

Electrocompaniet EMC 1 MKV

Remember when a CD player was just, well, a CD player? No DAC input, streaming or other digital goodies. Electrocompaniet does – say ‘hello’ to an old-school disc spinner

Review: **Mark Craven** Lab: **Paul Miller**

By coincidence, I started writing this review of Electrocompaniet’s EMC 1 MKV CD player on October 21, which serious film nerds will know is ‘*Back To The Future Day*’, the date, in 1955, that intrepid time traveller Marty McFly (Michael J Fox) arrives in the smash-hit sci-fi movie. Marty has bent the spacetime continuum to head back 30 years, and I had a similar feeling with this silver disc spinner, albeit by a decade or so less and without aid from a DeLorean.

The £4999 EMC 1 MKV is reminiscent of a CD player from another age, because it is just a CD player. Transport, DAC and analogue output stage combine to shunt music from disc to amp, but there’s no other way of making use of Electrocompaniet’s digital conversion circuitry – no optical, no coax, no USB. In the modern hi-fi arena, where almost every CD player you come across is really an outboard DAC with a disc mechanism added for good measure, it feels highly unusual, almost wilfully old-fashioned! The EMC 1 MKV therefore plays to a narrower audience than most CD spinning rivals, though the brand has a respected heritage.

ORIGIN STORY

Norwegian-based Electrocompaniet was formed in 1973 but really broke onto the audio scene in 1976 with a radical solid-state preamp and power amp [The Two-Channel Audio Power Amplifier – *HFN* Dec ’11]. The product line now extends to a preamp and phono stage, integrated, mono and stereo power amps, DAC and CD players, plus a range of wireless speakers and network streamers.

This ‘new’ CD spinner is, of course, the latest generation of its flagship EMC 1 strand, which debuted in 1998 and was last revised with the EMC 1 MKIV in 2016. Electrocompaniet changed ownership

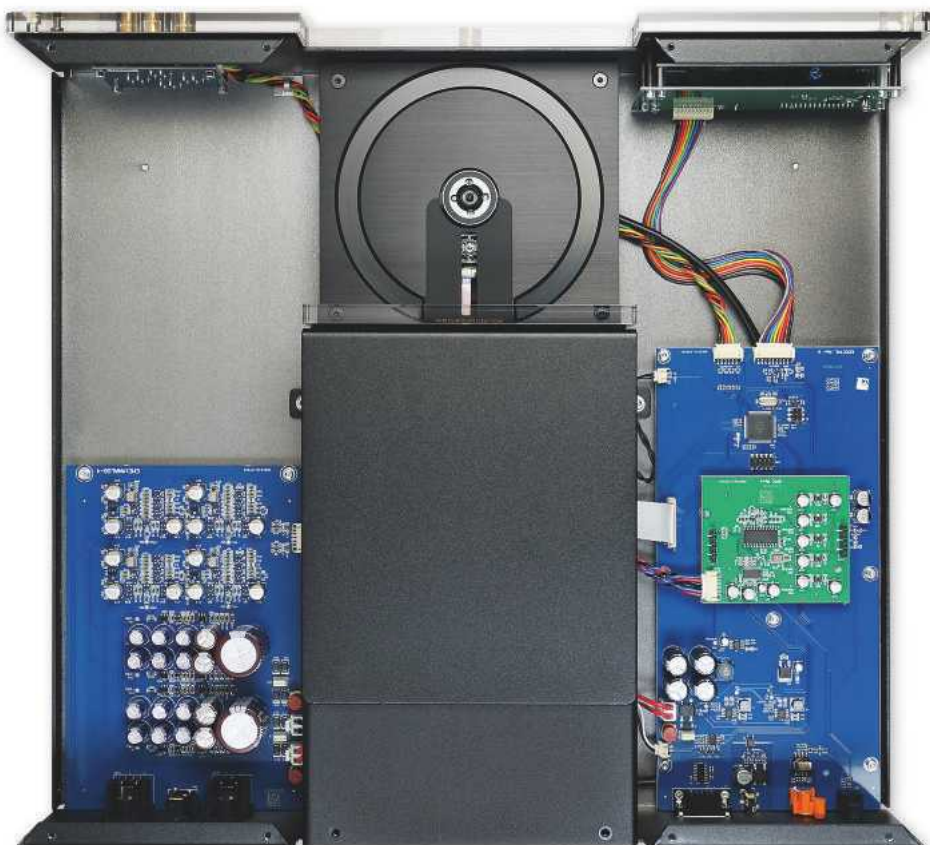
in 2007, being acquired by Norwegian electronics specialist Westcontrol and moving to a new facility near Stavanger, where it designs and assembles all its products. Yet this hasn’t resulted in a change of aesthetic philosophy. Put this machine next to its EMC 1 predecessor and you’d notice little physical difference – although some of the turn-of-the-century catchphrases (‘24-bit High Resolution’) have been scrubbed away, leaving the player’s black Perspex front panel entirely clean of legends beyond the company logo and model name.

The EMC 1 MKV’s acrylic fascia and black steel chassis, heavy at 18kg courtesy of the player’s PSU and mass-damped transport mechanism, is then offset by gold details (including the power button and transport controls). This is a flourish found on

models throughout the company’s ‘Classic’ series, one of which being the ECM1 MKII streaming DAC that Electrocompaniet sells as a system partner.

UNDERCOVER EVOLUTION

Upgrades over the previous generation of EMC 1 are a new (unspecified) drive unit for the player’s top-loading mechanism, refinements to the balanced analogue circuitry that sits downstream of the Cirrus Logic upsampling and DAC chips [see PM’s Lab Report, p61], and improvements to the vibration-cancelling properties of the chassis. Connections are exactly the same, however: balanced XLR and unbalanced RCA, plus coaxial and optical digital audio outputs enabling the EMC 1 MKV to be paired with an outboard DAC, operating in transport-only mode.



RIGHT: A screened PSU [centre] feeds the mass-loaded CD transport [above], the digital board with Cirrus CS8420 upsampler and CS4398 DAC [green PCB, right], and discrete/surface-mount balanced analogue output stage [left]



Back around the front, the display's illuminated blue text is large, making it easy to note track number and time elapsed, and it can be dimmed fully. The supplied plastic remote control [see p61] is less impressive – lightweight compared to the player itself – and festooned with buttons that are of no use here. However, it makes operating the EMC 1 MKV a breeze with keys for direct track access, search, shuffle and various repeat play options.

Before you can get down to the business of enjoying your CD library you have first to free the transport mechanism, as screws and wingnuts are deployed to keep it locked during transit. There's also a gold magnetic 'clamp' puck to be placed on your discs before you can push closed the unmotorised lid. This puck is supplied, but an optional extra is Electrocompaniet's Spider Clamp (£225), a larger, magnetically stronger model available in three different colours. I used both this and the regular

puck during my listening but, quite frankly, noted no substantive performance difference between them.

JUST LISTEN

Having stopped wondering about whether it made sense to release a CD player with no digital inputs this far into the 20th century, and actually started listening to it,

I soon decided the EMC 1 MKV sounded very sweet indeed. We've all heard how the medium can be made to sound like a hashy, unappealing mess but the performance here is the polar opposite. Here's a sound that's consistently

detailed, its resolving power joined by tonal nuance and vibrancy, and a knockout punch to bass, drums and percussive transients. Above all, this is a disc spinner that's respectful of the music.

'At the end it explodes into a timpani smash-and-grab'

CD FROM THE TOP

In practice almost all CD transports employ a 'top-loading' mechanism of some description with the laser reading upwards from beneath the spinning disc. The principle variation lies in how the disc is *deposited* onto the motor spindle, whether dropped in place via a traditional CD tray, drawn in via a slot-loader or, as here, placed manually from above. Exceptions are rare but include the exotic VRDS mechanism developed by TEAC in 1989 – this forced the CD up against the underside of a slightly concaved turntable, precisely centering and damping the disc across its surface while driving it from above. Then there was the superb 'Stable Platter Mechanism' introduced by Pioneer in 1992, supporting the CD (label-side down) on a rubber-coated turntable while reading its silver surface from above.

These exotic variations aside, in almost every type of CD/DVD/ROM drive the audio or data disc is held securely in position by, typically, a lightweight magnetic clamp on the end of a spring-loaded arm, preventing the disc from spinning off the spindle. Manual top-loaders, like the EMC 1 MKV, also use a magnetic puck that squeezes the disc tight onto the motor spindle, although Electrocompaniet has gone a stage further with its optional 'spider clamp' [pictured, above]. This lightweight, magnetic clamp also damps down vibrations at the edge of the rapidly spinning disc, easing the burden on the laser focus servo and subsequent decoding/error-correction. That's the theory at least... PM



ABOVE: With its acrylic front plate and gold buttons enhancing the black steel chassis and blue display behind, the EMC 1 MKV exemplifies the 'Classic Line' aesthetic. Centre lid slides back to reveal a top-loading transport [see below]

I took advantage of the remote's 'Shuffle' key for a randomised listen through Mike Oldfield's 1980 album *QE2* [Virgin Records MIKECD8; HDCD], which sounded supple, expansive and naturalistic through the Electrocompaniet player. The various textures and layers of 'Wonderful Land' were efficiently conveyed, with Oldfield's unique guitar tone and vibrato effects never sounding scratchy or over-emphasised. Separation, both of instruments across the soundstage and from one another, meant it was easy to sit back and appreciate the musicianship at work.

On this track, it was the sheer presence of a trilled mandolin that grabbed my attention, followed by the weighty throb of a trombone. But it was track 3, 'Conflict', that revealed the EMC 1 MKV's ability to deal with complex rhythms and low-end details.

This piece features a repetitive, multi-drum pattern that at first is not so much about slam and drive, more timing ability, but which explodes at the end into a timpani smash-and-grab. It sounded glorious here.

THE PERSUADER

Another UK guitar star, Dire Straits' 'Sultans Of Swing' [*Money For Nothing*; Vertigo/Phonogram 836 419-2], showcased the player's accomplished presentation of fine details, such as drummer Pick Withers alternating between his ride cymbal and hi-hat during the track's verses, and, again, its persuasive rhythmic ability. But also notable was a way with bass that suggests the EMC 1 MKV will benefit from ➞

CD PLAYER



ABOVE: An 'old-school' CD player – no digital inputs and fixed analogue output only on RCAs and balanced XLRs alongside S/PDIF digital out on coax and Toslink optical

partnership with amplifiers and loudspeakers that have both depth and subtlety. Whether the music features a fluid, melodious bassline, as on 'Sultans...', or something darker and more dramatic – a description that suits nearly every piece of Hans Zimmer's score for *Blade Runner 2049* [...*Original Motion Picture Soundtrack*; Epic 19075803092] – the EMC 1 MKV player will dig it out.

It goes without saying that all this sonic goodness is from ol'-fashioned 44.1kHz/16-bit, and, yes, this has its limitations. I've heard Kate Bush's 'Babooshka' [*The Whole Story*; EMI CDP 7464142] brought to life with a greater sense of space and treble 'air', especially as regards her mesmerising vocal, but that doesn't mean this CD sounded anything other than wholly enjoyable.

There was a wonderful feeling of balance to the EMC 1's portrayal of the track's instrumentation, giving a very natural feel to the fretless bass parts and piano backing, and a soundstage that offered appreciable width but didn't soften the edges of Bush's central presence.

Typically, and even with the most mundane of tracks, this player's performance lured me in. George Ezra's sophomore album *Staying At Tamara's* [Columbia/Sony Music 88985459782] is 38 minutes of



LEFT: EC's system remote combines input and volume for its amplifiers and direct track access, track skip/scan, repeat and display adjust for the EMC 1 MKV player

mostly throwaway pop music, but in the hands of this spinner I found it remarkably comforting. Nothing sounded out of place as the EMC 1 MKV gave equal prominence to vocals and accompaniment, gently lifting Ezra out from the radio-friendly melange of acoustic guitars, samples and mid-tempo percussions.

TRIED AND TRUSTED

The EMC 1 MKV is an intrinsically 'organic-sounding' player, testament perhaps to Electrocompaniet's decision to fine-tune a tried-and-trusted design and not muddy the water with an all-new approach. The old 'ain't broke, don't fix', if you will. There's also a sparkiness to it that comes from both its sense of dynamism and creditable detail. So while it sounds silky smooth when needed, it's not dull with it.

There's also something of an experience about using the EMC 1 MKV which brings it closer to the ritual of LP replay than you'll get from a conventional drawer-loading design. It'll bring a smile to your face if, like me, you usually spend (or should that be waste?) time in your music sessions fiddling with network streaming and app interfaces. ☺

HI-FI NEWS VERDICT

A CD player and nothing else – there aren't even digital filters to experiment with, let alone inputs – Electrocompaniet's EMC 1 MKV isn't meant to be the hub of a multi-format system. Yet silver disc collectors will find their library is in very safe hands, as this fifth-gen flagship makes CDs sound thrillingly musical, and does so from a glamorous, well-engineered machine that's a real pleasure to use.

Sound Quality: 83%

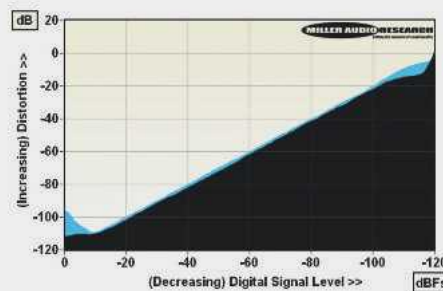


LAB REPORT

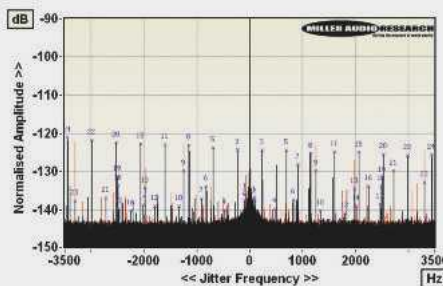
ELECTROCOMPANIET EMC 1 MKV

The little green daughter board [see inside picture, p58] is a real blast from the past – a combination of Cirrus Logic's (née Crystal's) CS8420 asynchronous upsampler with the once-ubiquitous 192kHz-compatible CS4398 DAC. The latter is still going strong after some 17 years on the books while the former was obsoleted in 2019... Nevertheless the pair put up a very strong performance, supplemented in no short measure by Electrocompaniet's discrete and fully balanced output buffer that delivers a maximum 4.38V output from a moderate 139ohm source impedance. White noise is low too, and despite some spurious/idle tones at 710Hz, 2.03kHz and 3.36kHz, the player still delivers a robust 111dB A-wtd S/N ratio (113dB would be achievable). Low-level linearity is excellent too with errors of just ± 0.5 dB over a full 110dB dynamic range suggesting a resolution of some 18-bits for dithered 16-bit CD data.

Cirrus Logic's high-order linear-phase digital filter has been selected in this implementation, endowing the EMC 1 MKV with a ruler-flat response (just $+0.00/-0.02$ dB from 20Hz-20kHz!) and a near-total 112dB suppression of stopband distortions. This is traded, as always, for more significant pre/post echoes in the time domain. Conventional harmonic distortion falls to a minimum of $\sim 0.00035\%$ at -10 dBFS, increasing slightly at the player's peak output, but the close matching of this distortion regardless of frequency [see black/blue traces, Graph 1] is encouraging from a subjective standpoint. Digital jitter is low too at ~ 135 psec [see Graph 2, below], showing a mere 20psec of peaks unrelated to the baseline inherent with the 16-bit J-test [mkrs 3, 5, 8, 11, 15, 20, 22 and 24]. Finally, the 'dual mono' analogue layout yields a fine >110 dB channel separation. PM



ABOVE: Distortion versus digital level over a 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: Digital jitter with 16-bit/44.1kHz data (left, black; right, red). 16-bit baseline is ~ 115 psec

HI-FI NEWS SPECIFICATIONS

Maximum output level / Impedance	4.375Vrms / 139ohm (XLR)
A-wtd S/N ratio	110.9dB
Distortion (1kHz, 0dBFS/-30dBFS)	0.0009% / 0.0025%
Distortion & Noise (20kHz, 0dBFS/-30dBFS)	0.0032% / 0.0035%
Frequency response (20Hz-20kHz)	$+0.00$ to -0.02 dB
Digital jitter	135psec
Low-level resolution (-100 dB/ -110 dB)	± 0.3 dB / ± 0.5 dB
Power consumption	13W (1W standby)
Dimensions (WHD) / Weight	470x118x422mm / 18kg