

Drumagog 5

User's Guide

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Getting Started

Thank you for purchasing Drumagog 5, the latest drum replacement plug-in from WaveMachine Labs. Version 5 includes a number of new features and exciting changes since Drumagog 4. This manual is designed to get you started quickly, help familiarize users with the new developments, and explain all of the powerful features Drumagog has to offer.

DRUMAGOG VERSIONS

Drumagog 5 is available in three versions: Basic, Pro, and Platinum. To compare features and prices, visit our website's Compare Edition's page (www.drumagog.com/features/compare-editions).

REGISTRATION

NOTE: If you've purchased Drumagog through our web site (www.drumagog.com), please skip this step as you were automatically registered during checkout.

Before installing a store-bought copy of Drumagog you must register with us via the Drumagog web site; without registering you won't be able to authorize and use your copy. Please visit www.drumagog.com and create an account by clicking the "Register" link in the upper right-hand area of the page. Fill out the simple registration form with the serial number included in the Drumagog 5 box. After submitting the form your account will be created and you will immediately find

available updates, samples, and authorization options in the “My Account” section.

SOFTWARE INSTALLATION

Installation of Drumagog 5 is a relatively straight-forward process (either via download or DVD).

Downloadable Version

If you purchased Drumagog through our website (or just want the latest version), visit the “My Account” section of www.drumagog.com to find your download (Mac and PC). Download the latest installer for your specific OS and simply double-click on the finished download to start the install.

DVD Version

If you purchased Drumagog through a retail store, insert the DVD into your DVD drive, open the folder labeled for your OS and run the appropriate installer. However, we also recommend downloading and installing the latest update of Drumagog 5 from your account at www.drumagog.com. The latest update will include recent bug fixes and additional features that are typically not included in DVDs (as DVDs can be outdated depending on how long they sat on a store shelf).

NOTE: The Drumagog 5 DVD contains both the Pro and Platinum editions. You must select your purchased version when installing or else the subsequent authorization process will fail.

The actual install itself is very simple, as the Drumagog installer will automatically copy the necessary components into their default locations. For those who wish to install using custom locations options are available to do so during the installation.

SAMPLE LIBRARY

DVD Installation

The full Drumagog 5 Sample Library is contained on the installation DVD and can be installed immediately after installing the plug-in itself:

DVD - PC Users

The Drumagog 5 DVD installer will automatically prompt you to install the included GOG Files. Simply click “Next” to have the installer automatically copy the library to your hard drive.

DVD - Mac Users

Inside the “Mac” folder, alongside the plug-in installer, is a folder called “GOG Samples”; simply copy (or drag) this folder onto your hard drive. The default location is inside the Drumagog 5 folder (inside the “Applications” folder), but with the new File Browser section of Drumagog 5 the sample folder can be located wherever you choose, including an external hard drive.

Downloadable Installation

The entire Drumagog 5 Sample Library is available to all registered Drumagog 5 users via www.drumagog.com. Visit the “Downloads” page (found in the “Support” section) to find the full list of sample installers. The library is divided into smaller downloads for easier transport.

Each download contains a number of GOG Files compressed in Zip format. After downloading a particular Zip file, simply unzip the file into the “Drumagog 5/GOG Files” folder (found in the “Applications” folder for Mac, “Program Files” for PC). The Zip files will create new folders where needed.

NOTE: Using the new File Browser section, the sample library can actually be installed in any location you prefer, as you can easily just browse to the samples' location. Refer to the "File Browser" section of the *GOG & Sample Management* chapter for instructions on designating a new location for the default GOG folder (such as a second hard drive).

AUTHORIZATION

Drumagog 5 introduces iLok support for those who prefer that license management system (requires a USB iLok, either 1st or 2nd generation, plus an ilok.com account).

For those users without an iLok, Drumagog 5 also supports an alternate method called License File authorization.

When purchasing Drumagog through our web store or registering a store-bought copy, there will be a choice for which copy protection system to use.

iLok Users

To use your iLok with Drumagog 5 you will need to deposit your license into your iLok.com account:

1. Visit the "My Account" page on Drumagog.com
2. Click the "Authorize This Product" link in the "My Downloads" section
3. Choose "I have an iLok" from the drop-down list
4. Enter your iLok User ID
5. Click "Authorize"

A Drumagog 5 license will be automatically deposited into your account and made available for download through ilok.com. Once the license is downloaded from your account and deposited to your USB iLok the authorization process is complete and any system the iLok key is connected to will authorize Drumagog 5.

License File

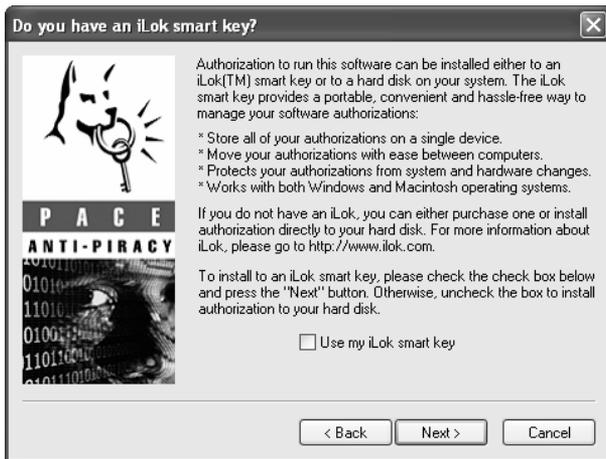
If you do not own an iLok (or otherwise prefer not to use one), Drumagog 5 can instead be unlocked via an alternate License File system.

The first-time Drumagog 5 is opened without an iLok present (or with an iLok present missing a valid Drumagog 5 license) a window will appear on-screen:



Authorization Window

Press the “Authorize” button to continue.



On the next screen, uncheck the “Use My iLok smart key” box and press “Next” to continue.

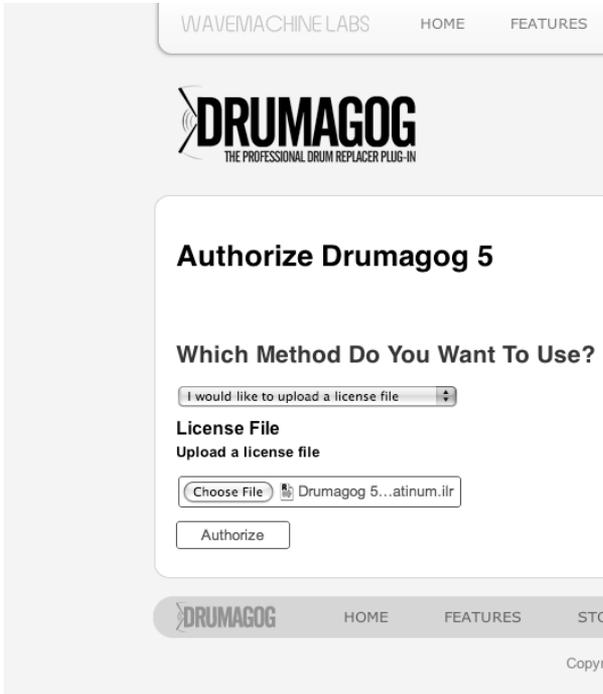
The next window will present the License File section:



License File Section

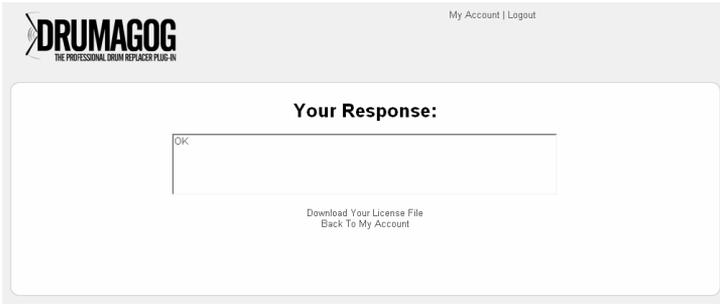
Drumagog 5 will present a button to “Save License Request”. Click this button to create a License Request File that will be saved to your system (after designating a save location like the Desktop). Take note of where the file is saved so you can find it again in a few moments.

Browse to Drumagog.com and visit the “My Account” section (by logging-in through the upper-right hand corner). Your copy of Drumagog will appear in the list of registered products and will include an “Authorize This Product” link. Clicking this link will give a choice to authorize via iLok or License File. Select “I would like to upload a license file” to bring up the following page:



www.drumagog.com License File Page

Click the “Choose File” button to upload your saved License Request File to the server, then click the “Authorize” button. After a slight pause while the Drumagog.com website contacts the authorization servers, a License Response File will be generated and you will see an “OK” message.



Click the “Download” link below the message to save the License Response File back onto your computer.

Back in Drumagog click the “Read License” button. Select the License Response File that was just saved to your system to complete the License File authorization process.

2

Contacting Tech Support

We're always glad to answer any questions you may have about using Drumagog. Please don't hesitate to contact us by:

E-mail: support@drumagog.com

US Mail: WaveMachine Labs, Inc.
 4256 N. Ravenswood Ave
 Suite 111
 Chicago, IL 60613

Our web site at: <http://www.drumagog.com/support> contains useful information, FAQ's, and other tips.

Also, our users' forum has many helpful questions and answers from other users. Posting your question on the forum usually results in a quick answer. To visit the forums click on "Forum" on the Nav Bar of the Drumagog.com homepage.

3

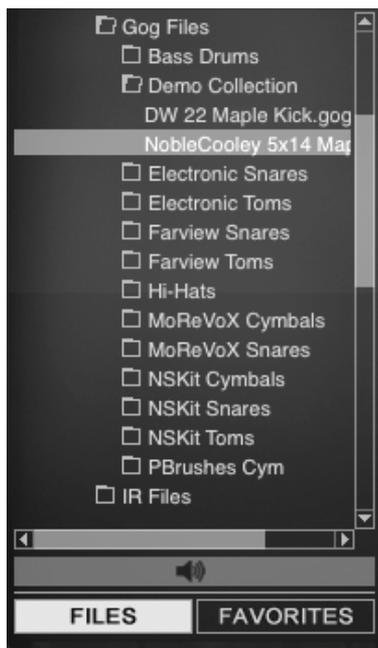
New User Tutorial

For those new to using Drumagog (or drum replacement in general), please follow along with this basic overview to jump in and begin enhancing your drum sound!

Drumagog is an audio plug-in that is inserted onto an audio track containing an individual drum track; Drumagog then listens to the track during playback and detects every time there is a drum hit. When Drumagog recognizes a hit it selects a sample (a short audio recording of a drum hit) and plays it back, and even analyzes both the source hit and the new sample and adjusts the timing of the replacement so it “fits in” properly with the original, allowing the new sound to either completely replace the original or be blended with it. It does all this in real-time, or “on-the-fly”, making it very simple to hear what Drumagog is doing at all times.

Open your preferred audio application (Pro Tools, Cubase, Logic, SONAR, etc) and find an individual audio drum track. Try it with a kick or snare track at first, as these are usually easier to replace than a tom or cymbal (though it certainly is possible!). Add Drumagog 5 to an insert point on that track, and the Drumagog 5 plug-in window will open.

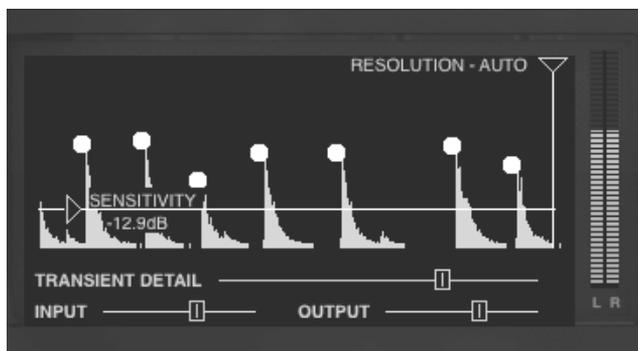
By default Drumagog will have one of its stock “Demo Collection” sounds loaded, indicated by a filename being highlighted (selected) in the File Browser window on the left-hand side of the plug-in window.



File Browser indicating a selected GOG File

We'll stick with the pre-selected sound for now. Press play in your audio application's transport to begin playback.

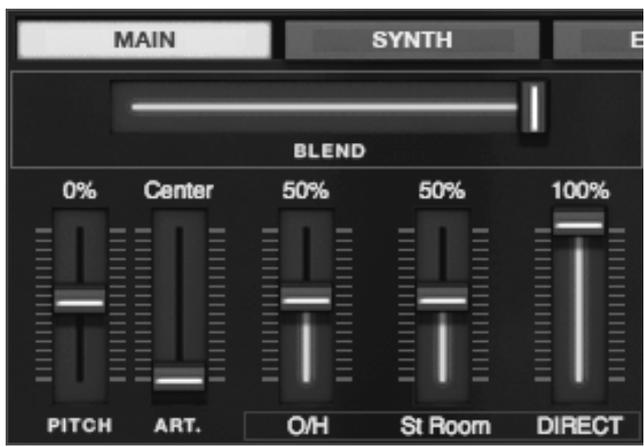
As soon as your drum track begins, Drumagog 5 will display the incoming audio in the bottom-left corner Visual Triggering window.



Visual Triggering Window

The louder the audio, the higher the waveform is on the display. Drag the horizontal “Sensitivity” slider down until white circles begin appearing superimposed on the audio display. You should now be hearing Drumagog trigger its samples on every hit. Adjust the “Sensitivity” slider until all the wanted drum hits are above the slider (i.e. louder than the threshold), but the bleed-thru from the other drums are below the slider. Adjust the “Transient Detail” slider if needed: move it right if Drumagog is missing quick flams, blast beats, ghost notes, etc, or move it left if Drumagog is adding extra hits (i.e. double triggering).

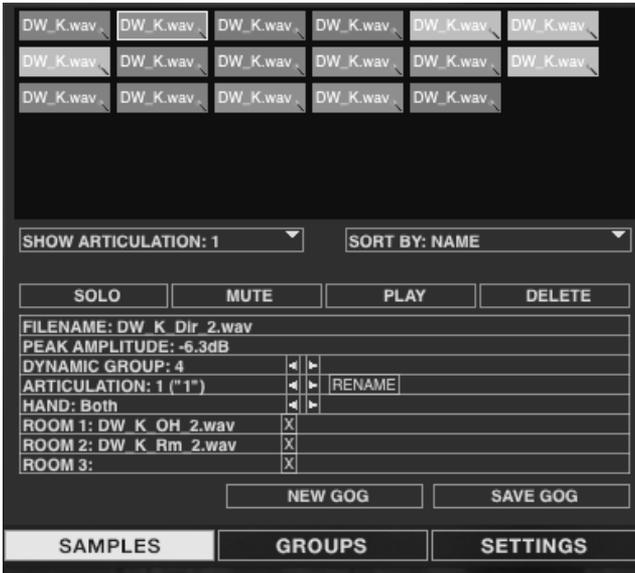
Look at the “Main” window, in the middle of the bottom section, for a mixer section.



Mixer Section

Find a fader that says “St Room” and begin raising the level of the fader. You are now adding a stereo room to your chosen drum sound (if the faders are grayed out then you don’t have Drumagog 5’s default GOG File loaded). Add as much or as little of the two available Room Samples faders as you like.

Watch the Samples window, found at the top of the plug-in window. This section lists the individual samples that make up the currently loaded GOG File, and will light up as each one plays.



Samples Window

Watch how Drumagog randomly chooses from the sample pool, one of the ways Drumagog achieves the most natural drum sound possible.

And that's it; Drumagog is now replacing your drum track! And for more online tutorials check out our "Video" page at Drumagog.com.

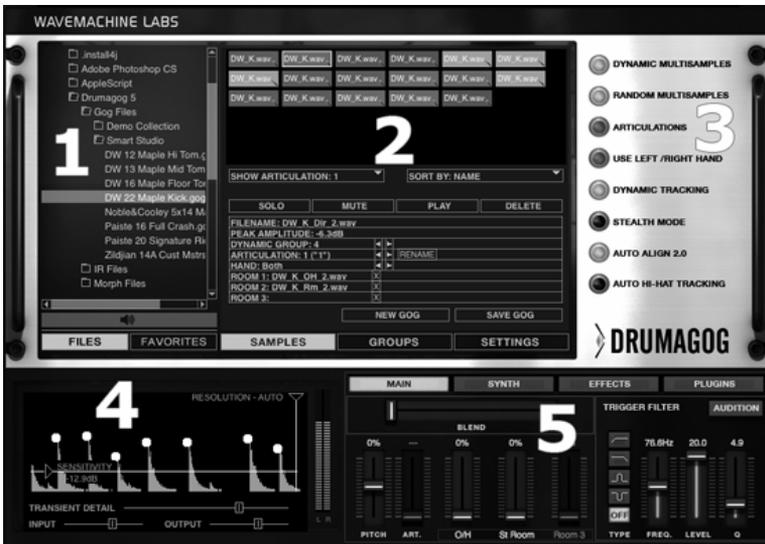
4

Interface Layout

Drumagog 5 contains many new and exciting features. This chapter will explain the changes in the new interface made since version 4.

PLUGIN WINDOW LAYOUT

The first change most users will notice is the all-new plug-in window. Drumagog 5 uses a much larger interface with more useful information available at once.

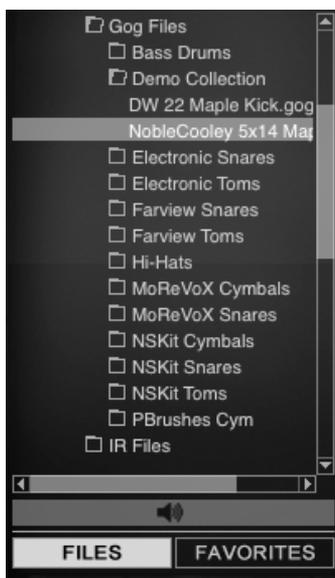


Drumagog 5 Plugin Window

The new plug-in window is divided into several sections:

1. File Browser
2. Samples/Groups/Settings
3. Options Panel
4. Visual Triggering
5. Main/Synth/Effects/Plugins

FILE BROWSER



File Browser

Drumagog 5 has an entirely new browser window designed to show your entire file system at once; no more need to keep all your GOG files in just one location, or using the old Browse option to find your samples. Every hard drive (local or network) appears in the File Browser at all times, so navigating large sample libraries is simpler than ever. With the added support for “drag and drop” and shift-click (selecting multiple files at once), moving samples into your sample pool is a breeze.

Files

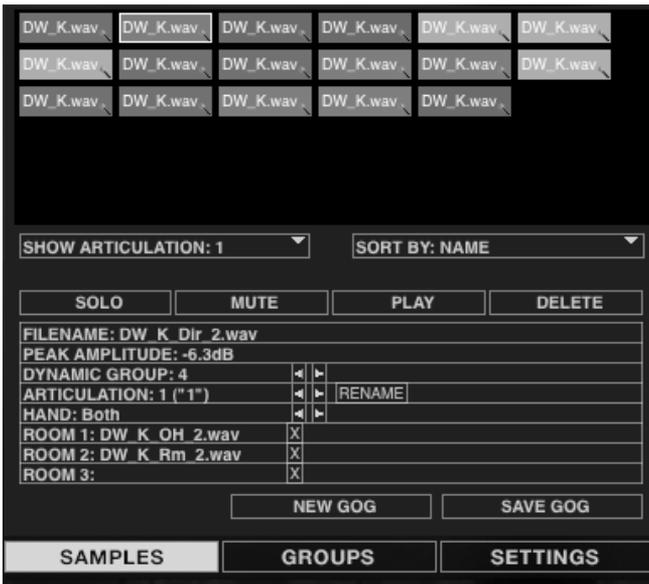
Each drive is listed alphabetically by drive name, and each folder, sub folder, and file is also sorted by name. To expand a folder left-click the folder once, and click a second time to close; to load a GOG File double-click on the filename.

Favorites

Often used GOG Files can be stored in a separate Favorites list, making them easily accessible even on the largest hard drives. Click “Favorites” to switch to this view. To add a file to your list just right-click on the GOG File and select “Add To Favorites”.

SAMPLES/GROUPS/SETTINGS

Samples



Samples Window

The Samples window contains most of the same information as Drumagog 4, but now with more information displayed at once.

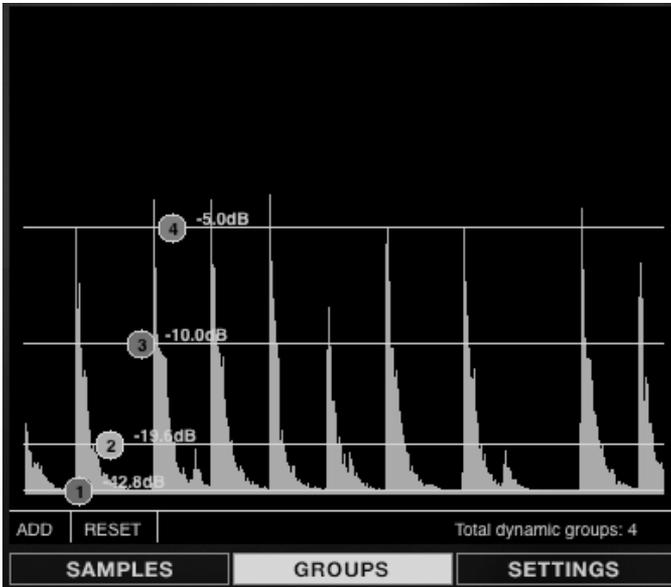
Clicking on a sample in the top pool window will display that sample's specific details:

- Filename
- Peak Amplitude
- Dynamic Group
- Articulation Group
- Left/Right Hand
- Room Samples

There is a new sort option in Drumagog 5, accessed through the “Sort By” drop-down list. The sample list can be sorted either alphabetically (by name), by peak dynamic level (i.e. loudness), or by Dynamic Group.

NOTE: “Articulations” has replaced “Positions” (used in version 4), and simply represents a change in name to better coincide with other drum software packages.

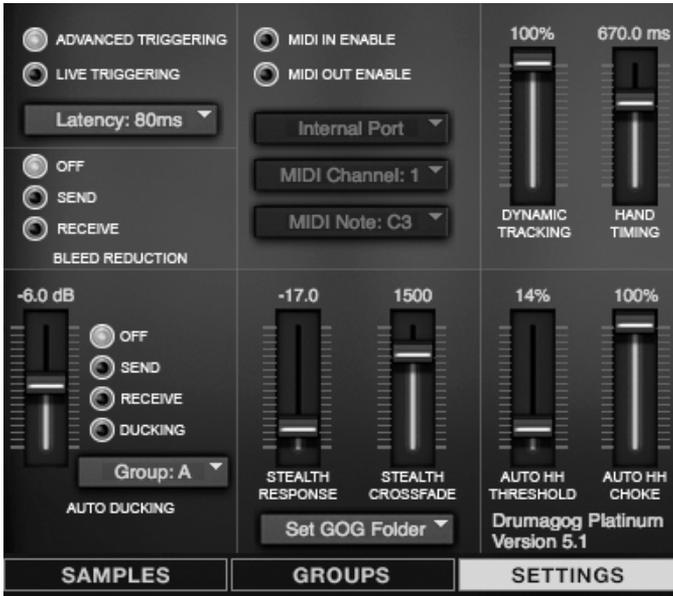
Groups



Groups Window

The Groups window remains unchanged from version 4. Just slide the horizontal lines (one for each Dynamic Group) to adjust the dynamic-level break points between each group.

Settings



Settings Window

The Settings window has been re-designed but contains most of the same information as in version 4. There are some changes, however.

NOTE: The Settings window will appear differently based on if you own Drumagog 5 Basic, Pro, or Platinum.

“Advanced Triggering” and “Live Triggering” switches between Drumagog 5’s two different engines: Advanced Triggering mode is the default and is the appropriate setting for most mixing scenarios, Live Triggering mode is a low-latency option designed for live use (or extremely fast passages).

“Latency” adjusts the overall total latency through Drumagog 5 (except for any caused by Auto Hi-Hat Tracking. For more information see that section of this manual). The default setting is "80ms, and should be left as-is in most situations. However, for those users who prefer lower total latency (like Pro Tools users using Plugin Delay Compensation) other lower settings are available, but use of these lower latencies may result in lowered accuracy.

NOTE: Changing the above setting alters Drumagog’s total latency and will require restarting the plug-in (and in some cases the audio host) to take affect.

OPTIONS PANEL

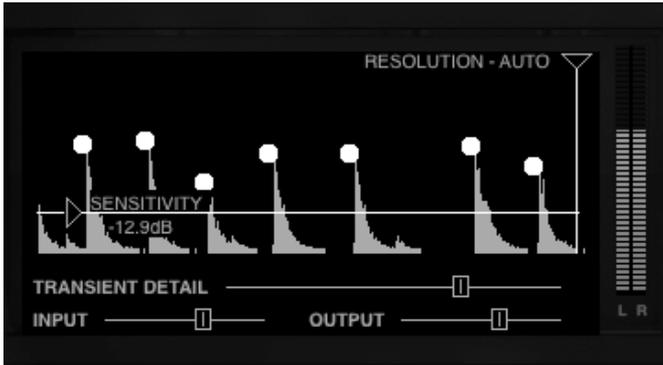


Options Panel

The Options Panel, which resides on the far-right side of the plug-in window, contains On/Off buttons for many of Drumagog’s most common features. This panel is mostly unchanged from previous versions with the exception of the “Auto Hi-Hat Tracking” button,

which enables that new feature. For more information check the “Auto Hi-Hat Tracking” section of the *Triggering & Alignment* chapter.

VISUAL TRIGGERING



Visual Triggering Window

Drumagog uses a visual triggering interface that streamlines the adjustment of the related controls. A scrolling, real-time waveform display is shown with the controls superimposed on top. This provides a visual indication of exactly how the various controls interact with the incoming audio. For example, the sensitivity control is represented as a horizontal line that can be moved up or down, and as the incoming audio scrolls past it's easy to see which audio impulses will trigger Drumagog and which will not. All the audio above the line will cause a trigger, and the audio below it will be ignored. The incoming audio that scored a "hit" is displayed as a white dot, making it easy to see a history of Drumagog's triggered hits.

Sensitivity

Adjusting Drumagog using the Visual Triggering window is quite intuitive. As seen above, the “Sensitivity” control is represented by a horizontal line; any peak above this line will trigger Drumagog. If there is background noise or bleed from other instruments present in the

audio track just raise the horizontal line above the noise floor. Simply adjust the line above the noise floor and below the softest drum hits.

Resolution

The “Resolution” control is represented by a vertical line; moving this line right or left adjusts how long Drumagog must wait before triggering again. If your track doesn’t contain any hits closer than 1 second apart, just set the resolution to 1000ms. This way Drumagog will ignore all audio for 1000ms after each hit, even if it’s above the “Sensitivity” threshold. The default setting is “Auto”, the quickest response with no additional wait time.

Transient Detail

This slider changes the amount of detail Drumagog detects when triggering. If the slider is set to the right, Drumagog will pick up all the tiny nuances of a drum hit, including “ghost notes”, etc. However, if the slider is set too far to the right it might pick up too much detail and falsely trigger. Moving the slider to the left reduces the amount of detail, useful for noisy tracks. The default setting in the middle is good for most tracks, but some adjustment may be necessary.

Triggering Circles

Drumagog displays a white circle above each peak that triggered. This is useful in determining if Drumagog is triggering on the desired hits, or if miss-hits are occurring.

NOTE: The height of the drum circle represents Drumagog’s actual output volume level. If dynamic tracking is turned off, the circles will always be drawn at the same height. If the calculated output level is higher than 0dB the circles will be drawn above the waveform. This provides an accurate picture of Drumagog’s output volume in relation to the original track.

MAIN



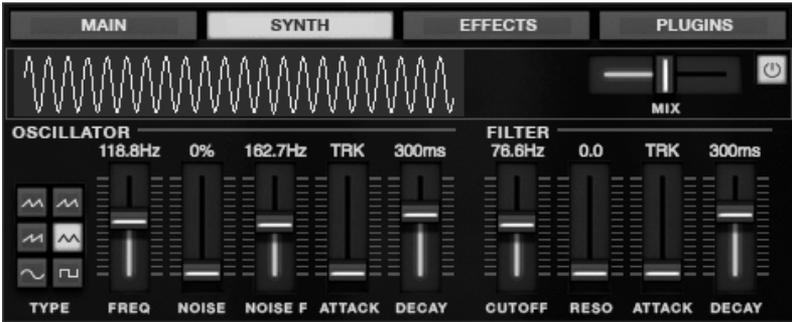
Main Window

The Main window contains controls for some of the most basic elements in Drumagog 5. This is where many of the knobs found in Drumagog 4 have been moved, and now are controlled via faders.

The Pitch and Trigger Filter sections remain unchanged. The “Articulations” fader has replaced the “Position” knob and performs the same function, switching between Open/Closed Hi-Hats, etc.

New to version 5 are the Room Samples faders, three new controls found in the mixer section of the Main window. In the above example the loaded GOG File contains three separate slots (O/H, St Room, and Direct). If a GOG File contains two or fewer room sounds, the Room Samples faders of the remaining slots will be grayed out. To use them just raise the corresponding fader to start utilizing the ambient sounds.

SYNTH



Synthesizer

Drumagog 5 includes a more powerful synthesizer section than previous versions. Utilizing the Oscillator and Filter options, additional waveforms can be added to the drum sound, allowing a vast amount of control to enhance the resulting sound.

To use the synth, first press the “Synth” button to bring up the synth window. Various waveforms are available in a menu on the left-hand side, including sine, square, and saw-tooth. A real-time waveform is displayed at the top of the window, showing the overall wave-shape of the resulting output.

EFFECTS/PLUGINS

Each of the various effects (Convolution Reverb, Morph|Engine) and the included Plugin Hosting capability has its own detailed section found later in this guide.

5

New Features

NEW TRIGGERING ENGINE

Drumagog's already powerful triggering engine has been improved to more accurately track the most demanding drum tracks. Even complicated rolls and flams are no match for Drumagog 5's new triggering engine.

The “Transient Detail” slider has been moved from the Settings page into the Visual Triggering window, making it much easier to adjust for complicated flams, rolls, blast beats, etc. See the “Visual Triggering” section for more information on this control.

ROOM SAMPLES

The GOG sample format has been extended to include room and mic samples: Simply dial in the amount of room desired using the new mixer interface. Drumagog 5 comes with an updated GOG sample library to take advantage of this powerful new feature.

Room Samples are essentially additional samples attached to specific direct samples. Take a snare drum as an example: the primary sample is the close-mic'd, or “direct” sample; a recording of an up-close mic right on the snare, with little to no ambience. Attached to this direct sample can be up to three more samples, allowing for three different room or ambient sounds to complement the direct sample.

Drumagog 5 allows sample makers the ability to designate specific room samples for every hit, and does not use a “generic” sample for every hit. This is not only for phase-accuracy, but also it creates a more realistic sound, as the original hit’s dynamics are 100% reproduced in the room sounds.

At the bottom of Drumagog 5’s Main tab is a new mixer window where each of these additional room sounds will appear on individual faders. Drumagog 5 comes with new GOG files that contain both an “O/H” slot (stereo Over-Heads) and a “St Room” slot (Stereo Room). Simply slide the fader higher on the mixer to add these new ambient mics to Drumagog’s playback. Some GOG files can also have a “Direct” fader. This controls the amount of direct or “close-mic” in a GOG file.

Adding room samples to your own library is easy: Find and drag the desired room sample file from the File Browser window (on the left-side of the plug-in window) and simply drop it on the corresponding direct sample; a pop-up window will appear requesting which Room Slot the room sample should correspond to. Once the first room sample is added to a slot the corresponding fader will activate in Drumagog’s mixer. To re-name the slot just double-click the “Room #” label at the bottom of the fader.

AUTO ALIGN 2.0 (PRO & PLATINUM)

A collaboration between WaveMachine Labs and Fraunhofer (inventors of the MP3 format) has resulted in a revolutionary new alignment algorithm. Drums hits are perfectly aligned and sample accurate. Drumagog now has the most accurate sample alignment algorithm available anywhere.

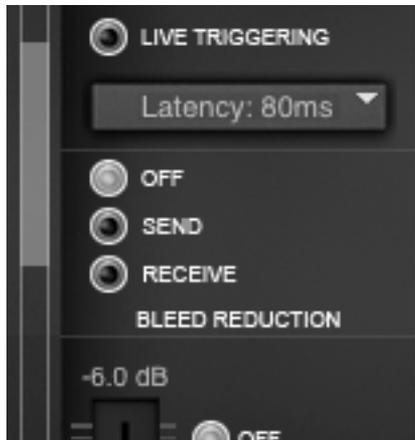
Drumagog 5 features two distinct alignment modes: Auto Align and Transient. To switch between the two modes simply press the “Auto Align 2.0” button on the right-hand panel; turning off (i.e. the light is off) Auto Align enables Transient mode, and vice-versa.

The default setting in Drumagog 5 is Auto Align 2.0, which usually results in the closest and tightest alignment of the original and new drum hits. This algorithm takes into account a number of factors when aligning the hits, including phase accuracy. This mode analyzes the whole drum hit, not just the initial transient, when aligning.

In Transient mode Drumagog 5 uses a simpler approach, and aligns the initial transients of the two drum hits. This mode usually works best on tracks where the original and new drum sounds are fairly similar.

BLEED REDUCTION (PRO & PLATINUM)

Bleed Reduction allows Drumagog 5 to eliminate other drums from bleeding into a track and adding unwanted triggering. If, for example, the kick drum was bleeding into the snare drum mic, Bleed Reduction mode will prevent Drumagog from playing snare hits caused by the kick.



Bleed Reduction Section

The Bleed Reduction controls are found in the upper left-hand corner of the Settings section. To use Bleed Reduction insert an instance of Drumagog 5 onto the track causing the bleed (i.e. the kick track, in our

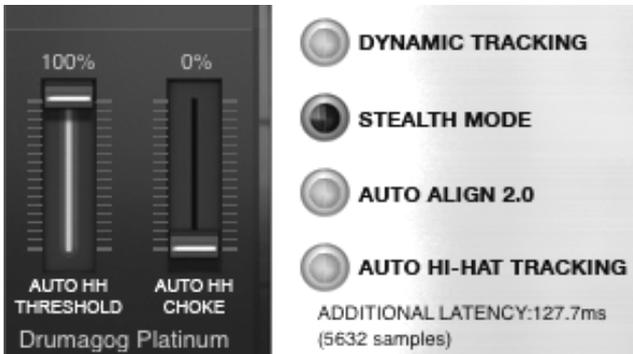
example above) and another Drumagog instance on the track where you wish to remove the bleed (i.e. the snare track). On the track causing the bleed click the “Send” button. On the track where you wish remove the bleed click the “Receive” button. When you play back the project any bleed from the kick track will be completely removed from the snare track, eliminating those unwanted triggers!

NOTE: Bleed Reduction can send from multiple Drumagog instances, but only one track can be set to receive.

AUTO HI-HAT TRACKING (PLATINUM ONLY)

One of Drumagog 5’s new features is an exciting breakthrough in drum replacement, Auto Hi-Hat Tracking. Now Drumagog will recognize different hi-hat pedal articulations, like fully closed, fully open, half-open, etc, and then automatically play back those articulations.

To use Auto Hi-Hat Tracking, first insert Drumagog 5 onto a hi-hat track, and then load a hi-hat GOG file that contains multiple articulations (i.e. open, half-open, closed, etc). Next, click the “Auto Hi-Hat Tracking” button in Options Panel (see figure) to enable the tracking.



Auto Hi-Hat Tracking

When you press play in your DAW, Drumagog will automatically begin following the detected pedal articulations. The “Articulations” slider will begin moving during playback showing how Drumagog is following the changes.

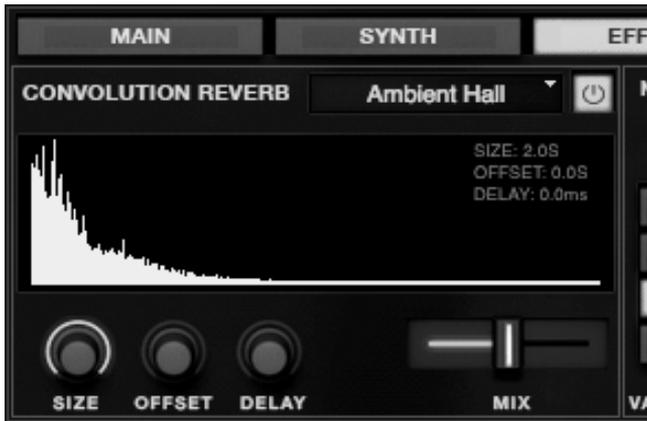
“Auto HH Threshold” controls how sensitively the tracking algorithm determines the differences between the track’s various articulations. Moving the slider down causes Drumagog to favor closed hits, and moving it higher favors open hits. Adjust this slider until Drumagog is choosing the appropriate articulations in relation to your source track.

“Auto HH Choke” adds an additional crossfade when switching from one hi-hat articulation to another. The default level of 100% adds no additional crossfade time, but may be adjusted to taste in order to smooth transitions from one articulation to another.

NOTE: When using Auto Hi-Hat Tracking, Drumagog will transmit MIDI continuous controller data (CC#4) via both its MIDI Out and Plug-in Hosting. This can be enabled in plug-ins, like BFD, to control hi-hat articulations

IMPORTANT NOTE: Once Drumagog is correctly following the hi-hat track there is one minor correction that must take place. In order for Drumagog to accurately analyze the incoming audio and determine which articulation is which, Drumagog’s incoming audio buffer needs more time to analyze the source track. This results in an extra amount of delay through the plug-in, which will cause a slightly delayed output that is NOT automatically corrected by Plugin Delay Compensation. The simplest way to correct for this is to move the hi-hat track EARLIER in time; you will find the exact amount of time shift needed displayed just below the Auto Hi-Hat Tracking button in Drumagog’s right-hand panel. Just slide the hi-hat track exactly that much earlier in the timeline and your resulting track will sound perfectly in time.

CONVOLUTION REVERB (PLATINUM ONLY)



Convolution Reverb Window

Drumagog 5 now includes a high-quality convolution reverb. This reverb features adjustable room size, offset, delay and more. It comes complete with an IR library custom-tailored for use with Drumagog samples. If you have an existing IR library, the reverb also reads standard 16 or 24-bit IR files.

To enable Drumagog 5's Convolution Reverb, first press the "Effects" button to bring up the appropriate controls, then press the ON button to turn on the reverb. Select an IR file from the drop-down menu at the top of the reverb section, and then just adjust the "Mix" control to create the right balance of drum and reverb.

The following controls offer more adjustable parameters:

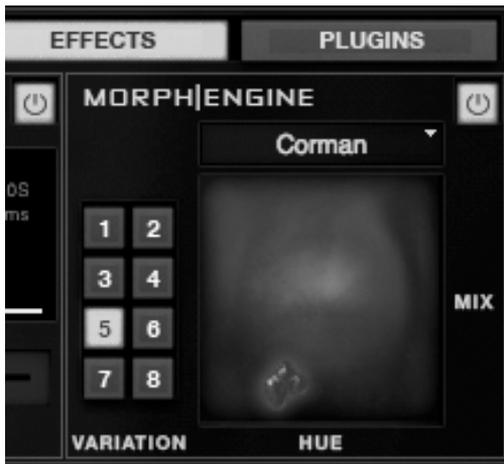
"Size" adjusts the overall size of the acoustical space, expressed in seconds (i.e. length of the reverb tail).

"Offset" moves the start of the reverb further back in the IR; in other words it moves the listener forward or back inside the acoustical space. Increasing the Offset will lessen the early reflections captured at the beginning of the IR, creating a more diffuse sound, albeit with a shorter reverb tail.

“Delay” shifts the entire reverb later in time, creating “dead space” before the start of the reverb. This control is the same as the pre-delay control found in most reverbs.

“Mix” simply adjusts the balance between the original “dry” drum sound and the “wet” reverb.

MORPH|ENGINE (PLATINUM ONLY)



Morph|Engine Window

In collaboration with MoReVoX sound designer Sabino Cannone, Drumagog 5 includes an entirely new way to process drums. Morph|Engine is a dynamic morphing processor which shapes your drums in a way never heard before. Snare drums take on an organic “growl”, bass drums sound like they have liquid skins. Unlike traditional processing, Morph|Engine is fluid and dynamic, changing with the dynamics of every beat.

To use the new Morph|Engine, click the “Effects” button in the Drumagog 5 interface, and enable the engine by pressing the ON button. First select a Morph (the basic element of the engine) from the

drop-down list at the top of Morph|Engine window. Then try the eight included variations of this Morph by selecting the corresponding numbered buttons on the left-side of the window. Each variation makes some slight changes to the overall Morph, allowing a great number of combinations.

Finally, grab the “Blob”! Click and drag the “Blob” around the window to shape and mold the resulting sound: Moving the “Blob” left and right adjusts the “Mix” (or balance) of the original vs. Morphed drums, while up and down adjusts the color “Hue” (or frequency spectrum). Like all Drumagog controls these parameters can be automated for precision changes to your settings.

PLUG-IN HOSTING (PLATINUM ONLY)



Plug-In Window

One of the biggest new features in Drumagog 5 Platinum is Plug-In Hosting, which is the ability for Drumagog to now “host” another VST Virtual Instrument (VSTi). This allows Drumagog to trigger the VSTi’s selected sound without using any cumbersome (and less accurate) MIDI routing. Drumagog will trigger the VSTi in real-time, and even supports virtual instruments through the new Plug-In Output Mixer.

To use Plugin Hosting, first press the “Plug-Ins” button to switch to this view. The first pull-down menu is labeled “Select”, and contains several different options:

“Unload Plug-In” does exactly that and un-instantiates the loaded VSTi.

“Refresh Plugin List” will re-scan your VST Plug-ins folder. Use this whenever a new VSTi is installed onto the system (otherwise it won’t appear in the list).

“Set Plugin Folder” changes the folder location where Drumagog looks for installed VSTi’s. By default this is set to the default VST Plugins folder.

Below the above options will be the detected VSTi list. Double-clicking on something from the list will load that specific VSTi into Drumagog.

There are a few additional parameters available in this section that need to be set when hosting a VSTi:

“MIDI Channel” and “MIDI Note” assigns the specific MIDI channel and note values Drumagog sends to the VSTi. Both the note name and MIDI note value are displayed, as in “C3 (60)”, as not all VSTi’s use the same MIDI standard to designate octaves.

Mix simply adjusts the level between Drumagog’s selected GOG file and the hosted plug-in. This allows users to layer two simultaneous drum sounds at once!

Finally, the Output Mixer allows for VSTi’s with multiple outputs to be mixed inside Drumagog 5.

NOTE: Drumagog 5 works by hosting the selected VSTi in an individual instance of Drumagog. The VST hosting spec does not contain a system for multiple hosts to access the same VSTi at once,

which means that if a project has three different Drumagogs instantiated, and the user wants each one to trigger a VSTi, then each Drumagog instance must host its own VSTi; there is no way to load only one instance of the VSTi. The good news is that as long as only the needed sound(s) is loaded in the VSTi, memory usage won't be appreciably higher running several smaller instances of a VSTi over running one larger instance.

6

Triggering & Alignment

HOW DRUMAGOG WORKS

Replacing drums using Drumagog can be as simple as inserting Drumagog onto the desired audio track. Often, no fine-tuning is needed – just plug it in and go. However, a general understanding of the drum-replacing process can help for more challenging drum tracks.

Drumagog is not a stand-alone program; it's a plug-in. To use Drumagog, it must be inserted into an audio track in a compatible application (for example Pro Tools, Logic, Nuendo, etc). Drumagog works by listening to the incoming audio and playing a sample when the volume of the audio reaches a certain level. This level is called the threshold. Every time the audio reaches the threshold level, a sample is played. The threshold is controlled by the Sensitivity Bar on the Visual Triggering window. The sample is automatically chosen from the current Sample Pool.

Drumagog can use a variety of sample formats (GOG, WAV, AIFF). It also has a very powerful multi-sample implementation. Multi-samples are collections of individual samples grouped in such a way as to improve the realism of the drum being replaced. Multi-samples come in four flavors: Dynamic Multi-Samples, Random Multi-Samples, Articulation Multi-Samples, and Hand Multi-Samples. Drumagog can use sample sets comprised of one or more of these types.

TRIGGERING ENGINE

Drumagog's advanced triggering engine makes drum replacing a breeze. It accurately tracks the incoming audio and replaces even the most detailed drum nuances with ease. In addition to the basic controls to adjust input, output, and triggering parameters, Drumagog features several controls for custom tuning of the overall triggering process.

Triggering Modes

Drumagog 5 has two triggering modes to choose from: Advanced and Live. The default setting is Advanced. These modes change the method Drumagog uses to trigger an incoming hit. Usually, the default mode works fine, but in some cases you may find that a different triggering mode works better for your particular situation (i.e. using Live Mode for blast beats).

NOTE: If you purchased Drumagog 5 Basic, only one triggering mode is available – Advanced.

Advanced Triggering mode is highly recommended over Live Triggering mode, as it has superior triggering capabilities. However, it also introduces some latency (80ms by default) and uses more CPU than the other triggering mode (if your audio program supports Plug-in Delay Compensation, the latency will be of no consequence). In this mode, using the Transient Detail slider changes the amount of detail Drumagog will trigger on. If the slider is set to the right, Drumagog will pick up all the nuances of a drum, including “ghost notes”, etc. However, if the slider is set too far to the right, it may falsely trigger reacting to too much detail. Moving the slider to the left reduces the amount of detail, useful for noisy tracks. Setting the slider in the middle usually provides the best balance.

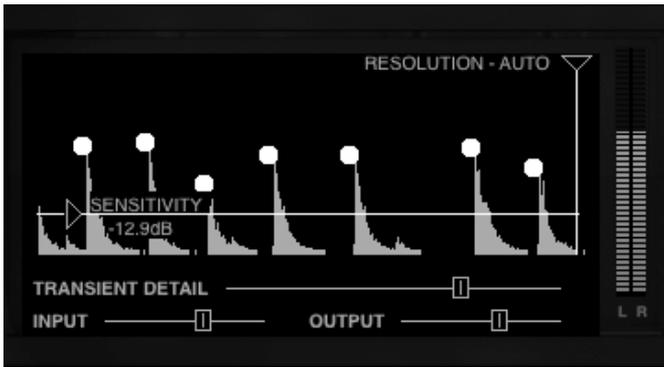
Live Triggering mode introduces minimal delay (3-4 milliseconds of latency), but has lower accuracy in terms of dynamics. It is mostly recommended if using Drumagog at a live show (i.e. running on a laptop plugged into the FOH console) where latency cannot be compensated. It is therefore not recommended for general use (i.e.

mixing in a studio), except in cases where extremely fast re-triggering is needed. In this mode, the Transient Detail slider controls a balance between accuracy and tracking speed. Setting the slider towards the right will cause Drumagog to respond to changes in dynamics faster. Setting the slider towards the left provides for higher triggering accuracy. Setting the slider in the middle is usually good in this mode.

VISUAL TRIGGERING WINDOW

Drumagog uses a visual triggering interface that streamlines the adjustment of the related controls. A scrolling, real-time waveform display is shown with the controls superimposed on top. This provides a visual indication of exactly how the various controls interact with the incoming audio. For example, the “Sensitivity” control is represented as a horizontal line that can be moved up or down, and as the incoming audio scrolls past it's easy to see which audio impulses will trigger Drumagog and which will not. All the audio above the line will cause a trigger, and the audio below it will be ignored. The incoming audio that scored a “hit” is displayed as a white dot, making it easy to see a history of Drumagog’s triggered hits.

For even greater flexibility, Drumagog offers another control called “Resolution”. This control sets the amount of time Drumagog should wait before re-triggering. It’s very useful in situations where it is difficult to set the threshold, due to a noisy track. If you know that the drummer never plays any faster than once every half-second, just set the resolution to 500ms. This way, when a drum sample is played, Drumagog will wait 500ms before allowing the next sample to be played. During this 500ms, Drumagog ignores any audio, even if it is louder than the threshold level. This minimizes false and double triggers due to extraneous noise.



Visual Triggering Controls

Sensitivity

Adjusting Drumagog using the Visual Triggering window is quite intuitive. As seen above, the “Sensitivity” control is represented by a horizontal line; any peak above this line will trigger Drumagog. If there is background noise or bleed from other instruments present in the audio track just raise the horizontal line above the noise floor. Simply adjust the line above the noise floor and below the softest drum hits.

Resolution

The “Resolution” control is represented by a vertical line; moving this line right or left adjusts how long Drumagog must wait before triggering again. If your track doesn’t contain any hits closer than 1 second apart, just set the resolution to 1000ms. This way Drumagog will ignore all audio for 1000ms after each hit, even if it’s above the Sensitivity threshold. The default setting is “Auto”, the quickest response with no additional wait time.

Transient Detail

This slider changes the amount of detail Drumagog detects when triggering. If the slider is set to the right, Drumagog will pick up all the tiny nuances of a drum hit, including “ghost notes”, etc. However, if the slider is set too far to the right it might pick up too much detail and

falsely trigger. Moving the slider to the left reduces the amount of detail, useful for noisy tracks. The default setting in the middle is good for most tracks, but some adjustment may be necessary.

Triggering Circles

Drumagog displays a white circle above each peak that triggered. This is useful in determining if Drumagog is triggering on the desired hits, or if mis-hits are occurring.

NOTE: The height of the drum circle represents Drumagog's actual output volume level. If Dynamic Tracking is turned off, the circles will always be drawn at the same height. If the calculated output level is higher than 0dB the circles will be drawn above the waveform. This provides an accurate picture of Drumagog's output volume in relation to the original track.

Input

The input control adjusts the level of audio entering Drumagog's triggering engine. The input control can also be used to force Drumagog to choose different multi-samples, because Drumagog uses the volume of the incoming audio to determine which sample to use. Input is adjustable from -96.3 to +4dB

Output

This controls Drumagog's audio output level. Output is adjustable from -96.3 to +4dB

VU Meters

Drumagog features accurate, responsive VU meters for its output audio level.

TRIGGER FILTER

Many drum tracks are easy to replace, but on occasion there may be excessive bleed from other instruments which cause problems when triggering. Drumagog contains a Trigger Filter for use in these cases. This filter enables you to fine-tune the frequency range of interest, making the desired drum easier for Drumagog to replace. This technique greatly reduces any chances for mis-triggering when bleed is present on the source track. Drumagog's trigger filter has four modes: Hi-Pass, Low-Pass, Band-Pass and Notch. Using the filter it's even possible in some cases to trigger individual drums from a mixed stereo track.

NOTE: the filter doesn't actually change the audio of the samples being output, it strictly filters the incoming audio, making it easier to trigger.



Trigger Filter Section

Trigger Filter Controls

To use the filter, simply navigate to where it is located on the right side of the Main section. Then press the button of the filter type you want. Next set the frequency center of the filter and its level to your desired settings. For example a snare track might contain undesirable bass drum bleed. In this case the filter could be set to Hi-Pass to only allow the snare audio to pass through.



Hi-Pass



Low-Pass



Band-Pass



Notch

Trigger Filter Modes

To hear what the filter is doing to the incoming audio, press the Audition button. This allows you to hear the filter in action.

NOTE: Remember to disable the Audition button when you're done auditioning the filter, as you won't be able to use Drumagog in the normal way when it's engaged.

In general a hi-pass filter is useful when replacing snare drums, and a low-pass filter when replacing bass drums. The notch and band-pass filters can be used in cases where the bleed from other instruments is so severe that it overlaps the frequency range of the drum you're interested in. In these cases you can concentrate the band-pass filter on an area of the drum that's less overlapped and boost that level.

The filter also has an adjustable Q, or bandwidth. This can be adjusted by adjusting the slider above it.

Triggering Stereo Drums Tracks

Although Drumagog is designed for use on separate drum tracks (snare drum on one track, bass drum on another, etc.), by using the trigger filter it is possible to use Drumagog to replace drums on a mixed stereo drum track. To do this make two exact copies of the mixed drum track and insert Drumagog on both copies. Next set the first Drumagog's trigger filter to low pass, and the second Drumagog's filter to hi-pass. With some careful adjustments, the first Drumagog should trigger only on the bass drum, while the second only on the snare drum.

BLEED REDUCTION

Bleed Reduction allows Drumagog 5 to automatically eliminate other drums from bleeding into a track and adding unwanted triggering. If, for example, the kick drum was bleeding into the snare drum mic, Bleed Reduction mode will prevent Drumagog from playing snare hits caused by the kick.



Bleed Reduction Section

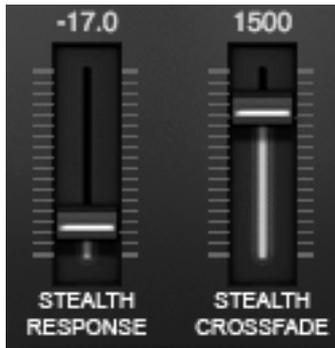
The Bleed Reduction controls are found in the upper left-hand corner of the Settings section. To use Bleed Reduction, insert an instance of Drumagog 5 onto the track causing the bleed (i.e. the kick track, in our example above) and another instance to the track where you wish to remove the bleed (i.e. the snare track). On the track causing the bleed click the “Send” button, and then adjust the Sensitivity control so it identifies the triggers. On the track where you wish remove the bleed click the “Receive” button. When you play back the project any bleed from the kick track will be completely removed from the snare track, eliminating those unwanted triggers!

Bleed Reduction communicates similarly to the way that the Auto Ducking feature does. Both features use Drumagog’s ability for different instances to be able to communicate with each other. Bleed Reduction can send from multiple Drumagog instances, but only one track can be set to receive.

NOTE: The Bleed Reduction feature is not available in Drumagog 5 Basic.

STEALTH MODE

Stealth mode is a handy feature that passes all the original audio through Drumagog unchanged until the trigger threshold is reached, allowing the “background” noise to be passed through even when doing 100% replacement. This is especially useful in tracks that contain both a snare and a hi-hat on a single track. Drumagog will pass the hi-hat through, quickly cross-fade into the replaced snare sample when the snare drum is heard, then cross-fade back into the hi-hat again. The whole operation is so seamless that often it’s hard to tell Drumagog’s actually turned on.



Stealth Mode Section

To use Stealth mode, enable it by clicking on its On/Off button located in the right side panel. The Settings window also contains two controls for adjusting how stealth mode operates. These are “Stealth Response” and “Stealth Crossfade”.

Stealth Response

Sets the level that the replacement sample's signal needs to attenuate in order for stealth mode to start the crossfade process.

Stealth Crossfade

Adjusts how long Stealth Mode takes (in milliseconds) to crossfade the original track back in after the replaced drum hit is played. On tracks with very long-decaying drum hits, choose a larger number, so that none of the original sound is heard. A value of 1500ms works well in most cases

AUTO DUCKING MODE

Sometimes it's not enough to just replace the drum on a track, there may be other tracks that still contain bleed from this original drum; Drumagog's Auto Ducking solves this problem. With auto-ducking it is possible to remove virtually every trace of an old sound from a multi-track recording without damaging the tonality of the spillover tracks with destructive EQ. Several "ducking groups" are provided so that, for example, a snare could be removed from an overhead track at the same time a kick drum is removed from a tom track; the two would use different groups.

For example if a snare drum is being replaced, and the original unwanted snare can still be heard through the overhead tracks, Drumagog would be inserted onto the overhead tracks, set to Receive mode; then set the snare track to Send mode. Every time the snare plays, the two Drumagogs on the overhead tracks will automatically "duck" the audio by the selected amount. This results in the original sound effectively being removed from the other tracks on which it appears without affecting any of the other sounds on those tracks.

The auto-ducking controls are located in the Settings window.



Auto Ducking Master Section

Off

Turns off Auto Ducking on this particular track (default).

Send

Assigns an instance of Drumagog to transmit ducking information to other instances located on different tracks. Use on the track you want removed from the mix (like the kick or snare).

Receive

Assigns an instance of Drumagog to “duck” the audio based on a trigger signal it receives from a “Send”-enabled Drumagog instance. Use on the track that contains the unwanted “drum bleed” (like an overhead track).

Ducking Level

This slider is located on the left side of the Auto Ducking section. Use this control to adjust how much ducking (in dB) should be applied. 0dB produces no ducking at all, and -96dB ducks the maximum amount. Start at 0dB and move the slider down until the unwanted audio sufficiently “disappears” under the rest of the mix.

Ducking Group

The Ducking Group selector is used in situations where multiple ducking instances are used simultaneously; eight separate groups (“A” through “H”) are assignable. As an example, you may want to duck the snare from the overhead tracks, and at the same time, duck the kick drum from the tom tracks. Just make sure that each pair is set to a separate group (i.e. Group “A” for snare and overheads, and Group “B” for bass drum and toms). More than one track can be assigned as a “Send” for a particular group, and more than one track can be set to “Receive” a specific trigger. There's no limit to how many tracks can be set to the same group.



Ducking Response and Crossfade

Ducking Response

This control is used to adjust how much (in milliseconds) Drumagog should “look ahead” for the trigger. In most cases this should be set to 1ms. When using higher values a noticeable delay is introduced which may cause phase problems when mixed with other tracks.

Ducking Crossfade

This adjusts how long (in milliseconds) Drumagog will duck after it receives a trigger. This should be adjusted to completely notch-out the unwanted audio, while still preserving the other instruments in the track. 6000 usually does the trick.

NOTE: Both the “Ducking Response” and “Ducking Crossfade” controls will be adjusted on the Receive track(s). They will not be enabled (or available) on the Send track.

AUTO HI-HAT TRACKING

One of Drumagog 5’s new features is an exciting breakthrough in drum replacement, Auto Hi-Hat Tracking. Now Drumagog will recognize different hi-hat pedal articulations, like fully closed, fully open, half-open, etc, and then automatically play back those articulations.

To use Auto Hi-Hat Tracking, first insert Drumagog 5 onto a hi-hat track, and then load a hi-hat GOG file that contains multiple articulations (i.e. open, half-open, closed, etc). Next, click the “Auto Hi-Hat Tracking” button in the right-hand Options Panel to enable tracking.



Auto Hi-Hat Tracking

When you press play in your DAW, Drumagog will automatically begin following the detected pedal articulations. The “Articulations”

slider will begin moving during playback showing how Drumagog is following the changes.

Auto HH Threshold

To control how sensitively the tracking algorithm determines the differences between the track's various articulations, use the "Auto HH Threshold" slider in the Settings tab. Moving the slider down causes Drumagog to favor closed hits, and moving it higher favors open hits. Adjust this slider until Drumagog is choosing the appropriate articulations in relation to your source track.

Auto HH Choke

This control adds an additional crossfade when switching from one hi-hat articulation to another. The default level of 100% adds no additional crossfade time, but may be adjusted to taste in order to smooth transitions from one articulation to another.

MIDI/Plug-In Hosting

When using Auto Hi-Hat Tracking, Drumagog will transmit MIDI continuous controller data (CC#4) via both its MIDI Out and Plug-In Hosting. This can be enabled in plug-ins, like BFD, so that they follow the changing articulations, too!

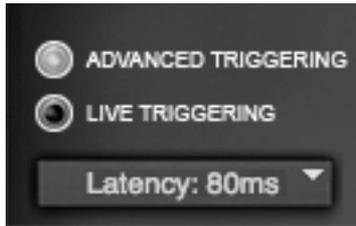
NOTE: Once Drumagog is correctly following the hi-hat track there is one minor correction that must take place. In order for Drumagog to accurately analyze the incoming audio and determine which articulation is which, Drumagog's incoming audio buffer needs more time to analyze the source track. This results in an extra amount of delay through the plug-in, which will cause a slightly delayed output that is NOT automatically corrected by Plugin Delay Compensation. The simplest way to correct for this is to move the hi-hat track EARLIER in time; you will find the exact amount of time shift needed displayed just below the Auto Hi-Hat Tracking button in Drumagog's

right-hand panel. Just slide the hi-hat track exactly that much earlier in the timeline and your resulting track will sound perfectly in time.

PLUG-IN LATENCY

Drumagog, like many other plug-ins, has to look ahead while it's working in order to more accurately trigger on an incoming drum hit. Any time a plug-in needs to look ahead it causes a delay, or latency, in the audio for that particular track. Many modern audio programs compensate for this latency automatically. This is called Automatic Delay Compensation, or ADC (sometimes also called PDC, for Plug-in Delay Compensation).

If you own one of these audio programs (for example, Pro Tools HD, Logic, Digital Performer, Nuendo, and Cubase), you don't need to worry about latency because it is taken care of completely by the audio program. However, some programs do not support ADC (for example Pro Tools LE version 8 or earlier). When using a program that doesn't support ADC, you must manually move the track (nudge) by the amount of delay Drumagog generates. For convenience, Drumagog lists the amount of latency it is generating in the Settings section.



Drumagog Latency Setting

If your audio host supports ADC, no further setup is generally required (except in Pro Tools: see below). It is possible to turn off ADC in your host, so if you notice Drumagog “behind” the other drum tracks in time check to make sure that ADC is correctly running.

Delay Compensation In Pro Tools

If you own an ADC-capable version of Pro Tools, please follow these instructions for setting up Auto Delay Compensation. Doing so will make Drumagog playback in time on your system.

1. In Pro Tool's Playback Engine Setup, set the Delay Compensation Engine to "Long".
2. Once you've done this, make sure you enable "Delay Compensation" in the "Options" menu.

ALIGNMENT

Once Drumagog has detected a trigger and selected a sample for playback (see the *GOG & Sample Management* chapter for more on how Drumagog chooses samples) the alignment engine takes over. This is how Drumagog "lines up" the new drum sample with the original, and there are two possible methods available: Auto Align 2.0 and the simpler transient-based detection.

In its early days Drumagog started playing its samples immediately upon detecting a drum hit, without attempting any sort of alignment. This worked in some cases, but usually the samples ended up "flaming" against each other.

In Drumagog 4 a new feature was introduced called Auto Align. With this turned on Drumagog compared the beginning of the source hit and the sample, and adjusted the sample's start time to more closely follow the original. This allowed for more accurate replacement and helped to alleviate much of the previous flaming.

While Auto Align certainly improved Drumagog's performance it was by no means perfect. Drums with very different acoustic "signatures" could confuse the algorithm, and even with fairly similar sounds selected there could be noticeable comb filtering occurring (due to the difference in phase between the two drum hits). More accurate solutions were still needed.

Transient Detection Mode

In this new mode Drumagog 5 detects the actual transient of each hit. In simple terms, the transient is the very beginning of a percussive sound, which corresponds to the “exciting” of the drum (i.e. the stick/beater making contact with the head). Unlike the rest of the drum sound the transient will be fairly “chaotic” (non-periodic) before the actual “tone” (fundamental frequency) appears.

Once Drumagog has identified the transient at the start of the source and replacement drum hit it aligns the two so their transients begin at precisely the same time. It then passes this information along to the playback engine.

Auto Align 2.0

Another new mode in Drumagog 5, this is a completely re-designed version of the original Auto Align algorithm. Designed in collaboration with Fraunhofer, this powerful algorithm not only detects the initial transient of a drum hit, it analyzes the full waveform (i.e. the entire drum hit) and finds the best alignment which results in the most in-phase output throughout the entire sound. Auto Align 2.0 will even automatically “flip the phase” of the replacement sample (technically it inverts the polarity) when needed!

Alignment Controls

To switch between the two modes simply press the “Auto Align” button on the right-hand panel; turning off (i.e. the light is off) Auto Align toggles Transient mode, and vice-versa.

The default setting in Drumagog 5 is “Auto Align”, which usually results in the closest and tightest alignment of the original and new drum hits. On occasion there may be a particular situation where Transient mode in fact sounds better, so by all means try switching between the two modes.

NOTE: Auto Align 2.0 is not available in Drumagog 5 Basic;
Transient mode is always used instead.

7

Customizing Your Sound

Drumagog 5 offers many ways to customize the drum sound it generates, from blending the new sample on top of the old, to altering the pitch of the new sound, to more advanced techniques like combining your drums with synths and other effects.

BLEND



Main Section Controls

Drumagog’s “Blend” control provides control of the mix between the original audio and the replaced samples. By using this feature, it’s easy to find the “sweet spot” by combining the sound of your original drum with the new replaced sound from Drumagog. A setting of 100% (full-right) outputs only the replaced audio, while a setting of 0% (full-left) outputs the original, unchanged audio only.

PITCH

The “Pitch” control is used to alter the pitch of the sample. The pitch can be adjusted from -100% to +100%. This is a useful feature for tuning the drums to the accompanying tracks.

NOTE: “Pitch” control is not available in Drumagog 5 Basic.

ARTICULATION

This control is used in conjunction with a sample set that contains articulation multi-samples. Articulation multi-samples are groups of samples used to represent different stick striking positions or hi-hat pedal positions; the Articulation control selects which group should be played from that layer. For example, if a snare drum sample contains Articulation multi-samples, this controls where the drummer plays the drum. Moving the control to “Rimshot” selects a rimshot hit, while “Side stick” selects the cross-stick hit on the rim. The position names can be edited in the Samples section.

NOTE: The naming feature was not available in previous versions of Drumagog, and as a result some older GOG files may display a simple number, for example “1”, instead of an actual position name.

SYNTH



Synthesizer

Drumagog 5 includes a more powerful synthesizer section than previous versions. Utilizing the “Oscillator” and “Filter” options, additional waveforms can be added to the drum sound, allowing a vast amount of enhancement.

To use the synth, first press the “Synth” button to bring up the synth window. Various oscillator waveforms are available in a menu on the left-hand side, including sine, square, saw-tooth, and several triangle variations. A real-time waveform is displayed at the top of the window, showing the overall wave-shape of the resulting output.

Mix

Adjusts the output balance between the selected GOG file and the built-in synthesizer.

The Oscillator section has the following controls:

Freq

Sets the fundamental frequency of the selected waveform.

Noise

Determines the total amount of additional complex noise that is added to the waveform.

Noise F

Sets the fundamental frequency of the noise.

Attack

Adjusts the oscillator’s envelope attack, expressed in milliseconds. A long attack time creates more of a swell, or gradual onset of the synth.

Decay

Adjusts the oscillator's envelope decay time, again in milliseconds. A short decay can be used to just add an additional emphasis to a drum transient.

The Filter section is a brand-new feature in Drumagog 5: a true resonance filter. Think of old analog synths. Again, just like every control, this can be automated to create a dynamic, changing drum track.

Cutoff

Sets the low-pass cutoff frequency, which allows for control of how much high frequency content is present.

Reso

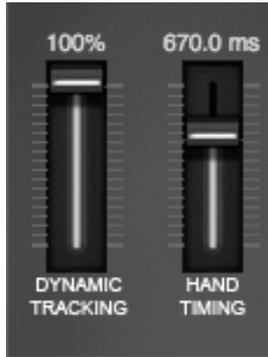
Adjusts the gain of the resonance filter.

DYNAMIC TRACKING

Drumagog automatically tracks the incoming drum hits and adjusts the volume of the samples it plays according to the volume of the original hits. Sometimes, however, it's desirable to "rein in" the dynamics.

Drumagog provides a dynamic tracking control that allows adjustment of how Drumagog plays-back the dynamics. This feature can be used to add a more consistent feel to an overly dynamic performance without the side effects imparted by traditional audio compression.

To enable this feature, click the On/Off button for Dynamic Tracking in the right-hand Options Panel.



Dynamic Tracking Control

An additional “Dynamic Tracking” slider is located in the Settings section. At 100% (the default) Drumagog will recreate exactly the same amplitude for the replaced drum sound as is found in the original. At 0% the replaced sound is played at a constant volume regardless of the original track’s dynamics.

Normally a value of 100% is used. Lowering “Dynamic Tracking” to a value less than 100% is an effective means to control overly dynamic tracks without the artifacts imparted by traditional compression. It also works well “upstream” from a compressor, when the compressed effect is desired, but not at the level required to achieve the desired dynamic control.

CONVOLUTION REVERB (PLATINUM ONLY)



Convolution Reverb Window

Drumagog 5 now includes a high-quality convolution reverb. This reverb features adjustable room size, offset, delay and more. It comes complete with an IR library custom-tailored for use with Drumagog samples. If you have an existing IR library, the reverb also reads standard 16 or 24-bit IR files.

To enable Drumagog 5's Convolution Reverb, first press the "Effects" button to bring up the appropriate controls, and then press the "Power" button to turn on the reverb. Select an IR file from the drop-down menu at the top of the reverb section, and then just adjust the "Mix" control to create the right balance of drum and reverb.

The following controls offer more adjustable parameters:

Size

Adjusts the overall size of the acoustical space, expressed in seconds (i.e. length of the reverb tail).

Offset

Moves the start of the reverb further back in the IR; in other words it moves the listener forward or back inside the acoustical space. Increasing the Offset will lessen the early reflections captured at the

beginning of the IR, creating a more diffuse sound, albeit with a shorter reverb tail.

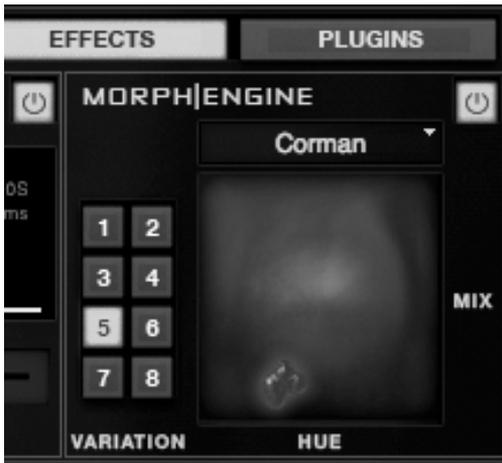
Delay

Shifts the entire reverb later in time, creating “dead space” before the start of the reverb. This control is the same as the pre-delay control found in most reverbs.

Mix

Adjusts the balance between the original “dry” drum sound and the “wet” reverb.

MORPH|ENGINE (PLATINUM ONLY)



Morph|Engine Window

In collaboration with MoReVoX sound designer Sabino Cannone, Drumagog 5 includes an entirely new way to process drums. Morph|Engine is a dynamic morphing processor which shapes your drums in a way never heard before. Snare drums take on an organic “growl”, bass drums sound like they have liquid skins. Unlike

traditional processing, Morph|Engine is fluid and dynamic, changing with the dynamics of every beat.

To use the new Morph|Engine, click the “Effects” button in the Drumagog 5 interface, and enable the engine by pressing the “Power” button. First select a Morph (the basic element of the engine) from the drop-down list at the top of Morph|Engine window. Then try the eight included variations of this Morph by selecting the corresponding numbered buttons on the left-side of the window. Each variation makes some slight changes to the overall Morph, allowing a great number of combinations.

Finally, grab the “Blob”! Click and drag the “Blob” around the window to shape and mold the resulting sound: Moving the “Blob” left and right adjusts the “Mix” (or balance) of the original vs. Morphed drums, while up and down adjusts the color “Hue” (or frequency spectrum). Like all Drumagog controls these parameters can be automated for precision changes to your settings.

8

GOG & Sample Management

GOG SAMPLE FORMAT

GOG Files

Drumagog's native file format is the "GOG" file. A GOG file is a single file that can contain up to 384 individual samples (or "multi-samples"). GOG files are unique among other multi-sample formats because a GOG file contains many Drumagog-specific settings, such as the dynamic level of each sample and articulation information.

Drumagog comes with an extensive sample collection. If you've purchased the downloadable version of Drumagog, this sample collection must be downloaded separately. Please go to the "My Downloads" section of the "My Account page" on the Drumagog.com website, and choose "Download GOG Sample Library."

If you've purchased the boxed version of Drumagog the samples are automatically installed onto your hard drive (but check the Drumagog site for new sounds, as the library is constantly being updated).

Other great GOG sample libraries are available for sale on the Drumagog web site. Be sure to check them out at www.drumagog.com/store.

Using Your Own Samples

Drumagog provides the ability to use your own samples, reading both WAV and AIFF files. These samples can either be used individually (as a “one-shot” sample), or imported into your own custom multi-sample GOG files.

MULTI-SAMPLE SUPPORT

Drumagog supports Dynamic, Random, and Articulation Multi-Samples for the ultimate in acoustical realism. A GOG file might contain any combination of these sample sets.

Dynamic Multi-Samples

A Dynamic Multi-Sample set is a collection of samples which contains recordings of the drum being played at different volumes. For example, a multi-sampled snare might contain ten samples, each one representing the snare being played at a different volume. Dynamic Multi-Samples are useful because drums change character depending on how hard they are hit. Drumagog will automatically determine which sample to use in order to match the original drum’s volume.

Random Multi-Samples

A sample set that contains Random multi-samples is simply a set of similar volume samples that Drumagog can randomly pick from when replacing a drum. Random Multi-Samples are often used in conjunction with dynamic multi-samples to achieve the greatest level of acoustical accuracy.

In the real world, when a drummer strikes a drum, it never sounds exactly the same, even if it’s played in the same spot on the drum with the same force. The laws of physics guarantee this. For this reason, Random Multi-Samples provide variety in the replaced sound because Drumagog randomly chooses a different sample each and every time. Even amongst the randomized set of samples the same sample will never be played twice in a row.

The ear is very good at recognizing when the same sample is played over and over, it sounds like a drum machine. Using Random Multi-Samples allows a level of realism un-attainable with one-shot samples.

Articulation Multi-Samples

An Articulation Multi-Sample set contains a separate sample (or group of samples) for different stick positions, or pedal positions on a hi-hat. For example, a snare sample set might contain three groups – one for the drum being played in the center, one off to the side, and one for a rim shot. A ride cymbal might use positions from the outer rim of the cymbal to the bell. A hi-hat sample set could have the positions represent the various foot-pedal positions (open to closed). By adjusting the Articulation control, these various positions can be controlled in real-time.

NOTE: “Articulations” has replaced “Positions” (used in version 4), and simply represents a change in name to better coincide with other drum software packages.

Putting Them All Together

A GOG file can use all of these types of samples to re-create a particular drum sound. Let’s see how a snare might be represented as a GOG file, using each of these different types of multi-samples:

- 8 Dynamic Sample Sets
- 4 Random Multi-Samples in each Dynamic Set
- 3 Articulation Sets (Center, Off-Center, Rimshot)

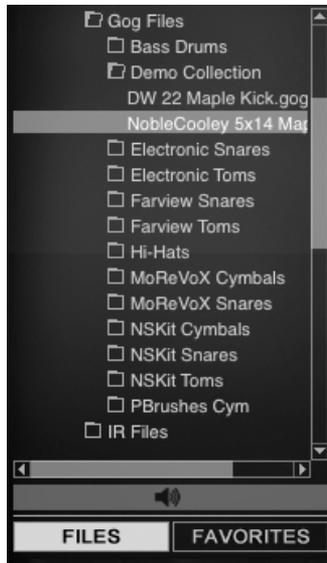
So how many samples are there total in this example GOG? Eight Dynamic sets, with four Random samples per set, multiplied by three Articulations, or $8 \times 4 \times 3 = 96$ samples.

FILE BROWSER

Drumagog 5 has an entirely new browser window designed to show your entire file system at once; no more need to keep all your GOG files in just one location, or using the old “Browse” option to find your samples. Every hard drive (local or network) appears in the File Browser at all times, so navigating large sample libraries is simpler than ever. With the added support for “drag and drop” and shift-click (selecting multiple files at once), moving samples into your sample pool is a breeze.

Each drive is listed alphabetically by drive name, and each folder, sub folder, and file is also sorted by name. To expand a folder left-click the folder once, and click a second time to close; to load a GOG file double-click on the filename.

You can also make Drumagog navigate to and open a new default folder each time you instantiate Drumagog on a track. To do so, go to the Settings window and select the “Set GOG Folder” drop-down. A system file browser dialog box will open, and just select your custom directory to create a new Default GOG folder.



File Browser

Favorites

Often used GOG files can be stored in a separate Favorites list, making them easily accessible even on the largest hard drives. Click “Favorites” to switch to this view. To add a file to your Favorites list, just right-click on the GOG file and select “Add To Favorites”.

Audition Button

The Audition button, located at the bottom of the File Browser (represented by a speaker icon), allows auditioning of a loaded GOG file.

NOTE: Since not all audio applications enable the plug-in audio while the transport is not running, you may not hear any audio when auditioning while the transport is stopped. In this case, simply start your application’s transport, and move to a section of your song that contains silence. Setting your host program to loop on this silence can make it easier when building GOG files.

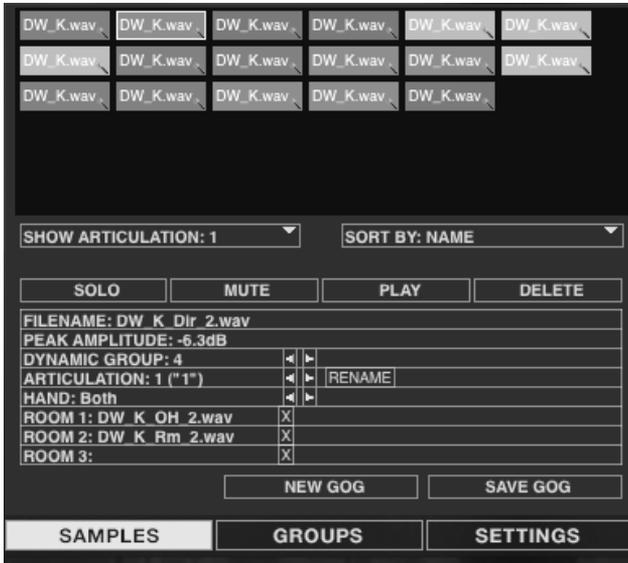
ADDITIONAL NOTE: In Logic, try record-enabling the track containing Drumagog to engage the plug-in while stopped.

SAMPLES WINDOW

Drumagog’s Samples section features a visual sample management scheme that simplifies importing and organizing of samples. Each multi-sample being used is represented as a colored rectangle within this sample box. During playback, the individual colored rectangles flash, indicating which multi-sample is being used for replacement. Up to 384 multi-samples are supported, and any combination of dynamic, random and positional multi-samples is possible.

The samples page is used to edit the currently loaded GOG file or to create your own GOG files. Although Drumagog can use several sample formats, including WAV and AIFF, the real fun begins when using Drumagog’s own GOG format. A GOG file can contain up to

384 individual samples, arranged into three groups (Dynamic, Articulation and Hand).



Samples Window

Clicking on a sample in the top pool window will display that sample's specific details:

- Filename
- Peak Amplitude
- Dynamic Group
- Articulation Group
- Hand Group
- Room Samples

There is a new sort option in Drumagog 5, accessed through the “Sort By” drop-down list. The sample list can be sorted either alphabetically (by name), by peak dynamic level (i.e. loudness), or by Dynamic Group.

Dynamic Groups

A GOG file can contain many Dynamic Groups, each represented as a different color in the sample pool. A Dynamic Group is a sub-group of samples of a similar loudness which are assigned a particular dynamic level (in dB. The levels of each Dynamic Group are set in the Groups view).

The samples in a particular Dynamic Group are not played simultaneously. Instead, Drumagog randomly picks which sample to play within a particular Dynamic Group. This is a powerful feature, because it virtually guarantees a sample never gets played twice in a row, making the drums sound very realistic.

NOTE: This Random option can be turned off from the right-hand Options Panel; doing so causes Drumagog to always play just one sample from a particular Dynamic Group. This is useful when a very consistent replacement sound is desired.

Dynamics vs Dynamic Groups

It is important at this point to differentiate between the Dynamic Groups found on the Samples window and the dynamic level that Drumagog uses when playing the samples back. Dynamic Groups are used to determine which “range” of samples gets played back for a detected input volume. The actual volumes of the samples being played back are automatically adjusted to exactly correspond to the dynamics of the original track. In other words, a -3dB snare hit will trigger Sample X, but if sample X is not natively a -3dB sample Drumagog will raise or lower its volume to -3dB so it matches the original hit.

Articulation Groups

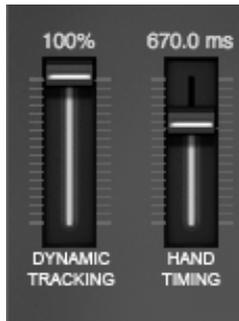
A GOG file can also be divided into several Articulation Groups. An Articulation Group is a group of samples representing a drum hit at a particular position (for example, the rim of the drum, or the center). Drumagog displays one Articulation at a time, controlled by the “Show Articulation” drop-down list.

A sample's Articulation Group can be assigned by clicking the arrows under the sample box (see "GOG Controls" section).

Hand Groups

Drumagog also features Hand Groups; samples in a GOG file can be assigned as left-hand or right-hand samples. For example, a left-hand sample is a sample which only gets played when Drumagog determines that the drummer is playing the drum with the left hand. This is decided based on the speed of the incoming drum hits – as Drumagog detects faster playing it starts alternating between left and right-hand samples. In addition to setting a sample for left or right hand, it can instead be set to "both" (the default); this setting will cause Drumagog to play that sample regardless of the detected hand position. Hand Groups are displayed with an "L" or "R" on the right side of a sample box.

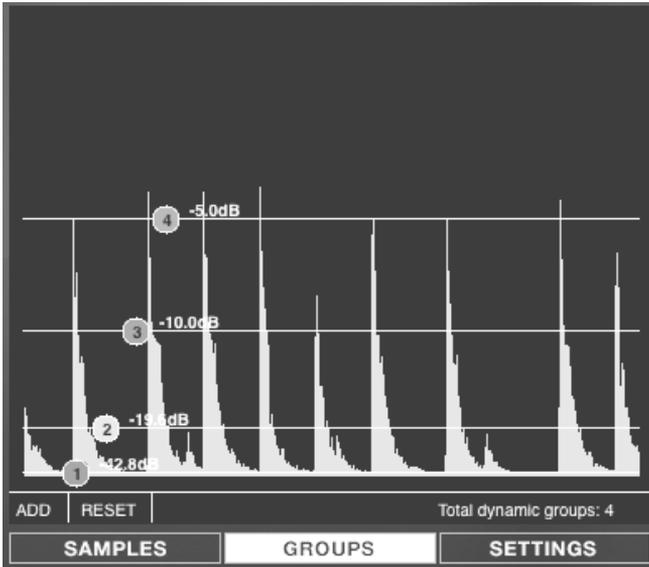
The "speed" of the incoming hits is measured by the "Hand Timing" control (found in Settings): this value determines the time threshold, in milliseconds, in which left and right-hand samples are used. The default value of 670 ms means that whenever two triggers occur within that space of time Drumagog will automatically alternate between hands. If the hits occur more slowly than the value then Drumagog will only play left-hand (or "both") samples. Adjusting this control changes how quickly the hits need to occur to trigger the different Hand Groups.



Hand Timing Control

NOTE: The samples will still be played back at the original intended speed. This control simply tells Drumagog when to start using left/right samples.

GROUPS WINDOW



Groups Window

The Groups window is similar to the Visual Triggering window. It displays a real-time scrolling waveform with the Group levels superimposed on top of the waveform. The level of each Dynamic Group can be changed by clicking and dragging on the circle for a particular group to a new level (expressed in dB).

Add Group

To add more Dynamic Groups, press the “Add” button at the bottom.

Delete Group

To delete a dynamic group, first select it by clicking on its circle, then press “Delete” (this option is not displayed until a circle is selected).

Reset

Pressing “Reset” brings up a menu which allows you to reset the dynamic groups to certain pre-set levels. For example, choosing “16 Dynamic Levels” deletes all the current Dynamic Groups and creates sixteen groups with equally spaced amplitude levels.

NOTE: making changes to the Dynamic Groups does not add or delete any actual samples; it simply changes the number of Dynamic Groups that samples can belong to, and their associated dynamic levels. When deleting a Dynamic Group, if Drumagog discovers a sample in your GOG file assigned to that group it automatically re-assigns that sample to the next closest group.

Auto-Assigning Samples to Groups

Drumagog has the ability to automatically assign all samples to groups. This is done by selecting “Auto Assign All Samples To Current Groups” in the reset menu. Choosing this option will cause Drumagog to examine each sample in your GOG file and assign it to the closest group in amplitude based on that sample’s peak amplitude. This makes it fast and easy to create new GOG files, as long as the files you’re using are not normalized (brought to the same level peak level).

GOG CONTROLS

By clicking on an individual sample more information about the selected sample is provided.



Samples Properties Box

Creating a New GOG File

To create a new GOG file, click the “New GOG” button located at the bottom of the Sample Properties Box in the Samples Window. This clears the current sample pool and creates a new empty GOG file, and then prompts you to name the file. At this point you can add samples to this new GOG file. To save the GOG file when finished editing press the “Save GOG” button.

When a new GOG file is created, it is automatically assigned eight Dynamic Groups. Changing the levels of these groups, or adding/deleting Dynamic Groups can be done in the Groups Window.

Re-Naming a GOG File

A GOG file can be renamed by right-clicking on the GOG filename in the File Browser and selecting “Rename”. A “Rename” box will open where you can enter a new filename.

Deleting a GOG File

Right-clicking on a GOG file and selecting “Delete” will permanently remove the file from the computer.

Adding Samples

To add samples to a GOG file, simply drag the files from the built-in File Browser (such as WAV or AIF files) into the Sample Window. Shift-clicking will allow importing many samples at once.

Deleting Samples

Removing a sample from the Sample Window is accomplished by clicking/selecting a sample and then clicking the Delete button. Deleting a sample from the Sample Window does not permanently delete it from the hard drive, it only removes it from the GOG file.

Adding Room Sounds

To add room samples (i.e. a room mic, overhead mic, etc) to a GOG file, drag the room samples on top of the corresponding sample in the Sample Window (either from the File Browser or from the sample pool). You will then be able to select which Room Slot to place the room sound in and rename the slot.

NOTE: Leaving Room Slot 3 empty will enable the “Direct” fader, a control for adjusting how much of the original “close” mic to include in the mix. Adding room sounds to slot 3 disables this feature.

Play Button

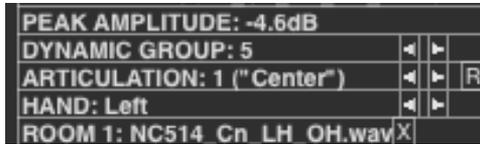
These buttons allow auditioning of an individual sample. This feature only works when your audio application offers plug-in monitoring (or your song is playing).

Solo and Mute Buttons

The “Solo” and “Mute” buttons provide for an easy way to isolate one or more samples from a GOG file. To solo or mute a sample, select the sample then press “Solo” or “Mute” in the properties box. The Solo feature is a fast way to single out a few samples in a GOG. For example, a pop song contains a snare that sounds best at maximum dynamic level throughout the song; only the loudest few samples in the GOG can be

selected for playback. Conversely, the Mute function allows quick muting of a particular sample. When the dynamics are important to a performance, but the samples with the smallest associated dynamics sound too weak, these samples can be muted very easily (without removing them from the containing GOG file).

Dynamic Group Arrows



A Sample's Group Arrows

The Dynamic Group arrows can be used to manually place samples into different Dynamic Groups. Every time one of the arrows is pressed, the sample is “bumped” up or down to the next dynamic group.

NOTE: The Dynamic Group arrows only allow you to choose from groups that already exist. In other words, if there are only two groups available the arrows will only allow choosing between these two groups; they will not put a sample into a third group. Adding or deleting Dynamic Groups is done in the Groups window.

Articulation Group Arrows

To place a particular sample (or samples) into a different Articulation Group, first select the particular sample(s) and then press the right arrow button to move the selection to the next group.

For example, suppose we have a hi-hat GOG file with forty-eight total samples, and each group of eight samples represent a different foot pedal articulation (with groups in all). Select every sample in the first group of eight, and then set the Articulation Group to “1”. Repeat this process for the remaining samples, placing each successive collection into the next numbered group.

Each Articulation Group can also be named. This is done by clicking on the box to the right of the arrows. Choosing a name for an Articulation Group is a great way to remember what articulation that group represents.

NOTE: The placement of Dynamic and Random multi-sample groups is always relative to a particular Articulation Group. This means that if eight samples are part of Articulation Group 1, and another eight are part of Articulation Group 2, the determination of which samples belong to which Dynamic and Random multi-sample groups is done within each Articulation Group.

Hand Arrows

These buttons determine whether a sample should be designated as a left-hand sample, a right-hand sample, or both. When the “Use Left / Right Hand” button is enabled on the Options Panel, this function causes Drumagog to automatically alternate between left and right-hand samples when the incoming hits are fast enough.

9

MIDI & Plug-in Hosting

Drumagog's MIDI and Hosting implementation add a whole new level of expandability to its sample playback capability. With these options it's possible to have Drumagog play your favorite external drum machine, synthesizer, or even software-based sampler (such as BFD or Superior Drummer) every time it detects a drum hit. Drumagog will also accept a MIDI input signal to trigger its internal samples as a sound source or as a live drum source – perfect for triggering using drum pads. The MIDI features are accessed through the Settings Window, and Plug-in Hosting from its own tab.

NOTE: MIDI features are not available in Drumagog Basic, and Plug-In Hosting is only available in Drumagog Platinum.

Drumagog and MIDI

Drumagog (Pro and Platinum) can both send and receive MIDI information, depending on the specific application needed:

MIDI Out is used when a user wants to trigger a MIDI-based instrument (sampler, drum machine, keyboard, etc) instead of Drumagog's own playback engine. It is still inserted on an audio track as normal, but it also sends MIDI data that can be routed to the device of your choice.

MIDI In is used to trigger Drumagog from a MIDI track, similar to other virtual drum instruments. Keep in mind that Drumagog is a

strictly mono-timbral instrument and cannot play an entire drum kit at once, so to recreate a full kit multiple instances must be used.

MIDI vs Audio

There are a few caveats when using MIDI, however. First, MIDI is inherently less accurate than audio-based sample replacement. This is due to the simple fact that MIDI has much lower timing and amplitude (dynamics) resolution than digital audio. Compare a 44.1kHz @ 16-bit audio recording to a 960 PPQN MIDI recording:

Timing:

MIDI - 960 PPQN at 120 BPM is one “tick” every .5208 ms

Audio - 44,100 samples per second, or one “tick” every .023 ms

Amplitude:

MIDI - 128 “steps”

Audio - 65,536 “steps”

MIDI might work “well enough”, but truly phase accurate drum replacement is simply impossible at MIDI resolution.

The second MIDI caveat is that, due to a DAW’s audio buffer and routing limitations, additional latency will be added to the MIDI Out signal, meaning the resulting data must be “nudged” earlier to line back up with the original audio track.

Lastly, every DAW operates differently when it comes to audio plugins (like Drumagog) that also generate MIDI. Many simply ignore the MIDI signal and force the user to use a third-party MIDI “loopback” utility to even route the signal back to a MIDI track. This loopback device often adds even more latency to the signal, not to mention the extra work involved in setting up the correct routing.

Drumagog Platinum’s Plug-In Hosting feature bypasses many of the above issues, so for Platinum users it is generally the preferred method for triggering software instruments.

MIDI Controls



MIDI Parameters

MIDI In Enable

Enables MIDI input

MIDI Out Enable

Enables MIDI output

Port

Selects the MIDI port to use (includes both Drumagog’s “Internal” port as well as any hardware or virtual MIDI interfaces present)

Channel

Selects the MIDI channel to be sent/received

NOTE

Selects the MIDI note (displays both the MIDI note Name and Number, as different devices use different octave naming conventions. Drumagog uses C3 = note 60)

MIDI OUT

Drumagog can use its MIDI out to trigger two different types of devices, either external hardware devices or virtual instruments.

Triggering External MIDI Devices

To send MIDI directly to an external device (connected to a hardware MIDI interface), please follow these steps:

1. Enable “MIDI Out” in Drumagog’s Settings window.
2. Choose the appropriate MIDI port from the drop-down list (i.e. the hardware port connected to your device).
3. Select a MIDI note and channel.
4. On your MIDI device (drum machine, synthesizer, etc.), choose the same MIDI note and channel number.

NOTE: Drumagog will also continue to play its internal samples the normal way when “MIDI Out” is enabled. You may wish to turn down this output using Drumagog’s “Output” slider.

ALSO NOTE: Sending MIDI data this way will bypass the DAW entirely, eliminating the need to record this data on a separate MIDI track. This prevents any sort of MIDI editing, however. If you need to edit the resulting MIDI data you will need to route the MIDI out to a new track in your DAW, outlined in the next section.

Triggering Virtual Instruments

Sending MIDI to a virtual instrument, such as EZ Drummer, Halion, BFD2, Kontakt, etc, differs depending on the DAW being used. Some natively support Drumagog’s MIDI Out (like Cubase and Nuendo), while many others do not, such as Pro Tools, Logic, and SONAR. For these systems a virtual MIDI “cable” (loopback) will be required in order to route MIDI properly.

If the DAW directly supports MIDI output from a plug-in (Nuendo or Cubase, for example), using the MIDI output is easy:

1. Enable “MIDI Out” in Drumagog’s Settings window.
2. Choose “Internal Port” from Drumagog’s MIDI port drop-down list.
3. Choose a MIDI note and channel.
4. Create a new MIDI (or instrument) track. Route the track’s output to the virtual synth (if needed).
5. Choose “Drumagog” as the MIDI track’s input.
6. Make sure the virtual synth’s MIDI channel and note settings match Drumagog’s, editing the values if needed.

If the DAW does not support Drumagog’s MIDI out a virtual MIDI cable to route the MIDI data (essentially “looping” the MIDI signal out of the DAW and then back in again to a MIDI track) is needed. The exact procedure varies between every DAW and computer combination, but the essential steps are outlined below:

1. Download and install a virtual MIDI “loopback” program (not included). Check the list at the end of this section for suggestions for each OS.
2. Enable “MIDI Out” in Drumagog’s Settings window.
3. In Drumagog’s MIDI port drop-down box choose your virtual MIDI cable port (i.e. MIDI Yoke Port 1, or MIDI Pipe Input 1).
4. Choose a MIDI note and channel.
5. On your virtual instrument (for example BFD2), choose the same note and channel number.
6. Create a new MIDI (or instrument) track and set the track’s input to the corresponding “loopback” port (i.e. MIDI Yoke Port 1 or MIDI Pipe Output 1).
7. Set the MIDI track’s output to the virtual instrument (if needed).
8. Record Drumagog’s MIDI output data to the MIDI track and then “nudge”, as needed (i.e. move earlier), to lineup the data.

Virtual MIDI “loopback” software applications:

OSX:

MIDI Pipe

Windows:

MIDI Yoke (Windows XP and below)

LoopBe1 (Vista and Win7 compatible)

Check the Drumagog.com website for links and more information on these third-party products.

MIDI IN

Drumagog’s MIDI In options are identical to the MIDI Out controls, only the signal-flow direction is reversed.

Triggering Drumagog as a Virtual Synth

Drumagog’s MIDI input is useful for playing Drumagog’s internal sounds from another device, such as a keyboard or MIDI track. Please follow these steps to set up Drumagog’s MIDI input:

1. In Drumagog’s Settings window, enable “MIDI In”.
2. Select “Internal Port” from the MIDI Port drop-down.
3. Choose a MIDI note and channel.
4. Create a new MIDI track in the DAW.
5. On this new MIDI track choose “Drumagog” as the output.

NOTE: Some DAWs, like SONAR, do not automatically make Drumagog available as a MIDI selection. To enable this function, Drumagog’s “Configure As Synth” VST Option must be checked in the Cakewalk Plug-in Manager.

Also, while Drumagog's MIDI In is enabled, Drumagog will not trigger from any audio itself. Please remember to disable MIDI input before continuing to use Drumagog for normal audio triggering.

PLUG-IN HOSTING



Plug-In Window

One of the biggest new features in Drumagog 5 Platinum is Plug-In Hosting, which is the ability for Drumagog to now “host” another VST Virtual Instrument (VSTi). This allows Drumagog to trigger the VSTi's selected sound without using any cumbersome (and less accurate) MIDI routing. Drumagog will trigger the VSTi in real-time, and even supports multiple outputs through the new Plug-In Output Mixer.

To use Plug-In Hosting, first press the “Plug-Ins” button to switch to this view. The first pull-down menu is labeled “Select”, and contains several different options:

Unload Plugin

Un-instantiates the loaded VSTi.

Refresh Plugin List

Re-scans your VST Plug-Ins folder. Use this whenever a new VSTi is installed onto the system (otherwise it won't appear in the list).

Set Plugin Folder

Changes the folder location where Drumagog looks for installed VSTi's. By default this is set to the normal VST Plug-Ins folder and will need to be changed if there are any custom VST Plug-Ins folders in use.

Below these options will be the detected VSTi list. Double-clicking on something from the list will load that specific VSTi into Drumagog.

There are a few additional parameters available in this section that need to be set when hosting a VSTi:

MIDI Channel and MIDI Note

Assigns the specific MIDI channel and note values Drumagog sends to the VSTi. Both the note name and MIDI note value are displayed, as in "C3 (60)", as not all VSTi's use the same MIDI standard to designate octaves.

Mix

Simply adjusts the level between Drumagog's selected GOG file and the hosted plug-in. This allows users to layer two simultaneous drum sounds at once!

Output Mixer

Allows for VSTi's with multiple outputs to be mixed inside Drumagog 5. These outs are then summed into Drumagog's stereo output.

NOTE: Drumagog 5 works by hosting the selected VSTi in an individual instance of Drumagog. The VST hosting spec does not contain a system for multiple hosts to access the same VSTi at once, which means that if a project has three different Drumagogs instantiated, and you want each one to trigger a VSTi, then each

Drumagog instance must host its own VSTi; there is no way to load only one instance of the VSTi. The good news is that as long as only the needed sound is loaded in the VSTi, memory usage won't be appreciably higher running several smaller instances of a VSTi over running one larger instance.

In other words, if you have both kick and snare tracks and want to use Plug-In Hosting to trigger BFD for both parts, then you need two instances of Drumagog with each running their own instance of BFD. On the kick track unload all BFD parts except for the kick, and on the snare track unload all BFD parts except for the snare.

Manual Revision 2.0

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