

USER MANUAL

_EFX FRAGMENTS

ARTURIA

_The sound explorers

Special Thanks

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Special Messages

This manual covers how to use Efx FRAGMENTS, provides a comprehensive look at its features, and details how to download and activate it. First, some important messages:

Specifications Subject to Change:

The information contained in this manual is correct at the time of printing. However, Arturia reserves the right to change or modify any of the specifications or features without notice or obligation.

IMPORTANT:

The software, when used in combination with an amplifier, headphones or speakers, may be able to produce sound levels that could cause permanent hearing loss. DO NOT operate for long periods of time at a high volume or at a level that is uncomfortable.

If you encounter any hearing loss or ringing in your ears, please consult an audiologist.

NOTICE:

Service charges incurred due to lack of knowledge relating to how a function or a feature works (when the software is operating as designed) are not covered by the manufacturer's warranty, and are therefore the owner's responsibility. Please study this manual carefully and consult your dealer before requesting additional support.

Introduction

Congratulations on your purchase of Efx FRAGMENTS.

Thank you for purchasing Efx FRAGMENTS, an audio effect plug-in crafted to give you an inspiring and perhaps unpredictable musical journey based on the techniques of granular synthesis. Often considered an esoteric realm of the geekiest of synth geeks, granular synthesis is now made approachable, fun, and applicable to any audio track on which you put the plug in.

Excellence is placed at the heart of every Arturia product, and Efx FRAGMENTS is no exception. Explore the presets, tweak a few controls, get lost in the features - dive as deeply as you like.

Be sure to visit the www.arturia.com website for information on all our other inspiring hardware and software instruments, effects, MIDI controllers, and more. They have become indispensable tools for many visionary artists around the globe.

Musically yours,

The Arturia team

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1. WELCOME TO EFX FRAGMENTS

Thank you for purchasing. Efx FRAGMENTS This plug-in from Arturia lets you apply the techniques of granular synthesis to any audio track or live input in your computer recording setup.

Normally, granular synthesis uses built-in samples, like in our software synthesizer [Pigments](#). Efx FRAGMENTS, however, grabs the audio from a track or input where it is instantiated in your DAW, brings it into a buffer, and uses it as the raw materials for soundscapes that can be rhythmic, glitchy, stutter-like, and generally seem like they came from another dimension.

Efx FRAGMENTS offers features never before seen on similar plug-ins, such as Grain Quantization options to choose grains according to a rhythmic grid or transient detection. The benefit is a clear, short path to musically useful results. As with any Arturia product, our hope is that it widens your creative horizons.

1.1. What Is Granular Synthesis?

Granular synthesis divides a piece of audio – a sample or a section of a digital recording – into tiny time-slices called *grains*. The musician decides how these grains are arranged and then process them further. For example, in Efx FRAGMENTS you can decide how many grains are extracted from the source audio within a given time frame (the Density parameter), how long the grains last, and whether this all syncs to your divisions of your DAW project tempo or free-runs.

You can also pitch-shift the grains, add effects to them directly within the plug-in, and then control Efx FRAGMENTS' parameters using a generous amount of real-time modulation functions.

One way to visualize granular synthesis is via the classic 1971 movie *Willy Wonka and the Chocolate Factory*. It includes a scene in a TV studio where the camera vaporizes the subject, which then turns into millions of little particles that travel onto a TV screen where they are reconstituted and the subject is miniaturized. Granular synthesis does a similar thing to audio, except that in between the camera and the TV, you can rearrange, mold, and alter the particles in numerous ways, resulting in a sonic "image" that's very different from what you started with.

You may have also heard people use the term "granular" to mean something like "approaching a subject or problem in a highly detailed manner." With Efx FRAGMENTS, the finest details any audio source can become the basis for an evolving and other-worldly soundscape or a new beat no one else has thought of.

1.2. Features of Efx FRAGMENTS

- Three modes for different musical purposes:
 - Classic Mode: The most flexible set of granular synthesis parameters and options.
 - Texture Mode: Optimized for creating continuous textures and drones.
 - Rhythmic Mode: Optimized for using the grains to create rhythmic patterns.
- 3-D Visualizer to show you exactly what's going on with the grains at any given moment.
- Over 60 Presets encompassing popular and useful granular sound design techniques, authored by some of the world's most accomplished synthesists.
- Three function generators that can be used as modulation sources for any destination.
- Envelope follower and step sequencer that can also modulate any eligible destination.
- Advanced auto-panner and spatializer with multiple patterns in stereo and volume domains simultaneously.
- Bit-crusher imparts lo-fi effects upstream of the buffer, including classic Emulator and Fairlight CMI characters.
- Two "Macros" (Intensity and FX) to control multiple knobs at once.
- Additional FX include multi-filter, distortion, compressor, delay, pitch-shifting delay, tape echo, reverb, chorus, and flanger.
- Works as AudioUnits, VST, or AAX plug-in for compatibility with your favorite DAW.

It is our vision that Efx FRAGMENTS makes the sometimes mysterious and esoteric world of granular audio processing approachable and fun.

With that said, enjoy Efx FRAGMENTS!

2. ACTIVATION AND FIRST START

2.1. Compatibility

Efx FRAGMENTS works on computers and laptops equipped with Windows 8.1 or later, or macOS 10.13 or later. It is compatible with the current generation of Apple M1, M1 Pro/Max, and other Apple Silicon processors. You can use it as an Audio Units, AAX, VST2, or VST3 plug-in within your favorite recording software. Efx FRAGMENTS is a plug-in only and has no stand-alone mode.



2.2. Download and Install

You can download Efx FRAGMENTS directly from the [Arturia Products Page](#) by clicking either the Buy Now or Get Free Demo options. The free demo is limited to 20 minutes of operation.

If you have not already done so, now is a good time to create an Arturia account by following the instructions on the [My Arturia webpage](#).

Once you install Efx FRAGMENTS, the next step is to register the software. This is a simple process that involves a different software program, the Arturia Software Center.

2.2.1. Arturia Software Center (ASC)

If you haven't installed ASC yet, please go to this web page: [Arturia Downloads & Manuals](#).

Look for the Arturia Software Center near the top of the page, and then download the installer version for the system you're using (Windows or macOS). ASC is a remote client for your Arturia account, letting you conveniently manage all your licenses, downloads, and updates from one place.

After you complete the installation instructions, proceed to do the following:

- Launch the Arturia Software Center (ASC).
- Log into your Arturia account from ASC's interface.
- Scroll down to the 'My Products' section of ASC.
- Click on the 'Activate' button next to the software you want to start using (in this case, Efx FRAGMENTS).

It's as simple as that!

2.3. Working with Plug-ins

Efx FRAGMENTS can be used in all major digital audio workstation (DAW) programs including Cubase, Digital Performer, Live, Logic, Pro Tools, Studio One, and more. Plug-ins have numerous advantages over hardware, including:

- You can use as many instances on different tracks as your computer can handle.
- You can automate the plug-in's settings via your DAW's automation feature.
- All settings and changes are saved with your DAW project, letting you pick up right where you left off.

2.3.1. Audio and MIDI Settings

Since Efx FRAGMENTS is a plug-in only, these settings are handled in your recording software or DAW. They are generally located in some type of Preferences menu, though each product does things a bit differently. So, consult your recording software's documentation for information on how to select your audio interface, active outputs, sample rate, MIDI ports, project tempo, buffer size, etc.

A note about your DAW's latency (sample buffer) settings. In general, higher settings mean a lower CPU load as the computer has fewer interruptions and longer amount of time to process commands. However, this can result in longer *audible* latency if, for example, recording a new track while listening to playback with Efx FRAGMENTS active. On the contrary, lower settings mean lower latency but higher CPU load. That said, a fast, current computer should easily be able to run it – even on many tracks at once – with low latency settings. Of course, this all depends on whatever else is in the project.

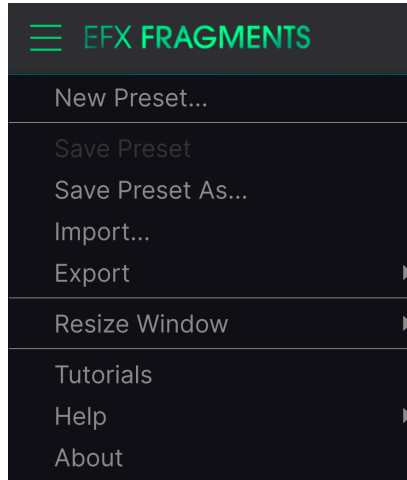
Now that you've set up your software, it's time to explore the glitchy, weird, and wild world of Efx FRAGMENTS!

3. UPPER TOOLBAR

This chapter covers the upper toolbar in Efx FRAGMENTS, where the main menu as well as the [Preset Browser \[p.32\]](#) reside. Let's go over them from left to right.



3.1. Main Menu



Clicking the “hamburger” icon (three horizontal lines) in the top left corner of the upper toolbar opens a drop-down menu that lets you access several important features related to Presets and useful functions. Let's look at them one at a time.

3.1.1. New Preset

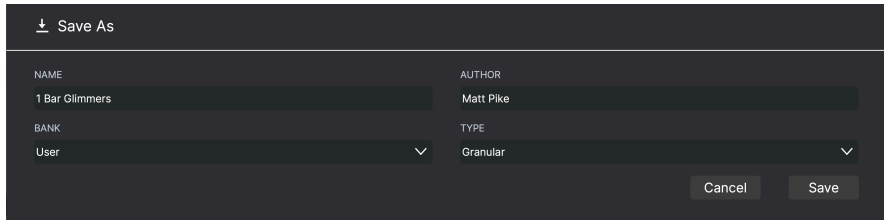
Creates a new preset with default settings for all parameters.


3.1.2. Save Preset

Overwrites the current preset with any changes you have made. This applies only to user Presets, so the option is greyed out for factory Presets.

3.1.3. Save Preset As

Saves the current state of Efx FRAGMENTS under a different Preset name. Clicking this option reveals a window where you can name your Preset and enter more detailed information about it:



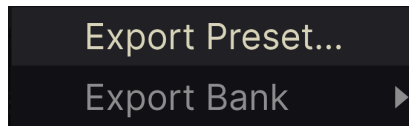
 The Bank, Author, and Type fields are all useful when searching for presets in the [Preset Browser \[p.32\]](#).

3.1.4. Import

This command lets you import a Preset file or entire bank stored on your computer. It opens an OS-level navigation box to find the proper files.

3.1.5. Export

You can export Presets to your computer in two ways - as a single Preset, or as a bank. In either case, an OS_level navigation window allows you to specify where to save the file(s).



- **Export Preset:** Exporting a single Preset is handy for sharing a Preset with someone else. The saved preset can be reloaded using the **Import** menu option.
- **Export Bank:** This option exports an entire bank of sounds from the plug-in, which is useful for backing up or sharing presets. Saved banks can be reloaded using the **Import** menu option.

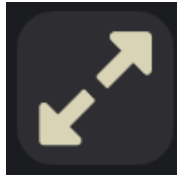
3.2. Resize Window

Efx FRAGMENTS can be resized from 50% to 200% of its default size (100%) without any visual artifacts. On a smaller screen such as a laptop you may want to reduce the interface size so it doesn't dominate the display. On a larger screen or a second monitor you can increase the size to get a better view of the controls and graphics.

This operation can also be performed using keyboard shortcuts. On Mac, use Command +/- to resize the window. On Windows, use Control +/-.

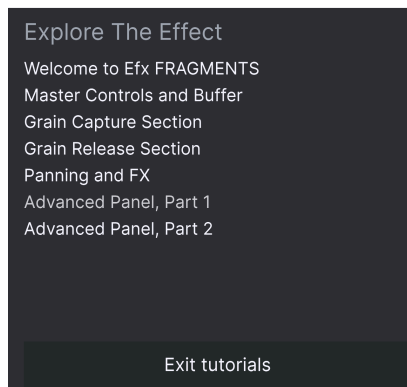
3.2.1. Maximize View Button

If you resize the Efx FRAGMENTS window larger and some of its parameters are pushed outside the viewable range of your computer display, you may see this icon in the far lower right corner of the window:



Click it, and the window will resize and re-center to optimize your available screen space.

3.2.2. Tutorials



Efx FRAGMENTS comes with interactive tutorials that walk you through different features of the plug-in. Clicking this option opens a pane on the right side of the window where the tutorials appear. Select one to access step-by-step descriptions that highlight the relevant controls and walk you through the process.

3.2.3. Help

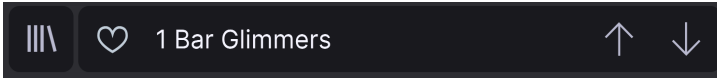
Get more help by visiting links to this user manual and Frequently Asked Questions pages on Arturia's website. You will need an internet connection to access these pages.

3.2.4. About

Here you can view the software version and developer credits. Click again anywhere on the screen to make this pop-up window disappear.

3.3. Preset Browser Access and Name Pane

Clicking the “books on a shelf” button opens the [Preset Browser \[p.32\]](#), which offers a myriad of ways to browse, sort, and organize Presets in Efx FRAGMENTS.



Clicking on the Preset name also opens up quick drop-down menus for selecting Presets outside of the Browser. All things about Presets are covered in detail in the next chapter.

3.4. Master Volume



This knob simply controls the overall output level of Efx FRAGMENTS. It can be a useful tool for avoiding clipping without changing the mix fader of the track where the plug-in resides in your DAW.

3.5. Advanced Button

In the upper right corner of the top toolbar is the **Advanced Button**. This opens up a panel that encompasses advanced modulation functions, which we cover in detail in the chapter [Advanced Panel \[p.42\]](#).

4. BASIC VIEW

This chapter covers the main panel's controls that affect the behavior of the grains from your source track or input. This is the heart of the Efx FRAGMENTS plug-in, and gives you the broadest brush strokes with which to explore the plug-in. Further, deeper settings are found in [Advanced Panel \[p.42\]](#), which is covered in its own chapter.

i Before we go any further, here's a useful tip. Mousing over or moving any control onscreen while the plug-in is passing audio will display a pop-up showing that control's value, including the units of measurement.

i Another pro tip: Double-click any parameter to return it to its default value. Right-click and then drag to make fine adjustments.



Number	Area	Description
1.	Macro [p.13]	These knobs can control multiple parameters at once in the granular engine and FX.
2.	Buffer [p.13]	Governs behavior of the audio buffer from which the grains are extracted.
3.	Grain Capture [p.15]	Controls <i>how</i> the grains are extracted from the buffer.
4.	Grain Release [p.19]	Controls how the grains are rearranged, altered, and played back.
5.	Pan and FX [p.26]	Sophisticated spatializer/panner plus two multi-FX slots.
6.	Global Controls [p.31]	Feedback, overall grain volume, and dry/wet mix for the granular engine.

4.1. Macro Controls




Two Macro knobs control multiple parameters at the same time. You may assign them in the [Modulations \[p.48\]](#) section of the Advanced panel, which is covered in its own chapter.


4.1.1. Intensity

In factory Presets, this Macro is meant for controlling parameters having to do with the granular engine itself, such as anything in the [Grain Capture \[p.15\]](#) or [Grain Release \[p.19\]](#) sections.

4.1.2. FX

In factory Presets, this Macro is meant for controlling parameters in the [Pan and FX \[p.26\]](#) section of the interface.

 As with any Arturia plug-in, you may freely assign Macros to whatever parameters you like. The Intensity and FX labels are there to help you stay organized. Each factory Preset comes with pre-mapped Macros that have been carefully optimized by the sound designers.

 You can also rename the Macro knobs. Simply double-click either name, enter text, and press Return.

4.2. Buffer

Notice that the buffer area looks like a waveform display from your DAW. That's because it captures audio *from* your DAW to use as the raw materials for the granular technique.



4.2.1. What the Lines Mean

The vertical lines scanning across the waveform display indicate different real-time functions of Efx FRAGMENTS.

- **White:** This indicates the position of the *record head*, which is always scanning through a section of your track in sync with your DAW. The record head is essentially scooping up audio from a preset length of your track in linear fashion. When the end of the buffer is reached, it starts recording again, overwriting the buffer contents.
- **Tall Yellow:** The yellow line is the *play head*. Its position can fluctuate, and determines where the next grain will be extracted and fed to the plug-in for further processing.
- **Short Yellow:** These shorter lines appear briefly as individual instances of grains are extracted from the waveform and forwarded to the sound engine.

4.2.2. Buffer Controls

Mouse anywhere over the buffer display and you will see these icons pop up at its top left corner.



They govern different aspects of the buffer's behavior as follows:

4.2.2.1. Buffer Length

The drop-down selector at left sets the length of the audio buffer, which is always synced to the tempo and meter of your host project. The choices are:

- 1/8 bar
- 1/4 bar
- 1/2 bar
- 1 bar
- 1.5 bars (i.e. 3/2)
- 2 bars
- 4 bars

Whatever the selection, the maximum absolute buffer length is capped at 16 seconds.



! The record head (white line) will scan through your entire audio track unless you have set loop points in your DAW. When the end of the buffer length is reached, the record head begins writing anew. If you stop DAW playback, the buffer stops reading audio as well.

4.2.2.2. Buffer Freeze

The “snowflake” button freezes the current content of the buffer. In other words, your DAW can keep playing but the buffer's record head won't capture any new audio. Instead, Efx FRAGMENTS will work with the audio that's already in the buffer. In [Offset Mode \[p.16\]](#) this also freezes the playhead entirely.

4.2.2.3. Buffer Clear

The “eraser” button fully clears the contents of the buffer. If your DAW is still playing, the buffer will start filling up again beginning at the point you clicked this button.



! Note that if you clear the buffer while it is frozen, it will not acquire any more audio until you unfreeze it by clicking the snowflake icon again.

4.2.2.4. Play Head Retrigger

When the [Grain Capture Mode \[p.16\]](#) is set to *Speed*, the arrows-in-a-circle icon appears on the right. When this is active, the buffer play head starts at the beginning of the buffer at each new cycle, as determined by the buffer length setting.

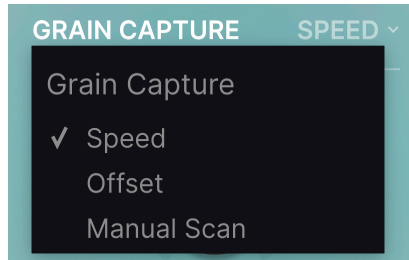
4.3. Grain Capture



This control area determines how the “play head” described above scans through the buffer and turns audio into grains. The idea being it can scan in other ways than simply playing audio forward in time in a linear fashion, rearranging the resulting grains to give you deep sound design possibilities.

4.3.1. Grain Capture Modes

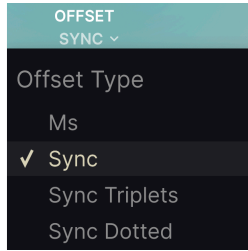
The large knob and drop-down menu (to the knob's upper right) work together, with the knob adjusting a different behavior of the play head depending on the selection made in the drop-down menu.



Remember, the "record" head of Efx FRAGMENTS is simply acquiring audio in sync with your DAW, while the play head is passing the audio into the granular engine. But before any audio even gets "granulated," you have a great deal of control over where the play head goes and how it pulls grains via these modes.

- **Speed:** The knob sets a ratio between the play head speed and the recording head speed.
 - At zero, the play head does not move.
 - At a ratio of 1, it moves in real time with the record head.
 - At ratios greater than 1, the play head moves faster than the record head.
 - At ratios between zero and 1, the play head moves slower than the record head.
 - At negative ratios, the play head moves backwards.
- **Offset:** In Offset mode, the speed is always the same as the record head, but the knob sets a delay between the record head and the play head.
- **Manual Scan:** The play head does not move on its own. Instead, it sits at a fixed position determined by the knob. Of course, you can modulate this parameter inside Efx FRAGMENTS or automate it in your DAW.

4.3.1.1. Sync in Offset Mode



By using the **Sync** selector underneath the knob, you can either sync the offset to tempo or not. When *Ms* is selected, the offset is an absolute value in milliseconds. When one of the other options is selected, the Offset knob sets the delay as a subdivision of the host tempo, with options from zero (no offset) to 1/128 to 1/2 of the bar length.

4.3.1.2. Spray

Like other “big knob” controls in Efx FRAGMENTS, the Speed/Offset/Manual Scan knob has a yellow “collar” around its circumference to add a [random factor](#) [p.21]. Here, that factor is *Spray*, a variation in the window from which grains are chosen and fed into the plug-in.



This collar is a bipolar control, meaning you can set positive or negative amounts by dragging up and down within the collar area.

- At 12 o'clock all grains are chosen from the play head position – wherever that is according to the knob setting.
- Dragging the collar clockwise will increase the size of the window to the right of the play head.
- Dragging it counter-clockwise increases the window size to the left of the play head.

Spray also has a “symmetrical mode” which increases the window on both sides of the play head.

- Click the < > icon to the upper right of the knob until both sides are lit, as shown above.
- Now, dragging the collar will increase or decrease the amount of random factor on both sides.
- The < > icon cycles through positive, negative, and symmetrical modes, i.e. you can click on it to “flip” your amount of randomization from one side of the knob to the other.

4.4. Grain Release

We now arrive at the true power of Efx FRAGMENTS, the central pane of its interface that changes based on your selection of one of three modes: Classic, Texture, and Rhythmic.

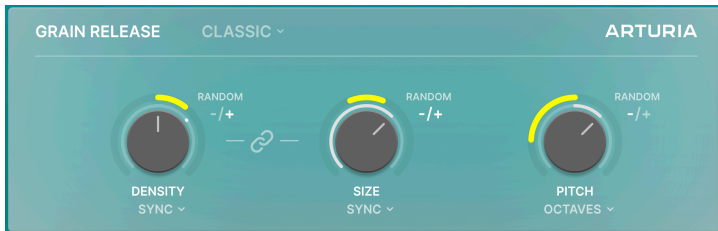


These are selected from the drop-down menu as shown above.

i 🎵 Though the Grain Release modes have the biggest impact on what you hear, a technical note is that any given grain is generated with its release behavior at the time it is captured. Change any of the settings below, and they affect the *next* grains captured after the change.

4.4.1. Classic Mode

Classic mode perhaps provides the widest range of sound design options. Let's take its simple parameters one by one



4.4.1.1. Density

This defines how many grains are produced within a time frame. Turning it up makes the "swarm" of grains denser and more busy-sounding.



Via the drop-down menu below, this time frame can be synced to your project tempo or set to free-run (in Hz) using a drop-down menu directly below the knob.

 Depending on their Size, it is possible for grains to overlap – one may begin before another one falls silent. This makes for some very interesting sounds!

4.4.1.2. Size

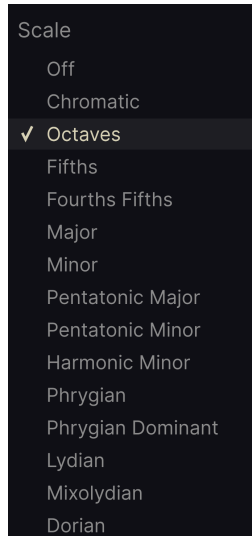
Determines the duration of the grains. Again, this can be tempo-synced or free run (in milliseconds) via a drop-down menu.

4.4.1.3. Link Button

The “chainlink” button makes grain size a ratio of density, displayed as 1:x. Note that when it is engaged, the drop-down sync options for the Size knob are unavailable. (However, if Density is synced to tempo then Size is as well.)

4.4.1.4. Pitch

Determines the pitch of the grains. The drop-down menu below can lock pitch to musical scales, with 14 options:



4.4.1.5. The Random Factor

The “big knob” parameters do not have to remain at one static setting. Not only can they be automated and mapped in your DAW, but the large knobs have a “collar” around them that randomizes the setting’s value, as we first encountered with the [Spray \[p.18\]](#) variation in the Grain Capture section.

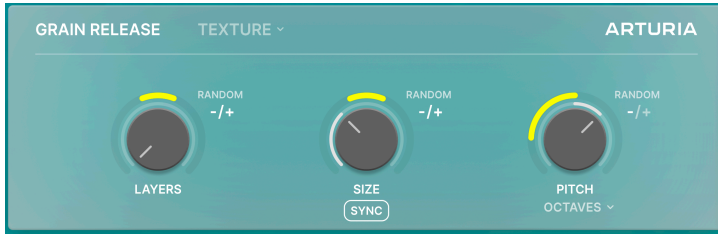


For the Size and Pitch knobs, the collar is bipolar, meaning that it can add positive or negative randomization amounts – or both at once. At 12 o’clock, no randomness is added.

- To add positive or negative randomness, drag the collar either clockwise or counter-clockwise.
- To flip a negative or positive amount to its opposite, click the +/- icon.
- The +/- icon also makes the randomness symmetrical when both sides are lit.
- Symmetrical mode is not available for Density.

4.4.2. Texture Mode

Meant for creating evolving, continuous textures and drones, Texture mode combines multiple “layers” of grains.



4.4.2.1. Layers

The knob formerly known as Density now simply controls the number of grain layers playing simultaneously. The lowest value is a single layer, with higher settings on the knob doubling: 2, 4, 8, 16, 32.

What are layers? They are simply continuous streams of grains. In Texture Mode, Efx FRAGMENTS pulls several of these streams from the buffer and stacks them on top of one another, with higher settings yielding more layered grains.

4.4.2.2. Size

Controls the duration of grains similarly to Classic Mode.

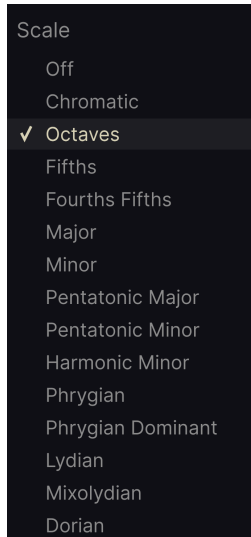


This interacts with the **Layers** setting (see chart below) because in simple terms, the more Layers there are, the faster a new grain will play before the previous one stops. But the smaller the size, the more grains will be generated at each Layer. In Texture Mode, Size is always a ratio relative to layers.

If the **Sync** button is engaged, grain sizes are expressed as a subdivision of the bar length according to host tempo. If not, the knob freely sets them in milliseconds.

4.4.2.3. Pitch

As in Classic Mode, this determines the pitch of the grains in semitones, with drop-down scale options as before:



4.4.2.4. Randomness in Texture Mode

Once again, the yellow collars around the knobs determine the [random factor \[p.21\]](#) added to the three “big knob” parameters.

Bipolar and symmetrical options are available for all three via the +/- icons.

4.4.2.5. Understanding Texture Mode

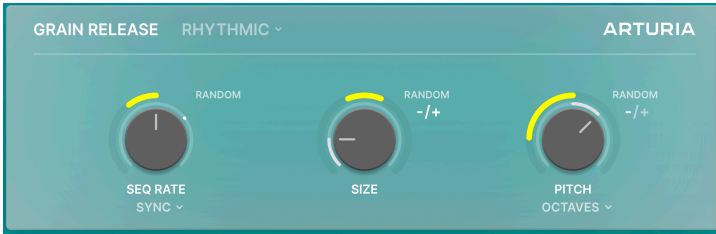
Here is a quick chart to help you hear the interaction between **Layers** and **Size** in Texture Mode. This doesn't cover all the possibilities, but will let you hear the relationship.

Layers Setting	Size Setting	Expected Result
1	Low values	Grains play one after another with no overlap or interruption.
2	Low values	Each new grain is generated when the previous grain reaches its halfway point of duration
4	Low values	Each new grain is generated when the previous grain reaches a quarter of its duration

This progression continues as you increase the number of Layers, leading to a giant wave of simultaneous grains at 32.

4.4.3. Rhythmic Mode

Rhythmic Mode derives rhythm from the grains and is therefore ideal for processing drum loops or even giving rhythm to a drone or pad track that did not originally have any.

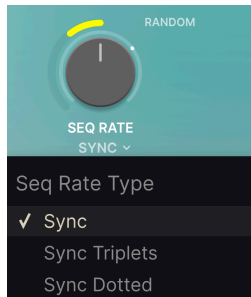


The secret to Rhythmic Mode is a [Step Sequencer \[p.46\]](#) that is really doing all the work. We describe it in detail in the [Advanced Panel \[p.42\]](#) chapter, since that's where it lives. For now, you can take advantage of how it has been programmed in Efx FRAGMENTS' many Presets, and tweak the sequencer with the three big knobs.

i ! There is also a step sequencer among the modulation sources. To avoid confusion, that is not the same as the dedicated sequencer in Rhythmic mode.

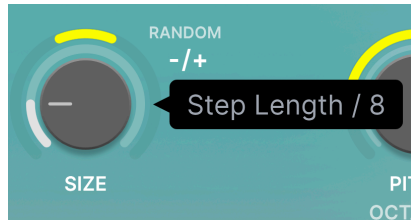
4.4.3.1. Seq Rate

In Rhythmic Mode, the left-hand knob controls the rate of the sequencer. Its sync type is selected via the now-familiar drop-down menu:



4.4.3.2. Size

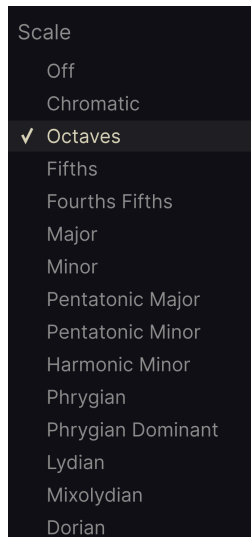
Size works much the same as in Classic Mode, except that it is always related to the sequencer rate as a ratio to the density of grains. This means the Size knob works something like a gate length parameter on an arpeggiator or sequencer.



It is also always a subdivision or multiple of one bar according to the host tempo.

4.4.3.3. Pitch

As in Classic and Texture Modes, this determines the pitch of the grains in semitones, with drop-down scale options as before:



4.4.3.4. Randomness in Rhythmic Mode

Once again, the yellow collars around the knobs determine the [random factor \[p.21\]](#) added to the three “big knob” parameters.

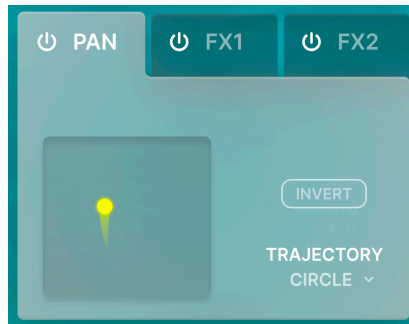
Bipolar and symmetrical options are again available for Size and Pitch via the +/- icons; the Sequencer Rate is unipolar and downward only. Therefore, it acts like a “trigger probability” for the odds of grains sounding at a given step.

4.5. Pan and FX



Efx FRAGMENTS offers a sophisticated stereo panner and spatializer capable of panning in a classic left-right ping-pong pattern but other patterns as well. There are also two multi-FX slots. Click on any section's tab to access its controls, and click it's on/off icon to engage or disengage it.

4.5.1. The Panner

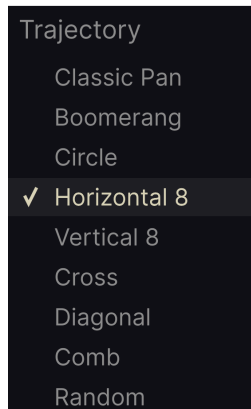


The "comet" in the display (as shown above) moves to show the spatial position at any moment.

- The X axis shows left-to-right position in the stereo picture.
- The Y axis shows near (louder) versus far (softer). Lower on the Y axis is louder.

4.5.1.1. Panning Patterns

Use the **Trajectory** drop-down menu to choose from nine pan patterns:



Classic pans left and right at the nearest Y axis position only; the others take advantage of both axes. Some patterns feature an **Invert** button, which reverses the comet's direction.



♪ The spatializer is not merely increasing and reducing volume. In addition, it uses filtering and other processing to create a sense of distance relative to the listener.

4.5.2. Multi-FX Slots

The two identical FX slots offer a choice of nine FX each.



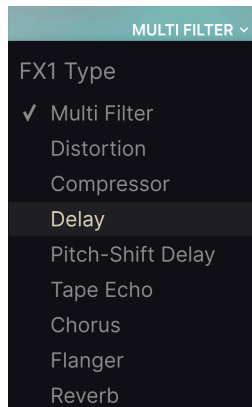
These are derived from the same stompbox-style and studio-quality FX developed in our V Collection software instruments and our multi-engine soft synth Pigments.

Every effect has a **Dry/Wet** mix knob that determines the balances the amount of unprocessed and affected signal heard, as well as a visualizer that displays what the effect is doing or represents its key settings.

Just a few parameters are present in the basic mode of Efx FRAGMENTS, but each effect stashes further parameters in the [Advanced Panel \[p.58\]](#), so we describe them in that chapter. Again, the idea for now is to explore via the Presets and keep things as simple as we can.

4.5.2.1. Selecting an Effect

To choose an effect, click the effect name in the middle of the pane to bring up this drop-down menu:

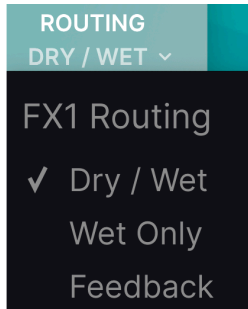


4.5.2.2. FX Swap

Clicking the “opposing arrows” button swaps the FX choices in slots 1 and 2.

4.5.2.3. FX Routing

We're going to admit it: FX Routing in Efx FRAGMENTS is a bit ... different. Each slot has the option to process a different part of the plug-in's signal.



The drop-down menu offers three selections:

- *Dry/Wet*: The FX slot will process both the dry and wet signals as balanced by the [Grain Mix \[p.31\]](#) knob.
- *Wet Only*: The FX slot will process only the wet signal (i.e. the grains) before it goes through the Grain Mix knob.
- *Feedback*: The FX slot will intake and process whatever level of feedback is set by the [Feedback \[p.31\]](#) knob.

The idea is to give you maximum flexibility to apply FX to “granulated” versus unprocessed signals, and there are a couple of things to keep in mind.

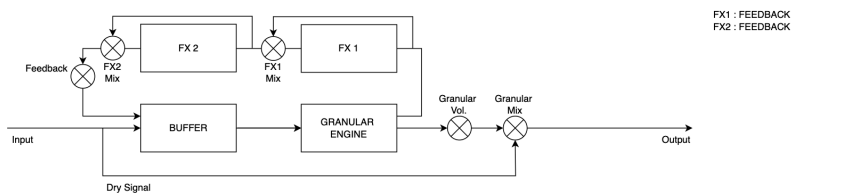
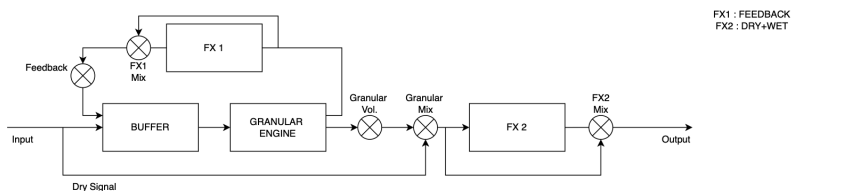
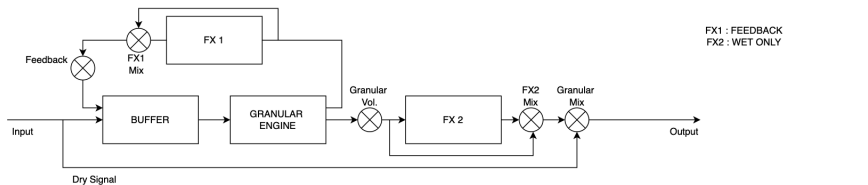
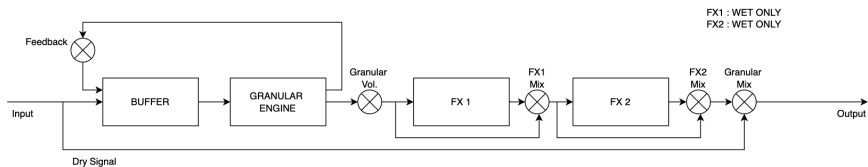
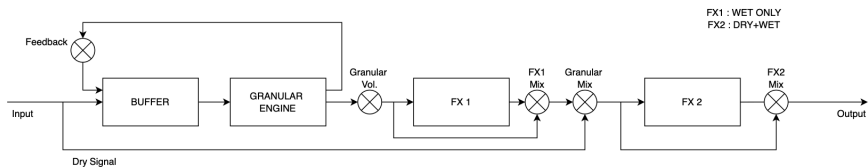
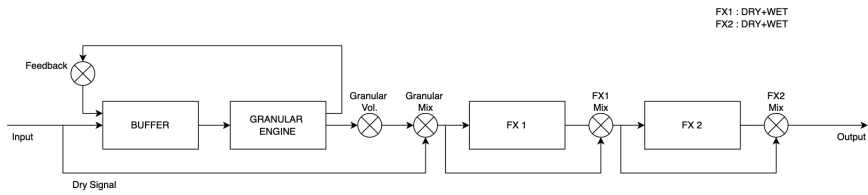
Importantly, the three options refer to the overall dry/wet balance and feedback loop of Efx FRAGMENTS – again, that’s set by the [Grain Mix \[p.31\]](#) knob – *not* to those of the FX slots themselves.

Just as importantly, FX1 is always upstream of FX2. This means your routing options for FX2 may be limited based on your choice for FX1, and vice-versa.



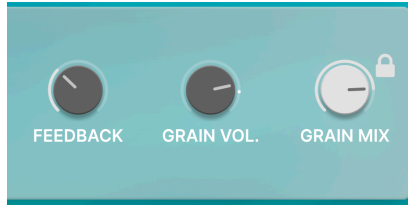
! The FX can sound different or even clip depending on the input level. At high Density settings and/or with Grain Volume turned up, gain can build up rapidly.

In practice, this plays out to five possible combinations of routing settings between the two slots. The following chart visualizes the signal flow for each of them:



4.6. Global Controls

This area contains four simple controls that affect the overall character of Efx FRAGMENTS.



4.6.1. Feedback

This controls the amount of feedback of grains – either processed by FX or not – inside the buffer. The signal chain can be tapped for the feedback loop in different places depending on the [routing \[p.29\]](#) of the effects, as shown in the large diagram above.

i To get a pronounced shimmer effect, turn up the Feedback and quantize the grain Pitch to either fifths or octaves.

4.6.2. Grain Vol.

This adjusts the overall output volume of the granular signal only. This signal is upstream of the FX slots.

4.6.3. Grain Mix

This balances the unprocessed input signal with the output of Efx FRAGMENTS. In other words, it's a dry/wet mix knob.

Since Efx FRAGMENTS can dramatically change the character of a sound, it may sometimes be appropriate to retain some of the dry signal so that it's musically recognizable ... or not!

4.6.4. Grain Mix Lock

Click the lock icon to preserve the current Grain Mix setting even if you change Presets.

5. SELECTING PRESETS

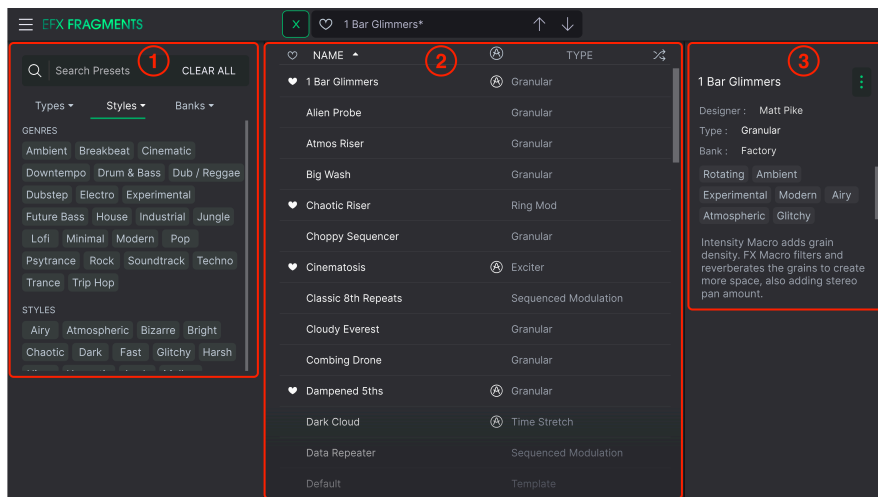
Efx FRAGMENTS lets you browse, search, and select Presets from a browser-like interface inside the plug-in. You can also create and save your own Presets in the User Bank. Of course, the state of any instance of the plug-in – including the current Preset – is automatically saved when you save your DAW project, so you can always pick up where you left off.

5.1. The Preset Browser



Click the “books on a shelf” icon to access the Preset Browser.

The three main areas of the Preset Browser are as follows:

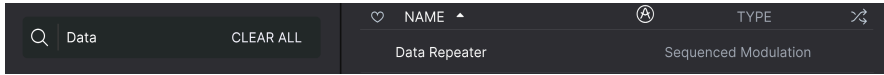


Number	Area	Description
1.	Search [p.33]	Searches for Presets by text entry with filters for Type, Style, and Bank.
2.	Results Pane [p.35]	Displays search results, or all Presets if no search criteria are active.
3.	Preset Info [p.37]	Displays Preset Details; can edit details for Presets in User Bank.

5.2. Searching Presets

Click on the Search field at the top left and enter any search term. The browser will filter your search in two ways: First, simply by matching letters in the Preset name. Second, If your search term is close to that of a [Type or Style \[p.33\]](#) it will include results fitting those tags as well.

The Results Pane will show all Presets that fit your search. Click the CLEAR ALL text to clear your search terms.



Filter by typing text in the Search field

5.2.1. Using Tags as a Filter


You can narrow (and sometimes expand) your search using different tags. There are two kinds of tags: **Types** and **Styles**. You can filter by one, the other, or both.

5.2.1.1. Types

Types are categories of audio effects: tape, distortion, EQ, modulation, and so on. With a clear search bar, click the **Types** drop-down to bring up the list of types. Types sometimes include sub-types (especially in more complex Arturia effect plug-ins) but Efx FRAGMENTS is relatively simple, so Modulation and Pitch are the types you will see most often.

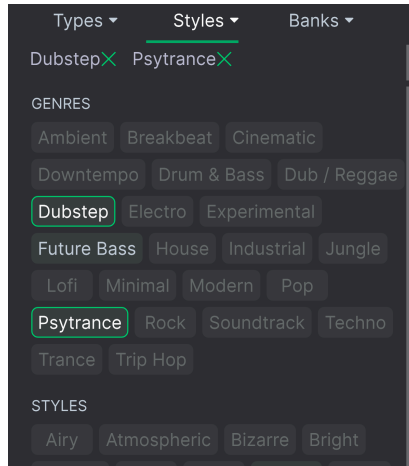
You can also select multiple Types using command-click (macOS) or ctrl-click (Windows). For example, if you aren't sure whether the preset you're looking for was tagged with Keys or Pad, select both to broaden the search.

Results columns can be inverted by clicking the arrow buttons to the right of their titles (Name, Type, Designer).

 You can specify the type when [saving a preset \[p.8\]](#). That Preset will then show up in searches where you've selected that Type.

5.2.1.2. Styles

Styles are, well ... exactly that. Accessed by the **Styles** button, this area has three further subdivisions:



- *Genres*: Identifiable musical genres such as Ambient, Disco, Experimental, etc.
- *Styles*: General “vibe” such as Bizarre, Mellow, Pulsating, etc.
- *Characteristics*: Even more detailed audio qualities such as Distorted, Long Release, Mechanical, Tempo-Synced, and more.

Click any one, and the results will show only Presets that match that tag. Notice that when you select any tag, several other tags usually disappear.

This is because the browser is narrowing your search by a process of elimination. Deselect any tag to remove it and widen the search without having to start all over again. You can also clear the tag by clicking the X to the right of its text, which appears at the top.

Note that you can search by a string of text, Types and Styles, or both, with the search becoming narrower as you enter more criteria. Clicking CLEAR ALL in the search bar will remove all Type and Style filters as well as any text entry.

5.2.2. Banks

Next to the **Types** and **Styles** drop-down is the **Banks** drop-down, which lets you do your search (using all the methods above) within the factory or user Banks.

5.3. The Results Pane

The central area of the browser shows search results, or simply a list of all presets in the Bank if no search criteria are active. Simply click on a Preset name to load it.

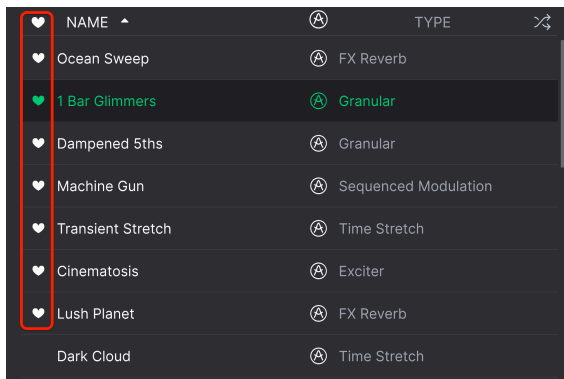
5.3.1. Sorting Presets

Click the **NAME** header in first column of the Results list to sort the results list of Presets in ascending or descending alphabetical order.

Click the **TYPE** header in the second column to do the same thing by Type.

5.3.2. Liking Presets

As you explore and create presets you can mark them as Liked by clicking the heart next to their names. (This icon also appears in the main [Preset Name Pane \[p.40\]](#)) Clicking on the heart icon makes all of your liked Preset show up at the top of the results list, as shown here:



A filled-in heart icon indicates a like. An outline indicates a Preset that has not been liked (yet). Click the heart at the top of the list again to return the list to its previous state.

5.3.3. Featured Factory Presets

Presets accompanied by the Arturia logo are factory creations we think really showcase the capabilities of Efx FRAGMENTS.

NAME ^	TYPE
Ocean Sweep	FX Reverb
1 Bar Glimmers	Granular
Dampened 5ths	Granular
Machine Gun	Sequenced Modulation
Transient Stretch	Time Stretch
Cinematosis	Exciter
Lush Planet	FX Reverb
Dark Cloud	Time Stretch

Clicking the Arturia icon at the top of the Results pane causes all featured Presets to appear at the top of the list.

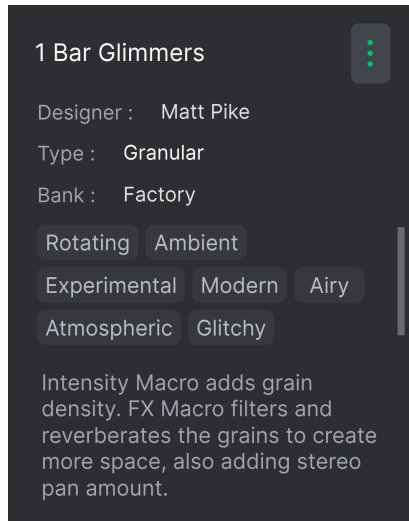
5.3.4. Shuffle Button



This button randomly reorders the Preset list. Sometimes it can help you find the sound you're looking for more quickly than scrolling through the entire list.

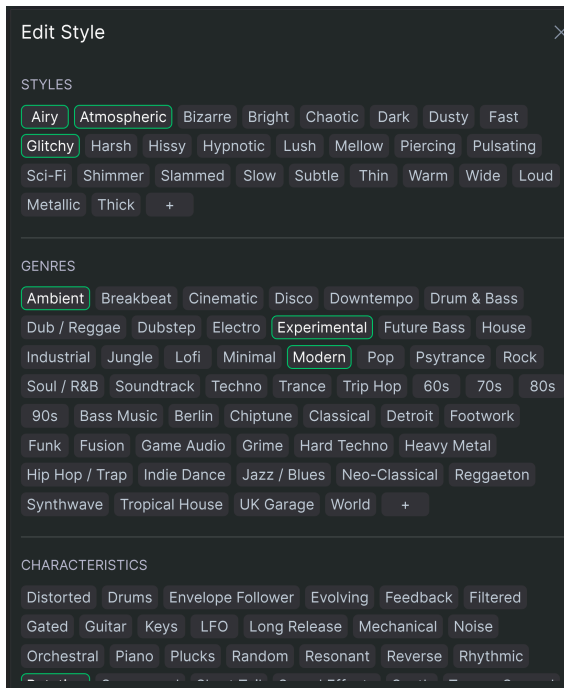
5.4. Preset Info Section

The right side of the browser window shows specific information about each preset.



For Presets in the User bank (as the result of a Save As operation), you can enter and edit the information and it will update in real time. This includes the designer (author), Type, all Style tags, and even a custom text description at the bottom.

To make the desired changes, you can type directly in the text fields, use one of the pull-down menus to change the Bank or Type, and click the + sign to add or delete Styles. You will see all the options come up in the Results Pane's space:

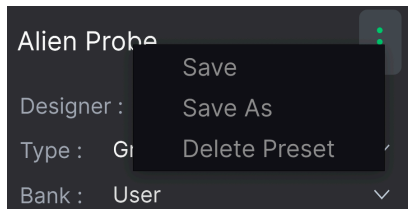


Notice that there are + signs at the end of the Styles, Genres, and Characteristics groups. That's right - you can make up your own and they will be usable as tags in future searches!

i Types and Styles changes you make here are reflected in searches. For example, if you remove the "Experimental" Style tag and then save that Preset, it will not show up in future searches for Experimental sounds.

5.4.1. Preset Info Quick Menu

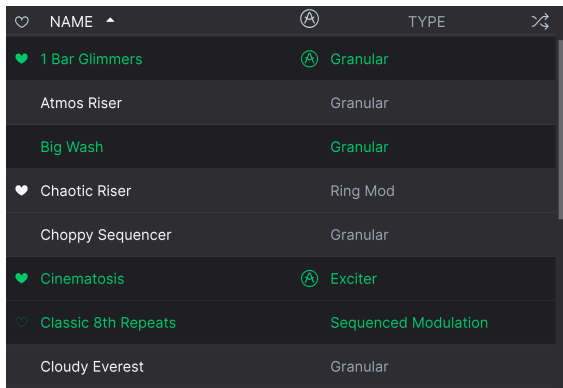
Clicking the icon with three vertical dots brings up a quick menu for Save, Save As, and Delete Preset Operations:



For sounds in the Factory Bank, only Save As is available.

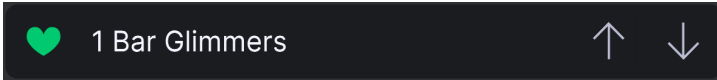
5.4.2. Editing Info for Multiple Presets

It's easy to edit information such as Types, Styles, designer name, and text description for several presets at the same time. Simply hold command (macOS) or ctrl (Windows) and click the names of the Presets you want to change in the Results list. Then enter the comments, change the Bank or Type, etc., and save.



NAME	TYPE
1 Bar Glimmers	Granular
Atmos Riser	Granular
Big Wash	Granular
Chaotic Riser	Ring Mod
Choppy Sequencer	Granular
Cinematosis	Exciter
Classic 8th Repeats	Sequenced Modulation
Cloudy Everest	Granular

5.5. Preset Name Pane



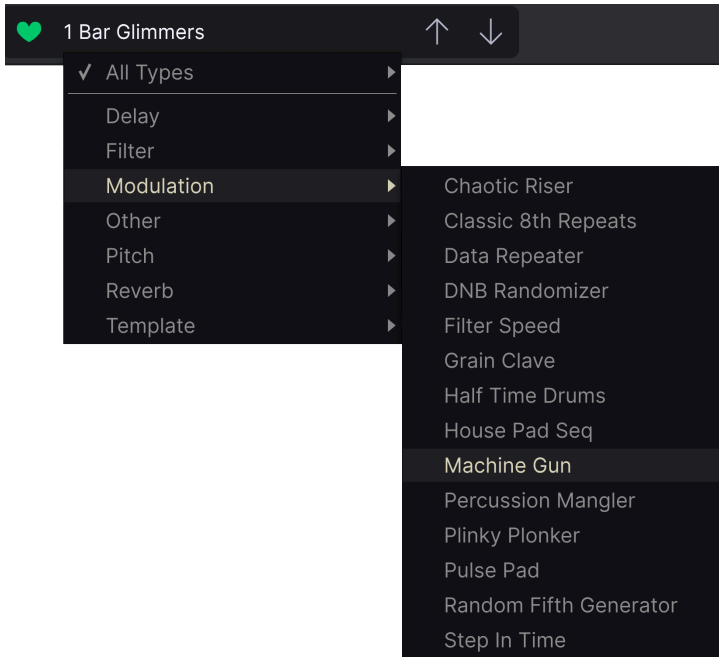
The name pane at top center is always displayed whether you're in the main controls view or the Preset Browser. It displays the name of the current Preset, obviously, but also offers further ways to browse and load Presets.

5.5.1. The Arrows

The up and down arrows to the right of the Preset name step serially through Presets. This is limited by the results of any currently active search, i.e. the arrows will only step through those Presets. So, make sure any searches are cleared if you simply want to step through all available Presets until you find something you like.

5.5.2. Drop-Down Browser

Click on the Preset name in the center of the upper tool bar to bring up a drop-down “quick browser” for Presets. The first option in this menu is called All Types, and it brings up a submenu of literally every Preset in the current bank.



Filter results may differ based on Search criteria

Below this are options that correspond to the Types. Each of these brings up a submenu of all Presets of its Type.

Unlike the up and down arrows, the “All Types” submenu is independent of search criteria – it simply shows you every Preset available. Likewise for the Type choices below the line, which they always include all Presets within that Type.

6. ADVANCED PANEL

Clicking the **Advanced** button at the top right corner of the Efx FRAGMENTS window opens up a world of deeper control over the granular engine and effects. Please note that this chapter assumes you have digested the information in the [Basic View \[p.11\]](#) chapter, which covers all the fundamental settings.

6.1. Grain Quantize

In the [Grain Capture \[p.15\]](#) section, you can gain even more precise control over where the play head sources grains within the buffer via *quantization*. This is achieved with the three icons below the large knob, which interact with the smaller knob below.

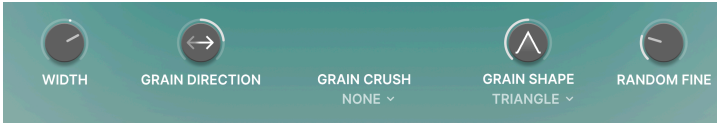


- **Off:** No quantization is applied.
- **Transient:** The buffer identifies transients (volume peaks). The playhead moves smoothly at a rate determined by the Speed/Offset/Manual Scan knob, and grains are generated at the transient closest to the play head at any moment. The smaller knob below determines the sensitivity to transients.
- **Snap to Grid:** The buffer is divided into a rhythmic grid, and the play head pulls grains from grid points. The knob below determines the size of the grid: 8, 16, or 32 subdivisions.

Note that [Spray \[p.18\]](#) behavior (set by the yellow collar around the knob and covered in the Basic View chapter) is different depending on the [Grain Release \[p.19\]](#) mode. This relates to grain quantization:

- In Classic and Texture modes, grains generated by Spray ignore transient and grid quantization. This is intentional, as Spray is supposed to add randomness to the sound. Grains *not* generated by Spray are, of course, quantized if Transient or Grid is selected.
- In Rhythmic Mode, “sprayed” grains are quantized via transient or grid around the play head position.

6.2. Grain Controls in Classic, Texture, and Rhythmic Modes



The three modes in the [Grain Release \[p.19\]](#) section share a common set of five parameters that offer surgical control over the behavior of the grains.

6.2.1. Width

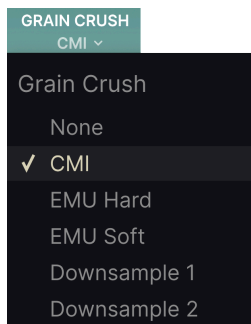
The Width parameter introduces offsets in the Spray, Size, and Pitch settings of the grains between the left and right channels. This has the effect of increasing perceived stereo width.

6.2.2. Grain Direction

This setting adjusts the odds of grains being played forwards or backwards. At 12 o'clock, the odds a given grain will play in one direction or the other are 50/50. At clockwise settings, the probability favors forwards; at counter-clockwise settings, backwards.

6.2.3. Grain Crush

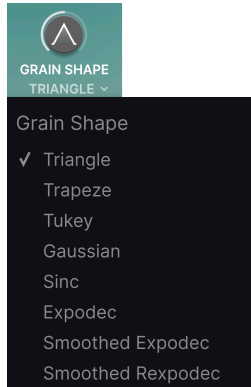
This drop-down menu sets different presets for the integrated bit-crusher (found, here, not in the FX Slots).



These are meant to add a lo-fi quality to the grains, such as that of the classic Emulator and Fairlight CMI samplers of the 1980s.

6.2.4. Grain Shape Menu

This drop-down menu selects the overall shape of the grain that is then further massaged by the Grain Shape knob.



6.2.5. Grain Shape Knob

Changes the shape of the audible “window” of each grain. If you drag on this knob while the plug-in is passing audio, you will see the illustrated shape change in real time.

i Selecting different shapes – as well as adjusting the knob – can have a pronounced effect on the attack transients (beginnings) and “tails” of the grains, ranging from staccato and glitchy to gentler and lilting. This pair of parameters is one we highly recommend experimenting with!

6.2.6. Random Fine

Adds random pitch fluctuation to the individual grains. This can achieve a detuned analog tape or Mellotron-like effect.

6.3. The Visualizer

In Classic and Texture modes, the central pane of Efx FRAGMENTS includes a 3-D Visualizer that represents the grains' behavior.



The display is perspective-style, and grains begin closer to you then recede into a vanishing point. The three axes represent different

- **X axis:** Shows the width and density of grains at any given moment.
- **Y axis:** Shows the pitch of the grains. Grains will move up and down if random pitch fluctuation is introduced.
- **Z axis:** Shows the size (duration) of the grains.

The display is perspective-style, and grains begin closer to you then recede into a vanishing point. The Z axis is the near-to-far axis in the Visualizer.

6.4. The Step Sequencer in Rhythmic Mode

Rhythmic Mode is built around a step sequencer that triggers incoming grains and can even repeat multiple grains on a single step.

It is therefore capable of creating extreme glitchy and stutter effects, all while staying in rhythm. Or, it can just lend a beat to a track that doesn't have one!



Despite its sophistication, the Step Sequencer is straightforward to use, especially if you have encountered these types of sequencers on synthesizers before. In Rhythmic Mode, the sequencer controls replace the Visualizer.

6.4.1. Pattern Length Slider

Drag the horizontal slider at the bottom of the sequencer to determine the pattern length (up to 16 steps). It is perfectly okay to have an unusual number of steps relative to your project time signature. Unused steps at the end of the pattern are displayed as greyed-out.

Note that the sequencer is always in “loop mode,” as it is a tool for constantly turning incoming audio into rhythm. It is also always synced to your DAW’s transport.

6.4.2. Step Columns

Efx FRAGMENTS has the unique ability to cause grains to repeat (or not) at each step of the sequence.

Drag vertically on a column above a Step button to change the repeat value for that step.

- 0: The step is inactive.
- 1: The step plays one instance of a grain.
- 2: The step repeats two grains.
- 4: The step repeats four grains.

The duration of each grain may be adjusted to fit the repeats into a given step.

i ♪ Once you have a sequence you like, experiment with the [Grain Shape \[p.44\]](#) knob to change the transients of the grain “hits.” Between that and the repeat function, truly otherworldly rhythmic explorations are possible. Try it!

6.4.3. Play Order Modes

The buttons at left select four play modes for the sequencer. From left to right, these are:



- *Forward*: Steps play in linear fashion from the pattern's beginning to end.
- *Reverse*: Steps play in linear fashion from the pattern's end to beginning.
- *Back and Forth*: Steps play forward and reverse, ping-ponging across the pattern length.
- *Random*: Steps play in random order.

6.5. Modulation Sources

The Advanced Panel of Efx FRAGMENTS is where modulation sources are assigned and configured.



There are two Macros, three function generators, an envelope follower, and a step sequencer that is separate from the one dedicated to Rhythmic Mode.

These allow you to modulate almost any parameter in Efx FRAGMENTS, and animated mini-graphics show you where each source's value or cycle is in real time.

6.5.1. Assigning a Modulation

To assign a modulation source to a destination, hover over the right side of its tab until the word "Assign" appears, then click it. To see all the source's parameters in the space below the modulation strip, click on the left side of the tab.

This will cause light blue collars to appear around all parameters that are eligible to be modulation destinations, like so:



Drag on the collar to adjust the modulation amount.

Note that for the "big knob" parameters that include a [random factor \[p.21\]](#), the modulation collars are *closer* to the knobs than the yellow randomization collars.

A single source can affect multiple destinations, and multiple sources can affect the same destination.

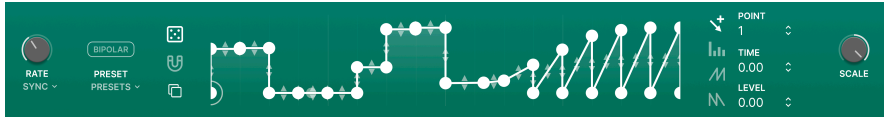
When finished assigning modulations, click anywhere in a background part of the user interface, or on "Assign" again, to exit assignment mode.

6.5.2. Macros

The two Macro sections don't have controls of their own in the one below the modulation strip. That's because they correspond to the [Intensity and FX knobs \[p.12\]](#) to the left of the buffer. That is, clicking anywhere on the Macro 1 or 2 tabs allows you to assign these knobs to control multiple destinations – their intended purpose.

6.5.3. Function Generators

The three identical Function Generators can be thought of as highly flexible envelopes-meet-LFOs. You can go wild with creating custom modulation shapes, then use those to place an invisible hand on any parameter(s) you like by making assignments.

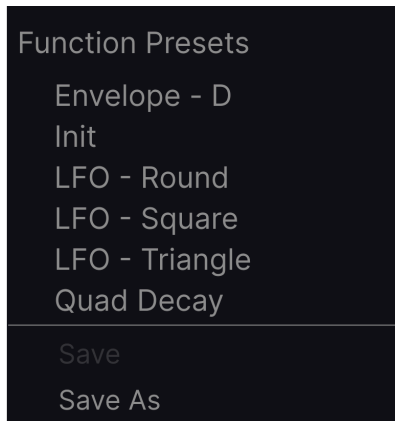


They are similar to those in our flagship Pigments software synth, just slightly simplified and optimized to work in an effect plug-in that's pulling in audio from a track or input as opposed to creating its own. For one thing, this means they are always running in loop mode instead of playing once through and stopping.

Also, they are tempo-syncable (of course) each Function can be doing something entirely different at the same time!

6.5.3.1. Function Presets

Before we get into creating our own functions, click on the Presets field to see some useful inclusions from the factory.



These will provide a feel for the range of things the Function Generators can do. Whether you've made changes or created a new Function from scratch, you can save the results as your own. You can't overwrite a factory preset, but you can use the Save As option.


6.5.3.2. Adding and Removing Breakpoints

Now it's time to start editing and creating your own functions. Functions are shaped by two factors: breakpoints and the curves or line segments between them. The X axis represents time and the Y axis represents amplitude of the modulation signal.



Click anywhere on the central graph to add a point. Click again to add another. You can add up to 64 points to the Function.

To delete a point, right-click or control-click it.

 ! The first and final points cannot be deleted or moved horizontally. They may be moved vertically.

6.5.3.3. Moving a Breakpoint

To change the location of a point within a Function, click its circle and drag it. You can move it up or down to adjust its level. Drag it to the left or right to change its time within the Function.

6.5.3.4. Changing a Curve

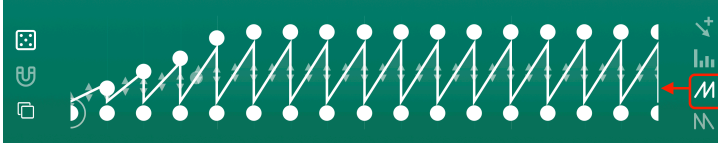
Notice that between any two points, in the middle of the lines that connect them, are up/down arrows. Grab one of these arrows and gradually move it all the way up. The line will warp until it reaches the top of the highest neighboring point, at which time it will become completely squared off. The same thing happens at the bottom if you drag downwards.

A good rule of thumb for Functions is, the steeper the slope, the faster the change!

6.5.3.5. Drawing Tools

To the right of the Function graph is a vertical strip of drawing tools. These can speed up your Function creation by letting you draw repeating shapes. From top to bottom, they are:

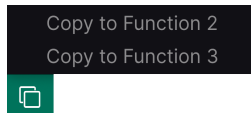
- **Edit** - Creates a single point.
- **Draw Line** - Creates a line between two points.
- **Draw Ramp** - Creates a rising sawtooth shape between two points.
- **Draw Saw** - Creates a falling sawtooth between two points.



When using Line, Ramp or Saw, a single click will create a single segment bounded by two breakpoints. Click-dragging will generate a curve made up of multiple segments.

6.5.3.6. Copying Functions

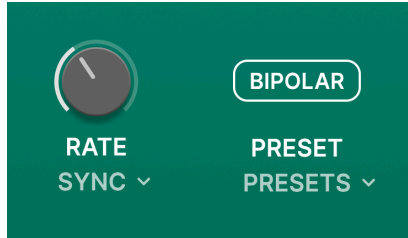
Click the overlapping squares icon to bring up a menu that lets you copy your Function and all its settings to a different Function generator.



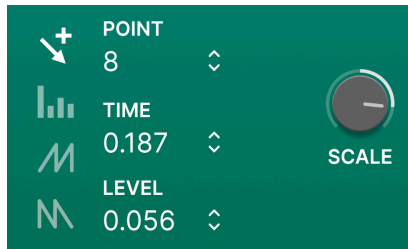
This is useful for editing Functions around the same basic structure without having to start from scratch.

6.5.3.7. Other Function Settings

We should now quickly cover function settings not described in the sections above.



- **Rate:** This sets the rate at which the Function plays through. The ubiquitous drop-down menu decides whether the rate free-runs in Hertz or is synced to tempo in regular, triplet, or dotted feels.
- **Bipolar:** When engaged, the function is bipolar, meaning a “zero crossing” is placed in the middle of the Y axis and moves to either side are positive and negative.



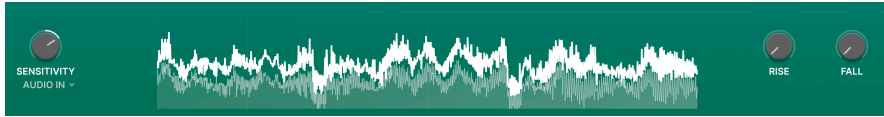
- **Random:** Drag vertically on the “dice” icon to randomize the Y axis locations (levels) of all your breakpoints.
- **Magnetize:** When the “magnet” button is active, gridlines are shown in the graph and points are snapped to them. This helps with making precise Function patterns, especially when synced to tempo.
- **Point:** Dragging vertically on this value is simply an alternative way to select individual points on the graph.
- **Time:** Dragging here moves the selected point along the X axis.
- **Level:** Dragging here moves the selected point along the Y axis.
- **Scale:** This knob scales the output of the function. In practice, this looks like adjusting the minimum and maximum Y axis points of its “peaks and valleys,” and so affects the level.



♪ A good reason to drag on the **Time** and **Level** fields instead of the point itself is that they make it easy to change the Point's position along one axis without affecting the other.

6.5.4. Envelope Follower

You may have heard of envelope followers in the context of FX pedals or synths. They follow the attack and release of an audio signal's transients, then apply that to some other setting – often a filter cutoff – to get a funky sound.



In Efx FRAGMENTS, the envelope follower can be applied to any modulation destination(s) you choose, but the basic principle is the same: It uses the continuous level variations of an incoming audio signal as a model for changes to some other setting.

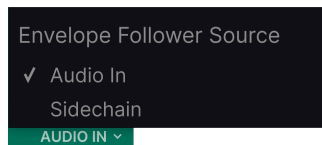
Here are the controls, from left to right.

6.5.4.1. Sensitivity

This simply sets the gain of the envelope follower to read the incoming audio. Setting it too high may cause clipping, but in general, the higher the sensitivity, the higher the modulation output will be.

6.5.4.2. Source

This drop-down below the **Sensitivity** knob selects the audio source for the Envelope Follower.



This is either the main audio in from the plug-in's track, or a sidechain input as configured in your DAW. The latter means that if you have EFX Granular processing one track but keyed to another source (say, a kick drum track), the Envelope will follow the key track.

6.5.4.3. Central Display

The important thing to know here is that the thick white "crown" you can see across the top the waveform display indicates the Envelope Follower's output level, while the waveforms underneath represent the level of the incoming audio. Which brings us to ...

6.5.4.4. Rise and Fall

Rise is like the attack knob on a compressor: It sets how long the Follower takes to “grab on” to the incoming audio and translate that into results. On a compressor, those results are gain reduction that follows the overall volume. (That’s right – a compressor is also an envelope follower by definition.)

Fall is like the release knob: It determines how long the follower takes to “let go” of audio once it has hold of it.

If these times are set very low or at zero, you will see that the “whitecap” in the waveform display follows the waveform exactly. Raise either one by much, and it will diverge from there, as the follower is taking longer to latch onto audio to process.

6.5.5. Modulation Sequencer

Efx FRAGMENTS includes a 16-step sequencer intended to be used as a modulation source. It is completely independent of the sequencer devoted to [Rhythmic Mode \[p.24\]](#).



However, it works a lot like that other sequencer, only with a few more options.

6.5.5.1. Step Display

This is where you'll create patterns and set play modes. Given Efx FRAGMENTS' nature, the sequencer is always running, although it need not affect any modulation destination if left unassigned.



At the bottom of the step display is the **pattern length bar**. Drag on it to set the sequence length. Again, you can have unusual step counts relative to your project. Unused steps are greyed-out at the end of the pattern.

To the right of the display are **Drawing Tools**. Simply select a tool and get to clicking and dragging in the central step display! From top to bottom, the tools are:

- **Clear:** Replaces the current sequence with a new, empty one. If you accidentally clear a sequence, you can recover it with the [undo \[p.68\]](#) function in the lower toolbar.
- **Pencil** Lets you adjust individual steps in the sequence by dragging up and down on them. You can also drag sideways and multiple steps will snap to the vertical position of your mouse cursor.
- **Line:** With this tool, when you drag across multiple steps, they are locked in to ascending or descending order with linear changes in value. (You can then change individual steps, however.) This mode is great for creating steady, repeating rises or falls in a destination parameter.
- **Eraser:** Clicking on an individual step will reset it to its default value. You can sweep across multiple steps to reset them all.

To the left of the display are **Play Mode** buttons. These work as in the Rhythm Mode sequencer. From top to bottom, the modes are:

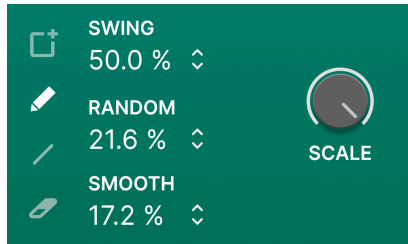
- *Forward:* Steps play in linear fashion from the pattern's beginning to end.
- *Reverse:* Steps play in linear fashion from the pattern's end to beginning.
- *Back and Forth:* Steps play forward and reverse, ping-ponging across the pattern length.
- *Random:* Steps play in random order.

6.5.5.2. Modulation Sequencer Settings

Modulation sequencer settings we haven't covered yet are as follows.



- **Rate:** This sets the rate at which the Sequencer plays the pattern. The familiar drop-down menu below decides whether the rate free-runs in Hertz or is synced to tempo in regular, triplet, or dotted feels.
- **Bipolar:** When engaged, the sequence pattern is bipolar, meaning a "zero crossing" is placed in the middle of the Y axis and step values to either side are positive and negative.



- **Swing:** Adds a swing feel by delaying the second 16th-note within each 8th-note. In other words, it's classic sampled drum machine swing.
- **Random:** Drag to add random variation in the value of each step. Higher settings increase both the probability that any step will be randomized and the amount by which the value can change. The random values reset at the beginning of each pass through the pattern.
- **Smooth:** Drag on this parameter to add a degree of smooth value transition from one step to another. At zero, values jump. At 100%, all possible values between any two steps are covered.
- **Scales:** This scales the overall sequencer output in both positive and negative directions. Its default is 100%. At zero, the output is "flatline" and there will be no change to the assigned modulation destination(s).

6.6. Advanced Panner Controls



Advanced mode opens up some extra controls for the panner/spatializer.

6.6.1. Panner Rate

This simply sets the rate of the panning. The drop-down menu below the knob provides the usual tempo-sync options (straight, dotted, triplet) or free-running in Hz.

6.6.2. Random Pan

This knob randomizes the positions of the grains in the stereo field.

6.6.3. Amount

This knob sets how widely the grains can move between the left and right channels.

6.6.4. Distance

Limits how much the grains can move between near and far. The default is 100 percent.

6.7. Advanced FX Controls

The two FX slots in Efx FRAGMENTS each have a number of parameters that are only visible when the Advanced Panel is open.

We encourage you to explore these for yourself, but here is a list of tables of their individual parameters. We have omitted the Dry/Wet and Routing functions, as these are covered in the [Pan and FX \[p.26\]](#) and every effect has them.

6.7.1. Multi-Filter



This synthesizer-style filter features highpass, bandpass, lowpass, and two comb modes.

Control	Description
Frequency	Determines the cutoff or center frequency of the filter.
Resonance	Adjusts a level peak located at the filter frequency.
Slope	Sets the filter curve at 12, 24, or 36dB per octave.
Type	Selects the filter mode. Comb filters do not have slopes.

6.7.2. Distortion



Going far beyond traditional fuzz-box distortion, the one in Efx FRAGMENTS offers 13 algorithms including soft and hard clipping, tape saturation, and more.

Control	Description
Drive	Equivalent to "pre gain" on an amp or distortion pedal, this sets amount of distortion applied.
Output	Sets the output level of the effect.
Autogain	Activates automatic control of the Output parameter to avoid downstream clipping.
Type	Drop-down chooses from 13 different distortion algorithms.

6.7.3. Compressor



A classic compressor with variable ratio, threshold, and makeup gain.

Control	Description
Threshold	Sets the level at which gain reduction starts to occur.
Output	Sets the output level of the compressor.
Auto Makeup	Automates the output level to provide "makeup gain" that compensates for the compression.
Attack	Adjusts how quickly or slowly the compressor "grabs on" to the sound when the threshold is reached.
Release	Adjusts how quickly or slowly the compressor "lets go" of the sound when the level dips below the threshold.
Ratio	Sets the amount of compression applied once the threshold is reached.

6.7.4. Delay



The Delay is tempo-syncable and includes a stereo ping-pong panning mode.

Control	Description
Time	Sets the delay time.
Rate Type	Drop-down offers tempo-syncing options. When synced, delay time is a division of host tempo.
Feedback	Sets the amount of delayed signal fed back into the effect for re-processing.
Ping-Pong	Activates ping-pong mode.
Width	Gradually changes the delay from mono to stereo output.
Fine	Adds a slight random variation to the delay time.

6.7.5. Pitch-Shift Delay



This tempo-syncable delay also shifts the pitch of the delay taps.

Control	Description
Time	Sets the delay time.
Rate Type	Drop-down offers tempo-syncing options. When synced, delay time is a division of host tempo.
Stereo Offset	Introduces a delay time offset between left and right channels.
Feedback	Sets the amount of delayed signal fed back into the effect for re-processing.
Detune	Introduces tuning variation between left and right channels.
Pitch	Adjusts the amount of pitch-shifting in semitones.
Spray	Adds randomness to the timing of the delay taps.

6.7.6. Tape Echo



Replicating classic tape echo effects, this effect can also be synced to tempo.

Control	Description
Time	Sets the delay time.
Rate Type	Drop-down offers tempo-syncing options. When synced, delay time is a division of host tempo.
Feedback	Sets the amount of delayed signal fed back into the effect for re-processing.
In. Vol.	Sets the input gain. High settings may cause distortion.
Ping-Pong	Activates a stereo ping-pong panning mode.
Width	Adds offset to the delay time between left and right channels.
Fine	Tunes the delay time in fine increments.

6.7.7. Chorus



No FX roster would be complete without a chorus to thicken up the sound when desired.

Control	Description
Rate	Sets the rate of the chorus LFO.
Feedback	Sets the amount of chorused signal fed back into the effect for re-processing.
Mono	Switches between stereo and mono modes.
Waveform Select	Switches chorus LFO between sine and square waves.
Depth	Sets the depth of the chorus effect.
Voices	Sets the number of detuned voices used to create the chorus: 1, 2, or 3.
Delay	Adds a time offset between the incoming signal and its chorused copies.

6.7.8. Flanger



The flanger is the “jet engine” effect that can be heard on many classic rock and electronic music recordings.

Control	Description
Rate	Sets the rate of the flanger LFO.
Rate Type	Drop-down offers tempo-syncing options. When synced, flanger LFO rate is a division of host tempo.
Feedback	Sets the amount of effected signal fed back into the effect for re-processing.
Feedback Polarity	Drop-down menu toggles between additive and subtractive character for feedback loop.
Mono	Switches between stereo and mono modes.
Waveform Select	Switches flanger LFO between sine and triangle waves.
Depth	Sets the depth of the flangers effect.
Delay	Adjusts the length of the inherent delay, which changes the harmonic content.

6.7.9. Reverb



The built-in reverb lets you set your “granulated” sound in an acoustic space without loading a separate plug-in.

Control	Description
Size	Changes the size of the virtual room.
Predelay	Adjusts the delay before early reverb reflections occur.
Decay	Adjusts the time it takes for the reverb tails to die out.
Damping	Reduces the high frequencies of the reverberated signal.
Width	Adds stereo width to the reverberated signal.

7. THE LOWER TOOLBAR

A number of utility functions reside in the very bottom of the Efx FRAGMENTS interface. They're like a good mechanic or plumber: maybe not glamorous, but you're really glad to have them when you need them.

Since this area is skinny and not amenable to covering in numbers and diagrams, we will just take them from left to right.

7.1. Left Side

Offset Synced: Sets the offset to tempo subdivision

Lower toolbar, left side

The left half of the toolbar is where the control descriptions appear, telling you what any knob, button, icon, or other control does when you mouse over it.

7.2. Right Side

The right half of the lower toolbar is home to a number of other utilitarian functions.



Lower toolbar, right side

From left to right, these are:

7.2.1. Maximum Grains

Dragging on this value limits the number of grains EFX Granular is allowed to produce at one time. This can help save CPU resources, especially in a large DAW project running a lot of other virtual instruments and effects. At lower settings, it will also produce a thinner sound – which may be desirable for some musical applications.

7.2.2. Transport Mute

When engaged, this button mutes the signal immediately when your DAW is paused. This will cut off the sound of any effects "tails," residual grains still in the buffer, and so on.



! It's easy to forget Transport Mute is active. If, for example, you want to play a soft synth on a track that also has Efx FRAGMENTS on it, the synth will produce no sound if the DAW is playing. Disengage Transport Mute to remedy the situation.

7.3. Bypass

This button bypasses the plug-in.

7.4. Undo, Redo, and History

When editing a plug-in, it's all too easy to overshoot a sweet spot and then wonder how to get back to where you were. Like all Arturia plug-ins, Efx FRAGMENTS offers comprehensive Undo, Redo, and History so that you always have a trail of "bread crumbs."

Use the arrows to go back and forward one control movement or other action at a time.

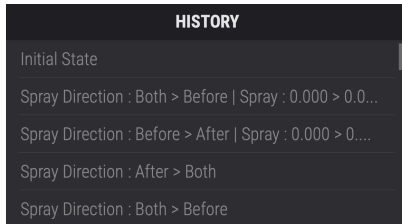
7.4.1. Undo

Click the left arrow to revert to the state before the most recent edit you made. You may click repeatedly to undo several edits in reverse time order.

7.4.2. Redo

Click the right arrow to redo the most recent edit you undid. If you have undone several, you may click repeatedly to redo them in forward time order.

7.4.3. History



Click the "hamburger" (three lines) center button to open the History window, as shown above. This provides a step-by-step account of every move you have made in Efx FRAGMENTS. Clicking on an item in the list not only re-executes that move – it returns the plug-in to the overall state it was in when you first made that move.

7.4.4. CPU Meter

At far right is the CPU Meter, which displays the overall load Efx FRAGMENTS is placing in your computer CPU. Since it deals only with this plug-in, it is not a substitute for the overall CPU metering tools in your DAW.

7.4.5. Panic

Mouse over the CPU Meter, and it will display the word PANIC. Click to send an all-sounds-off command. This is a momentary command, so sound will resume if your DAW is still playing. In the event of serious runaway audio (say, from an unrelated delay effect going nuts in a feedback loop), stop your DAW playback and disable the offending plug-in.



♪ The very far lower right of the toolbar is also where the [Maximize View \[p.9\]](#) will appear if it is needed.

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A return of the product due to a failure to accept the terms and conditions of this Agreement, e.g. the product activation, shall not be possible upon this re-assignment of rights.

7. Upgrades and Updates You must have a valid license for a previous or more inferior version of the software in order to be allowed to use a software upgrade or update. Upon transferring this previous or more inferior version of the software to third parties, the right to use the software upgrade or update will not apply.

The acquisition of an upgrade or update does not in itself follow a right to use the software.

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