

The 10-Series Digital Family



Cutting-edge from Inception

The C10 DAC marks the beginning of your journey to CH Precision's ultimate digital front-end. Built on our modular design ethos, this two-piece DAC redefines what's possible for digital front ends—even in its simplest form.

The C10 builds on the proven PCM1704 converter chip, now implemented in a sophisticated dual-differential DSQ™ Phase Array. Sixteen converters—four per polarity—are directed by our proprietary PEtER algorithm, a 32-bit fixed-point DSP engine that precisely conditions the digital signal for the final 24-bit conversion. Data is fed sequentially across the array, a structure that demands impeccable clocking and algorithmic control. With oversampling extended to 64x, the C10 achieves a new threshold of time-domain accuracy and musical refinement. Following the conversion process, our Bessel filter preserves the analog signal's temporal integrity, maintaining constant group delay to a tolerance of under two femtoseconds.

To achieve this performance, we redesigned the power architecture and physical construction. Housed in a separate enclosure, the C10's power supply utilizes eleven ultra-stable DC feeds, which supply four galvanically isolated zones inside the audio unit: digital, clock, and dual DACs. A symmetrical layout places input cards at the center and DACs on either side, each with matched clock paths.

With the C10, CH Precision created a digital source that transcends measurement and specification—one that breathes life into music with effortless realism, depth, and emotional connection. The C10 reveals not just the detail in a recording but the intent behind it, drawing the listener closer to the original performance. It is the culmination of decades of refinement in digital design and the embodiment of CH Precision's unwavering pursuit of musical truth.



A Clear Path to Greater Realism



The Architecture of Advancement

True to the design philosophy behind every CH Precision component, the 10-Family of digital components are inherently modular—designed to offer meaningful performance upgrades. Transitioning from the standard C10 to the C10 Mono requires only the addition of a second power supply.

Separating the power supplies ensures independent regulation for each DAC board and each analog section, fully preserving galvanic isolation between channels. This configuration maximizes the performance of the C10's four discrete power domains—reducing noise, enhancing stability, and unlocking a new level of musical performance—greater transparency, improved dynamic expression, and a more profound sense of presence and spatial retrieval. It's a significant step forward in sonic realism, delivered with architectural grace.

Additionally, the C10's software-based architecture defines its extraordinary performance today and ensures its relevance for years to come. It establishes a new reference for musical realism, adaptability, and longevity—offering its owner not just a product, but a lasting partnership shaped by continual discovery and enduring musical satisfaction.

Digital Control and Analog Purity

In the pursuit of ultimate fidelity, CH Precision introduces a critical architectural innovation: the physical and functional separation of digital processing and analog conversion. By isolating these operations into two purpose-built chassis—the C10 Conductor and the C10 Master DAC—CH Precision achieves a new standard in noise suppression, timing accuracy, and musical integrity.

The Master DAC, free from DSP-generated high-frequency noise, focuses solely on digital-to-analog conversion. It receives upsampled audio data and clock control instructions from the C10 Conductor via the proprietary CH Link digital connection, transmitted in low-noise LVDS format. Acting on these precise commands, the C10 system’s temperature-stabilized master clock, integrated within the C10 Master DAC, harnesses CH Precision’s sophisticated DSQ phase-shifting technology to transform digital audio data into analog signals with unparalleled precision.

The C10 Conductor acts as the digital control center, managing source selection, analyzing incoming signal phase and frequency, and performing synchronous upsampling through multiple DSP modules. Based on its real-time analysis, the Conductor provides precise clock adjustment commands to the Master DAC, maintaining optimal time-domain performance..

The C10 Conductor is supplied by its own dedicated PSU, while the Master DAC may be configured with either a stereo or dual-mono power supply, enabling a clear upgrade path and enhanced channel separation.

This deliberate separation of functions reinforces system stability while uncovering deeper layers of texture, nuance, and emotional truth—connecting you with the full expressive intent of the original performance.





MORSE

Mechanically Optimized Reading & Stability Enhancement

The D10: A Transport Without Compromise

The D10 enhances the already industry-defining foundation established by the D1.5, thoughtfully integrating crucial insights from its sibling to fundamentally redefine the capabilities of optical disc data retrieval.

At the heart of the D10 is CH Precision's innovative MORSE (Mechanically Optimized Reading & Stability Enhancement) laser mechanism. Entirely designed and engineered by CH Precision, MORSE sets unparalleled benchmarks in mechanical precision, stability, and data extraction accuracy. Improving upon the single-material design of the D1.5, the D10's suspended reading block employs a sophisticated composite construction—an aluminum skin encasing a dense brass core—that significantly enhances vibration damping properties and overall mechanical robustness. Supported by alpha-gel isolators and weighing an impressive 13 kilograms, over ten times heavier than its predecessor's mechanism, MORSE effectively suppresses vibrations below 20 Hz, significantly reducing mechanical noise and preserving the integrity of the digital signal.

Further refinement comes in the form of a precision circular level, strategically mounted directly onto the transport. This critical detail allows for exact calibration of the optical pickup rather than the chassis, optimizing rotational stability and ensuring precise disc tracking. CH Precision's commitment to engineering exactitude uncovers subtle musical nuances and temporal precision obscured in less sophisticated designs, elevating overall sonic performance.

Silence. Stability. Sonic Truth.

A motorized top-loading mechanism provides vertical access to the Disc Vault, sealed by a hybrid-action door that reflects the same engineering precision and intent found throughout. Every mechanical choice has been made in service of the music—capturing each disc with absolute accuracy and unlocking a level of resolution, space, and natural expression that redefines what optical playback can achieve.

Like all 10 Series reference components, the D10 Reference Transport utilizes a dedicated external power supply. Engineered with exceptional current and voltage reserves comparable to those of many power amplifiers, the D10 PSU delivers stable, ultra-clean power to the transport mechanism, minimizing noise and preserving digital signal integrity.

Four galvanically isolated domains independently supply the transport motor, control, DSP, and master clock, eliminating crosstalk and ensuring pristine electrical conditions. Cascaded regulation throughout guarantees consistently clean, stable current to every subsystem. With a total mass of 66 kg (145 lbs) including the power supply, the D10 firmly establishes itself as the ultimate heavyweight in digital reproduction.

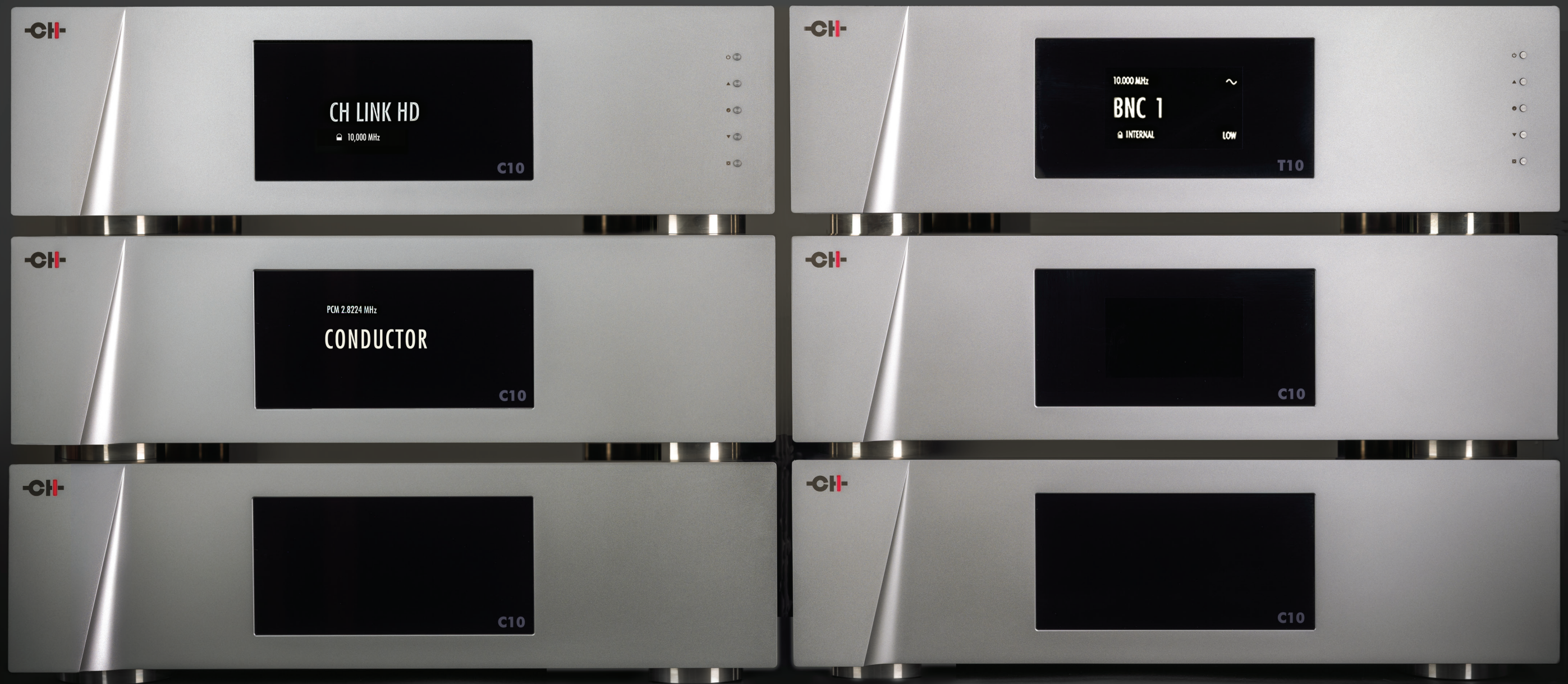
CH Precision's unwavering dedication to engineering integrity guarantees precise, flawless data retrieval from SACD, CD, and MQA CD optical discs. Laser tracking accuracy is maximized, read errors are minimized, and time-domain integrity is preserved. The sonic result is profound musicality: enhanced transparency, expanded soundstage depth, greater low-level detail, and authentic timing and flow, revealing the emotional depth and nuance of every recording.



Master Clock. Master Performance.

In digital audio, precision in the time domain is not simply desirable but essential. Every sample, each microscopic data point, must arrive in perfect sequence and at precisely the correct interval. The C10 Master DAC already incorporates state-of-the-art clocking, improving further when paired with the C10 Conductor. Adding the T10 Master Clock elevates timing accuracy to an even higher standard, unlocking greater clarity, coherence, and musical expression. The T10 produces a hyper-accurate, low-jitter clocking signal with vanishingly low phase noise, ensuring digital data is transferred and converted with unwavering stability.

Pairing a transport with a separate DAC can introduce timing errors caused by independent clock domains. Even slight discrepancies can result in jitter, diminishing resolution, and musical coherence. The T10 Time Reference Clock addresses this by providing an ultra-stable timing source for the entire system. Its 10MHz oven-controlled oscillator (OCXO) is renowned for low phase noise and is thermally stabilized within a solid billet aluminum block to ensure consistent performance. Referencing all digital components to the T10 reduces timing errors, unlocking deeper resolution, spatial precision, and musical flow.



The Architecture of Musical Truth

The CH Precision 10-Series reimagines the digital front end as a modular, synergistic ecosystem—one where each element contributes to a greater whole. From the C10 DAC's transformative DSQ™ Phase Array DAC architecture to the D10's MORSE-driven transport, the intelligent digital control of the C10 Conductor, and the absolute temporal precision of the T10 clock, every component is designed to reveal not just the sound but the soul of a recording. The 10-Series is digital reproduction redefined—rooted in science, realized through engineering, and elevated by a single aim: to bring you closer to the music than ever before.





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