# LOOPING

BY BARRY CLEVELAND

THE USE OF REPEATING SECTIONS OF AUDIO— or loops—has become a fundamental aspect of contemporary music production. Rap, hip-hop, and electronica, for example, could not exist in their present form without digital sampling and the looping techniques it has engendered. Looping as a real-time performance technique, however, predates digital technology by decades, and, as a perusal of online music forums will confirm, an increasing number of musicians are getting loopy.

Equipment manufacturers, too, have redoubled their support of the art. At the 2006 Winter NAMM show, significant new looping devices were introduced by Boss (RC-50 Loop Station), Digitech (JamMan), Electro-Harmonix (2880 Super Multi-track Looper), and newcomer Looperlative Audio (LP-1). These new additions bring the total number of dedicated looping products to well over a dozen, and that's not counting the software products that support real-time looping (which we'll
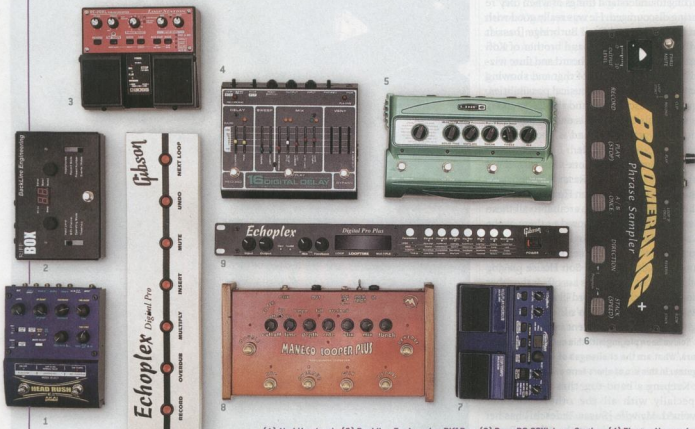
[1] Akai Headrush, [2] Backline Engineering Riff Box, [3] Boss RC-20XL Loop Station, [4] Electro-Harmonix 16-Second Delay, [5] Line 6 DL-4 Delay Modeler, [6] Boomerang Phrase Sampler, [7] DigiTech JamMan, [8] Maneco Looper Plus, [9] Gibson Echoplex Digital Pro Plus and Foot Controller.

MUSIC WAS BEING MADE WITH LOOPS long before the dawn of sampling and computer-based recording, probably beginning with the advent of commercially available tape recorders in the late '40s. It couldn't have taken long for someone to figure out that you could splice a loop of tape to repeat a note or phrase endlessly, and that "someone" may have been Les Paul.

Paul was one of the first Americans to get his hands on a high-quality reel-to-reel tape recorder, and, by 1949, he was at least talking about a device that allowed him to recreate his overdubbed "multiples" while performing live. Details of the "Les Paulverizer" are sketchy, but it may have been the first multitrack tape-loop machine, even if he didn't actually "loop" with it in real time. Whatever tricks Paul may or may not have had up his sleeve, it is certain that engineers working at the BBC's Radiophonic Workshop used tape loops to create sound effects beginning in 1958, and that British recording iconoclast Joe Meek looped bass lines and other sounds as early as 1959.

In 1963, the engineers at the Radiophonic Workshop created a sophisticated tape-looping system by connecting three reel-to-reel recorders in various ways, and Terry Riley also debuted his two-recorder "time lag accumulator." Two years later, Steve Reich created a composition based entirely on the manipulation of multiple tape loops playing simultaneously, and, in 1966, Pauline Oliveros developed yet another variation on the two-recorder arrangement that she called a "double-feedback loop" system. Bands such as the Beatles, Pink Floyd, Soft Machine, and Can also incorporated looping into their music during the '60s.

Looping began to emerge from obscurity during the '70s. Brian Eno employed the accumulator system on his seminal ambient works. He soon introduced the accumulator to Robert Fripp, who eventually dubbed the system "Frippertronics," and used it extensively live and on record, sparking widespread interest in looping among

guitarists. Towards the end of the decade, Lexicon and MXR produced the first digital delays capable of producing short loops, and early adopters such as David Torn began seriously experimenting with looping techniques.

In 1982, Lexicon introduced the PCM-42 digital delay, which featured four seconds of delay time and an Infinite Repeat function that allowed you to lock in a loop and play over it. (Developer Gary Hall customized units for David Torn, Steve Morse, and others with more than 20 seconds of delay!) The following year, Electro-Harmonix released its 16-Second Digital Delay, briefly marketing it as a "Fripp-in-a-box." These were soon followed by a host of loop-friendly products, most notably the T.C. Electronic TC 2290 in 1986 (which boasted 63 seconds of full-bandwidth delay). As the '80s drew to a close, numerous cutting-edge guitarists had made looping an integral part of their music, including acoustic players such as Pierre Bensusan.

In 1992, visionary looping musician/engineer Matthias Grob and friends developed the Paradis Loop Delay, which they evolved into the Oberheim/Gibson Echoplex Digital Pro a few years later. About the same time, similarly loop-obsessed Bob Sellon modified a PCM-42 into a "Mutmax" system that supported multiple loops and MIDI—a design that morphed into the Lexicon JamMan in 1994. The number of musicians working with looping technology expanded exponentially throughout the '90s and '00s, and there are currently more than a dozen dedicated looping devices being marketed. —BC
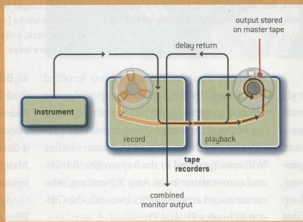
Terry Riley's "time lag accumulator" tape-loop system used two reel-to-reel recorders to create cascading loops. Riley credits an anonymous Parisian recording engineer with its invention (though it is also sometimes attributed to composers La Monte Young and Karlheinz Stockhausen.) Brian Eno adopted it in the early '70s, and introduced Robert Fripp to it in 1972.
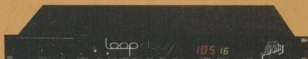
The Paradis LD-1 Loop Delay, introduced in 1993, was the brainchild of looping guru Matthias Grob (pictured below), programmer Eric Obermühlner, and a small team of developers—most of whom were also involved when Grob transformed the LD-1 into the Oberheim/Gibson Echoplex Digital Pro a few years later.
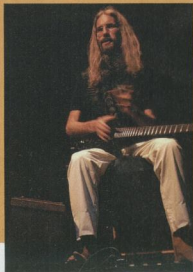
MARVELS OF EARLY LOOPING

Joe Meek and the Blue Men,
"I Hear a New World" (1959)
Steve Reich,
"It's Gonna Rain" (1965)
Pauline Oliveros,
"I of IV" (1966)
Terry Riley,
"Poppy Nogood and the Phantom Band" (1968)
Fripp & Eno,
"The Heavenly Music Corporation" (1972)
Chet Atkins,
"Jam Man" (1986)

The brand new Boss RC-50 Loop Station provides up to three simultaneous stereo phrase tracks (with internal/MIDI clock sync), stereo inputs, dual stereo outputs, an XLR mic input with phantom power, and a USB port for data/audio backup and import/export of loops as WAV files.

The much anticipated Electro-Harmonix 2880 Super Multi-Track Looper will feature 16-bit/44.1kHz recording on four mono tracks (with internal/MIDI clock sync) and a stereo mix track, and use Flash memory cards for operation and to store loops.

report on in future issues).

"Loopists" have become increasingly diverse. During the '70s—when looping was done almost exclusively with tape machines—loop-based music tended to be arrhythmic and textural. A prime example is the music produced by Robert Fripp's "Frippertronics" system, which dubbed new material onto a loop as previously recorded material gradually faded out. This simple, yet effective technique is still popular with many artists—including French electronic musician Richard Pinhas (profiled in the Aug '04 GP)—though digital devices are now generally used instead of tape.

At the other end of the spectrum are performers such as jam bandsman Keller Williams (profiled in the September '04 GP) and avant-cabaret artist Amy X Neuburg, who create entire arrangements live with the Gibson Echoplex Digital Pro.

More commonly, looping is but one trick in a musician's bag, and guitarists as diverse as Bill Frisell, Phil Keaggy, Trey Anastasio, Paul Dresher, Steve Morse, David Torn, and Nels Cline have been looping in one form or another for years. Chet Atkins actually won a Grammy in 1996 for his recording of "Jam Man," which was created using the looping device of the same name.

A decade ago, veteran looping guru Kim Flint founded loopers-delight.com, an extraordinarily deep resource that has become the galactic core of the ever-expanding looping universe. The site offers detailed information of every kind, including profiles of established players such as Andy Butler, Per Boysen, and Rick Walker, as well as hundreds of other loopists of all skill levels (including yours truly). Looping festivals are also on the rise, with the largest being held annually in Northern California. And there are even bass looping festivals that feature innovators such as Steve Lawson, Michael Manring, and Darin Schaffer.

THREE LOOPISTS YOU SHOULD STEAL IDEAS FROM

There are lots of amazing loopists throughout the world. Here, we'll focus in on three that have consistently transcended the perceived limitations of technology to create fresh new music that is wholly their own. If there were a Mount Rushmore of Loopists, the countenances of David Torn, Paul Dresher, and Andre LaFosse would likely be blazoned upon it.

**David Torn.** Torn began looping in the late '70s, and, during the intervening years, his

David Torn: "I have actually made a decent living by developing looping as an important part of my instrumentation. The opening riffs to 'Sunday' on Bowie's Heathen, and 'New Killer Star' on his Reality, are me by myself going crazy with a guitar and a looper."

idiosyncratic work has appeared on his solo and collaborative recordings, works by dozens of major artists, and numerous film and television soundtracks. He has experimented with nearly every form of looping device, and is often brought into the development phase by manufacturers. His current rig combines a Gibson Echoplex Digital Pro, an Electrix Repeater, and a modified Lexicon PCM-42 with 20 seconds of delay.

"Everything is connected via a modified Rane SM82 mixer," explains Torn. "All of the looping devices come up on channels with pre-fader sends to all of the others, so they may be combined and routed to additional processors."

Torn uses foot pedals and switches to control various functions, and relies on voltage control pedals for adjusting feedback, oscillator speed, and other parameters on
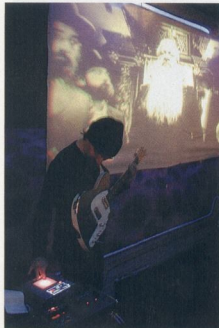
the PCM-42. He also routes the output of the PCM-42 to a Nord Modular G2 for additional processing.

"I've programmed a 32-step audio sequencer, so that I can take arrhythmic textures and generate distinct rhythms that are constantly in motion," he says.

In addition to looping his own sounds, Torn loops those created by others. "Onstage or in the studio, I'm capable of grabbing anything," he says. "My guitars have microphones built into them, and there's a room mic that feeds my mixer, so if I want to loop other people's stuff through my pedals, I just hit a momentary switch on my instrument, and they feed into whatever looping device I've chosen. When I'm playing guitar, my right hand is actually on the mixer about half the time."

Paul Dresher. This post-minimalist—or as he prefers to call it, pre-maximalist—composer and electric guitarist first encountered the "time lag accumulator" looping system in 1973, while studying electronic music with Terry Riley. Dresher used the system to record his first composition that same year—and for several years thereafter—but, by the late '70s, he had pushed it to the limit.

"I was constantly frustrated by both the complexity and sensitivity of setting it up for live performance, and the difficulty of doing rhythmically synchronized music," he explains.

In 1979, he and engineer Paul Tydelski

created an elaborate analog tape-loop system based on a heavily modified Tascam 40-4, which allowed live multitrack recording, mixing, processing, and playback of any sounds using a closed tape loop of about 15 feet long.
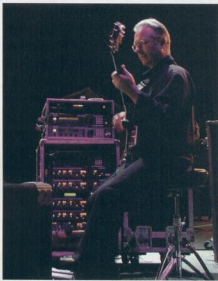
"We added a third playback head exactly halfway through the length of the tape, and eventually retrofit the machine with a variable-speed motor that allowed different preset speeds," says Dresher. "All functions were controlled with an array of foot ped-

Robert Fripp at the controls of his "Lunar Module"—a complex looping rig employing multiple TC Electronic TC2290 delays, which the guitarist uses to create his improvised Soundscapes.

Andre LaFosse (top left) accompanying a film. Paul Dresher (above) performing with his custom-built, four-track tape-loop system during the mid '80s.
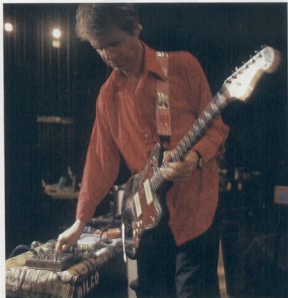
als and switches."

This system served as Dresher's principal performance tool until 1997, when he replaced it with three Echoplex Digital Pros. A Mackie 1202 mixer feeds all three Echoplexes, which are then controlled with Echoplex foot controllers and a Digitech PMC-10 foot controller.

Andre LaFosse. A self-described "turntablist/guitarist," LaFosse has released solo recordings of groove-based compositions, and has contributed to several motion picture soundtracks. He has looped exclusively with the Echoplex Digital Pro since 1995, and is considered by many to be its most advanced practitioner.

"I find the Echoplex to be an incredibly deep and extremely intuitive real-time performance instrument," says LaFosse. "My current rig is an Echoplex controlled with a Digitech PMC-10 foot controller, and, sometimes, an expression pedal. I occasionally use effects, but I generally feel that I get a more engaging musical performance just by playing the guitar and using various Echoplex functions to generate development. I try to think of the loop itself not so much as a specific sonic

Nels Cline began looping with the Electro-Harmonix 16-Second Digital Delay after seeing Bill Frisell work magic with it while they toured together in 1985. "I *had* to get one, and I still use it," says Cline.

Amy X Neuburg controls her Echoplex Digital Pro with a DrumKat MIDI Percussion Controller instead of conventional pedals and footswitches. "I find constructing a song layer by layer live to be an exciting process, and the compositional possibilities of looping to be infinite and quickly realized," she enthuses. "I now 'think' in loops while composing."

result—a static event that repeats over and over—but rather as a technical starting point to create extremely dynamic, evolving, structured musical events. I use the Echoplex just as a turntablist uses the architecture of the record player and mixer to warp the sound of a record far beyond the material pressed onto the vinyl. I'm obsessed with the idea that the Echoplex can be used to shape and sculpt the sound of the guitar beyond what I could do with my bare hands alone. It's like the guitar is the vinyl record, the Echoplex is the turntable, and the MIDI controller is the mixer."

TIPS FOR DEVELOPING A UNIQUE VOICE

There are as many ways to approach looping as there are loopists. Here are some words of inspiration from a few transcendent loop artists that should get you thinking about what *you* can add to the lexicon of looping.

Nels Cline: "Use your imagination. For example, I use the original Electro-Harmonix 16-Second Digital Delay—which is always recording—so I can decide as I'm playing whether something is loop worthy. Or, because I am so familiar with how all of my other pedals sound in various combinations, I can think ahead, and try to manufacture something that will be loop worthy."

Andy Butler: "I try to use loops in ways that

are not obvious, such as beat splicing (changing the tempo of an audio file without affecting its pitch) with the Echoplex Digital Pro. I also try to incorporate unusual timings without going free time, and extend harmony without going atonal."

Amy X Neuburg: "Think of looping as an element of a constructed piece of music that has shape, direction, and meaning. You should also experiment with different loop lengths, textures, and dynamics. Looping is an expressive device that's there to serve the music, and, as with any instrument, the music it makes is only as creative and compelling as the musician who controls it."

Matthias Grob: "I need to let the music evolve, develop, and travel. I like to let some sections fade as I layer new ones over them, or create several loops and let them sustain as I solo on top. Of course, fluent repetition can also be a good thing, and it often brings tranquility—like mandalas in the visual world."

David Torn: "Guitarists should look at all of the various sounds and noises that can be played on the instrument, and then find a way to incorporate them into their looping. *That's* where things really start to open up. Looping devices are generally extremely capable of manipulation, so you can, say, reverse a sound, then reopen the loop and play something else onto it—a noise, feedback, a chord, a chord

with no attack—then close the loop, reverse it again, and change the pitch. A loopist is only as interesting as what they put into their loops."

Andre LaFosse: "There's an enormous amount of untapped potential for taking looping beyond old paradigms. People are just barely starting to wrap their heads around the current crop of dedicated looping hardware and software, and the unprecedented features many of them contain. But it's not just about what can be done with looped audio in a basic technical sense—it's also about how it can be applied to a huge variety of different musical styles, as well as its function *within* those styles." 🔲

RECOMMENDED LISTENING

Andy Butler, *livelooping*
The Nels Cline Singers, *The Giant Pin*
Paul Dresher, *Slow Fire*
Robert Fripp, *Love Cannot Bear*
Matthias Grob, *Aroni encontra Oxossi*
Andre LaFosse, *Normalized*
Amy X Neuburg, *Residue*
Richard Pinhas, *Tranzition*
Darin Schaffer, *Darin Schaffer*
SPLaTTeRCeLL [David Torn], *Oah*