

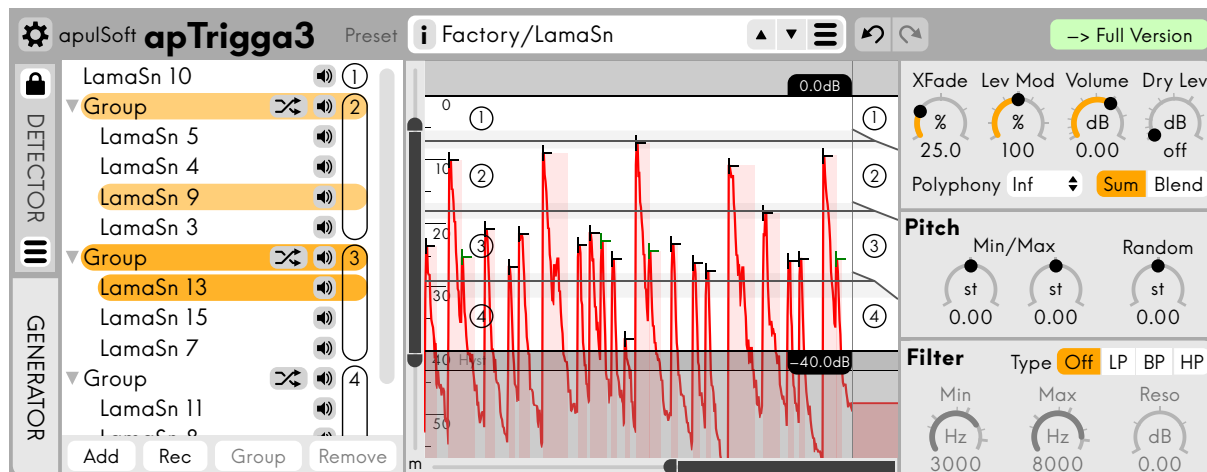
# apulSoft apTrigga3 v3.3 Manual

audio sample trigger plugin  
(VST/VST3/AU/AAX)

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VST plugin technology by Steinberg.  
AU plugin Technology by Apple.  
AAX plugin Technology by Avid.  
Manual written with  $\LaTeX$  on April 19, 2017

## Introduction



apuSoft apTrigga3 is an audio plugin to play back audio samples based on trigger events generated from the audio input signal level. It has advanced sample management features and can record samples from the input. Sample selection, level, pitch and an output filter can be modulated by the signal level.

The apTrigga3 user interface features many graphical displays with relevant controls layered on top to allow the user to see how adjustments relate to the data. This idea is featured both on the scrolling input level display and the input filter display that shows the frequencies of the input signal.

The plugin has various playback modes to select samples in sequence, by random or to play them back at the same time. Samples can be visually cropped right inside the editor.

apTrigga3's main use is to replace or mix drum sounds on single-instrument channels. Due to its zero sample latency it works great for live drum triggering.

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# 1 End User License Agreement

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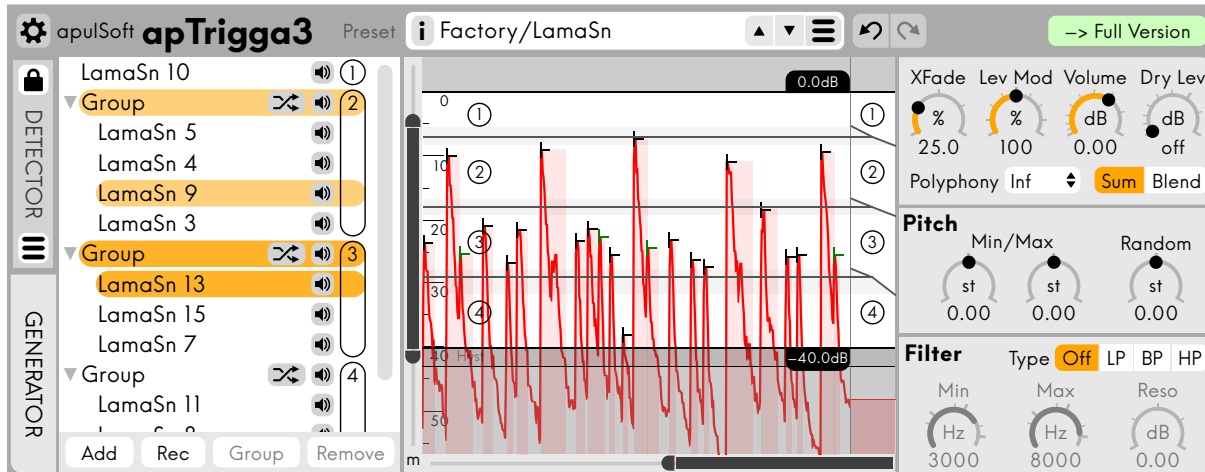
## 2 System Requirements

- Mac OS X
  - A Mac with an Intel CPU running OS X 10.6.8 or newer.
  - A host application that can load VST, VST3, AU or AAX plugins running in 32-bit or 64-bit mode.
  - Pro Tools (AAX): The minimum required Pro Tools version is 10.3.5.
- Windows
  - Windows XP or newer. Both 32-bit and 64-bit versions of Windows are supported.
  - A host application that can load VST, VST3 or AAX plugins running in 32-bit or 64-bit mode.
  - Pro Tools (AAX): The minimum required Pro Tools version is 10.3.5.
  - An application to view pdf files to read this manual.

## 3 Installation

- Mac OS X
  - Quit all plugin host applications.
  - Double-click **aptrigga3-mac-(..).pkg**. In case Mac OS X tells you the software is coming from an unidentified developer with no option to open it, right-click on the downloaded file and choose "Open" to get a dialog with the option to open it.
  - Follow the standard OSX installation procedure.
  - Open a host and create an instance of apTrigga3 in a plugin slot.
  - The apTrigga3 GUI will show a welcome screen with the options to run the plugin in demo mode or to buy or enter license information.
- Windows
  - Quit all plugin host applications.
  - Double-click the **aptrigga3-installer-win-(..).exe** to start the installation. On newer versions of windows it may be necessary to confirm the launch because of user access management.
  - Follow the installation procedure. During the install you have the option to set the path to the apTrigga3 data folder. That is where settings, presets and the manual will be installed.
  - If VST2 versions are installed, the installer will provide the option to select destination folders for VST2 plugins for both 32-bit and 64-bit.
  - Open a host and create an instance of apTrigga3 in a plugin slot.
  - The apTrigga3 GUI will show a welcome screen with the options to run the plugin in demo mode or to buy or enter license information.

## 4 Overview



The apTrigga3 user interface consists of a global top bar and large bottom section which is switchable between two modes by clicking the large tab buttons on the left side. In **Detector** mode all settings related to trigger event detection are visible, the **Generator** mode shows everything related to apTrigga3's sound generator.

Many controls on the user interface can be dragged with the mouse to change values.

- If the **[Shift]** key is held down the values will snap to predefined markers at round values during dragging.
- Holding **[Ctrl]** switches the dragging to a mouse-velocity based mode allowing for very tiny changes for slow mouse movements.
- Clicking a control while holding **[Alt]** will change the value to its default value.
- Double-Clicking most of the value-based controls opens a popup value editor to enter a new value with the keyboard.
- If the mouse hovers over a control for some time, a tooltip help text window will pop up explaining the control. (If tooltips are enabled in the global settings).

## 5 Top Bar



On this grey bar at the top of the apTrigga3 user are the settings button (with the gear icon) and the apTrigga3 title which both open the plugin settings dialog, the preset section and the license section on the very right.

## 5.1 Preset Section/Undo/Redo



The white box shows the label of the current preset and can be clicked to edit the label. The “i” button on the left opens the preset description popup that can also be used to edit the description.

On the right side are up/down arrow buttons to cycle through presets inside the same folder as the currently loaded one. The rightmost button opens the preset menu. It lists all available presets with folders as they are organized on disk. Below the presets the following entries are available:

**Save Current Preset..** The current state of the plugin is added to the preset menu. In the prompt that pops up, the preset name can be edited and folder paths can be added which automatically creates folders on disk if necessary. Presets in the menu can be overwritten by using the same name/path.

**Import Preset..** Load a preset from a .tgg3preset file anywhere on the local filesystem.

**Export Current Preset..** Store the current state of the plugin as a .tgg3preset to any location on your local filesystem.

**Manage Presets Folder in Finder/Windows Explorer..** This opens the filesystem folder that contains the presets shown in the menu. The usual file operations can be used to restructure this folder and therefore restructure the presets menu.

**Make Preset Portable..** This function switches all samples to use internal storage so they are all stores inside the preset file. It then resets several parameters to the values they have in the current Init.tgg3preset: The input filter section, the threshold value, the maximum trigger level, the trigger display view range and the (global) waveform zoom level. Additionally, all sample view ranges are set to show the entire playback range and samples are deselected. The idea is to prepare a preset to be moved to another machine/user/project. This function was used to have reasonable default values in the factory presets.

To the right of the white preset box are the undo and the redo button. These undo and redo that last actions when clicked. apTrigga3 currently supports undoing the last 10 actions.

**Note:** Saving and importing of presets is only available in the full version of apTrigga3.

### 5.1.1 License

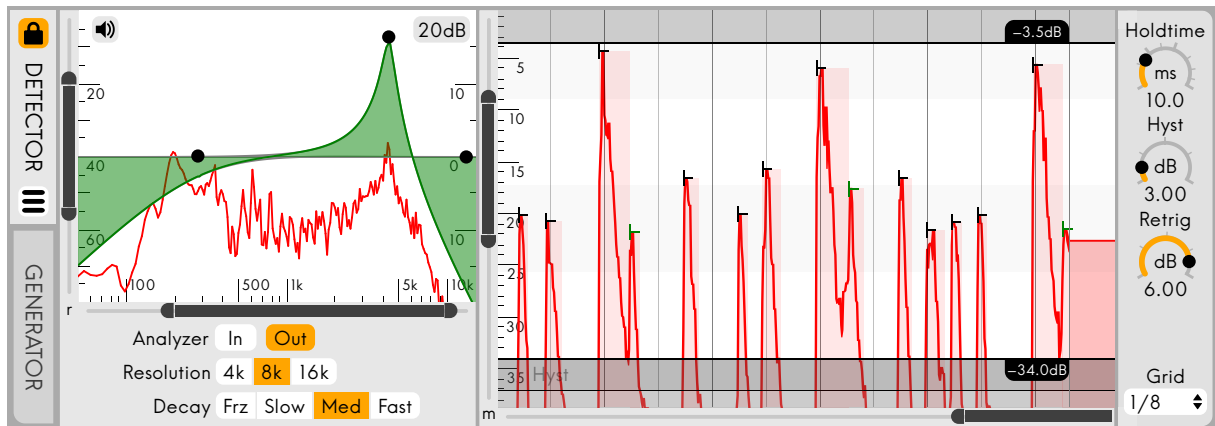


The look of the license section changes depending on your license status. In demo the **-> Full Version** button is displayed. It brings up a dialog with options to buy a apTrigga3 license online, to enter the purchased license information or to keep running in demo mode.

If the full version of the plugin was successfully unlocked, then the license section will display the license ID.



## 6 Detector Section

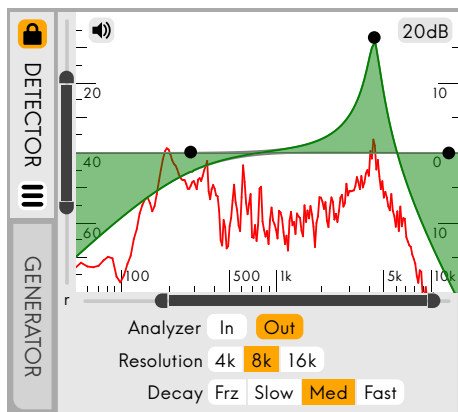


The detector section handles the detection of trigger events based on the plugin input signal. To show the detector section, click the vertical tab button labelled **Detector** on the left border of the interface. On the tab button, there are two sub-buttons.

The **lock** button on top locks all settings related to detection if plugin presets are switched. Once detection has been set up properly, use to lock to keep this settings while trying the sounds of different presets.

The **menu** button at the bottom lists available presets for detection only. New detector presets can be created by the user.

## 6.1 Input Frequency Graph and Filters



The input filter section processes the signal coming from the plugin input. It is first converted to mono and then fed through all the filter bands. In the top left corner is a speaker-shaped button to listen to the signal leaving the filter section. Use this to check the sound of the filtered signal as you edit the filter bands. In the top right corner is a popup button to set the visible range of the filter response curves. The filter graph has a double-slider at the bottom that allows to change the visible frequency range of both the filter curves and the analyzer graph.

There are two optional frequency analyzers that can be displayed underneath the filter response curves. One before the input filters (blue curve) and one after the input filters (red curve). If no filter band is currently selected, analyzer settings are displayed below the graph. If analyzers are enabled, a double-slider to the left of the graph allow to adjust the visible analyzer gain range. **Note:** this will not affect the filter curves!

The small button labeled **r** in the bottom left corner of the graph resets the graph viewport to default values.

Filter bands are created by clicking onto the filter display. A menu with the available filter types pops up:

**Peak EQ** Boosts/attenuates frequency bands around a center frequency. It has an adjustable bandwidth in octaves that is defined by half the gain-value.

**Band Stop** Cuts out a band of frequencies completely.

**Highpass** Cuts frequencies below a cutoff value. The gain value adds resonance to the highpass which boosts/attenuates frequencies around the cutoff frequency.

**Lowpass** Cuts frequencies above a cutoff value. The gain value adds resonance to the lowpass which boosts/attenuates frequencies around the cutoff frequency.

The Filter bands can be edited by clicking on their circular black handles on the graph. The bottom section shows the relevant parameters which can be edited by dragging handles on the graph or dragging on the values. Double-clicking on the values opens a value editor to be used with the keyboard.

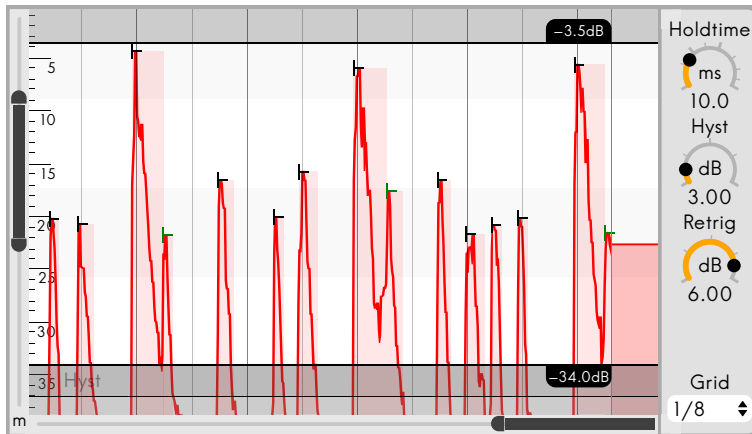
If a band has a bandwidth parameter, it can be adjusted by dragging the bandwidth area borders or by holding **[Shift]** when dragging on the main handle.

Filter bands have an order parameter that defines slope steepness/filter shape definition. The order of a filter is the number of filter poles used. Each pole can produce a 6dB/Oct slope. Symmetrical filter types (Peak/Band Stop) require an even order. Filters of higher orders use more

processing power and produce more frequency based delay (group delay). There is a predefined filter band called **Master Gain** for adjusting the overall gain of the filter stage. Its handle is always close to the right side of the display.

**Note:** Cutting high frequencies too much can lead to trigger inaccuracies because it can make transients less defined. Adjusting low frequencies too much can lead to frequency dependent delays because of phase shifts caused by the filter bands.

## 6.2 Trigger Graph



The right part of the detector pane has a display that shows the level of the incoming audio signal (after the filter bands are applied) with the detected trigger events overlaid. Optionally the beat information coming from the host application can be displayed (including subdivisions) to see where on the beats the trigger events lie.

Every detected trigger event is marked, black for normal events and green for events coming from the retrigger algorithm (if enabled). Each event has a transparent red area attached that shows the hold duration of the signal (important for **Gate** playback mode and for recording samples).

On the signal graph, the low and high detection thresholds can be adjusted by dragging them with the mouse. Double-click the lines or on the numerical displays to enter values with the keyboard. On the left a double-slider defines the visible dB range. The slider at the bottom adjust the shown signal duration. The button labeled **m** in the bottom left corner, matches the dB range to the thresholds and hysteresis setting, to show the entire processed range and some extra border.

Right-side controls:

**Holdtime** Each incoming audio signal sample is held for this amount of time and the maxima of all these operations is used to do the triggering. Applying the holdtime splits oscillations from the dynamic envelope of the signal, so under normal circumstances a value related to the lowest hearable pitch makes sense which is something in the 10-50 ms range. At the same

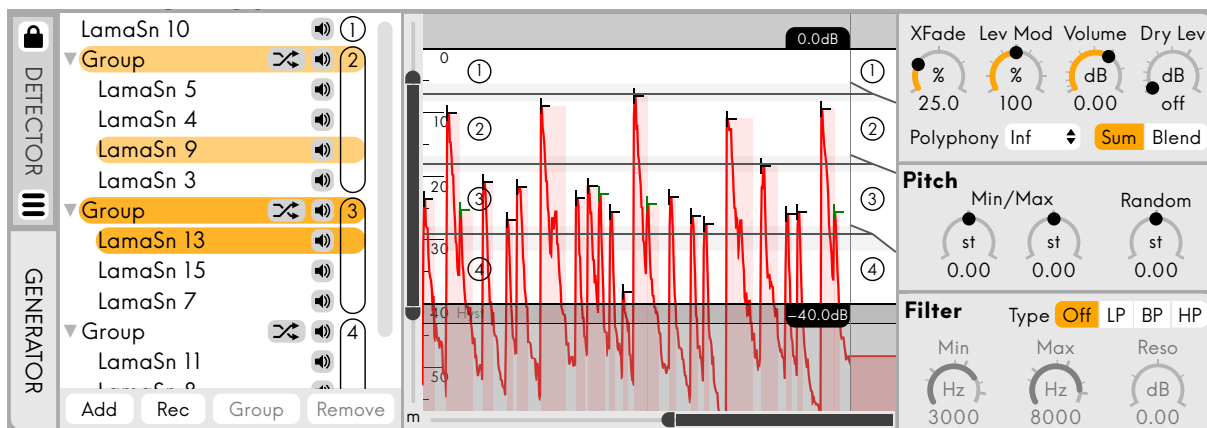
time this time duration is shortest time two trigger events can follow each other, so drum rolls might therefore require lower values.

**Hyst** Short for trigger hysteresis. This is an additional offset to guard from unwanted trigger events near the threshold level. It means a trigger event only ends once the signal goes below the threshold - hysteresis.

**Retrig** This setting allows detecting additional trigger events in case the trigger signal drops and rises again by the set amount. This can help with drum rolls, but it also increases the chances of unwanted trigger events. Events caused by retriggering are drawn with a green marker on the graph.

**Grid** Clicking this opens a popup menu with the available options for the beat grid display. Once enabled, the beat grid will show beat information coming from the host application. **Note:** Not all host applications feed this information to plugins.

## 7 Generator Section

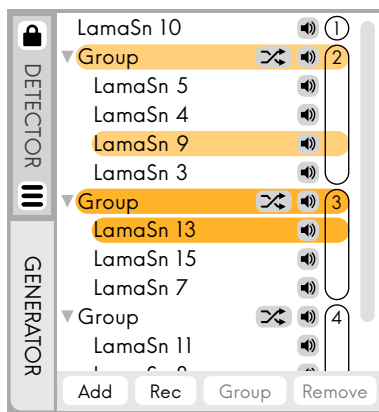


To show the generator pane, press the large vertical tab button labeled **Generator** on the left side of the interface.

The generator section controls how trigger events are used to synthesize sounds which can replace or be mixed with the audio coming through the plugin.

The selection state (using a green underlay color) of the dynamic layer list on the left side determines what is shown on the righthand side. If nothing is selected in the list, the generator main view is shown with general parameters and a trigger signal graph. If one sample is selected, the single sample editor is shown. If a group or multiple samples are selected, the multiple samples/group editor is shown. Clicking the generator tab button when the generator pane is already shown deselect everything in the list and brings up the generator main view.

## 7.1 Dynamic Layer List



The layer list on the left side is where the samples of one preset are loaded and organized.

Samples can be loaded by dragging and dropping sample files onto the apTrigga3 user interface. If you drag right into the list, the order can be determined by the drop location, otherwise samples get added at the bottom.

The list order determines the dynamic order, on top is the item to be played back at the highest input level. The order can be changed by dragging entries up and down. Groups are created by dragging a sample onto another one.

Groups allow to trigger samples in random or sequential order or to trigger all of them at the same time (stack mode). Clicking

selects a sample and brings up the single sample editor on the right side of the plugin. When holding **[Shift]**, multiple samples can be selected by mouse clicks which brings up the multiple sample/group options view described later. Clicking a group entry selects all the samples it contains as well. Clicking below the lowest sample entry deselects all samples and switched the main area to the trigger graph display.

Every time a sample or a group is played back by apTrigga3, an orange rounded rectangle will be drawn behind its list entry to provide feedback about what get triggered. On the very right of entry is its dynamic level number. Groups share one level. These are the same numbers drawn onto the dynamic level areas on the rolling trigger signal graph described later. Left of that is a preview button that plays back the sample or the group (based on its configuration) through the plugin output. Group entries feature an additional group mode icon that can be clicked to change the group's mode.

### 7.1.1 Group Mode Menu

**Random** Every time the group is triggered, a sample is randomly chosen, the same sample can be chosen multiple times in a row.

**Random without Repetition** Samples are randomly selected for playback, but a sample is never played back twice in a row.

**Sequence** The samples of the group are played back in order from top to bottom. The order can be changed by dragging & dropping samples on the list display.

**Stack** All samples in the group are always played back at the same time.

**Random** Every time the group is triggered, a sample is randomly chosen, the same sample can be chosen multiple times in a row.

**Ungroup** Break all selected groups.

## 7.1.2 Bottom Bar Buttons

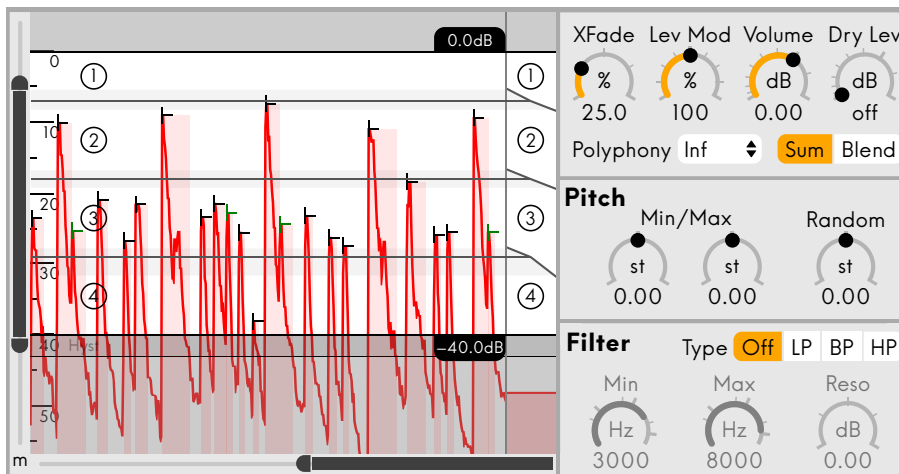
Another way to load samples is to use the **Add** button which brings up a file selector with sample preview options. These previews are always played through the plugin, so make sure your track is active and not muted. Samples loading this way are always appended at the bottom of the layer list.

The **Rec** button opens a dialog to record samples from the plugin input. Recordings will be triggered based on the current trigger settings and will be added to the internal storage of the plugin. Recording has both pre- and post-roll time settings to record longer than just what's above the trigger threshold. Start and end times of the recordings can then be edited in the sample editor view by selecting the recorded samples.

The **Group** button creates a new group from the currently selected samples. Groups always start out in "Random without Repetition" mode. The mode can later be switched by clicking on the group mode popup menu on the group entry in the layer list.

The **Remove** button enables as soon as there is a sample selection. It removes the selected samples from the plugin, just like pressing `Delete`.

## 7.2 Generator Main View



The generator main view is shown if no sample is selected. To quickly get there, click the left-side **Generator** tab button (twice if the interface is currently in detector mode).

### 7.2.1 Trigger Graph

The generator trigger graph is similar to the detector triggergraph. The red input signal, the trigger event markers, the dB and time range sliders are shared between the two. Additionally the generator trigger graph shows dynamic layer numbers, the dynamic dB range ratios and grey areas for the dynamic crossfade zones. The current signal is shown on the rightmost graph section

and the signal history is moved leftwards while audio flows through the plugin.

On top of the curve draggable horizontal lines allow to adjust the threshold level, the maximum trigger level and the ratios of the dynamic levels to use. These can be dragged up and down with the mouse.

The threshold level determines when trigger events start. The maximum trigger level normally can stay at 0 dB and defines the upper limit of modulation. Some hosts feed signals above 0 dB, therefore the trigger gain range also goes above 0 dB.

If there are multiple dynamic level sections, they are marked with circled numbers that show what samples/groups are played back if an event occurs in the section. Drag the mouse while holding **Shift** on the level ratio lines to proportionally move all levels at once.

Clicking (&holding) into the graph synthesizes the trigger signal at the clicked level. Use this to test level and crossfade settings. On the very right side of the graph it is possible to click at any vertical position as no handles are in the way.

To the left of the graph is a double-slider that can be dragged to adjust the dB range of the signal that is shown. The bottom slider adjusts the visible duration/scrolling speed of the display.

## 7.2.2 Generator Main Settings

**XFade** This is the amount of crossfading to use between dynamic levels. It is shown in the trigger graph with a transparent grey overlay. If a trigger events happens inside the grey area, both samples/groups are played back and cross-faded/mixed.

**Lev Mod** The amount of playback level modulation caused by the input signal level. 100% means the samples are played back with the same dynamic ratios as the detected signal peaks have. At 0% all samples are played back at the same level (however they could still have different levels themselves).

**Volume** The level of the mix of all played samples to add to the output. If turned all the way down, the sample playback will be completely muted.



**Sum/Blend Switch** Switch between two different output modes controlled by the button below:

**Dry Lev** The level of the dry input signal to add to the output. 0dB means the full input signal is added to the output. If turned all the way down, the dry signal is muted and the sound going through the plugin is completely replaced by sample playback.

**Out Mix** Mix/Crossfade between sample playback and the dry audio signal. This can be automated in your host if you need to replace sound only during parts of a song.

**Polyphony** This popup menu sets the number of events that can play back samples at the same time. It determines how many sounds are audible at the same time and goes from 2 to 8 with a few special modes:

In **Gate** mode, only one event will play back only as long as the signal stay above the lower threshold. **Mono** mode means only one event is playing back at once, but each sample plays to its end unless another trigger event happens. **Inf** means an infinite number of voices are used for playback.

**Note:** The main purpose of this setting is not to conserve CPU usage, but to avoid unwanted noise layering problems when recorded sounds with long (noisy) tails are used.

**Pitch Min** A value in musical half-steps (12 half-steps = 1 octave). This defines the pitch transposition to use if a trigger event occurs at exactly threshold level. For each trigger event this value is interpolated with **Pitch Max** and the result is added to the pitch set up for each sample.

**Pitch Max** The pitch transposition to use if a trigger event occurs at the maximum trigger level set up on the trigger graph.

**Pitch Random** This amount of random pitch modulation is added to each trigger event.

**Filter Type** The type of the filter to apply to the output samples. **LP** is a 24 dB/Oct lowpass filter with resonance, **BP** a bandpass filter with 12 db/Oct slopes and **HP** a 24 db/Oct highpass filter with resonance.

**Filter Min** The filter center/cutoff frequency to use at the trigger threshold level. This gets interpolated with the **FMax** value.

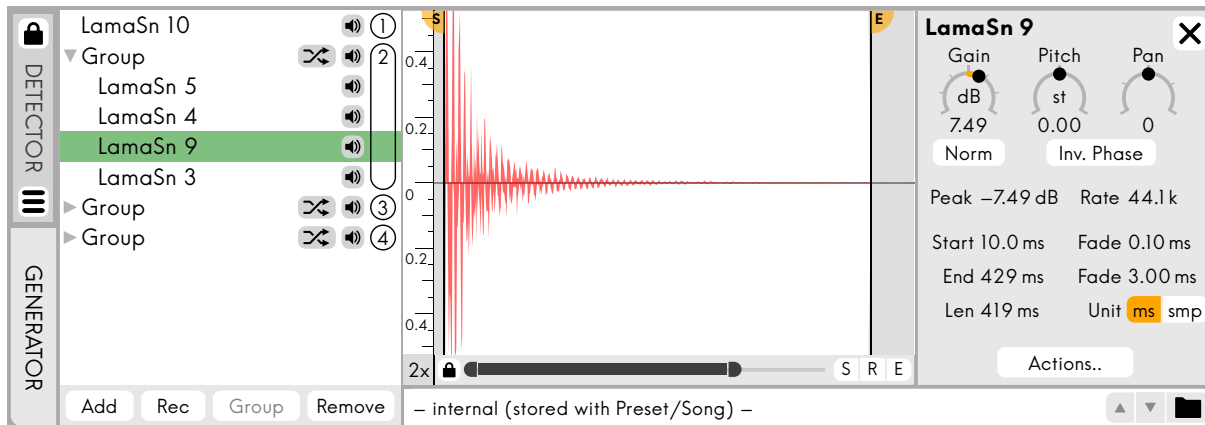
**Filter Max** The filter center/cutoff frequency to use at the maximum trigger level.

**Filter Reso** The resonance of the filter. This is the gain at the center/cutoff frequency.

**Filter Width** Only visible for bandpass filters, this parameter controls the bandwidth of the filter in octaves.



## 7.3 Single Sample Editor



The sample editor appears whenever exactly one sample is selected on the **Generator** pane. It can be closed again by deselecting all samples or by clicking the close (X) button on the top-right corner of the sample editor.

### 7.3.1 Waveform Display

The large display in the center shows the sample waveform. The playback range can be adjusted by moving the vertical start and end markers (the two lines with the **S** and **E** flags). Clicking the waveform display inside the playback range triggers the sample for preview. To the left of the display is a ruler showing the sample values and the amount of vertical zoom at the bottom. Clicking the ruler opens a menu to change the zoom level.

A double slider at the bottom controls the visible range. To the left of the slider is a **R** button to set the view to show the whole playback range of the sample. On the right side of the slider are **S** and **E** buttons to move the view range to the start and end markers.

### 7.3.2 Sample Settings

The sample settings are on the right side of the sample editor. The label of the sample can be edited by clicking. The basic playback parameters can be adjusted with knobs: **Gain** in dB, **Pitch** in half-steps and **Pan** (Panorama - if the plugin instance has a stereo output). Below the **Gain** knob is a button called **Norm**. It sets the gain knob to the negative value of the maximum peak gain in the playback range of the sample. This means the sample will be played back normalized (with a peak gain of 0 dB).

To its right is a toggle button called **Inv. Phase**. It switches the playback phase of the sample, which is the same as multiplying each value by -1.

Below these knobs various playback parameters are shown as text. Start, end, length and the fade times can be adjusted by dragging on the numbers of double-clicking to pop up a value

editor. The Unit field switches between showing and editing the values as milliseconds or number of samples.

At the bottom is the **Actions..** menu button with the following entries:

**Move Sample to Internal Storage..** This sets the sample to use internal storage. The sample waveform will be stored inside the preset data and will be stored with projects/songs.

**Move/Link Sample to External (File) Storage..** If a sample has been stored inside the preset data, this option lets you move it back to a location on disk. You can also use it to move file-based samples to a new location. Samples are always written as .wav files.

**Remove Sample from Plugin** The currently shown sample is removed from the plugin and the sample editor is closed.

**Export a Copy to Disk..** Store the waveform of the currently selected/edited sample to disk without changing anything in apTrigga3. Use this to export internal samples from presets or to store recorded samples to disk.

**Show File in Finder/Explorer..** For samples with external (file) storage, open a Finder/Explorer window to show the sample file.

### 7.3.3 Sample Storage Path

At the bottom of the sample editor the file path of the currently edited sample is shown (in external storage mode).

There are three buttons on the right. The up and down arrow buttons replace the currently loaded sample with the previous/next sample inside the same folder on disk. This functionality is only available if the loaded sample file path exists on disk. The folder icon button on the very right opens a file chooser dialog to replace the sample file with a different one from disk. When replacing a sample, most playback parameters stay unchanged.

### 7.3.4 Sample Editor Keyboard Shortcuts

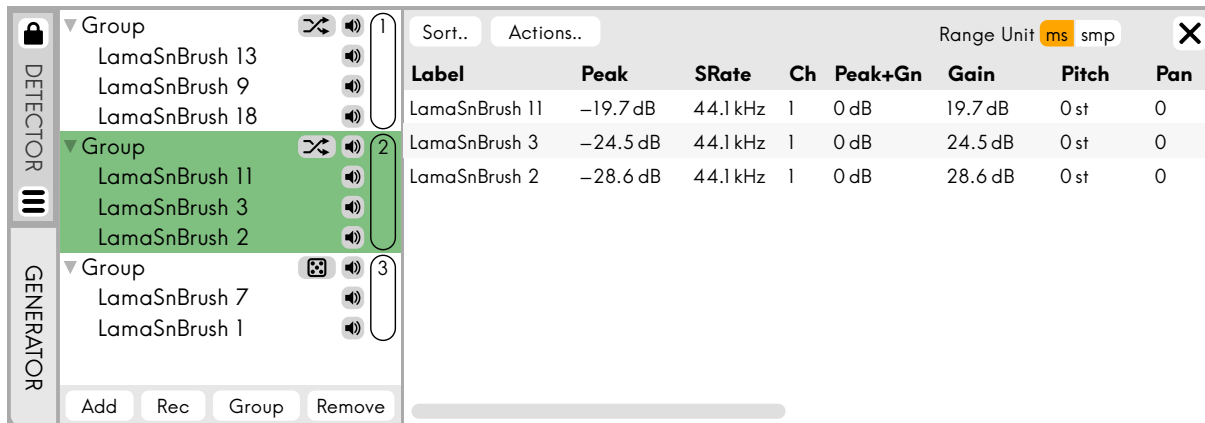
**SPACE** Play the current playback range.

**S** Move the waveform display to show the start marker.

**E** Move the waveform display to show the end marker.

**R** Show the entire playback range in the waveform display.

## 7.4 Multiple Samples/Group Editor



The multiple sample/group editor page is shown whenever multiple samples or groups are selected in the sample list on the **Generator** pane. The editor can be left by pressing the close (X) button in the top-right corner or by clearing the multi selection in the sample list.

Clicking column titles above the data selects entire columns at once. Editing a cell when a column is selected changes the same value for all selected samples at once.

### 7.4.1 Sample Data Table

The right section of the editor shows additional information about all the selected samples. The table can be scrolled horizontally to reveal more parameters. Most of these can be edited by clicking and entering new values with the keyboard. If a column header is clicked, the whole column is selected and if a value in a selected column is changed, the whole column is changed to the same new value.

### 7.4.2 Sort.. Menu

This opens a menu to sort the selection by various criteria, which changes the order of the samples in the master sample list on the left side. Therefore it changes how the samples are selected by the trigger level.

**Sort Selection by Label** Sort the selected samples alphabetically by their (user-definable) label.

**Sort Selection by File Peak** Sort the selected samples descending by the highest gain value inside the playback range. Use this to sort recorded samples by their played dynamics.

**Sort Selection by Peak+Gain** Sort the selected samples descending by the highest gain value inside the playback range multiplied by the **Gain** setting of the sample.

**Reverse Selection Order** The selected samples get their order reversed. This is independent of any groups created, it just flips the topmost sample with the bottommost etc.

### 7.4.3 Actions.. Menu

**Move Samples to Internal Storage..** Move all selected sample to internal plugin storage. All selected samples will be stored with presets/songs.

**Move Samples to Disk..** Choose a folder in a file selector where all the samples will be written to (as .wav files). The plugin then stores the paths of the created files to load them from the chosen spot in the future.

**Export Files..** Choose a folder in a file selector dialog to store copies of all selected samples to. This will not change the current preset in any way. Its purpose is to export sample files from presets or store recorded samples.

**Group Builder..** This function distributes the selected samples evenly over a definable number of newly created groups. It opens a dialog to specify how many groups to create.

**Crop Samples** This option destructively changes the loaded samples and is only available if samples are stored within presets (internal storage). It deletes the areas before the start marker and after the end marker. After cropping, the preset only contains the actually needed sample data. Recommended if you use the sample recording feature of apTrigga3 and want to avoid large presets.

**Mixdown Samples to Mono** This option destructively changes the loaded samples and is only available if samples are stored within presets (internal storage). It will convert any stereo sample in the selection to mono by mixing the two channels. This will use half as much memory and preset space. Recommended if you use the sample recording feature of apTrigga3 and recorded stereo samples when only mono ones were intended.

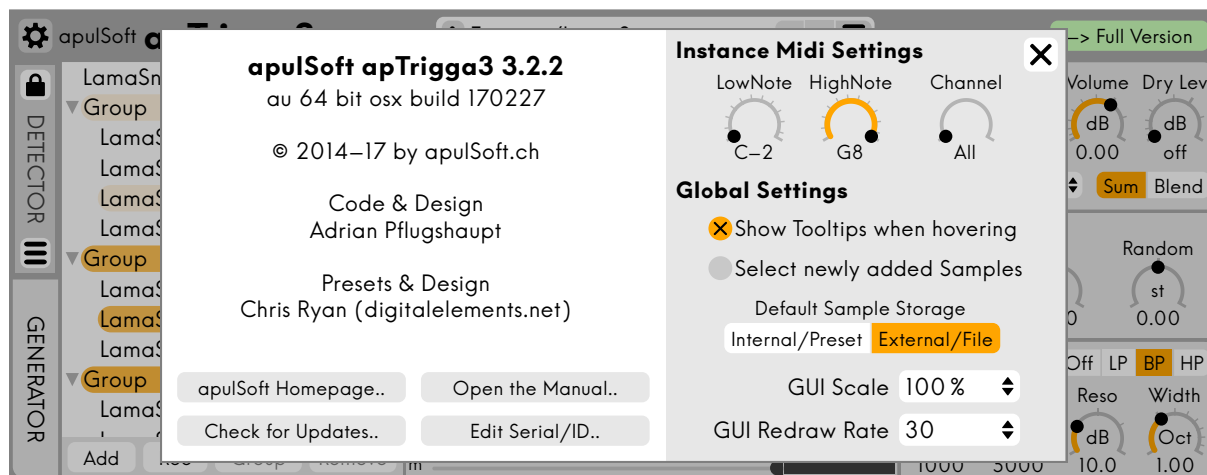
**Normalize Selected Samples** Perform normalization on all selected samples. Their **Gain** settings get adjusted to be the negative of the highest peak gain value in the playback range. All selected samples play back with same maximum peak level after this operation.

**Remove Samples** Remove all the selected samples from the plugin.

### 7.4.4 Range Unit Toggle

The **Range Unit** switch controls whether times in the table are displayed and edited in milliseconds or samples. It is synced with the same switch on the single sample editor.

## 8 Plugin Settings & Information Dialog



The left side of the dialog shows some basic information about the plugin and has four buttons at the bottom.

**apulSoft Homepage..** This opens the systems default browser and points it at <http://www.apulsoft.ch>.

**Open the Manual..** The apTrigga3 manual is opened in the default pdf viewer application.

**Check for Updates..** This opens a special page on the apulSoft homepage and sends version information. The homepage checks the version against the latest release and provides links to downloads if newer versions are available.

**Edit Serial/ID..** This button (re-)opens the serial information entry dialog. You can use it to enter, look up or edit your license information.

The **Instance Midi Settings** at the top-right corner allow to limit the midi notes the plugin reacts to. These settings are only valid for the current instance of the plugin.

**Global Settings** apply to all instances of apTrigga3. All instances using the same plugin format in the same host will update immediately, others once the plugin is reloaded.

**Show Tooltips when hovering** If this is activated, orange rectangles with little hint texts will pop up if the mouse hovers in place over a control for a second.

**Select newly added Samples** If turned on, apTrigga3 will always select samples that are added to the plugin right away. The samples can come from drag & drop or from a file-selector. This means adding samples will always switch to the sample/group editor.

**GUI Scale** Choose how large the plugin GUI should be drawn in %. The right-side popup features a few presets and it is also possible to just enter any value between 25 and 500. Some hosts might only display the plugin correctly at the new size once the plugin window is closed and reopened. In extreme cases, the host might need to be restarted.

**Default storage** This changes the storage behavior for newly added samples. It switches between copying the sample to the plugin (preset/song) and just storing a path to the file on disk.

**Note:** Samples created by the recording function will always be stored in internal storage.

## 9 Sample Storage

apTrigga3 supports two ways of storing samples.

**External storage** For samples with external storage, apTrigga3 just stores the path to the sample file on the local filesystem. This means the user is responsible for not moving or erasing the used files. If apTrigga3 cannot find a file anymore when a preset with external storage is used, that sample's label will be drawn red in the sample list. External storage has the advantage that multiple presets can share the same files, it always allows to select previous and next samples in the same folder and it makes presets smaller and therefore host project files stay smaller. Presets with external storage will only work on other machines if the samples can be found at exactly the same filesystem paths.

**Internal storage** A sample with internal storage gets stored inside presets. It does not need to exist as a file on disk and it is saved with presets and DAW projects/songs. If samples are recorded with apTrigga3, they always are set to use internal storage. The big advantage is that samples cannot be lost that way. Presets with all samples in internal storage can easily be moved to other machines and if projects/songs are moved to other machines, nothing needs to be done to ensure sample availability. However this does lead to duplication of the same sample data.

The default storage type can be chosen on the global settings pane of apTrigga3. The external storage option is preferable for users that already have their sample folders organized (maybe because they have used apTrigga2 in the past). Using the internal storage option is the more worry-free way of using apTrigga3, but it uses more space. Usually drums and percussive samples are short in duration which means preset size will stay manageable and even if sounds are stored multiple times they will not fill any hard drive quickly.

There are multiple ways to configure internal/external storage in apTrigga3. For new samples loaded/dropped into apTrigga3, it will use the setting from the global settings pane. Once samples are loaded, the storage mode can be changed both for individual samples or many samples at once. In the sample editor, the option to change the storage mode for the edited sample can be found in the **Actions..** popup menu. If multiple samples (or groups) are selected, similar options can be found in the **Actions..** popup menu of the multiple sample editor.

If you want to share presets with other people, always make sure to switch all samples to internal storage before exporting the .tgg3preset file. Only this way the preset becomes truly self-contained and machine-independent.

## 10 Midi Input

apTrigga3 supports triggering samples by midi Note-On/Note-Off events. Please consult the manual of your DAW to find out how to send midi data to an audio insert plugin.

**Note:** Not all host applications support this feature.

## 11 Sample File Formats

apTrigga3 accepts a variety of sample formats. It has built-in support for WAV, AiFF, OGG and FLAC files and uses operating system components to load any format the operating system understands. On OS X it uses Quicktime and thus new formats can be added by installing Quicktime extensions. On Windows it uses Windows Media codecs and that allows for adding new formats. If Finder/Windows Explorer can read it, apTrigga3 should be able to read it too.

**Note:** While apTrigga3 can read compressed file formats, the internal plugin storage always stores samples uncompressed to ensure total cross-platform preset compatibility. If saving disk space is the goal, the external storage option should be used.

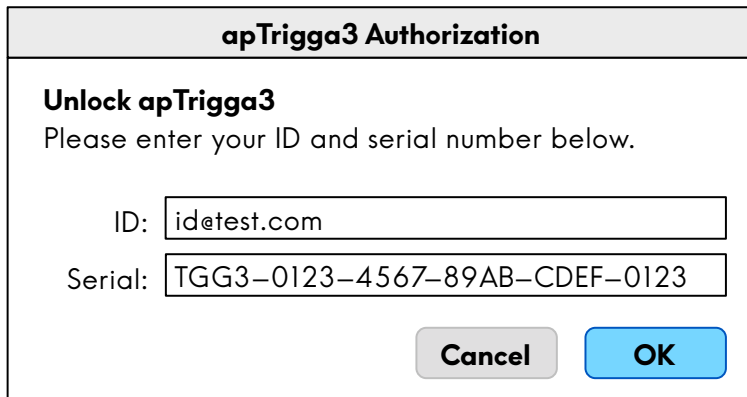
## 12 Init and Factory Presets

apTrigga3 installs a number of example presets by default. All factory presets include descriptions that are accessible by clicking the **i** button on the left side of the current preset name.

### 12.1 Init Preset

A special preset is the **Init** preset. The first time the plugin is opened it is auto-generated from the plugin's default values. Every time a new instance of apTrigga3 is created, the **Init** preset is loaded. This allows you to set up your personal default values by overwriting this preset once the plugin is in the desired default state.

## 13 Unlocking the Full Version of apTrigga3



**apTrigga3 Authorization**

**Unlock apTrigga3**  
Please enter your ID and serial number below.

ID:

Serial:

Once you bought an apTrigga3 license via ShareIt from the apulSoft homepage (which can be opened from the demo welcome screen or the demo plugin license GUI section) there are three ways to enter your information and unlock the plugin.

- When you open first apTrigga3 plugin interface, a demo welcome screen appears with a **Enter ID/Serial..** button. Click this button open the pictured dialog.
- If the plugin is running in demo mode, a **-> Full Version** button is displayed on top right which brings up a license dialog where the **Enter ID/Serial..** button can be used to open the pictured dialog.
- Clicking the preferences gears button on the top left corner of the plugin opens the preferences which contain a **Edit ID/Serial..** button that brings up the pictured dialog.

Just enter the ID/serial exactly as received and click **OK**. to unlock the full version.

In case the ID/serial is not accepted, check the following things:

- The serial needs to be an apulSoft apTrigga3 serial consisting of **TGG3** followed by 5 sections of 4 hexadecimal digits (0-9, A-F).
- If copy/paste was used, try typing manually as copy/paste sometimes copies more than was intended (white spaces, tab stops, etc).
- Check whether you used the right fields for the right entries.



## 14 Frequently Asked Questions (FAQ)

- **I lost my serial/ID thingy. How can I get it again?**

Just head to <http://www.apulsoft.ch> and use the **Contact apulSoft** link at the bottom. Please add enough information to locate your order in the database and you will receive your serial/ID info as soon as possible.

- **Why does apTrigga3 have no Midi output?**

It would be impossible for apTrigga3 to achieve its low latency when outputting Midi. Midi output for plugins does not exist in many host applications and some add unpredictable latencies to Midi when it is coming from plugins, so real-time usage would be problematic.

- **What to do if the window size does not match the GUI size after adjusting the GUI scale?**

Depending on how the host application handles resizing of plugins triggered by the plugin, changing the GUI scale might not immediately work correctly. Any change to the GUI scale is stored in a global preferences file that is read whenever a new instance of apTrigga3 is created. If this problem occurs, first try to just close and reopen the plugin window/editor. If that does not help, set the desired scale on the settings pane and then restart your host application. As long as GUI scale is not changed again, window and content should match.

- **Why do Midi input and sample preview buttons sometimes not produce any sound?**

apTrigga3 can only produce audio output if an audio stream is flowing through the plugin. Modern hosts try to limit their CPU usage by not feeding audio through plugins if they believe the stream to consist of silence. In that case apTrigga3 will not react to Midi and clicks on preview buttons.

To make it work, just feed some audio through apTrigga3. Record-enabling a track usually does that. If you want to use apTrigga3 as a midi synth, place another synth in the instrument slot and make it output something inaudible.

- **After updating apTrigga3 AAX, why does Pro Tools tell me "Plugin not found" or "The following plug-ins were made inactive because of insufficient system resources: apTrigga3" or "Plugin isn't a valid 64bit AAX plugin" when I try to reload a project?**

Due to changes in the AAX wrapper of the JUCE framework that was used to create apTrigga3, Pro Tools sometimes gets confused about apTrigga3's configurations and properties. If this happens, make Pro Tools rescan all AAX plugins by erasing its plugin list.

On Mac OS X, the plugin list can be found at:

~/Library/Preferences/Avid/Pro Tools/InstalledAAXPlugins

apTrigga3.aaxplugin is located at:

/Library/Application Support/Avid/Audio/Plug-Ins/apTrigga3.aaxplugin

On Windows the plugin list is at:

C:\Users\[UserName]\AppData\Roaming\Avid\Pro Tools\InstalledAAXPlugins

apTrigga3.aaxplugin is located at:

C:\Program Files[x86]\Common Files\Avid\Audio\Plug-Ins\apTrigga3.aaxplugin

Once these files are deleted and apTrigga3 has been reinstalled, Pro Tools will do a full rescan of all AAX plugins on the next launch and apTrigga3 should be working correctly again.

## 15 Changelog

- Version 3.0.5
  - Initial public release.
- Version 3.1.0
  - Input filter bands with adjustable order (slope steepness/shape definition).
  - Improved signal hold-time processing with better performance for small audio buffer sizes.
  - Customizable description text for presets + descriptions added for factory presets.
  - Adjustable random pitch generator for each trigger event.
  - The phase of each sample can be flipped.
  - The sample editor can switch between ms and samples units.
  - The panorama knob in the sample editor get disabled for mono instances of the plugin.
  - Added an entry to the preset menu "Make Preset Portable.." to merge some base settings with the Init preset.
  - Support for VST3 host bypass button.
  - Previous/next preset in folder buttons added.
  - Minor GUI pixel tweaks such as smaller close button graphics and overlay colors.
  - BUGFIX: crash when closing the plugin GUI with the filter band creation popup open.
  - BUGFIX: crash when using the sample preview playback in a file chooser dialog.
- Version 3.1.1
  - WAV and AiFF files with missing or wrong file extensions can be loaded.
  - Additional build information is displayed on the settings pane.
  - BUGFIX: clicks in mono & gate mode if sample fadeout is set to off.
  - BUGFIX: crash when replacing samples while preview is playing.
  - BUGFIX: incorrect loading of the sample phase setting when loading presets.
- Version 3.1.2
  - There are now two output mixer modes. This enables host automation of the new dry/wet mix knob.
  - The autoplay button on file choosers now globally remembers its setting.
  - The multiple samples/group editor shows more parameters. They can be edited in the table. Parameter changes can be applied to multiple samples at once.
  - A new "Remove Samples.." has been added below the sample list to allow quick removal of samples in hosts not feeding keystrokes to plugin GUIs.

- The settings screen shows some build information below the title.
  - The dynamics level crossfade knob (XFade) has been moved right because it doesn't really belong to trigger event detection.
  - BUGFIX: drawing glitches if multiple instances show the filter display at the same time.
  - various bug fixes.
- Version 3.2.0
    - digitalelements apTrigga3 Lite Sound Set included.
    - The user interface has been reworked to separate detector settings from generator settings.
    - Independent presets for detection settings including a menu and a locking mechanism.
    - New beat grid display.
    - Groups can be collapsed in the dynamic layer list.
    - Groups can be renamed.
    - Increased the maximum number of samples that can be recorded in one go to 64.
    - New group builder function on the multiple sample editor.
    - BUGFIX: fade times no longer reset if samples are switched in the sample editor.
    - BUGFIX: Pro Tools AAE error -7054 is fixed (caused by problems with code signing).
    - BUGFIX: midi events of length 0 (note on followed by note off on the same tick) are correctly recognized.
    - BUGFIX: loading a new sample in the single editor no longer resets the fade start and fade end times.
    - BUGFIX: The OSX installer now shows correct disk install sizes.
    - a whole lot of minor bug fixes.
  - Version 3.2.1
    - Added a polyphony event limiter to limit playback to exactly n events at the same time.
    - Improved overall performance on windows.
    - Improved filter performance.
    - Various minor bugfixes coming from apQualizr2 beta feedback.
    - The windows installer remembers where vst plugins were installed to for future updates.
    - BUGFIX: two bugs that could cause clicks if many dynamical layers were used.
  - Version 3.2.2
    - Adjustable GUI refresh rate for smoother displays.
    - Antialiased signal graph drawing.
    - Mouse value overlays for the filter graph.

- Poles rotary handle for filter bands.
  - Smoother pole switches on filters.
  - Switched to using apQualizr2 filter code which performs much better for high frequencies.
  - BUGFIX: occasional crash on instantiating the plugin in Ableton Live.
  - BUGFIX: bad behaviour when using Shift to change filter bandwidth during freq/gain drag.
- Version 3.3
    - The retrigger algorithm has been much improved.
    - Undo/Redo support.
    - Added numerical displays for threshold and max. trigger level.
    - When a layer group is selected hitting the spacebar will now play back the group.
    - A tick mark is displayed on the detector preset menu for the last selected preset.
    - The preset label to the left of the preset menu switches to grey drawing if there are any unsaved changes in the plugin data.