

# Metronome T3A Signature

With standalone DACs now witnessing a renaissance, audio enthusiasts shouldn't ignore the importance of a top-notch CD transport to hear compact discs at their best  
 Review: **John Bamford** Lab: **Paul Miller**

**B**outique manufacturer Metronome Technologie hails from southern France. The company will soon celebrate its 25th anniversary, yet it was largely unknown to British audiophiles until distributor Absolute Sounds began its 'Absolute Studio' demonstrations at UK hi-fi exhibitions, where it showcased the company's digital front ends in combination with similarly extravagant dArtZeel electronics from Switzerland and Magico loudspeakers from San Francisco. Luxury audio at its finest, indeed... Absolute Sounds' Ricardo Franassovici has described his quest to source the world's finest audio jewels as the search for 'an *haute couture* audio boutique – exclusive, rarefied creations, pieced together to create an audio ensemble of uniquely desirable quality'.

## MIDDLE OF THE RANGE

Metronome's T3A Signature CD transport, despite its not inconsiderable price, is substantially more affordable than the company's ultra-high-end Kalista and Calypso models – works of sculpted art formed in Perspex, aluminium and stainless steel – which cost the price of a terraced house in South Wales. It's less extravagantly clothed, but as befits its price is beautifully made nonetheless.

Metronome Technologie does make a couple of integrated CD players, consequently this T3A Signature CD transport lies somewhere in the middle of the company's product line-up, alongside a partnering standalone DAC, the C5 Signature. It's a manual top-loader with an integrated power supply, housed in a sturdy chassis with a thick fascia of brushed aluminium available in silver or black finish. Weighing 12kg, the unit sits on three substantial feet which have circular recesses cut into their undersides, into which inverted Delrin cones magnetically

locate to afford additional isolation from any external vibration.

## PICKING UP THE BITS

Objectivists might argue that 'bits are bits' and that once a CD's information has been read it is easily error-corrected to produce nominally 'perfect' digital data. But a recovered bitstream remains open to corruption and further degradation unless attention is given to every detail in a replay system. Even the method of driving the final (electrical) digital output is up for debate – transformer coupling or fast, active line-driver? In the past, the likes of Theta and Wadia have chosen the latter, in this instance Metronome has chosen the former [see Lab Report, p65]. When in pursuit of audio perfection, therefore, nothing is left to chance.

Sliding back the top plate cover of the T3A to load a CD reveals its transport

mechanism, a Philips CDM12 Pro 2 v6.8 that Metronome currently employs for all its models [see boxout]. CDs are placed on the spindle, label side up, and secured in place by a magnetic clamping puck also made of Delrin. Metronome's engineers modify the mechanism in-house with a stainless steel shaft, designed to afford improved disc stability and minimise jitter, while also providing a continuous ground-link from the disc's surface to electrical earth. It says this provides better working conditions for the transport's electronic and optical components by eliminating parasitic electrostatic fields generated by spinning discs.

The T3A has an elaborate power supply employing three toroidal transformers and independent regulation lines for each critical part of the transport – the laser pickup, servo, and control functions – which the Metronome designers say



**RIGHT:** Metronome employs a Philips CDM12 Pro 2 disc mechanism, modified in-house. Power supply has three transformers separately feeding critical parts of the transport



provides inter-stage EMI/RFI radiation protection and ensures 'a dynamic, analogue-like sound quality'.

There are three digital outputs at the rear to feed to your DAC of choice: S/PDIF (gold-plated RCA), AES/EBU (XLR) and ST optical via an AT&T connector, the latter rarely seen on consumer digital audio components – Wadia gear from the US being one notable exception. ST optical is a high bandwidth interface designed originally by AT&T for computer networking and it generally uses glass fibre cables rather than the plastic fibre employed for the common EIAJ optical standard (referred to by Toshiba's 'Toslink' trademark).

Which interface is the best? As always, implementation is the key rather than the technology used. In fact we asked Metronome to elaborate on its use of the AT&T interface since there are precious few DACs in the world that feature ST optical inputs. Ironically they replied: 'We consider that all the digital outputs on our CD transports have equivalent high quality – we are in the process of modifying our products to provide them with a Toslink optical connection rather than AT&T'.

Clearly, then, Metronome has concluded there's no *real* benefit to ST optical when

merely handling 16-bit/44.1kHz data – unless your high-end CD transport needs to feed a DAC situated a couple of blocks down the street...

### DIGGING DEEP

I used the T3A in combination with my resident T+A DAC 8 digital-to-analogue converter [*HFN* Oct '12], trying both AES/EBU and S/PDIF interfaces. I *did* perceive subtle differences between the two connections, which no doubt may be attributable to the cables I had to hand. Using a 110ohm Nordost Tyr XLR interconnect the sound appeared 'fast' and light in balance, while with a 75ohm Atlas Mavros RCA cable the sound was subjectively warmer and more full-bodied.

Many audiophiles rank digital components by how closely they approach the analogue listening experience, the pristine sharpness and squeaky-clean nature of digital often compared with what is generally described as the more fluid, flowing and 'natural' sound quality experienced from analogue sources.

**ABOVE:** Disc navigation – Play, Stop/Pause, Previous and Next – is via chromed buttons on the T3A Signature transport's top plate

Some call this 'musicality'... Whatever, for its ability to engage you in a musical event and draw you in to a performance the Metronome transport is up there with the very best. Whether playing run-of-the-mill, mass-produced popular recordings or audiophile recordings made with TLC on specialist music labels, the T3A Signature consistently demonstrated its ability to dig deeply into those spinning CDs, squeezing out every last drop

of musical information and resolving the finest recorded details.

The album *Three-Way Mirror* [Reference Recordings RR-24CD] by Brazilian percussionist Aírto Moreira and his wife Flora Purim performing with American saxophonist and flautist Joe Farrell is a vivid and dynamic recording containing layer upon layer of fine detail. Typical of the work of engineer Keith Johnson, the soundstage was wide and immensely deep, the tonal individuality of the instruments within the soundstage seeming to be carefully preserved even as the recorded level maxed out during the performances' more boisterous passages.

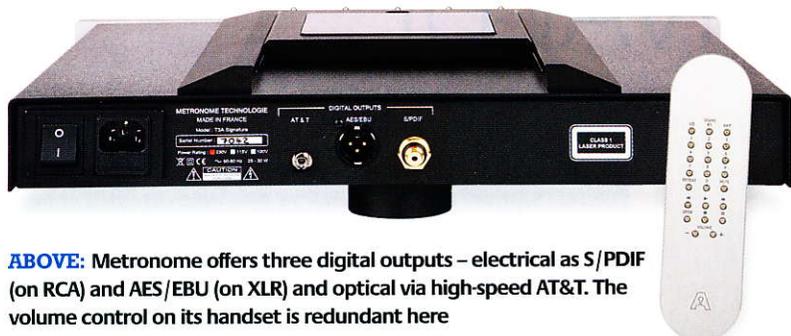
This is where many digital source components often fall down, in my experience, individual sound elements melding into a 'mash' at high levels, and appearing as if the spaces in the frequency spectrum had been filled with intermodulation products. With the T+A DAC 8 fed by the Metronome transport instruments appeared clearly separated and the sound was indeed 'relaxed' and easy to decipher. Subjectively, the performance appeared to be 'slowed' →

'The depth, pitch definition and detail exceeded all expectations'

### ALL IN A SPIN

Opinions differ among designers when it comes to the choice of disc mechanism, some preferring high-speed CD/DVD-ROM drives, others traditional CD mechs. Metronome is one of several hi-fi companies (Krell, Audio Aero, Electrocompaniet and others) that favour Philips' robust CDM Pro mechanism for its top-of-the-line models. Built into a full metal jacket, it is particularly robust and is dedicated to reading Red Book discs, offering fast disc/track access. In fact the CDM12 Industrial mechanism was designed for CD jukeboxes where extremely high duty cycles are expected and reliability is paramount. Still made by Philips despite compact disc being in its 30th year, the 'Pro' mechanism has evolved over the years – most recently to comply with lead-free RoHS regulations. We asked Metronome to elaborate on why it considers the Philips superior to Far Eastern linear drive disc mechanisms, but received the pithy answer: 'It's our preference due to the high quality sound performances that it generates'.

## METRONOME T3A SIGNATURE



**ABOVE:** Metronome offers three digital outputs – electrical as S/PDIF (on RCA) and AES/EBU (on XLR) and optical via high-speed AT&T. The volume control on its handset is redundant here

down', allowing the music to develop almost languidly, enhancing nuance and detail yet without appearing over-etched or clinical.

In the introduction to the track 'The Return' the percussive jangling of bells and the sizzle of the cymbals was spectacular, especially the way in which the initial sounds gently decayed to a truly black silence. The sense of air and space was fantastic. Where the vocals can sound thin and one-dimensional when this CD is played on lesser gear, the sound was open, alive and full of natural warmth, with a rich presentation, 'edge' replaced by body and colour.

### EXCEEDING EXPECTATIONS

I wouldn't normally dream of using drummer Bill Bruford's 1979 progressive jazz/rock/fusion album *One Of A Kind* [EG Records EGCD 40] to assess the quality of a replay system, its densely packed production typically sounding thick and hard to decipher. Yet it presented a fine example of the Metronome's ability to peel back layers, stripping apart the virtuoso musicians' breathtaking performances. Clarity and focus were nothing short of stunning.

The depth, control, pitch definition and detail delivered by the Metronome exceeded all expectations from this pretty average recording. Rather than serving up merely a blur of low-frequency information, this CD front-end snapped tight the lower registers, with an astonishing clarity.

During the charming, ever-so-British Allan Holdsworth composition 'The Abingdon Chasp', Jeff Berlin's accomplished bass playing was exceptionally well articulated, with an uncompromised sense of pitch and alacrity. The musical effect was significant here as there was more perception of the

bassist's contribution and greater rhythmic drive to the composition. The gradations of keyboard lines, Bruford's myriad complex drum patterns and Holdsworth's weeping guitar throughout were all clearly depicted. Revelatory, dare I say?

In stark contrast came a purist recording from 1992, also on Reference Recordings: *Testament* by the Dallas Wind Symphony and Turtle Creek Chorale [RR-49CD]. Having already observed the Metronome's ability to resolve the spatial position of instruments in a soundstage, this showed that even with massed voices the T3A Signature/T+A DAC 8 combination could display the choir as many small and individual voices. The scale of the Meyerson auditorium was depicted wonderfully, and the dynamic power of choir and orchestra in 'The Testament of Freedom' truly thrilling.

I found the T3A Signature's perspective on the musical event to be delightfully unaggressive. The result was a sense of ease that obviated any fatigue. With such fine resolution, listening became immensely involving. ☺

### HI-FI NEWS VERDICT

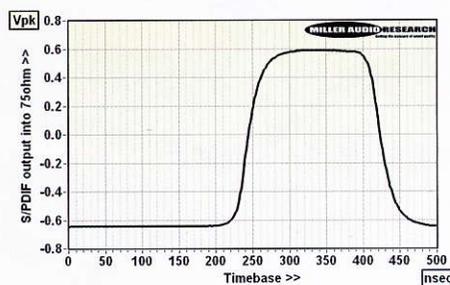
The T3A Signature can be highly recommended to any audiophile with a substantial investment in a CD collection. While it might not have the visual 'wow' factor of Metronome's cost-no-object audio sculptures this more conventional-looking transport is exceptionally well made nonetheless. It will deliver fabulous sound quality when partnered with a digital-to-analogue converter of commensurate quality.

Sound Quality: 87%

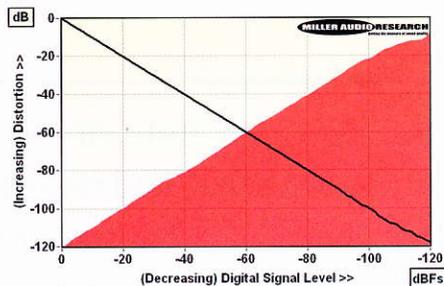


Digital domain measurements on both the T3A Signature's S/PDIF (consumer) and AES/EBU (professional) outputs used the same dithered 16-bit CD data we would employ for our standard analogue domain CD player tests. Frequency response is not terribly useful, translating as a perfectly flat line up to 22.05kHz, by definition. The distortion tests are more interesting, revealing fractional shifts away from what, theoretically, should be a reciprocal increase in distortion with decreasing steps in digital level [see red trace, Graph 2]. Theoretically then, this should be a straight, diagonal line. In practice, our dithered 16-bit data equates to 0.00007% distortion (and noise) at 0dBfs and 1% THD+N at -90dBfs, equivalent to a full 140dB range. Jitter is limited to the 16-bit data-pattern of the test itself, or 114psec.

Data output via the T3A Signature's balanced AES/EBU digital output was decoded according to IEC60958 and AES-3. The receiver and status bits revealed no running parity, bi-phase, confidence or C-CRC (Channel Status Block Cyclic Redundancy Check) bit errors, however one Q-Subcode CRC error was flagged every ~10 seconds of continuous data. The S/PDIF data waveform [Graph 1, below], into 75ohm, is absolutely free of ringing or RF interference, although its restricted bandwidth (a function of the Pulse PE-65612 coupling transformers) also reduces the edge risetime to 55nsec. The source impedance of the transformer-coupled output is also higher than the 75ohm standard at 170ohm. Readers are invited to view a full QC Suite test report for the T3A Sig. CD transport by navigating to [www.hifinews.co.uk](http://www.hifinews.co.uk) and clicking on the red 'download' button. PM



**ABOVE:** Digital output waveform into 75ohm – transformer coupled output limits its bandwidth



**ABOVE:** Distortion vs. dithered 16-bit digital signal level over a 120dB dynamic range via the AES/EBU output (red trace) vs. linearity (black trace)

### HI-FI NEWS SPECIFICATIONS

Maximum output level (S/PDIF)	1.225Vpk-pk into 75ohm
Digital edge risetime (S/PDIF)	55nsecs
Digital output impedance (S/PDIF)	170ohm
Distortion (1kHz, 0dBfs/-30dBfs)	0.00007% / 0.0034%
Clock accuracy	-0.1ppm
Digital jitter (S/PDIF)	114psec (16-bit limit)
Resolution @ -100dB (S/PDIF)	±0.4dB
Power consumption	9W
Dimensions (WHD)	450x85x435mm