

Chapter 7

Digital Playground

The 1980s saw digital technology make huge inroads into the making and producing of music. The invention of the CD saw the first mass-market digital form for the dissemination of music unveiled at the Salzburg festival in 1980. The eighties also saw digital technology integrated into Live-Looping,

Digital Delay

Although digital delays circuits were available in the 1970s, consumer digital delays didn't become commercially viable until the 1980s, when the cost of the components used to make these units reached a commercially viable level. Looping became directly influenced by digital equipment when a series of digital delay units (often called sampling delay) could do the sort of looping associated with the Riley tape-delay set-up. Of these digital delays the Lexicon PCM42 was perhaps the most popular for serious looping. Originally designed by Gary Hall in 1981-82 Hall went on to customize these units into looping devices of great potential. The Lexicon in expanded form was capable of delay times that exceed 60secs, reverse playback, pitch bend and had a pulse output that could be synchronised to drum machines etc. The 1980s also saw the explosion of Digital sampling with the Emu Emulator released in 1981 and then the first affordable sampler from Ensoniq called The Mirage in 1985. It is interesting to note that the popularity of the sampler lead it to be called the instrument of the 1980s where as the Live-Looper (essentially a live sampler) never really took off. Lexicon made one further Live-Looping product the affordable Jamman released in 1993 which was soon dropped

due to lack of sales. Lexicon has since refused to re-enter the Live-Looping market due to a perceived lack of demand.

The significant advantage of digital units like the Lexicon PCM42 over analogue tape delay was the ability to vary the delay time over a large range of values. This was of great significance to Live-Loopers as previously the delay time had been essentially locked to the physical distance between the tape-delays record and playback head. Even with the variable speed functions of the recorders it was still hard to get a wide range of loop times from one physical set-up. Digital loop device's portability and the instant accessibility of the features via foot controllers allowed players to interact with their loops in a way that was previously impossible. Hall also created a clock output to allow the PCM42s looper to be synchronised to external drum machines and synthesizer arpeggiators. This represented an incredible vision on Hall's part. Using a PCM42 a drum machine and a synthesizer Hall states, "I had an amazing playing rig that could build big multi-track layers of precisely locked rhythm's and chordal parts which I would solo over." This was before the invention of midi and was therefore breaking new conceptual ground within the field of music technology.

Users of the PCM42 read like a who's who of looping and included David Torn, Andy Summers, Matthias Grob and Pauline Oliveros. Oliveros said this of the PCM42, "The PCM42 is a real performance instrument. It was possible to change delay time with foot pedals, which allowed the bending of delayed sounds. (Not easily accomplished with tape delay.) Other functions included mix control, feedback and capture could be accessed by pedals as well."¹ Oliveros would go on to transform the PCM42s into the

¹ p10 Oliveros, Pauline. *The Roots Of The Moment* (New York: Drogue Press, 1998)

Expanded Instrument System where multiple PCM42s were controlled via a digital interface (a Macintosh computer running MAX software). It was Oliveros's intention to go beyond the physical limitation of what could be achieved with a foot controller. The result of this can be heard in her piece called 'The Lightning Box' for four performers.

The Paradis Loop Delay

The next significant development in digital looping happened in 1991, with the release of Matthias Grob's Paradis Loop-Delay. Grob had this to say about his creation "When building my machines my aim is to make them more musical than logical, giving you intuitive access so that your creativity may flow."² The Loop Delay's advanced synchronisation facilities allowed the user to sync up multiple units to each other, allowing multi-track looping in the digital domain. It also had several new functions such as insert, multiply and undo which greatly increased the options for live-composition. The Loop-Delay was eventually licensed by Gibson and became the Echoplex Digital Pro (E.D.P.) and is still some 12 years after its invention, the most sophisticated hardware Live-Looping device available (The user list of the Echoplex reads like a who's who of Live-Looping).

The designers of the E.D.P. have also been responsible for many of the new aesthetic developments in Live-Looping. The innovative contemporary looping artist Andre Lafosse talks about Kim Flint (one of the Echoplex designers) as being the biggest influence on his music saying,

² <http://www.loopers-delight.com/musings/Matthias/matthias-loophistory.html> Grob, Matthias. *Some Loop History and Origins*.

Kim was talking about granular looping and modern dance/DJ culture as key influences on his E.D.P. concepts years before I finally got around to using those principles to find my own voice on the Echoplex. As far as I'm concerned, Kim's my biggest looping influence - because he challenged people to go beyond ambient Frippertronics, and because he laid the necessary technical foundation in the EDP for me to find my own personal path out of that paradigm. In a lot of ways, I still feel like I'm playing catch-up to the ideas Kim's had for ages.³

Therefore it can be seen that to a certain extent the direction and continued creative evolution of Live-Looping can be put down to the creative design work that has gone into the Echoplex Digital Pro.

Summation

So the advantages that digital technology brought were portability, easily independently variable delay times, multiply and undo functions and more recently real time time-stretching and pitch shifting. Digital technology has also brought mass-market affordability to the Live-Looping public with basic looping devices now retailing at little more than a hundreds pounds. Looping patches are also beginning to become a standard feature on guitar effects units demonstrating the rising popularity of this form of signal processing.

³ Andre Lafosse via private email, 12/5/2003