



I owe my key experience in audio clocking to Dutch sound engineer Bert van der Wolf. His demos had always sounded great, but one sentence gave me food for thought: »With my new professional clock I can finally hear those delicate resonances which otherwise only the cembalist can perceive during performance.« Back then I had gathered experiences with Mutec's MC3+ digital interface which can re-clock and thus stabilise digital data streams using its own oscillator. Because any deviation from the accurate digital clock will result in sound losses. For this reason tuning to a common clock has been usual practise in the studio domain for quite some time whereas in the hi-fi sector only a few companies deal with this matter.

The 10 MHz technology uses a high-precision quartz oscillator for the master clock. Already Mutec's first 10 MHz generator REF 10 received a positive echo. With the new top model REF 10 SE 120 its performance has reportedly been increased once again by a rigorous selection of the quartzes. The reduction of the phase noise that's hidden in the digital signal is of paramount importance, as Mutec CEO Christian Peters explains. For this purpose ultra precise quartzes are selected and kept at »oven« temperature so that they achieve their optimum oscillation behaviour at the »turning

## Clock Master

Mutec's Clock REF10 SE120 synchronises digital components tactfully. Will it be able to eliminate the phase noise?

point«. According to the specs sheet the REF 10 SE 120 reduces the phase noise over a wide range to -170 dBs.

The Mutec is easy to install: owing to its eight BNC sockets, six units can be synchronised via a 75-ohm and two more via a 50-ohm clock input. The »Ready« LED indicates when the ideal operating temperature is reached. That's it. Yet so far not many hifi devices have a 10 MHz input, the manual lists about 30 companies such as dCS, Esoteric, and Mutec itself. Owners of a CD player/drive, streamer or DAC with no clock input can e.g. use Mutec's MC3+ interface (with or without USB input) as a docking point. So I ran a digital cable from the Oppo player and another from the Auralic streamer to the MC3+, and from there a digital link to the Bryston converter. Parallel to this (for the comparisons) two more digital cables from the Auralic and

the Oppo straight into the Bryston. The MC3+ got the master clock data from the SE 120.

The Mutec clock doesn't conjure a good recording from a bad one, but the impression was always stunning and reminded of shootouts between music in the 16/44 format and the master tape version. A good 16-bit version often has a spectacular effect because the instruments are craving for attention, something they won't do with HighBit. Here we'd rather perceive the notion of a coherent sound stage on which the instruments are smoothly playing together.

On Simon Rattle's early »Jazz Album« with charlestons from the roaring twen-

### Mutec REF 10 SE 120

WxHxD	20 x 9 x 30 cm
Warranty	2 years
Price	5.498 euros
Distribution	Mutec GmbH Siekeweg 6-8 12309 Berlin
Phone	0049 - 30 - 74 68 80-0

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ties (EMI), the stabilised version – despite the finer sounding HQ-CD from Japan – even raised the bar a bit higher: now the musicians were sitting in a contiguous room, and while a drumstick hit on the hi-hat first seemed to me like a funny gag, now, enriched by plenty of metal timbres, it appeared to be simply more authentic. Sir Simon was also present when it came to streaming: with his London performance of Beethoven's oratorio »Christ on the Mount of Olives«. Choirs, especially when convoluted, pose a challenge to many sound systems, and here the henchmen were also gasping a little exhaustedly up onto the Mount of Olives. In spite of the higher quality 96/24 variant from Qobuz, the low male voices still seemed to be

shrouded by a fine, harsh mist. Which cleared up over the 10-MHz clock; the voices came more natural and the text had a better intelligibility. Gains were often noticeable in the harmonic sphere and with timbres as well, but once heard the effect will always be conspicuous.

Similar things happened with the Hymn of Praise by Mendelssohn featuring Thomas Fey (Hänsler, 16 bit). Here a large choir, an orchestra with tympani and trombones and an organ had gathered auguring pure sonic force. Owing to the REF 10 SE 120, the choir showed a more natural imaging and the adrenaline of the performance was conveyed more intimately, including goosebumps.

Even the latest New Year's Concert with Muti (Sony) benefitted from the 10-MHz treatment. With the dynamic »Stormy in Love« polka a crescendo on the large drum sounded just more threatening over the Mutec.

## Result

In its latest selected SE 120 reference version, the Mutec REF 10 clock generator, which is elaborately manufactured in Germany, provides a remarkable sonic gain in sound systems with digital components. Using Mutec's MC3+ digital interface (from 700 euros), it can also be used in systems whose components have no proprietary 10-MHz clock input. The price is reasonable. *Ludwig Flich* ■

# MC3+



# MUTE C