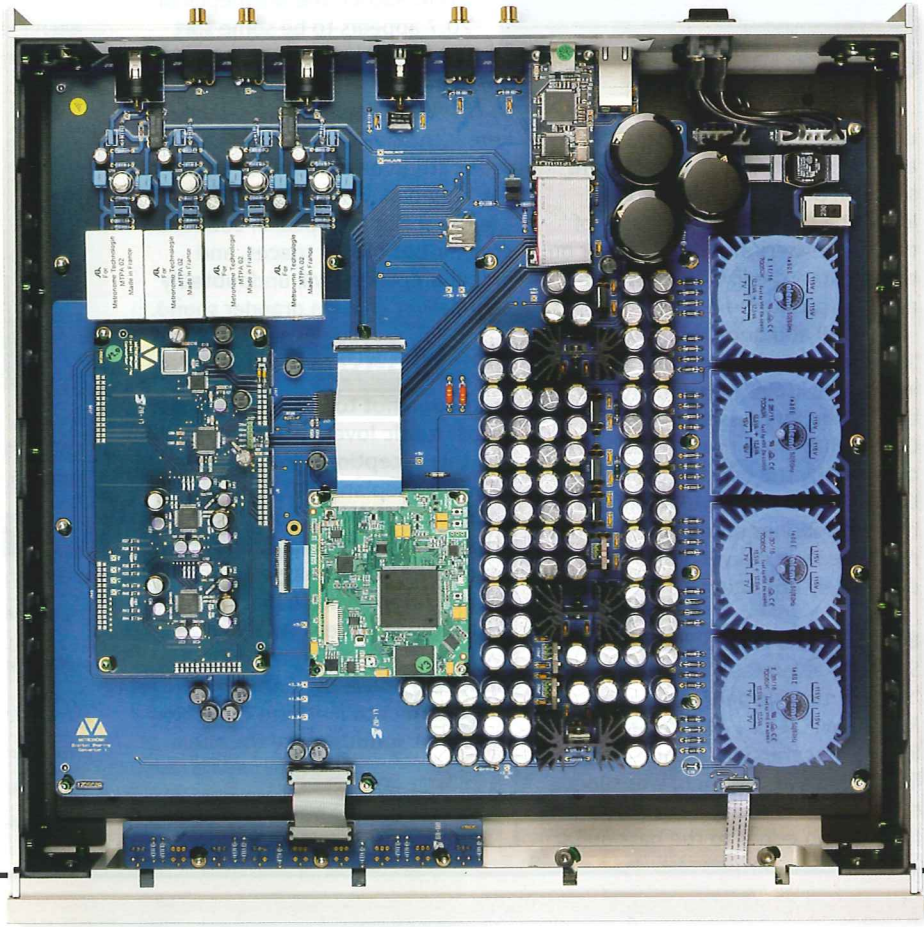
As a product parked firmly at the top of the Métronome tree, you'd expect the DS^{C}1 to offer something special when it comes to format flexibility, and it does. Providing 384kHz/32-bit capability with LPCM files – at least via the USB Type-B input – it also handles DSD content at all the way up to DSD512 (22.4MHz sampling rate). If, that is, you can find any content out there in this so-called Octo-DSD format...

Whether you view this as a must-have piece of futureproofing or an irrelevant bit of numbers-game-playing will be a matter of personal taste and belief, but clearly Métronome has decided that this extended format-handling should be an intrinsic part of its 'all the DAC you'll ever need' offering. Even with my extensive network stored library, with more than its share of DSD content either downloaded or ripped from SACD using the Sony PS3 method, I was unable to find more than a few test files in DSD512 to play through the DS^{C}1, and what there was gave me little cause for rejoicing, being safely in the 'no nasty shocks' audiophile category.

Oh well, there's rather more DSD128 and even DSD256 content out there – for which we are all indebted to the likes of 2L, Channel Classics and the excellent Native DSD site – and with some of this loaded onto my Mac mini music-playing computer I was able to put the DAC through its ultra-hi-res paces. So, the usual suspects in CD playback and beyond are available via Toslink, two coaxial inputs and an AES/EBU XLR socket, while higher resolutions are catered for by that computer audio input – which will, course require your chosen computer to be running a suitable software player, such as the Audirvana I tend to use for tests such as this.

RECOMMENDED APP

Inputs are selected on a couple of the slabs on the front panel, which are as close as you're going to get to conventional buttons. There are just two to shift left and right through the input labels listed across the bottom of the display screen, plus one to adjust the brightness of the display's backlight and another to switch between on and standby. They're well hidden, with nothing but small engraved legends on



RIGHT: Métronome's ten linear PSUs [far right] feature a huge, low-ESR reservoir and feed separate PCBs for USB, network [top right], Cirrus DSP [centre] and the analogue section based around two 'velvet' AK4497 DACs [left]

them, and it's worth noting at this stage that there's not a sniff of a remote control handset for the DS^{C}1, let alone a dedicated app to control it.

However, your iOS or Android device isn't left completely out of the party. Indeed, with the unit connected to your home network via the Ethernet socket to the rear, it's possible to play music stored on a computer or NAS device, with control via your tablet or smartphone. As Métronome doesn't have its own app for this purpose, third-party UPnP/DLNA software must be pressed into service, the company recommending ConversDigital's mConnect, which will cost you £5.99 from the Google Play or Android store – although other similar offerings, such as Bubble UPnP or PlugPlayer, will do just as well, and these will also allow playback of music from a network source to the DS^{C}1 to be controlled from your laptop or desktop computer.

'An hour has elapsed since I started writing this paragraph'

DSD BY USB

There's no setting to be made on the unit itself in order to start playback of this kind – you simply connect it to the network, select it and the music on the relevant app, and away you go. It's also possible to use the Ethernet connection to send music from AirPlay devices, or indeed Roon servers on the same network, but as ever such operation carries its own limitations in terms of sampling rate and bit-depth. For example, the kind of direct native playback of DSD streams possible with true Roon-ready endpoints isn't available here, and you're limited to what AirPlay can handle.

Then again, neither does the DS^{C}1 offer DSD network playback, despite the capabilities of its onboard conversion – you are effectively limited to 192kHz/24-bit network playback, with formats beyond that served by a direct USB connection to a computer, or one of the network servers able to output directly via USB to a DAC. Similarly, there's Qobuz and Tidal capability here, but only because the mConnect app offers this functionality, and can pass it on through to the DS^{C}1 via its Ethernet connection.

Métronome isn't alone in offering a design that's merely a renderer and not a control point, and those manufacturers following such a path will tell you that the third-party control apps do a perfectly good job so there's little point in spending development money 'reinventing the wheel'. The counter-argument here will be that all the money in the DS^{C}1's development and construction budget has been spent where it really counts: on the sound. Certainly the build is of a very high quality on the outside – sitting on three isolating feet, the enclosure uses hefty aluminium panelwork, and is precisely put together, while the interior view [p46] shows that just as much care and attention has been paid in the 'engine room'.

ABOVE: New look 'Digital Sharing' casework keeps the controls simple, with just a source selector, display dimmer and power switch – plus room for more buttons on future models?

Separate power supplies for digital and analogue sections is hardly a unique strategy in products of this kind, but the DS^{C}1 has no fewer than four mains transformers, and a massive bank of smoothing capacitors serving a total of ten separately regulated power supplies. The layout, while clearly 'busy', is logical, with its various sections kept as separate as possible to avoid interference, and the digital-to-analogue conversion, using a pair of Asahi Kasei AK4497 DACs mounted on their own board, making it simple to upgrade this section should something better come along. Unlike some high-end, and not-so-high-end, rivals that offer an array of digital filter options, the DS^{C}1 is bereft of any such user-tweakable facilities [see PM's Lab Report, p49].

THREE-DIMENSIONALITY

For all my initial cynicism along the lines of 'It costs how much and it doesn't even do...', what this new Métronome DAC *can* do is pull you up short and leave you just a little slack-jawed at exactly what it brings to your favourite music.

Playing Ning Feng's breathtaking newly-released two-volume recording of JS Bach's *Sonatas And Partitas For Solo Violin,* BWV 1001-1006, one is immediately grabbed by the presence and sheer expression a fine recording on great equipment can deliver even with a single instrument. ⇨

TICKING THE BOXES

Founded in 1987 and based in Montans, just to the north-west of Toulouse, Métronome Technologie celebrated its 30th anniversary last year with a truly spectacular limited edition set comprising customised versions of its DreamPlay CD transport and Kalista DAC [*HFN* Nov '17]. Selling for €75,000, and with only 30 pairs made, the package came with diamond finishes, smoked chrome feet and upgraded valves in the DAC – Mullard CV4003s in place of the standard-fit Philips tubes. It also rolled out its Kalista Éa speakers in honour of its beginnings with small bookshelf speakers, though the Éas are neither small nor inexpensive. On the books at €120,000 a pair, Métronome requires the buyer to specify the colour of the Éa's cabinets and the central aluminium 'diamond-faceted' section, then wait eight weeks for the speakers to be handmade. That anniversary also saw the emergence of Kalista as a sub-brand of Métronome, and now 'Digital Sharing' is set to become a further new series of connected devices from the company, sharing the new-look housing seen on these pages. Like all its products, the DS^{C}1 is handbuilt by the company in France.

ABOVE: One Toslink optical, an AES/EBU and two coaxial digital inputs are joined by an asynchronous USB-Type B and an Ethernet port for network audio. Outputs include single-ended on RCAs and balanced via XLRs, at fixed level only

In this instance, the sound of the 1721 'MacMillan' Stradivari (albeit played with a modern bow), contemporaneous with the completion of the works, is captured in luminous detail by producer Jared Sacks for his Channel Classics label [CCS 39018; DSD256].

Not only is the delicious tone of the 'Strad' delivered with true three-dimensionality – and this without recourse to the multichannel mixes which are also made available for your home cinema system should you so desire – but the micro-impacts and bites of bow on string are plain to hear, almost as clearly as if one were to watch the physics in action close-up and in slow motion.

UNSTOPPABLE RHYTHMS

It delivers the same levels of insight, detail and communication, albeit to rather different effect, with the driving rhythms and multilayered mix of the West African female collective Les Amazones d'Afrique's *Republique Amazone* set [Real World Records CDRW 217; 48kHz/24-bit], showing that it's not just with pristine ultra-high-res recordings it can deliver. The phasey percussion of the opening track, 'Dombolo', along with the unstoppable rhythms and richly-textured vocals, are laid out before the listener in enveloping fashion – that is, if you can keep any beat-responsive part of your anatomy still long enough to pay close attention.

Then there's the way the DS^{C}1 can take even the simplest of tracks and make it something special. 'Wild World', from the remastered version of Cat Stevens' *Tea For The Tillerman* [A&M B0012188-02; 192kHz/24-bit], has that winning mix of detail, warmth and immediacy that turns even a familiar song into something fresh and inviting all over again by taking the listener under the skin of the recording.

That's also apparent in long-time Bowie sideman Mike Garson's masterful – and, with hindsight, poignant – solo piano set *The Bowie Variations* [Reference Recordings RR-123]. Here the effortlessly creative jazz takes on familiar tunes from The Dame's catalogue benefit enormously from the way both the weight of the instrument and the precision of the playing are conveyed. Having played this set almost non-stop when it came out, I stumbled across it again on the server while I was putting this Métronome review together, and had forgotten just how good it can sound on a fine system.

Garson's take on 'Life On Mars?' is playing as I write this, around an hour and a half having elapsed since I started this paragraph: I just had to stop and listen to the album right through. Now it's playing all over again, and I'm enjoying it, and the sense of the piano in the room, just as much the second time around. I have a feeling this evening may turn into a Bowie-fest...

HI-FI NEWS VERDICT

For all the talk of this being a 'Digital Sharing Converter', the DS^{C}1 is really a purist, high-end DAC with added computer and network audio inputs – and a remarkable sound. Whether it's for you will depend on whether its simplicity of operation appeals, or you'd rather 'have fries with that'. But the performance is entirely compelling, so 'just a quick listen' could be wallet-threatening.

Sound Quality: 85%

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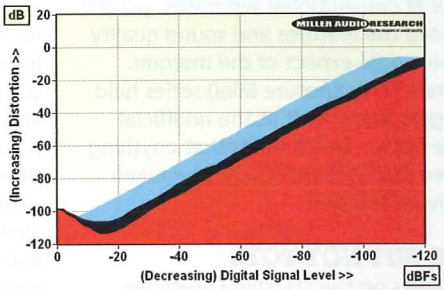
LAB REPORT

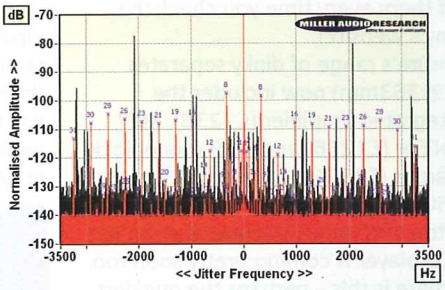
MÉTRONOME TECHNOLOGIE DS^{C}1

Our 'inside shot' of the DS^{C}1 [p46] immediately identifies it as a Métronome product – those blue encapsulated Talema transformers are a giveaway – just as the DS^{C}1's technical performance offers more than a flavour of earlier Gallic recipes. The choice of AK's 'Velvet Sound' AK4497 DAC(s) mirrors the 'DAC2 Mode' of Métronome's Kalista [*HFN* Nov '17]. Métronome's General Manager, Jean Marie Clauzel, suggested that the 'Sharp roll-off' filter option was chosen from AK's bank of six filter algorithms, and although the 70dB stopband rejection seems to match this, the response 'shapes' are more obviously tailored. For example, 96kHz files have a +0.6dB lift in the 4-8kHz region (presence/lower treble) followed by a gentle roll-off to –1.2dB/20kHz and –5dB/45kHz. This extends to –22dB/90kHz with 192kHz media, though Metronome's manual suggests the analogue outs are '96kHz/24-bit sampled'.

There is also a difference in jitter suppression and distortion between digital inputs, with USB providing a marginally better result than S/PDIF over either coax or optical Toslink. While THD is 0.0014-0.00025% from 20Hz-20kHz at 0dBFs via all digital inputs, the USB option achieves 0.0002% at 1kHz/–10dBFs versus 0.0005% via S/PDIF [red vs. black traces on Graph 1, below]. Jitter is not especially low via any input, but ~900psec via USB is certainly preferable to the ~6300psec recorded via S/PDIF [see Graph 2]. As jitter is 'front-end' driven in the DS^{C}1 (*ie*, not directly DAC-related), I would expect this result to vary with your choice of source (Mac, PC, server, *etc*). Finally, noise – acting to mask various of these foibles – is quite high and the overall A-wtd S/N only at the 16-bit level of 96-98dB. **PM**



ABOVE: Distortion versus 48kHz/24-bit digital signal level over a 120dB dynamic range (via USB, 1kHz, red infill; via S/PDIF, 1kHz, black; 20kHz, blue)



ABOVE: High resolution 48kHz/24-bit jitter spectrum (S/PDIF, black and via USB, red with markers)

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	5.52Vrms / 19ohm (XLR out)
A-wtd S/N ratio (S/PDIF / USB)	98.6dB / 96.1dB
Distortion (1kHz, 0dBFs/–30dBFs)	0.0014% / 0.00071%
Distortion & Noise (20kHz, 0dBFs/–30dBFs)	0.00025% / 0.0015%
Freq. resp. (20Hz-20kHz/45kHz/90kHz)	+0.0 to –1.4dB/–5.1dB/–21.7dB
Digital jitter (S/PDIF / USB)	6340psec / 905psec
Resolution @ –100dB (S/PDIF / USB)	±0.2dB / ±0.1dB
Power consumption	14W (10W standby)
Dimensions (WHD) / **Weight**	435x90x435mm / 17.5kg