

Wavemachinelabs Drumagog 4 Platinum : September 2008

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## Wavemachinelabs Drumagog 4 Platinum £230

**pros**

- Easy and discrete drum replacement.
- Integration with BFD.
- Good palette of on-board drum sounds.
- Focus on usability rather than gimmickry.
- Intuitive GUI.
- Blend, stealth and auto-ducking functions.
- Zero-latency option for live triggering.

**cons**

- Some timing inconsistencies depending on the chosen output.
- Sync with BFD is not user-friendly.

**summary**

Drumagog Platinum is probably the best cross-platform drum-replacement plug-in out there, and comes bundled with a comprehensive library of drum sounds for a range of genres. Although the integration with BFD is not exactly foolproof, it is a godsend when used as Wavemachinelabs intend.

**information**

£ Drumagog Platinum £229.99; Drumagog Pro £159.99; Drumagog BFD \$199 (download only); Drumagog Basic \$199 (download only). Prices include VAT.

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## Wavemachinelabs Drumagog 4 Platinum

Drum Replacement Plug-in

Reviews : Software

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**The latest incarnation of Drumagog allows you to augment a real acoustic drum performance with the sonic palette of BFD.**

Matt Houghton

Wavemachinelabs' Drumagog has matured considerably since Martin Walker's review in SOS February 2003 ([www.soundonsound.com/sos/feb03/articles/wavemachinedrumagog.asp](http://www.soundonsound.com/sos/feb03/articles/wavemachinedrumagog.asp)), not least because it can now communicate directly with Expansion's virtual drum software, BFD. It also now comes in VST, AU and RTAS formats, which replace the ageing Direct X version. It is Drumagog Platinum 4.1.0 that's reviewed here, while Drumagog Basic, Drumagog Pro and Drumagog BFD cost less and offer different, restricted feature sets (there's a comparison chart showing the differences at [www.drumagog.com](http://www.drumagog.com)).

Drum replacement is a common technique in music production, whether it be to tweak near-perfect recordings, to replace drums outright, or to layer new sounds with the existing ones. Many heavy metal styles use drum replacement as a matter of course, and it's quite a common practice on live recordings (including for very big-name bands that I can't name here!) to take beats from one part of a performance, or another night on the same tour, and use them to 'reinforce' the sound that's destined for, say, a tour DVD. If done well, it's both inobtrusive and effective.

Whereas some drum-replacement software works off-line, Drumagog is a real-time plug-in: you insert it on the DAW mixer channel of the drum sound you want to replace, select the replacement sound, set the trigger threshold and sensitivity, and you'll start to hear your new samples triggered pretty much in time with the original. There are then several controls you can tweak to improve the triggering and the sound of the triggered sample to make it appear more or less natural.

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### User Interface

The GUI comprises three tabs: Main, Samples, and Advanced. As the name implies, Main is where you do most of the work, including setting the trigger threshold, sensitivity and resolution, shaping the trigger side-chain signal with a filter, selecting the sound to be triggered, adjusting the wet/dry mix of incoming audio and triggered sound, and matching the pitch of the sample to the source. For setting the threshold, I find it much easier to use the Visual Mode, which switches the entire display to show the amplitude of input waveforms against the threshold level. Other features accessible on the Main page include Dynamic, Random and Positional Multisamples. These, respectively, allow Drumagog to respond to the power of the original drum hits, to avoid continuously repeating the same sample, and to determine which part of the drum piece has been hit, such as a snare rim instead of the head, and reflect this in its choice of sample. Some GOG-format libraries support alternating left- and right-hand hits when triggering at a certain speed, and this too is set up from the Main page. Stealth Mode allows the source audio to pass through when a sample is not being triggered, crossfading back to the original audio afterwards, while Wavemachine Labs claim that the Auto-align function "guarantees a phase-aligned match



every time", removing the need for further manual adjustment, even where samples have not been cleanly trimmed. And finally you get an appealing, if not particularly useful, video of a stick/beater hitting a snare/kick to give visual feedback on timing (I'd rather use my ears!).

The Samples tab is where you load, edit or create libraries in the GOG sample format used by Drumagog, and can record samples from the source (trigger) drum track. This is a useful and convenient feature when you want to invisibly tidy up a drum part by replacing it with carefully chosen hits taken from the same session, although some people will prefer to use their usual sample editor to extract them. Finally, for the tweakers, there's the Advanced tab, where you define what note, channel and port Drumagog sends its MIDI to, and can switch between simple and advanced modes (the former places a lower burden on your CPU, while the latter is more accurate). A zero-latency mode isn't intended for use in the studio, but enables you to use Drumagog as a live drum trigger. Other Advanced parameters include whether Drumagog's Auto-align function detects the psychocoustical peak or the actual peak, the degree of dynamic tracking, the details of the left/right-hand switching, and the stealth response and crossfade settings. The Auto-ducking feature, accessed here, allows you to employ multiple instances of Drumagog to duck one signal when another is triggered — so, for example, you could have your snare sound being triggered, and the overheads being ducked accordingly.



Integration with Expansion's BFD is one of the key selling points of Drumagog, and gives you direct access to a great sonic palette.

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## Sound Selection

There's a good range of sounds in Drumagog that should get you up and running for most modern styles without the need for an extensive external sample library, although it is easy to create your own GOG libraries if you want to. There are 18 folders of drum samples, with 34 kick-drum multisamples in two of the folders alone, and there's a similar number of snares, toms, hi-hats and cymbals, including some played with brushes. You also get the free (but very useable) NS10 Kit Free included as standard. Alternatively, you have the option of a MIDI output — to drive synths, virtual drum instruments and so on — and an on-board synth that enables you to add a sine, square, sawtooth or one of three triangle waves, or white, pink or filtered noise, all of which can be blended with the original sound to thicken, sharpen or otherwise reinforce the sound of various pieces of your kit.

The onboard sounds are multisampled, usually with three velocity layers and a selection of alternative samples that can be triggered to avoid artificial-sounding repetition. You aren't limited to three layers when creating your own GOG files, though. If you already have BFD on your system, you have direct access to it from Drumagog, and to any expansion libraries you have installed (you're able to select any BFD kit element from the sample menu in the Main tab and it will trigger the piece loaded into that part for BFD).

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## Big Friendly Drumagog?

Download and installation was easy (although I find the challenge-and-response system rather tedious, given that my studio PC isn't connected to the Web). I opened a multitrack drum session in Cubase 4 and inserted an instance of Drumagog on the kick track — and was pleasantly surprised to find that it defaulted to a sensible threshold which needed no tweaking to get the basic triggering working. Selecting an appropriate sample from the drop-down list was quick and easy, as was adjusting the pitch, volume and blend controls to merge the sample with the recorded drums. I repeated this test with snare, which was similarly easy, and hi-hat, which seemed OK, except that a mix of open, closed and pedal hits of the hi-hat meant that the triggering didn't run altogether smoothly. That said, when blended with a well-recorded original it was surprisingly useable anyway.

Close integration with BFD is something that should set Drumagog apart from the competition, and as a user of BFD, I was keen to see just how effective this feature was. I eventually got things working well (very well indeed) but it was not without difficulty. My first issue was that I'd loaded two instances of BFD, one for drums and another for percussion — it isn't something Expansion recommend, but I've done it without problem on previous occasions. The problem was that this confused the hell out of Drumagog, because there's apparently no way for it to determine which instance of BFD it is supposed to communicate with: I was rewarded with a stream of loud and unpleasant digital nastiness that crashed the system and required me to abandon ship and reboot. I recommend you don't repeat the experiment with your speakers

turned on! This way might not be a typical scenario, but it is the sort of issue I'd expect good software design to protect you from.

I encountered the next problem because, as so many of us often do, I failed to 'RTFM' (in more polite parlance, 'consult the manual'). Because it can take an age to get started, I tend to load BFD before other plug-ins, so having reloaded my session after the crash, I loaded BFD before inserting Drumagog on a kick drum audio track. No warnings, no hint of a problem, nothing... until I started to play things back and everything was wildly out of sync, with triggered beats coming well behind the source track. Had I read the guidance, I'd have known that you need to load Drumagog before loading BFD, and to be fair, everything worked fine when I did that.

My guess is that to make it work any other way would require Expansion's programmers to modify the code of their plug-in, and that this is the best result Wavemachine Labs could get by programming in Drumagog alone. Nonetheless, this remains an annoyance: it should, at least, be easy for Drumagog to detect that BFD is already loaded and give you a warning. As it is, it means you have to plan everything out in advance; if you get it wrong, unloading and reloading BFD can take a lot of time and seriously disrupt your workflow. I also discovered that dragging and dropping to copy instances of Drumagog from one Cubase audio track to another (a lazy shortcut for me when I wanted to try it on the snare having already had an instance on the kick) puts Drumagog and BFD out of sync again. It isn't by any means a show-stopper, but this is one area that could be improved.



The timing of triggered sounds was pretty tight, with the attack transients lining up well, particularly when using BFD directly, although the MIDI output that was recorded into Cubase 4 seemed to lag behind.

For all my moaning, when you get past these initial gripes everything's pretty easy and the results are very good: it isn't that you can't trigger BFD using other systems but the ease of use here is stunning. The only visual difference you'll notice in BFD (I was using version 1.5.45, but Drumagog Platinum also works with BFD2) is that the word 'Drumagog' appears in conspicuous yellow capital letters next to the picture of the kit in BFD, but on closer inspection you'll also find that Drumagog's Pitch control adjusts the Tune dial of the relevant kit piece in BFD (this doesn't stop you adjusting the BFD Tune parameter independently).

I was able to get some great results on kick and snare replacement using BFD with my favourite libraries (*Platinum Samples Andy Johns* and *Joe Barresi Evil Drums*). One benefit of using BFD instead of a simple sample trigger is that you can take advantage of BFD's in-depth features such as the randomisation of samples that it plays, to create a more natural feel. Another is that you get control over room mics, overhead and PZM mics and bleed into other drum mics — all of which makes it very easy to get the new sound sitting unobtrusively in your mix. I found that Drumagog's Dynamic Tracking function, which detects the level of each hit on the source track and applies this to the triggered sound, was particularly effective when used with BFD.

It is worth noting one difference using BFD rather than the onboard sounds or MIDI: even when you mute the audio track on which you have Drumagog inserted (in Cubase — I didn't test it on other DAWs), it will still continue to trigger BFD, so to bypass that part, you'll need to turn off or bypass Drumagog itself, not simply mute the audio channel.

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## Accuracy?


I've used some drum trigger software in the past that has at first seemed impressive but has, on closer inspection, not been terribly accurate — resulting in phase-cancellation problems — so I decided to see just how accurate the triggering was in Drumagog. Having set the threshold and sensitivity to my satisfaction on a kick drum audio file, and set the Auto-align option as optimised for kick drums, I recorded the audio on to separate tracks for each of the possible outputs from Drumagog. These were, in order, the onboard synth, onboard samples, BFD triggered directly, BFD triggered by Drumagog's MIDI output, and the straight MIDI output, not mapped to any synth. I placed all these tracks above one another next to the track from which they were triggered, to show visually how accurate the timing was in each case. I repeated the tests several times and consistently got the same results — which, as you can see in the screenshot above, were both interesting and a little confusing.

As I mentioned earlier, Wavemachinelabs claim that Auto-align guarantees a perfect phase-aligned match, but as you can see from the screen capture, the timing of the different types of output does not appear to be equal (the timeline is in seconds). In relation to the source track (blue) the direct triggering of BFD (purple) from Drumagog appears very accurate. As you'd

expect, BFD triggered via MIDI (pink) has a slight delay, although I didn't experience audible problems. The onboard samples (orange) and synths (light green) may appear to have a slightly longer delay, but this is actually the result of Drumagog lining up the main attack transient — although, curiously, these signals appear to be 180 degrees out of phase with the source. The confusing thing is how the MIDI note (bottom) can be so visibly delayed when BFD audio triggered live by Drumagog from the MIDI output is not. I assume that either Drumagog doesn't auto-align MIDI notes, or that there's an issue with the MIDI somewhere on my test system.

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## Conclusion

Drumagog Platinum 4 isn't without problems, then, but they're pretty minor in the scheme of things — and it still stands head and shoulders above anything else that can be used with all the major DAW software (the only serious direct competition that I know of coming from the Pro Tools-only Drum Rehab by Trillium Lane Labs). Much of what the current version does was present in previous versions, but the integration with BFD is a huge plus point, meaning that you can dispense with the tedious mapping of MIDI data, while effortlessly achieving tighter results. The blend and dynamic tracking functions in particular are excellent, and there's more functionality here than I've had call to use on a project. I'd like to see a few refinements in the next version, but I can say without a doubt that when I next come to weeding my VST plug-in folder, this is one of those I'll be hanging on to! 

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## Alternatives

For Pro Tools users, Trillium Lane Labs' Drum Rehab offers arguably better functionality but is more expensive, and Digidesign Soundreplacer works off-line and can't therefore be used in real time or as a live trigger. Users of other sequencers have few serious options to rival Drumagog, but if you want to do more basic drum-replacement tasks, there are a number of commercial, shareware and freeware plug-ins available (my favourite being Smart Electronix's KT Drum Trigger), many of which I discussed in SOS May 2007 at [www.soundonsound.com/sos/may07/articles/cubasetech\\_0507.htm](http://www.soundonsound.com/sos/may07/articles/cubasetech_0507.htm)

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