



StormGate3

User's manual

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About StormGate3

StormGate3 is a unique, innovative and versatile effect which lets you draw envelopes patterns freely with simple and powerful drawing tools.

StormGate3 basically splits the signal in up to 3 bands and envelopes can be used to modulate their amplitude (or to gate them).

The built-in envelopes can also be used to modulate the additional StormGate3 internal effects or to send MIDI controllers data!

SG3 is not only a valid tool for gating dance pads or ambient noises, which is its most straightforward application, but it is also well suited to simulating compressor side-chaining with great control over the gain reduction behavior or more creative uses, such as loop filtering/gating.

StormGate3 configurations (Mode)

It is important to understand that StormGate3 is not only a multi-band rhythmic gate, but it can work in four different configurations.

In some configurations you can disable some effects in the chain and take advantage of the unused envelopes to send MIDI data, either to control soft synthesizer parameters, effects, or even external hardware!

Configuration Name	Description
H.F. / M.F. / L.F.	<p>StormGate3 works like a 3 bands noise gate (like a multi-band compressor does). The signal is split in 3 bands (high, mid and low), and the crossover frequencies can be set in the “Crossover” section.</p> <p>The envelopes control the amplitude of each band.</p> <p>The mute buttons (marked with a M) simply mute the corresponding band.</p> <p>By using the Mute buttons you can quickly enable/disable frequency bands to obtain interesting effects, on drums loops for example, with minimal efforts.</p> <p>This is the default StormGate3 configuration.</p>
DIST > LPF > GATE	<p>This configuration routes the signal through a distortion and bit reducer unit (to add dirt or harmonics to the audio), then through a 12dB low-pass filter and last through a gate.</p> <p>The first envelope (distortion envelope) controls the bit reduction amount. You can also adjust the amount of distortion (saturation) by changing the “Boost” parameter.</p> <p>The second envelope (LPF envelope) lets you modulate the cutoff frequency of the filter. The depth of the modulation can be set using the parameter “Cut.Mod.”, and the base cutoff frequency of the filter and its resonance can be controlled with the “Cutoff” and “Reso” parameters.</p> <p>In this configuration the Mute button works like a bypass, and you can make StormGate3 work like a single band gate by muting the distortion and the filtering stages.</p>

	<p>If your host allows it, you can still use the envelopes of the bands set in bypass mode to send MIDI data to control external synthesizers.</p>
LPF > DIST > GATE	<p>This configuration is similar to the previous one, except that the filter is placed before the distortion unit.</p> <p>This configuration has a typical sound, which is similar to the old Roland TB-303 bassline generator filter and overdrive circuits. To get this type of sound just set a high resonance on the filter and then distort it (by boosting the signal) with the distortion module. Try the “BassWha” preset, over a bass part.</p> <p>By carefully tuning the filter parameters you can also obtain interesting “Wha” effects. Try the “FunkWha” preset over an electric Piano or a Guitar</p>
H.F. / L.F. DIST > GATE	<p>The last configuration splits the signal in two bands, and gates them.</p> <p>The first envelope controls the volume of the high band, and the third one the volume of the lower band.</p> <p>A distortion unit is available for the low band, before the gate. Try the “Bass Boost” preset over a bass part or drums loop to hear the effects of the distortion over the lower band.</p> <p>The Mute button on the distortion effect (second envelope) will act like a bypass, and the Mute buttons on the first and third band will simply mute them.</p> <p>You can use this configuration to boost basses by adding new harmonics or to turn StormGate3 into a two bands gate by muting the distortion stage.</p>

Crossover

A crossover is a device that separates the audio in two or more frequency bands. The StormGate3 CROSSOVER controls lets you adjust the crossover split frequencies.

When the effect is set to work with 3 bands use the first control to set the separation frequency between the low and the medium band (LO/MID). The second control adjusts the medium and high band separation (MID/HI).

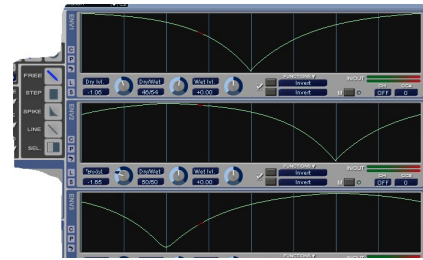
In 2 bands mode you can set the crossover frequency using the first control (LO/MID). The second control is disabled.

In single band mode both the crossover controls are disabled.

Below each crossover controls there is a display that shows the cutoff frequency, expressed in Hertz.

Drawing Envelopes

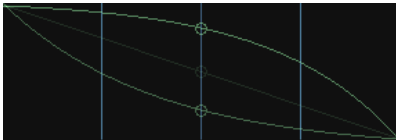
You can draw patterns in the envelope panels by selecting and using any of the drawing tools.



Drawing tools

StormGate3 offers four different drawing tools:

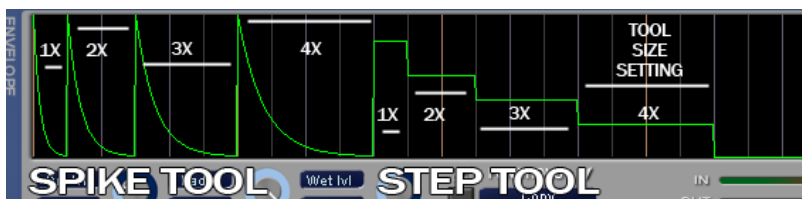
- The **FREE** drawing tool lets you draw “by hand” the volume pattern
- The **STEP** drawing tool lets you draw a straight horizontal lines (constant volume)
- The **SPIKE** drawing tool lets you draw exponential envelopes starting from the drawing point and ending to zero volume. This is useful to mimic plucked or natural percussive sounds.
- The **LINE** tool lets you draw lines and curves.



The drawing direction is always left to right and the start and end points of the line are quantized to the closest grid line. After you draw the line you can adjust the “curvature” factor by dragging the handle that appears in the middle of the line just drawn.

- The **SELECT** tool lets you select a zone of the envelope. Click and drag to select a zone of the envelope, or simply click without moving the mouse to remove the selection.

Both the **STEP** and the **SPIKE** tools can generate lines from 1 to 7 steps in length, depending on the **TOOL SIZE** settings.



Drawing aids

You can also hold down the CTRL key (or command key on MAC) to connect any drawings (with the exception of the “FREE” tool) to the level of the end of the previous step.

The SHIFT key will connect the drawings to the level of the beginning of the next step.

Common edit functions

The set of five buttons on the left of each envelope will let you copy, paste and undo any change you made to the envelope (up to 128 undo levels).



Copy

This button (C) copies the current selection, or the whole envelope if no selections are present, to the clipboard

Paste

This button (P) pastes the copied envelope to the beginning of the current selection, or to the beginning of the envelope when there is no selection.

By holding down the SHIFT key during the paste operation the copied envelope will be stretched to fit within the current selection or, if nothing is selected, the whole envelope.

Loading and saving envelopes

The L and S buttons lets you Load or Save the envelope as a wave files (16 bit mono), so you can store and load your favorite or most useful envelopes.

Thanks to this function it is also possible to edit the envelopes with an external wave editor. Be aware that StormGate3 will only read 16 bit mono wave files.

If you load an envelope, it will be reduced to fit within the current selection.

Using patterns

The patterns

In StormGate3 a pattern is an envelope. A pattern can be of any length from 1 to 8 eighth notes (quavers) or from 1 to 12 eighth note triplets.

To change the length of the pattern (in steps) use the STEPS plus and minus buttons, and to select the basic rhythmic unit of the steps use the switch below. As soon as you change the step rhythmic unit the change will be reflected in the drawing grid as well.

Each of the 16 patterns available is designated with a letter of the English alphabet, from A to P.

Selecting a pattern

You can use the pattern selection buttons for both editing the pattern and recording pattern switching via automation.

Pattern switching can also be achieved via MIDI (when possible), simply by sending the MIDI notes starting from C#1 to E2. (VST Version Only)



Pattern chaining

In StormGate3 each pattern can be “chained” with any other pattern. By chaining we mean that once a pattern has been played once, the integrated sequencer will switch automatically to the next (chained) pattern you select.

To chain a pattern simply select a pattern in the pattern chain selection row (marked with the >> symbol). You can also chain a pattern to itself to have it running continuously.

Follow mode

When you select a pattern in the user interface the FOLLOW function will be turned off to prevent automatic pattern switching when editing the currently selected pattern.

Remember to turn FOLLOW back on after editing if you want to see patterns displayed as they are being played.

Transport controls

The internal sequencer of StormGate3 normally works synchronized with the host and exposes four transport buttons: Auto, Stop, Play and Record.

The “Auto” mode lets StormGate3 follow strictly the host transport state. In other words, if you press “Play” in the host StormGate3 will play the patterns synchronized with the host and when you press stop in the host StormGate3 will stop.

In “Play” mode StormGate3 will still follow the host position, but when the host is stopped StormGate3 will continue playing.

“Stop” mode simply stops the StormGate3 patterns.

“Record” mode works like the play mode, but it records the peak level of the incoming audio signal. When Record mode is switched off the envelopes recorded will be normalized.

Synchronization

StormGate3 features an advanced synchronization algorithm, which lets you synchronize the pattern switch to the song tempo with instant, one quarter or one eighth resolution.

OFF mode (no synchronization) is very useful when you want to trigger the envelopes. To simulate a “pure triggering” mode, just chain the patterns you want to trigger with an empty one chained to itself.

PTN mode will simply wait the end of the current pattern before switching to the new one.

Quarter and **Eighth** modes will quantize the pattern switching point to the closest quarter or eighth note in the song position. This switch is very useful when you want accurate synchronization and are recording pattern switching via automation, which may not be very precise (because of design implications) with some hosts. In general you should anticipate slightly the pattern change for the best results.

Internal synchronization

StormGate3 can also work without synchronizing to the host. By pressing the “INT” button you will bypass the host synchronization and use the internal synchronization.

By using the internal synchronization mode you will be able to set the tempo in BPM by dragging up and down the BPM display. This way, you will be able to obtain very slow (or

very fast) modulating envelopes.

Trigger mode

StormGate3 also offers a “trigger mode” which can be turned on by activating the “TRIG” button. In this modality the effect will enter in a special “bypass mode”, in which the audio signal will not be processed. As soon as you trigger a pattern via MIDI the bypass mode will be turned off and the envelopes are played from the beginning. When the MIDI note used to activate a pattern is released, SG3 will go back in bypass mode again.

Pattern triggering can also be quantized by using the SYNC SNAP options (read below for more information).

Advanced loop support for editing

IMPORTANT: StormGate3 also features “intelligent” loop support. Please make sure you understand this section.

Let's make a simple example:

You have two patterns chained running in loop (for example A >> B >> A >> B, etc...) and you switch to pattern A at the beginning of the 3rd measure. Later you set a loop in your sequencer (for editing purposes) starting from the half of the 3rd measure and ending at the end of the 4th measure.

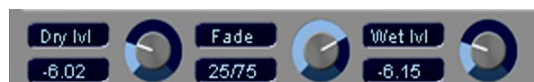
StormGate3 will recognize this situation, because it will take into account the pattern switching position (3rd measure), and will play the last half of pattern A (when playing the last half of 3rd measure) and then pattern B (for the whole 4th measure).

To take advantage of the advanced loop support make sure that StormGate3 understands the pattern switching position. In our example you should start playing your song across the measures 2-3, where the pattern switching happens, and then StormGate3 will play the loop correctly.

Levels on gating envelopes

Below each envelope display controlling a gate StormGate3 features two volume controls: one for the original signal (**Dry lvl**) and one for the gated signal (**Wet lvl**).

The balance control (**Fade**) lets you fade between the two signals.



When using StormGate3 for pure rhythmic gating effects it is often necessary to have separate volumes for the original and the gated signals, because the original signal will probably sound louder than the gated one. You should find the right balance between the two, so you can fade between the two signals without perceiving a big volume change.

If you are going to use the plug-in to simulate compressor side-chaining, or simply to alter the dynamics, you should set both the Dry lvl and the Wet lvl to 0dB and use the Fade control to set the proper dynamics processing amount.

CC MIDI Output (VST Only)

VST version only

StormGate3 can translate the envelopes into MIDI control change messages. This way you can use the built-in envelopes to control a software synthesizer, a software effect or even external hardware (depending on the capabilities of your host).

Below the input/output meters of each envelope you will find two displays marked with "CH" and "CC#".

You can select the MIDI channel by dragging up and down the first display (CH, range is OFF, 1-16), and the MIDI control change number (CC#, range is 0-127).

Functions

StormGate3 offers several editing functions, which can be selected from the functions pop-up menu and applied with the button on the left of the function's name.

Function name	Effect
Invert	Inverts the amplitude of the envelope (upside-down)
Smooth decay	Smooths the decay of the pattern
Smooth full	Smooths both the attacks and decay peaks
Rotate left	Rotates the pattern to the left by one rhythmic unit
Rotate right	Rotates the pattern to the right by one rhythmic unit
Reverse	Reverses (mirrors) the envelope
Shuffle	Shuffles pattern subdivisions randomly
RND: Pulse	Produces random pulses (flat steps)
RND: Spikes	Produces random spikes (exponential steps)
RND: Wild	Random envelope
Normalize	Normalizes the amplitude of the envelope

Thank you!

StormGate3 has been created by Aldo Trianti, with the invaluable help and feedback provided by the AraldFX members, friends, customers and supporters.

Please visit <http://www.araldfx.com> for updates, technical support and more information.

You can also visit our support forum, kindly hosted by KVR audio at:
<http://www.kvraudio.com/forum/viewforum.php?f=109>

Thank you for using StormGate3! I hope you will enjoy it.

Aldo Trianti,

AraldFX