

Electronic Setups And Scenarios

How To Build An Efficient And Effective Backing-Track System

by Donny Gruendler



When most modern rock/pop fans go to their favorite bands' concerts, they expect the performance to have CD-like consistency. As a result, most major touring artists use prerecorded tracks, loops, and synthetic textures to enhance their stage performances. Now that trend to augment live performances with electronics has worked its way down to lower-budget local/regional bands working in clubs around the world. In this article, we'll take a look at how to put together three different electronic setups based on your budget or your musical needs.

Setup 1: Backing Tracks

Today's recording software has enabled artists to record hundreds of instrument tracks and artificial textures for each composition. A standard four-piece band can only play a few of these parts live. If you want to add more of those tracks from the recording to your stage show, you need to either hire more players or create a pre-recorded backing track.

A typical backing track often includes a reference click track, backing vocals, drum loops, secondary guitar parts, and any additional synthetic textures used in the song. These backing-track elements have to be stored on some type of digital player, and you have to wire them into the club's PA system.

Rack-Mount Stereo Mini-Disc Recorder And Line Mixer

More often than not, the artists I perform with who use backing tracks play their songs the same way every time, with a set length, form, and structure. For the majority of these gigs, I use a rack-mount stereo mini-disc recorder and a line mixer. (See photo 1.) Not only does this simple "press play" configuration enable me to concentrate on my drumming (rather than on a wide variety of technical issues, such as calling up various patches on my laptop and triggering loops in real time), it's also extremely road-worthy and requires very little setup time.

I place a four-space rack case behind my floor tom. In that rack are the following items:

1. Power conditioner. This provides the AC power to my gear and protects them from power surges. This rack-mountable unit also has a ground lift and two recessed front lights, which help me deal with gigs that have either poor lighting or a lot of neon signs (which can cause gear to buzz).

2. Rack-mount stereo mini-disc recorder. This dedicated playback unit stores and plays my backing tracks, and is much more stable than a finicky computerized software system. (Mine once fell five feet off the side of a drum riser and kept playing!)

3. Eight-channel line mixer. This mixer acts as my own personal in-ear monitoring system. It has a lot of power to drive my earphones at a suitable level, and it allows me the flexibility to adjust the volume of my backing track and click.

This four-space rack is the "central hub" of all my electronic rigs.



Understanding Stereo— Separating Backing Tracks From The Click

Most people believe that a stereo device plays a mix equally in both speakers (or earphones). However, all stereo components (like mini-disc recorders) are actually two-track entities: There's a right channel and a left channel. When I create a backing track, I use this to my advantage. As I listen through a song's multi-track session in my computer, I mute the parts that are going to be played live by the band (bass, drums, guitar, lead vocals, etc.). Then I pan the remaining elements (keyboards, drum loops, etc.) all the way to the left of the stereo field and pan the click track to the right. This splits the click and the other musical elements into two channels.

To record this two-track backing/click track mix into my mini-disc recorder, I connect the left and right outputs of my computer audio interface (in my case, it's a Pro-Tools Mbox) to the left and right inputs. Then when it's time to send my output signal to the house PA of whatever club I'm playing, I only send the left (backing track) channel from my mini-disc recorder. The audience won't hear the click track because it's on the right channel of the stereo field and isn't being sent to the PA.

To feed my in-ear mix, I connect the left (backing track) and

right (click track) RCA outputs of my mini-disc recorder to channels 1 and 2 of my line mixer. This gives me independent control of the balance of the backing track and the click in my monitor mix without affecting the house PA's level.

Setup 2: Backing Tracks—A Portable Solution

Every now and then, I'm not able to bring my four-space rack case on the road (usually when I have to fly). For those situations, I use a condensed setup that fits into a small carry-on bag. This setup contains the following items:



1. Surge protector. This standard multi-outlet provides power to all of my portable devices, and it protects them from power surges.

2. Compact desk mixer. This mixer acts as my personal in-ear monitoring system, with separate channels being used for my backing track and click levels. It's also lightweight and has enough power to drive my earphones at a suitable volume.

3. Portable mini-disc recorder. Just as in Setup 1, here a mini-disc recorder is used to play the click and backing tracks. By keeping in the mini-disc format, I'm able to use the same discs between my portable and rack-mount configurations. (If you own an iPod, you can use it as a substitute for the mini-disc recorder. In fact, Alesis has a great new piece of gear called the iMultiMix 8, which consists of a compact mixer, an iPod dock, and a two-channel USB audio interface.)

4. Passive DI box. This small and lightweight unit converts an unbalanced audio signal ($1/4$ " cable) to a balanced audio (XLR) output signal. This helps to avoid any ground (buzzing) issues with a PA system.

The wiring in this scenario is identical to the previous rack-mount example, with one notable exception: This portable mini-disc recorder only has one stereo mini-plug ($1/8$ ") headphone output. So I use a stereo Y-cable (one $1/8$ " stereo cable to two mono $1/4$ " cables) to split the left (backing) and right (click) channels from the headphone output into separate $1/4$ " mono signals. I connect the left $1/4$ " mono plug into channel 1 and the right $1/4$ " mono plug into channel 2 of the desk mixer. Then I pan the backing track (channel 1) to the left and the click (channel 2) to the right. This allows me to control the level of each track independently. Finally, I connect one $1/4$ " mono patch cable from the left output of the desk mixer into the DI box. The DI box then connects to a channel in the house PA.

Although this setup is lightweight and simple, it does have a disadvantage: Because the portable mini-disc recorder only has one $1/8$ " headphone output (the rack-mount recorder has four), I can't change my personal monitor mix on the desk mixer without

also changing the mix that goes to the PA. My only flexibility is over the volume of the click track.

Setup 3: Manually Triggering Loops In Real Time

Although the prerecorded backing track scenario is my most common setup, there are occasions where an artist's music requires me to be able to alter the length of each song's verse or chorus to fit a particular performance. This means that I need to be able to control the start and stop points of the backing tracks, so I manually trigger (play) every single track, loop, and sample that's present in the song. Not only is this method very labor-intensive, it also puts me (the drummer) back in the driver's seat, as I am responsible for every direction taken on stage.

In order to manually trigger these electronic elements, I supplement my four-space rack-mount mini-disc setup with the following items:



1. 15" Apple Macbook Pro laptop. I use this as my "stage computer" because of its compact size and weight, as well as its backlit keyboard. The headphone output is CD-quality, so I don't need an external soundcard.

2. Ableton Live 7 software. Live is my favorite piece of software because it allows me to trigger loops at any tempo without altering their pitch. In addition, I can freely tap in tempos to start each song for a true real-time performance.

3. Alternate Mode drumKAT The drumKat is very expandable. It has ten pads and an additional nine trigger inputs on the rear of the device. Each pad/trigger input can either be assigned to one MIDI number/sound, cycle through a series of sounds, or layer multiple sounds from within its onboard software. The KAT allows me to trigger nineteen pads (or a combination of nineteen pads and pedals) alongside Live in an unlimited number of ways.

4. Alternate Mode kickKAT And hatKAT foot trigger pedals. These road-worthy pedals are built from aircraft aluminum, so they can take a beating night after night. I connect them to the additional trigger-inputs on the drumKat so that I can control Ableton Live's Tap-Tempo and Stop functions with my feet. (One is placed to the right of my kick pedal and the other to the left of my hi-hat.)

5. M-Audio 1x1 USB MIDI interface. This small and inexpensive device sends MIDI information from the drumKAT through a USB signal, which is then sent into my laptop and interpreted by Live.

6. Passive DI box Again, this lightweight DI box converts an unbalanced audio signal to a balanced XLR output. With this setup, I Velcro the DI box to the back of the four-space rack.

ELECTRONIC INSIGHTS

To hear the sound produced from Ableton Live, I connect a Y-cable (one $\frac{1}{8}$ " stereo cable to two mono $\frac{1}{4}$ " cables) from the headphone-out of my laptop into channels 3 and 4 of my eight-channel line mixer. (Remember, channels 1 and 2 already hold my RCA mini-disc outputs that feed my in-ears.) I then go into Live's Track Mixer and pan each backing-track item to the left side of the stereo field and the click to the right. Next, I connect the left output of my line mixer into the DI box, which connects to an XLR cable that's sent to the house PA.

In order to trigger my sounds in Ableton Live via MIDI, I connect the MIDI In and MIDI Out cables of the M-Audio interface to the MIDI In and Out ports of the drumKAT. Then I connect a USB cable from the M-Audio interface to my computer.

Once everything is wired together, when I strike a pad on the drumKAT (or step on my trigger pedals), the MIDI information is sent to my laptop and Ableton Live. I have this MIDI information assigned to trigger audio loops, electronic samples, and all other playback functions within the software. This audio is immediately routed out of my laptop's headphone output and then sent into channels 3 and 4 in my line mixer.

Just like the portable mini-disc setup, this configuration doesn't allow me to change my personal in-ear volume on the line mixer without changing the house PA's level as well. But I can change the click track's volume because it's not being sent to the PA.

Setup 3 allows me to cover two performance obligations from one vantage point: I can perform with prerecorded backing tracks that are playing straight through on the mini-disc recorder while also manually triggering loops in real time. I can also monitor everything at once through the line mixer.

A Final Thought

Please keep in mind that my backing-track setups are not all-inclusive. They are illustrated here to serve as an entrance point into the world of creating your own electronic playback rig. Hopefully, this article will enable you to implement these ideas into your band's live performances. Even though I mentioned specific brands of gear throughout, be aware that those pieces of equipment are what work best for my professional needs. There are many other suitable products on the market, so make sure you do your own homework before putting together your unique electronic setup. Have fun!



Donny Gruendler is a professional drummer, Musicians Institute faculty member in Los Angeles, and the author of Carl Fischer's *Playing With Drum Loops—How To Work With Drum Loops, Samples And Backing Tracks*. His DVD *Creating And Performing Drum Loops* is also available through Carl Fischer.



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Crash
16" 17" 18"



China
20" 21" 22"

Playing With Drum Loops

Four Essential Tips For Developing Grooves Over Percussion Tracks

by Donny Gruendler

MUSIC KEY

	Shaker
H.H.	X
S.D.	•
B.D.	•

Percussion loops are commonly used for rhythmic texture on recordings and during live gigs. Often they're also employed as a substitute for a monotonous quarter-note click track. In both cases, these types of loops are effective because they generate a particular feel and flavor for the groove without dictating the exact parts you should play. When playing with percussion loops, your job is to keep good time and let the flow of the rhythm influence your drumset part. Before we jump into the discussion of how to do this effectively, please go to the Education page at modern drummer.com and download the loop examples that we'll be using in this article.

Tip #1: Your groove should follow the percussion loop's accent structure. Just as drumset loops have a specific bass drum and snare pattern that you should follow, percussion loops have an accent structure that must be adhered to as well. If you neglect to follow this structure, your parts won't blend well with the loop.

Look at and listen to Percussion Loop 1 and try to figure out where the loop's accents fall within the beat. Are they on the downbeat, the upbeat—or are they creating a specific rhythmic figure?

1

So where are the accents? They're on beats 1, 2, 3, and 4. If you played a very syncopated groove (Example 2), it would clash with the quarter-note-driven loop. The accents in the beat are in opposition to the percussion's accent structure.

2

Try a groove that's based on the downbeat, like Example 3. Notice how this pattern blends perfectly with the percussion's accent structure.

3

Tip #2: Determine the pitches of each accent. Once you've figured out the accent pattern of the loop, listen to the pitch of each accent. Ask yourself, Is the accent a high- or low-pitched tone? In Percussion Loop 1, beats 1 and 3 are low-pitched and beats 2 and 4 are high-pitched.

4

Tip #3: Decide where you can voice those accents on the kit. Once you've figured out the pitch patterns in the loop, match similar tones with various components of your kit. For example, low-pitched accents could be doubled with the bass drum, and high-pitched accents could be played on the snare.

5

Before we go any further, let's discuss how to voice accents in loops that don't have any pitch variations, like tambourine and shaker patterns. Percussion Loop 2 is a common shaker pattern that has accents on the downbeats and on the "ah" of each beat. There are two options for voicing these types of accents on the drumset.

Option 1: Voice accents that fall within beats 1 and 3 on the bass drum, and accents within 2 and 4 on the snare.

6

Option 2: Play a familiar drumset pattern that has a similar accent structure over the percussion loop. The pitches don't have to align perfectly, as in the bass drum notes on the "ah" of beats 2 and 4 in Example 7.

7

Tip #4: Identify holes or rests in the loop that should or shouldn't be filled with your groove. Percussion Loop 1 consists of a repeated pattern of an 8th note followed by six 16th notes. Notice how there's a gap in the loop on the "e" of beats 1 and 3? You could play something in that space. Unlike with drumset loops, this will not detract from the flow of the pattern.

Drumset loops are used to fatten up a track and to provide unwavering momentum. Percussion loops are used more often to help generate a particular feel and flavor, rather than a specific drum part. So you have more freedom to play around the loop. Here's one way you could fill the gaps in Percussion Loop 1.

8

After you've worked through the preceding examples, try applying my four essential thoughts with other percussion loops. I've posted a few extras on moderndrummer.com for you to check out.



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