

Sound Enhanced

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Producing and Editing Drum Loops

BY TONY ARTIMISI

I often talk to percussionists who are interested in electronic percussion, creating loops, and using effects to give the loops character. Some find it intimidating to consider the amount of time it takes and number of decisions that have to be made to put together a system that is flexible and expandable. Others think that using electronic percussion of any kind is cheating—magically making a terrible player sound great. While there are certainly well-documented instances of “studio magic,” many great players have found their voices incorporating electronic percussion into their setups to enhance their acoustic playing (e.g., Pat Mastelotto, Matt Chamberlain, Abe Laboriel Jr., Steve Brewster).

The goal of this article is to walk through one way of creating a drum loop using live, acoustic drums. The loop is fully editable for a variety of applications in the future. We’re going to take the “long way,” in detail.

The first, and most obvious, step is recording a drum beat. For this, I enlisted the services of Evan Richey, owner of Ovation Sounds recording studio in Winston-Salem, North Carolina. He did a great job setting up microphones and getting great sounds so I could quickly and easily play a groove that would work for this article.

When creating a loop for future use, I find that it is easier to work with grooves that were originally recorded at slow tempos. I used that reasoning in choosing the tempo for this groove, which can be heard on the PAS Website (*Track 1: clean*). I only used bass drum, snare drum, and two hi-hats. The bass drum is a 16 X 22 Yamaha Maple Custom, the snare drum is a Grover 4 1/2 X 13, the left hi-hat cymbals are 13” Zildjian K/Z’s and the right X-hat cymbals are 14” Sabian B8’s. A blanket was put over the bass drum, which is a trick recording engineers use sometimes to improve isolation for the bass drum microphone.

The quickest and easiest way to make a wonderfully grungy drum loop is only a phone call away! My good friend and fellow percussionist Tim Heath was with me during this session. I called his cell phone and set the phone behind me while I played. In another room, he held his earpiece to a microphone patched into the recorder. The result can be heard on *Track 2: cell phone*. That distorted sound is the result of a combination of the small cell phone microphone and speaker in the phones and the very loud sound level coming from the drumkit.

Now let’s look at other creative ways to expand the possibilities of this groove. One of the key components of a computer-based recording system is the audio/MIDI sequencing program. Sequencing programs allow for multi-track recording and editing as well as the hosting of virtual instruments like electronic piano, drum, and/or bass synthesizers and samplers. My personal favorite is Steinberg’s *Nuendo*. I own version 2, although version 3 has been released. Other examples of audio/MIDI sequencing programs include Digidesign’s *ProTools*, Steinberg’s *Cubase*, Cakewalk’s *Sonar*, and Apple’s *GarageBand*. There are many, many more.

Figure 1 shows the audio files arranged in *Nuendo*. Track 1 is the

bass drum, track 2 is the bottom of the snare drum, track 3 is the top of the snare drum, etc. Here, we can listen to the file to determine the best measure (or two) to loop. The light blue region in the time line is the measure I selected for the loop.

Figure 1. Audio files arranged in *Nuendo*.

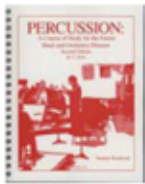


The next step is to export a mix of the desired files. In this instance, I am exporting the cell phone file. The red “S” is an abbreviation for “Solo.” The yellow “M” is an abbreviation for “Mute.” This step is completed by going to File _ Export _ Audio Mixdown.

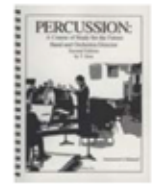
Figure 2. Exporting an audio mixdown in *Nuendo*.



Selecting “Audio Mixdown” opens a dialog box that allows the user to select the type of file that will be exported. In this case, I decided to export the file as a wave file with a resolution of 16 bit/44.1 kHz. Without getting into specifics, this resolution is CD quality. This step was repeated twice—first to export the mixdown of the clean drum files and second to export the cell phone file.



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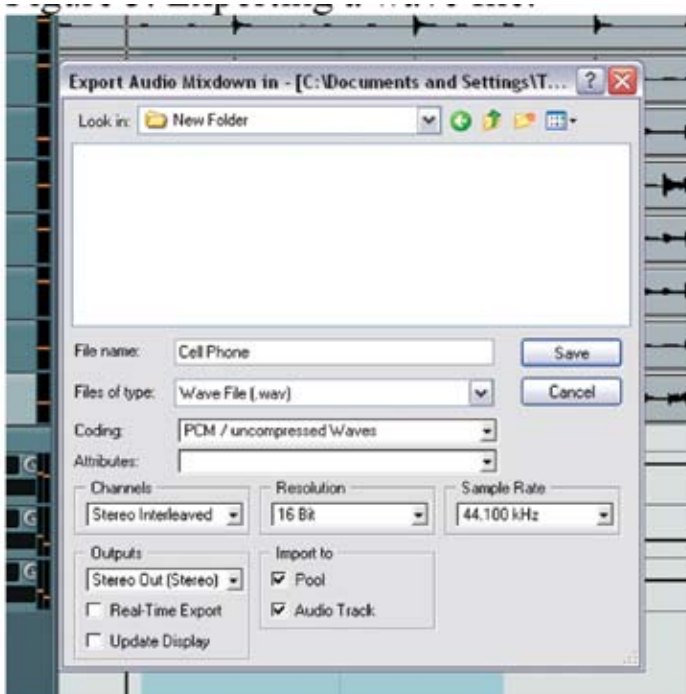
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Figure 3. Exporting a wave file.

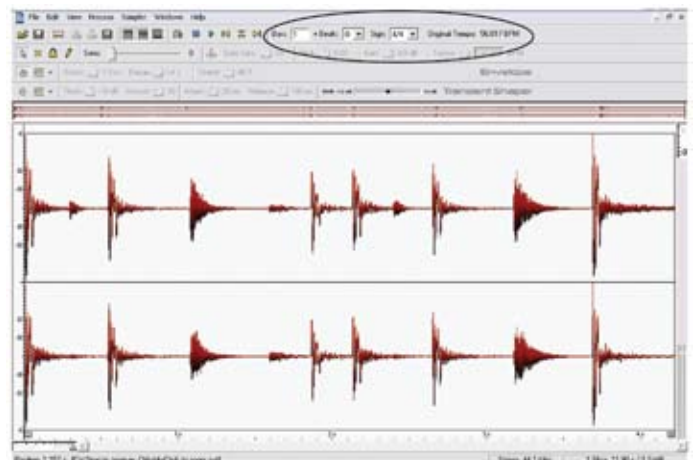


At this point, the files are ready for further editing in Propellerhead's *Recycle*. This program allows the user to set hit points in audio files, which is very useful for percussionists. This system is one way that allows for the speeding up and slowing down of audio files without affecting pitch. Additionally, each hit point gets assigned a MIDI number chromatically starting with

"C1," which allows the user to edit the pattern from any MIDI controller.

To begin in *Recycle*, open an audio file from the File menu. Each "blob" in the file is a note in the groove. At this point, *Recycle* doesn't know much about the audio file. It doesn't immediately recognize tempo, time signature, or number of measures. Our groove is one measure long in 4/4 time. Mathematically, the program will determine the tempo based on the information provided. I didn't record the initial groove to a click track, which explains the tempo being 56.817.

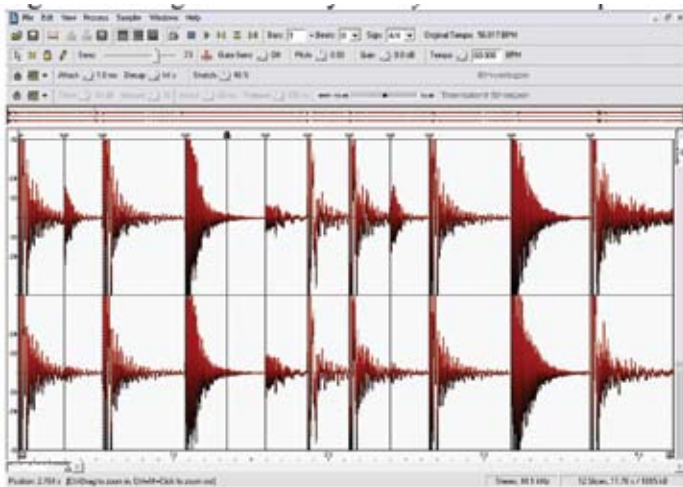
Figure 4. Setting the tempo in *Recycle*.



The next step is to insert the hit points or "slices." *Recycle* has a sensitivity slider that automatically detects hit points. This is when the benefits of recording at slower tempos become noticeable.

There is more space between the notes, giving each note a chance to decay more fully without ringing over the next one. This makes it easier to detect a clean attack, and will make this process much quicker. When finished, save the file as a "Rex" .rx2 file using File _ Save. The same steps were repeated for the cell phone file.

Figure 5. Setting the sensitivity in *Recycle*. Each line represents a hit point.



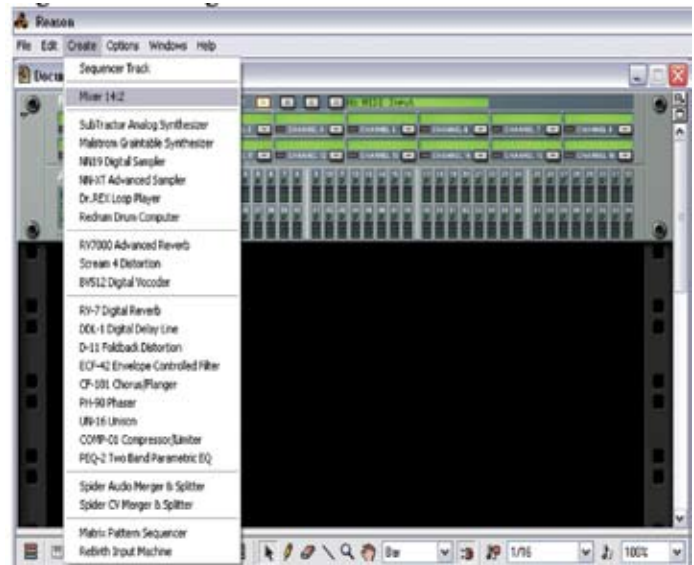
Now the files are ready to be opened in Propellerhead's *Reason* software. *Reason* is different from other sequencing programs in that it does not record audio. However, it does offer the ability to import audio samples and proprietary files for editing and playback. The user interface is designed to look and behave like hardware racks complete with the option to "flip" the racks (using the "Tab" key) to route the signal as desired.

Figure 6. The back panel of two units in *Reason*.



The first step in *Reason* is to create a mixer so you can adjust the volume levels of the instruments to be created. This is done using the Create menu at the top of the screen. Simply click and select "Mixer 14:2" (this is a 14-channel mixer). Follow this step with creating a "Dr. Rex Loop Player" using the same method.

Figure 7. Creating a mixer in *Reason*.



The Dr. Rex Loop Player is the unit that can open .rx2 files. Click on the folder icon on the unit to browse to and open the "clean. rx2" file. From here the loop can be edited as much or as little as desired. The first adjustment I want to make is to speed the loop up to a comfortable 86 beats per minute (bpm), which you can hear on *Track 3: clean sped up*.

Next, let's add a touch of reverb to the loop to add a little bit of "air" to the sound (*Track 4: clean with reverb*). This is done using the same steps detailed earlier—using the "Create" menu to add the "RV7000 Advanced Reverb" to the signal chain.

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Figure 8. Dr. Rex and the RV7000 in Reason.



One of my favorite effects to add to a drum loop is delay. This is a quick way to change the feel of a loop without having to alter the pattern. Open the "DDL-1 Digital Delay Line," and set the delay to three sixteenth notes (*Track 5: clean with reverb and delay*). Notice how much different the loop sounds now compared to when we started.

Figure 9. Dr. Rex, RV7000 and DDL-1 Digital Delay Line in Reason.



Now let's *really* have some fun with this loop by adding distortion. Distortion is an effect most often associated with electric guitar. It was invented, literally, by playing too loud. As music got louder over the years, the internal components of guitar amplifiers were not able to handle the amount of electrical signal passing through them, resulting in a "distortion" of the sound. This is best described as the "grungy" or "growling" sound that has typified rock music since the days of Jimi Hendrix. This also explains the sound of the "cell phone" loop heard earlier in the article.

Turn down the volume on the speakers or headphones and open "Scream 4 Distortion." This effect will greatly increase the volume

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of the signal. Being careless here could result in speaker or, worse, permanent ear damage. Using distortion on drums has become so popular that the developers of *Reason* included some presets that are well suited for drums. Again, these are accessible by clicking on the folder icon on the “Scream 4 Distortion” unit and navigating to the appropriate folder. Select the “VintageLoop” preset (*Track 6: groove*).

Figure 10. The “Drum Processing” presets in the Scream 4 Distortion unit.



That's it! Now we have the fundamentals for creating a drum loop that can be edited and manipulated to our liking. All that is left to do now is to go back to our drumset and have fun playing along to our loop (*Track 7: groove with loop*).

Tony Artimisi is Coordinator of Music Business and Instructor of Percussion at Winston-Salem State University in Winston-Salem, North Carolina. He was previously a drummer/percussionist in Nashville, Tennessee, touring and recording with country, Christian and gospel artists. He is an Ambassador for the music-notation software Sibelius and a member of the beta-testing team for Toontrack, the creators of the Drumkit from Hell – Superior, Custom & Vintage and EZdrummer product lines. PN

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