



»Pimp my Studio«

In a time when even devotees of the old analogue era can't do without the benefits of modern computer based music production and when prohibitively expensive and bulky mixing desks have to make way for compact mobile recording systems, many project studio owners settle for superficial knowledge about technical backgrounds of the new digital world and only take note of one or two myths about tonal good or evil, for in the end they only wanted to concentrate on making music.

Besides the extensive discussion in this magazine about the difference between analogue summarizing and the mix "in the box", one of the favourite myths relates to the tonal effect that these external clock generators create. While some remain mildly cynical, from my own experience these devices should not be underestimated, particularly in a semi-professional array.

I could not believe that there would be any

tonal difference when I first heard that with good external clock timing even reasonably priced converters or audio interfaces could exploit their full potential. For a test I plugged such a device into my Digi 003 and I instantly realised that a proper clock generator actually shapes the sound in a setup. Even during the monitoring process it became evident that it adds an immense amount of brilliance and depth to the sound while it positively influences track bouncing in a computer and has a crucial impact on the actual recording.

What does such a box actually do?

In the present digital era we finally have to accept only sections of analogue templates. Sections that, while being converted from analogue to digital, are stored as binary codes on data media, being more or less detailed average values (bit depth) in certain time intervals (sample rate) and which then are re-translated in the final D/A conversion.

In every digital audio system, regardless of high- or low-end, the time intervals of this rasterization are generated by clock generators of which some simply work more precisely than others, affecting the overall sound in an often unexpected way. You will find more relevant information elsewhere in this magazine.

The ambitious project studio owner tends to spend more of his hard earned cash on microphones, preamps, plug-ins or instruments rather than on a studio clock that is more expensive than the applied interface. This raises the question: do more affordable alternatives to the popular high-end clocks exist? Alternatives that not necessarily have to supply a whole studio complex with countless signals but get the last bit of brightness out of a home or semi-professional system and soon become so vital that you cannot do without them anymore. That's where the MUTEC MC-3 SMART CLOCK enters the scene.

Being the smallest clock of the Berlin manufacturer, it comes in a sturdy 9,5" 1U casing with a

dark blue front panel. Its design is dominated by 26 status LEDs. The MC-3 offers numerous connections on the front and back panel and can be operated by just two pushbuttons.

Next to the IEC socket and the recessed switch for the internal mains adaptor at the rear, we find six Word Clock ports, two AES/EBU outputs plus an optical and a coaxial S/P-DIF output.

Two additional Word Clock jacks on the front panel give the MC-3 a functional look and once that it is mounted in a rack you will never have to crawl behind the rack when you want to supply a clock signal to an additional device.

Operating the MUTEK MC-3 is extremely intuitive. The "Menu" button selects one of the LED lines while "Select" changes the corresponding parameter. The first LED line shows the selected basic sample rate between 32 kHz and 192 kHz. The outputs of the other six lines can be multiplied by pairs with the factors 1, 2 and 4 to set the clocks for one linked device with 48 kHz and for another one with 96 kHz.

For the Word Clock outputs, the so-called "Super Clock" format (for older Pro Tools systems) is selected by the factor 256. Once that you have decided which formats and links to use, you only have to select the sample rate then switch the applied hardware to external clock and the SMART CLOCK starts working.

For the test I monitored an actual CD quality chart hit in Pro Tools LE, bounced an excerpt from

one of my own multi track productions and added an acoustic guitar. Recording first with an internal time clock and then with the MUTEK SMART CLOCK, I kept a close eye on a near perfect reproduction of my guitar performance and on the exact microphone position.

During the monitoring and the bouncing process only a subtle difference was perceptible but when it came to a comparison between the guitar takes, the effect was undeniable. In all three scenarios the treble content was affected by the external clock. The presence and the overtones came into their own and the total aural impression was more open and transparent. In comparison with the MUTEK MC-3, the whole recording with an internal clock sounded muffled, almost like hanging a blanket over the speakers. The same effect was noticeable with LOGIC in combination with a budget-priced audio interface.

Even with a limited budget, the MC-3 SMART CLOCK offers a well audible upgrade in sound quality for your system at a similar price to a mid range condenser microphone and helps to improve the interaction between different digital components (e.g. interface and additional pre-amp with built-in converter) with its stable external clock.

The MUTEK MC-3 is a professional product that gives a high-end performance at a semi professional price level. Now even users with limited funds and a mobile native system can give their recordings the shine they strive so hard to achieve!

Conclusion:

Anyone who currently has good signal chains and wants to improve their sound quality even further, should think about purchasing a master clock that delivers especially with affordable systems more depth and clarity during the A/D and D/A conversion.

In terms of price the MUTEK MC-3 SMART CLOCK stands shoulders above its competitors and would definitely be able to enhance even more complex systems.

For more information please visit: www.MUTEK-net.de

