



MUTEC launches Empyrean Class series with REF 10, an audiophile 10 MHz reference clock generator

July 2017, Berlin. MUTEC GmbH, manufacturer of professional and audiophile consumer audio equipment, proudly announces the REF 10 - the audiophile 10 MHz reference clock generator.

The MUTEC REF 10 is an audiophile reference master clock generating 10 MHz signals to significantly improve digital playback systems. Engineered around a handcrafted, ultra-low phase noise (i.e. jitter) oven-controlled oscillator (OCXO) made in Germany, it delivers industry-leading performance and exceptional sound quality. As the conductor of your digital audio orchestra at home, the REF 10 will inspire with unheard-of clarity, graceful dynamics, and pure music. It is the most flexible, most compatible 10 MHz clock on the market allowing customers to spend less time worrying about integration and leaving them with more hours to enjoy blissful playback.

"Currently available digital converters, master clocks, and audio re-clockers perform acceptably when reproducing or processing digital audio. Even so, we felt that existing solutions fall short of delivering the full potential of audio productions. In our commitment to advancing the state of the art and science we set out to investigate the possibilities to further enhance the performance of digital audio systems. To do so, we recruited one of Germany's most renowned RF engineers to join our R&D team. Together we developed a master clock generator with a technical performance beyond what we thought could be possible. The effects of the technical performance were then verified by a group of experienced audiophile beta testers to ensure that the high-end performance translates to best-in-class sound."

Christian Peters, CEO

The final result of MUTEC's extensive efforts is the REF 10: a superior 10 MHz reference master clock and the first Empyrean Class product combining uncompromising engineering with the beauty of simplicity and the utmost clock precision.

Key Features

- Improves and enhances compatible DACs, audio re-clockers, music servers, and master clocks
- Engineered around a handcrafted, ultra-low phase noise OCXO made in Germany
- Eight galvanically isolated, individually switchable BNC clock outputs with 50 and 75 Ω impedance for maximum compatibility with clocks and DACs by other manufacturers
- Revolutionary, sub-Hz optimized, lowest noise power supply for every circuit section
- Highly efficient power line filtering
- Integrated, highest-quality international linear power supply
- 3-year extended manufacturer-guaranteed warranty

Due to its ultra-low noise characteristics and its unrivaled flexibility the REF10 can enhance the audio quality of compatible D/A converters (DACs) and re-clockers, music servers, and audio clocks to the highest possible level. It is the perfect match and ideal upgrade for MUTEC's 10 MHz ready products like the MC-3+ and MC-3+USB Smart Clocks. Eight simultaneous clock outputs at both 50 and 75 Ω impedance allow using the REF10 in combination with not just MUTEC products, but also 10 MHz compatible products by all other third-party manufacturers, such as Esoteric, dCS, or SOTM, for example.



Two 50 Ω outputs and six 75 Ω outputs make the REF 10 the ideal centerpiece for digital setups of any size.

MUTEC's research has shown that the high clock stability of so-called "atomic clocks" based on a rubidium or cesium oscillator is limited to the long-term time domain. While this long-term stability may be useful for some telecommunications applications, it is essentially irrelevant for digital audio purposes. Instead, it's the short-term stability measured as jitter or phase-noise that really matters for high-end audio. In contrast to these "atomic clocks" then, the REF 10 is engineered around MUTEC's handcrafted, oven-controlled oscillator (OCXO) made in Germany, featuring highest clock stability in the time domain relevant for audiophile digital audio performance.

As the centerpiece of a digital system the REF 10 will unlock a more dynamic, more transparent sound stage with exceptional spatiality and level of detail, free from any digital blur. For all music enthusiasts reaching for the pinnacle of signal purity, audio quality, and clock precision, the REF 10 is the must-have expansion to conduct your digital playback chain.

The REF 10 was premiered at the Munich High End show this past May and will be available for a list price of **3598.00 €** including German VAT at the end of **July 2017**.



Applications

- As an audiophile performance enhancement for compatible DACs, master clocks, and re-clockers by any other brand
- As an ultra-low noise, high stability clock reference for the entire digital audio chain at home or in the studio
- As an ideal high-end upgrade for MUTEC's own MC-3+, MC-3+USB, and iClock/iClock dp master clocks
- To stabilize existing audio clock generators

About the Empyrean Class

MUTEC's Empyrean Class reflects the company's commitment to HiFi in its most sophisticated form. This series combines uncompromising engineering with the beauty of simplicity and utmost precision. Apart from exceptional sound performance these products feature a streamlined interface with fewer parameters and user-friendly operation. Any Empyrean Class product is an investment in highest audio quality "Made in Germany" - an aspiration reflected by our extended manufacturer-guaranteed warranty of three years.

About MUTEC

MUTEC is a leading manufacturer of high-quality A/V master clocks, audio re-clockers, interfaces, format converters, and signal distributors for professional and audiophile consumer audio applications. Focusing on improving digital audio reproduction and transmission processes, MUTEC's 1G-Clock Technology raises the bar for ultra-low jitter clock generation industry-wide to an unparalleled level of performance. Based in Berlin, Germany, MUTEC is dedicated to setting new standards in sound quality, clock generation and digital audio signal processing, enabling customers to realize their visions of the perfect sound in their environments.

MUTEC products are installed in leading-edge broadcast and television stations, well-respected recording and mastering studios as well as renowned musical theatres, opera houses and universities all over the world. The new line of audiophile consumer products takes our experience from the broadcast and pro audio world into the listening room at home to provide an unprecedented music experience.