Metronome Technologie

CD4 Signature CD Player

Back in the heady days of the early eighties, a new format arose that promised everlasting perfect digital sound in a world then ruled by analogue. As enticing as that sounded and as much as we wished it to be so, the reality at the time was far removed from the marketing blurb. This digital Big Bang was to change the face of the audio world forever. Having said that, 25 years on, the Compact Disc could in fact be the last hard data carrier in light of the ever-increasing proliferation of digital downloads direct to hard-drives and memory cards.

The post-Bang shock waves had hit the Aussie market by mid-1983 when our shores were further impacted by Pavarotti, Thin Lizzy (my all-time favourite 70s rock band) and David Bowie. And moi, suited in white head-to-toe à la Miami Vice, surrendered that year to Cupid and bid adieu to bachelorhood.

Sony had released the CDP 101 in October 1982. Philips, Marantz and Meridian released their own visions of the new format but first-generation CD players were nothing but valiant attempts to extract good sound from a pre-pubescent technology. These vanguards of the new format struggled to produce an acceptable quality of sound to compete with the analogue establishment. But with the astute and far-sighted support of the software companies, the infant format prevailed and marched onwards to evolve in giant steps to its present golden era.

Nevertheless, I was a late adopter. I struggled against temptation from the digital world for many years. But in the twilight of my own analogue days ten years later, each trip to the music store in 1993 made resistance increasingly futile as I was faced by the ever-diminishing selection of LPs. I finally yielded to the dark side after hearing about a new Sonic Youth release. Landing my X Fighter at the music store pod port, I hurried to the counter with anticipation only to be told that Goo would only be stocked in the CD format. As a special favour, they might be able to obtain a vinyl copy for me. Waiting period 6 to 8 weeks. And dude, don't make it a habit.

I ordered a Marantz CD 50 that afternoon. And you know what? The sound wasn't half bad.

Throughout the 90s, Mark Levinson, Krell and Wadia were the stand-out state-of-the-art examples that later were to become classics. Nowadays, great digital sound can be obtained from entry-level and modest players that make yesteryear's most ambitious and expensive machines sound nearly broken. In the 21st century, SOTA digital players come from such companies as Reimyo, Zanden, Esoteric, dCS, Meitner etc. From the land of the Gauls with famous brands such as Audio Aero, JMlab, Jadis, Triangle and Cabasse, I now present to you Metronome Technologie.

C'est ci bon

Metronome Technologie is a French company founded in 1987 by chief designer Dominique Giner. Dominique and his Metronome team have created a gorgeous piece of industrial design with the CD4 Signature. It sits within the middle of the Metronome range of digital products which also includes stand-alone CD transports and DACs. From the beautifully brushed and curved face-plate and stout chassis to the hefty aluminium remote control to the included trio of Delrin cones and pucks, build quality is second to none. The slider action of the plate covering the disc well is smooth: it glides frictionless, as if on ice skates. Every function, action and physical feature on this player reeks of top quality. The two ergonomic nitpicks would be the oversight of a fast forward/rewind mode which makes mid-track access unavailable and lacking visual indicators for the volume setting if used in 'variable-out' mode (volume control is in the analogue domain and adjustable in 1dB steps over a 96dB range).

Internally the song remains the same—high quality parts, intelligent layout, solidity. The massive separate power supplies include four transformers for the digital, analogue and related sections and ten independent regulating stages. Further, there is a continuous ground link from

Metronome Technologie

Brand: Metronome Technologie
Model: CD4 Signature
Category: CD Player
RRP: $18,999
Warranty: One Year
Distributor: Sensus Pty Ltd
Address: PO Box 52
Vaucluse
NSW 2030
T: (02) 9388 8158
F: (02) 9388 8157
E: murali@sensusaudio.com
W: www.sensusaudio.com

"positive sonic traits such as bass quality, soundstage, imaging, detail, extension and transparency are all a given with this player."

the disc itself to electrical ground for static charge suppression. All operating controls are ergonomically located on the top panel where they are in logical proximity to the top-loading mechanism and keep the fascia clean and simple. The CD4 Signature uses an in-house modified and extensively fortified Philips CDM12 PROII v6.8 mechanism and upsamples information to 24-bits and 192kHz with a claimed 120dB of S/N ratio 'at the converter'.

Around back are the balanced and unbalanced outputs, IEC 240V socket with integral fuse, on/off switch and an SPDIF digital output. In addition we have a small toggle switch for display on/off and another for volume control on/off, a feature that gives the CD4 its 'Signature' tag and which enables it to be directly connected to a power amplifier.

'If there is sin against life, it consists in hoping for another life and eluding the implacable grandeur of this life'—Albert Camus.

Some products impress from the get go. Others need time for savouring and although they don't immediately saturate your palate with a multitude of flavours, they subtly penetrate over a longer period to leave you with an ecstatic aftertaste. The Metronome does both. Initially and immediately, you hear a tremendous amount of frequency-wide detail and transparency that brings out subtleties and nuances previously hidden within the music. Bass is quite massive and superbly detailed and solid. As you settle in for the longer haul and over ensuing listening sessions, yet more subtleties reveal themselves… mainly in timbre and spatially. The CD4 has an uncanny ability to resolve the textures and harmonic content of acoustic instruments. It gives more guitarness to your guitar, more brassiness to your brass and more pianoness to your piano (throw me out of grammar school for that).

The CD4 also has uncanny resolution and separation powers. The rest of the system and the speakers in particular better be of requisite resolving power to transmit what the Metronome is giving. Nothing fazed this player—no matter how complex the music became. Put Tito Puente, Arturo Sandoval and Steve Vai in the same room at the same time and let them rip at full speed. The Metronome won't even raise a bead of sweat. It'll resolve each individual instrumentalist within a solidly formed image yet somehow still retain the musical whole. And Tito will be well served as the dynamic envelope with this player is truly humongous. Whether vocal or instrumental, when the music soars upwards so does the Metronome. It never shies away from the most demanding and loudest of passages and crescendos.

In addition, the CD4 is Ferrari fast, very much in the PRaT Naim style where music flows with toe-tapping speed but even more so in the way that it translates inter-note transient minutiae without obscuring or exaggerating their amplitude. It's the stuff audiophiles relish to hear to confirm a system's abilities. The little tongue and spittle noises, the steel string buzzes, the hammer-felt strike and the creaking floors… even the air conditioning compressor in the pub next door… are all there.

At this level of price and performance, attributes such as bass quality and control are a given. The CD4 dives into the darkest oceanic depths with a white-knuckled grip that—amplifier and speakers permitting—extracts immense amounts of detail and chest-thumping wallop. Woofers will hate it but will just have to cope. Image and soundstage are on par with what I would expect from the best in haute fidelite. I'm talking wide panoramas with perfect image placement. Stage depth is tunnel deep and width is Champs Elysees wide.

One feature I briefly touched upon earlier and would like to examine further is the increasingly prevalent amplifier-direct volume control. Burmester, Mark Levinson, Krell, Wadia and the Bel Canto DAC3 amongst others, are all proponents of this feature. The Metronome handles it a little differently. The CD4 contains two internal preamplifiers, one for each balanced/unbalanced side, and uses polypropylene capacitors providing high bandwidth and low impedance. This of course means level control is done in the analogue domain. Level range starts at –96dB and increases in 1dB steps with a stated maximum gain error of 0.12dB.

If left on stand-by, the last volume setting is recalled, however if you turn the mains off, you start from scratch at the full attenuation of –96dB. Another odd operational quirk is the omission of any graphical interface to visually gauge the position of the volume control. I am afraid you'll be using your ears—which is what this player encourages anyway.

In active volume control mode, the Metronome gives you detail to the max, absolute minimum loss of dynamic contrasts and an impression of utter transparency. What my active Supratek preamp adds to the equation when in the chain is that hard to describe, but immediately recognisable quality audiophiles like to call image body. I'm talking about that roundness and physicality of image and stage. Add to that a little bass weight and power and you begin to savour an even more total sonic buffet.

Barring the foregoing, talking the usual hi-fi attributes with this player is nearly redundant. Attempting it is like isolating a chapter in a literary masterpiece or dissecting into ingredients a Master Chef's banquet. It's all pretty pointless… even petty. Sure, the deconstruction of such elements can teach or inform about the final product but in my opinion, such analysis ultimately takes away from the grandeur of the final whole. The checklist of positive sonic traits such as bass quality, soundstage, imaging, detail, extension and transparency are all a given with this player. More useful would be to mention the increased presence and palpability that is transmitted from the plastic discs. No stone seems left unturned

as the CD4 delivers maximum detail and resolution and proves itself a master of timbre. The impression is one of several veils lifted from over the speaker drivers, tweet to woof. The combination of these elements when reproduced to such a high level of fidelity results in a substantial step closer to live music and the studio event. It's like a Big Brother reality peep show in 3D around your listening chair.

Impossible isn't French

The Metronome CD4 Signature has demonstrated to me what is possible from the digital format at the top tier. What separates players of this calibre from the lower rungs is not necessarily more bass or better treble—although in this case it's certainly so—but more frequency-wide sonic reality top to bottom. Add to that superb build, promised longevity and a graceful design and you have a winner sitting on your top shelf if you can afford it.

Metronome's CD4 Signature—signé, cacheté, a livrer, je suis à vous!

Edgar Kramer

LAB REPORT

Readers interested in a full technical appraisal of the performance of the Metronome Technologie CD4 Signature should continue on and read the LABORATORY REPORT published on the following pages. All readers should note that the results mentioned in the report, tabulated in performance charts and/or displayed using graphs and/or photographs should be construed as applying only to the specific sample tested.

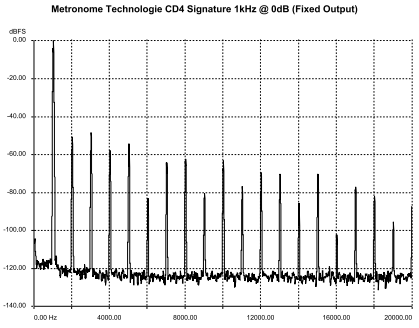
Test Results

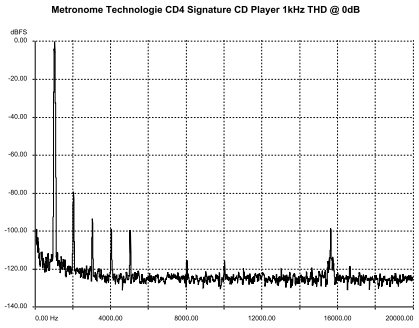
Although the ending was certainly happy, the testing of the Metronome didn't start too well, with the CD4's fixed output exhibiting significant levels of distortion when replaying a 0dB test signal, as you can see in the graph, with odd-order and even-order harmonic distortion components scattered up the spectrum at levels of between –50dB (0.3%) and –80dB (0.01%). It transpired that this distortion was caused by the Metronome's CD4's output stage, not the digital stages, because when the test signal level was reduced just 3dB, most of the components dropped away, leaving only the 2nd at –80dB, 3rd at –90dB (0.003%), 4th at –100dB (0.001%), 5th at –105dB and 6th at –115dB. Dropping the test signal a further 7dB to –10dB left only the second and third harmonic distortion components visible in the output, at –95dB and –98dB respectively. By –20dB, all that was left by way of distortion was the second harmonic component at –105dB, the same as for the variable output when it was calibrated so that 0dB was set at 1 volt out. *Newport Test Labs* reported the level of distortion in the Metronome CD4's output as increasing from levels of 1 volt upwards, until severe clipping—and thus excessive distortion—sets in at 3 volts output.

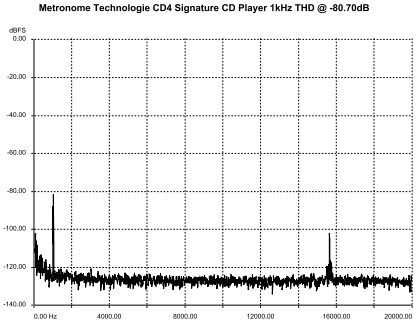
Metronome Technologie really should correct this, so that a 0dB recorded signal can never result in the output stage clipping. It seems Metronome is banking on the fact that it is only test CDs that contain signals at 0dB. All conventional CDs containing music are recorded at around –20dB, with peaks to around –10dB, so as to leave plenty of headroom for peaks. In the course of checking this, *Newport Test Labs* also discovered that in the variable output mode, the circuitry of the Metronome is more prone to external r.f. interference than it is in fixed mode. Look at the two graphs showing the output spectrum at –20dB. That signal just below 16kHz is breakthrough from a near-by TV set. Since the signal is more than 100dB down, this isn't an issue as regards sound quality, even if the CD4 is sitting on top of a TV set. While you're looking at the graphs, you'll also see a difference in the level and character of the noise floor, which occurs because the 0dB signal is referenced differently in the two graphs, to compensate for the different levels of the fixed and variable outputs.

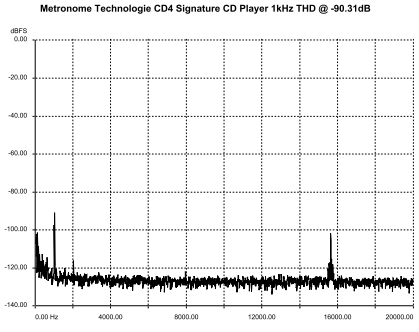
By the time the test signal gets down to –60dB, there's essentially no distortion in the CD4's output, irrespective of output. At –80.70dB (dithered), not only is there no distortion, but the noise floor hovers just above –130dB (and is even 'lower' again via the fixed output). At –90.31dB (dithered), there is the tiniest suggestion of a second harmonic distortion component in the output at –135dB.

The Metronome Technologie's frequency response was near-perfect, as I'd expect. The graph scale of 0.2dB intervals isn't quite sufficient to show fine detail but the normalised response extends from 20Hz to 20kHz +0.02dB/–0.01dB, so overall, it's flat within ±0.015dB. Channel balance was amazingly accurate: 0.0003dB. This was









via the fixed output. The variable output channel balance was not as good, but still excellent at 0.02dB. Channel separation was also outstanding, as you can see from the figures tabulated in the test result table.

CCIF distortion (a.k.a. twin-tone IMD) was very low. There is some regenerated output at 1kHz, but it's nearly 90dB down. The sum and difference distortion components either side of the test signals at 19kHz and 20kHz are nearly 100dB down.

Noise was higher than usual via the variable output (–87dB), improving to 104dB weighted via the fixed output. Linearity error was very low, hovering around 0.02dB at –60dB and 0.04dB at –80dB. You can see the improvement in linearity with dithering by comparing the undithered error at –89.46 and –91.24dB of around 0.15dB with the dithered error at –80.70 and –90.31, at 0.05dB.

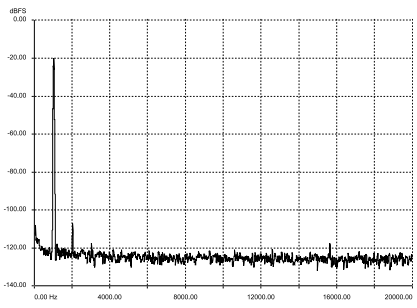
Overall, the measured performance of Metronome Technologie's CD4 is outstanding. However, the fact that although in day-to-day use the output stage's tendency to distort at high output levels is not an issue, I still feel that it either should be corrected or that Metronome Technologie should include some method by which users can ensure the variable output is set as high as possible without introducing the possibility of the output stage overloading.

Steve Holding

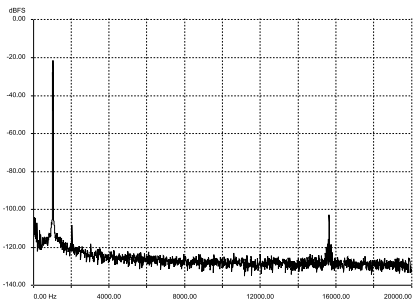
Metronome Technologie CD4 Signature CD Player: Test Results

Analogue Section	Result	Units/Comment
Output Voltage	2.5730/2.5731	volts (Left/Right)
Frequency Response:	+0.02/–0.01	dB (20Hz–20kHz)
Channel Separation:	109/118/118dB	16Hz/1kHz/20kHz
THD:	0.01%	@ 1kHz @ 0dBFS
Channel Balance:	0.0003dB	@ 1kHz @ 0dBFS
Channel Phase:	0.02/0.00/0.15	16Hz/1kHz/20kHz (degrees)
Group Delay	–6.00/+5.49	degrees (1k–20k/20k–1k)
S/N Ratio (No Pre/emphasis)	74dB/87dB	dB (unweighted/weighted)
S/N Ratio (Pre-Emphasis)	74dB/87dB	dB (unweighted/weighted)
De-Emphasis Error	0.17/0.86/0.37dB	(1kHz/4kHz/16kHz)
Linearity Error @ –60.00dB/–70.00dB	0.02/0.03	dB (Not Dithered)
Linearity Error @ –80.59dB/–85.24dB	0.04/0.05	dB (Not Dithered)
Linearity Error @ –89.46dB/–91.24dB	0.15/0.10	dB (Not Dithered)
Linearity Error @ –80.70dB/–90.31dB	0.01/0.05	dB (Dithered)
Power Consumption	19.3/23.4 watts	Standby/On
Mains Voltage During Test	239–251 volts	Min–Max
Digital Section	**Result**	**Units/Comment**
Digital Carrier Amplitude	49mV	Audioband
	899mV/890mV	Differential/Common Mode
Audioband Jitter	1.0	(nS p–p)
Data Jitter	2.7	(nS p–p)
Deviation	+72.3	ppm
Frame Rate	44103.184	
Eye-Narrowing (Zero Cross)	0.0	(nS p–p)
Eye-Narrowing (200mV)	8.1	(nS p–p)
Absolute Phase	Normal	Normal/Inverted
Bit Activity	23	At Digital Output

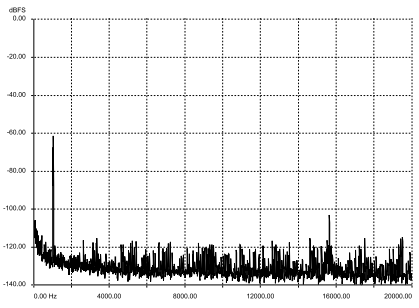
Metronome Technologie CD4 Signature 1kHz @ -20dB (Fixed Output)



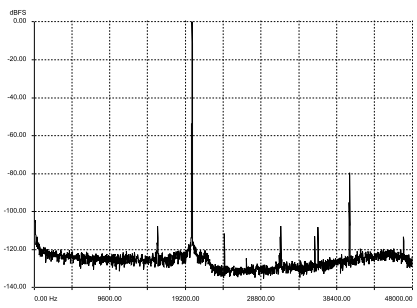
Metronome Technologie CD4 Signature CD Player 1kHz THD @ -20dB



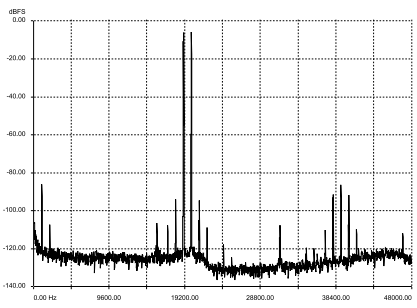
Metronome Technologie CD4 Signature CD Player 1kHz THD @ -60dB



Metronome Technologie CD4 Signature THD @ 20kHz @ 0dB



Metronome Technologie CD4 Signature IMD @ 19/20kHz @ 0dB



Metronome Technologie CD4 Signature Frequency Response at 0dB