

## WaveMachine Labs Drumagog 5.0 Platinum

*A comprehensive drum replacement software package adds new creative options*

*Review by Bob Emmet*

WaveMachine Labs' Drumagog addresses the need for *drum replacement*—the process of replacing the recorded sounds of a live kit while preserving the drummer's nuances and feel.

The exploding popularity of online collaboration across multiple studio locations has created a huge demand for this process—by the time drum tracks arrive from a distant location, the project for which these tracks were played and recorded may have taken on a different “sound”. The playing may be fine, but the drum tones may not fit. And since drums are often recorded at the beginning of a musical production, drum tones are some of the most difficult elements to change when the song's sonic vision morphs in a new direction.

With three projects on my desk with good-but-not-perfect drum sounds sent from afar, I was naturally curious as to how well Drumagog would work for me. I found the plug-in to not only do a great job at traditional drum replacement, but also to have some surprising creative extras. You can hear some examples of my experiments on our website, in the Resource Library (under Magazine Extras > Audio and Music).

### Installation and overview

I began my work with Drumagog by downloading the Platinum version of the application, newly upgraded to version 5.0, from their web site, along with a massive library of kits weighing in at over four Gigabytes. Note that Drumagog 5 comes in three versions: I reviewed the \$379 full-on Platinum version, but Basic and Pro versions are available for as little as \$149. All three versions contain the basic features and the full sound library, but some of the more advanced features are reserved for the higher levels (see the company website for a feature comparison).

Right away, I was pleased to notice that you can register the product either through a challenge/response code that will authorize a particular hard drive, or an iLok license for those who prefer a hardware key. The registration screen authorized my software immediately and did not demand a wealth of personal information. This was a good start.

The plug-in features an entirely new interface for version 5. The plug-in's main window has been completely redesigned: gone is the Add From Track feature (replaced by drag-and-drop), as is the Drum Movie. The left portion of the window contains a file browser that displays the computer's available drive hierarchy, to facilitate accessing the various drum sample collections, or “Gog files,” across multiple drives.

### Figure 1

A new “favorites” designation creates a collection of user favorites (see Figure 1). In the middle of the window, the individual samples comprising a Gog file are displayed, sorted according to name, dynamic group or peak (low to high or vice versa). Since a Gog file can have up to 384 samples, there are a number of complex methods the software uses to determine which drum sample to whack in response to the incoming trigger (more on this later).

Below the stack of samples, the Sample Properties Box serves up a slew of sample stats. Select any sample to see its dynamic group, articulation group, striking hand, and associated room samples, if any. Buttons marked Solo, Mute, Play and Delete performed the expected functions. Note that with some host applications there may be issues with auditioning the sounds, as some host architecture may not permit a plug-in to generate its own audio with the transport stopped. (In Logic, it is necessary to have the channel record-enabled to use the Play button to audition samples.)

In addition to the sample display, the mid-window zone can be switched to show dynamic groups or software settings for latency, ducking, MIDI functions, auto HH threshold, dynamic tracking and timing (see Figure 2).

## Figure 2

On the far right, a row of on/off buttons engages or removes a variety of options: Dynamic Multisamples, Random Multisamples, Articulations, Left/Right Hand separation, Dynamic Tracking, Stealth Mode, Auto Align and Auto Hi-Hat Tracking.

### Adjusting the triggering

Also new in version 5 is a visual triggering indicator (bottom left window). When the plug-in detects audio, it displays the drum hits graphically as spikes crowned by white circles on the trigger points, a display very familiar to anyone old enough to remember the video game Missile Command. Hits above the adjustable “sensitivity” line will trigger the Drumagog sounds, but those below the line will not. This makes it easy to set an appropriate triggering level for the part you need.

For those situations where the triggering track is not so clean, perhaps riddled with noise or bleedthrough from another drum, a dedicated Trigger Filter section with adjustable Q provides a frequency-dependent gate with hipass, lowpass, bandpass and band-reject filters to help zero in on the correct drum.

Then there’s a slider called Transient Detail that helps Drumagog analyze the incoming waveform so as to not double-trigger on incoming notes. Also, a setting marked “Resolution” sets a minimum interval before Drumagog can trigger again. With creative use of these controls, I was able to get Drumagog to create a perfectly timed four-on-the-floor kick drum for an unquantized loop that didn’t have one.

### Behind the beat: the Gog file

The secret to making Drumagog deliver a clean, authentic drum re-performance lies in the Gog file, an array of sample groups organized by dynamics, articulation and playing hand. Regardless of a sample’s actual volume, it will be played back at a level matching the incoming trigger level. (Note: reducing the Dynamic Tracking amount will even out the volume levels of the replacement drum.)

If there is more than one sample available for each volume level, Drumagog will choose between them at random. Samples can also be designated as left- or right-handed hits; during playback, the plug-in will recognize rapid passages and alternate these left and right strokes where a drummer would have to. Also, samples can be arranged according to articulation (“position” in

version 4 and below). Articulations can be used to separate drum edge hits from center ones, or open from closed hi-hat.

Drumagog comes with an extensive (4.4 GB) library of Gog files. According to Wavemachine Labs' Matt Warner, these sounds are a combination of third-party libraries from providers such as Farview Recording and MoReVoX, but version 5 introduces Gog files recorded and created in-house: the Smart Studio series, which is specifically designed to take advantage of version 5's new ambient/room samples feature. The kits ranged from hard rock drums to brush jazz sounds with a few electronic hits for good measure.

Stepping through the library, I was pleased to note that the replacement sounds focused mostly on clean, unadulterated samples that gave the impression of swapping a drum out rather than replacing it with an electronic or highly processed substitute. This made it easy to find workable and natural-sounding replacement sounds, rather than trying to work with heavily compressed, gated and processed samples which stand out in stark contrast to a live drummer's kit.

Many sounds come with multiple mic options, offering the choice of a Shure SM57 or AKG D12, for example. For the sounds which have ambient/room samples, the blend can be controlled with a volume slider (see Figure 3), allowing the user to match the amount of room ambience to the rest of the kit if desired.

### Figure 3

You're not limited to the sounds within the proprietary library. Drumagog reads WAV, AIF, SND and SD2 files, which can either be used directly or assembled into a Gog file. Unfortunately, Drumagog 5 can no longer export the individual samples in a Gog file (for use in a sampler, for example); according to Warner, this is due to copyright concerns from the third-party sound suppliers.

### Working with Drumagog

I tested Drumagog on an Apple Mac Pro computer (8-core 2.26 GHz Xeon) running Logic Pro 9 as host application. I began by taking some Logic song files with live drums and inserting Drumagog as an audio plug-in on these tracks, starting with the snare. Although the original sound wasn't bad at all, I was able to quickly find a Gog file that took it to a whole new level, and the results were pure magic. The track sounded clean and natural, like the drummer had just replayed the part on a different snare. Since the hi-hat was on the snare track, I found myself using the "Stealth Mode" option which allows the original track to come through when not being triggered.

One recurring issue I dealt with is that for most drum tracks, a single sensitivity setting won't work throughout the song; there will always be a soft spot where a grace note gets lost, or a busy part where it double-triggers. However, this was easily addressed with automation. All the Drumagog parameters are automatable in Logic, and it worked perfectly, although it was necessary to "draw" the automation rather than recording mouse-initiated plug-in movements.

The kick was easier to replace, as the bleed-through from other drums was minimal. The pitch control, which had a wide usable range, was clearly an asset here as it allowed the drum to be set to a frequency which complemented the fundamental of the song well. The timing with Auto-Align 2.0—an option which aligns the samples based on psychoacoustic properties rather than

waveform shape—was generally impeccable, although on occasion switching it off worked better.

## **Obliteration**

I found that partial drum replacement usually works better than complete obliteration—but if the latter’s what you want, start by setting the Blend control all the way to the right. If you still hear the offending drum, it’s probably in the overheads; Drumagog has a fix for this, too. By instantiating a Drumagog plug-in on the overheads and setting it to receive a ducking signal (Settings menu) sent from the replacing Drumagog track, the overheads will dip in response every time the replacement drum triggers.

Of course, the price paid is obvious—but a dip of a few dB is often enough to mask the unwanted drum without losing too much of the overheads. Or, crank up the Ducking Response slider, move the Ducking Crossfade control until it pumps with the beat, and you’ve got a cool creative effect (audio example 1).

## **Power Drumagoging: Morph, Synthesis and Beyond**

Although many users will find Drumagog a dependable tool for basic plug-and-play drum replacement, the software features a wealth of advanced features for specific applications and creativity. A monophonic synthesizer section can add a note and/or noise elements to your mix, and a new convolution reverb provides a variety of sonic environments. The real fun, though, begins when you engage the Morph|Engine, a specialized processor that warps your drum sounds into sci-fi madness. Although there are few adjustable controls—a bank of presets and a single XY joystick to adjust wet/dry balance and “hue”—this effect can create some interesting and unusual sounds (audio example 2).

Also, version 5 has the ability to host VSTi plug-ins, so you can run a plug-in within a plug-in. Using this feature, you could insert a drum machine or synth and have the drum hits trigger the plug-in, mixing the two right from within Drumagog.

## **Conclusions**

Since Logic provides a built-in drum replacement algorithm that works quite well, I was really curious as to whether Drumagog would be that much better—enough to justify its \$379 price. The answer, in a word: *yes*.

The collection of kits, the comprehensive triggering controls, the useful room and overhead samples alone give Drumagog a distinct advantage. The real clincher, though, is the intelligent sample selection system and painstakingly multisampled library which work together to create a replacement track with all the elegance and nuance of the original. I was also impressed with the software’s auto-alignment algorithm and detailed articulation features.

A few things I’d like to see addressed: The MIDI features of Drumagog are potentially useful but complex and kludgy, requiring additional software in some cases. I’d love to see a Drumagog instrument plug-in containing the same sample sets, giving producers a tool we’ve long dreamed of: combination drum- and drummer-replacement software (rim shot). And while you’re at it, guys, please bring back the Drum Movie?

Drumagog 5.0 is an advanced tool that will yield stunning results in the hands of a skillful engineer; at the same time, it's hard to make it sound unmusical, or make it not work at all. Can it be overused, or used badly? Sure, as heard on many current hit records. The drummers I spoke with were pretty much in agreement that replacing every last drum on a track by using sounds greatly removed from the original intent, cobbling together a Frankenkit that has nothing in common with the original, is probably just going to make things worse.

Promise to use Drumagog for the forces of good, young Skywalker, and your drum tracks may hit a whole new quality level.

Prices: Drumagog 5.0 Platinum (as reviewed), \$379; Pro, \$289; Basic, \$149

More from: WaveMachine Labs, [www.drumagog.com](http://www.drumagog.com).

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