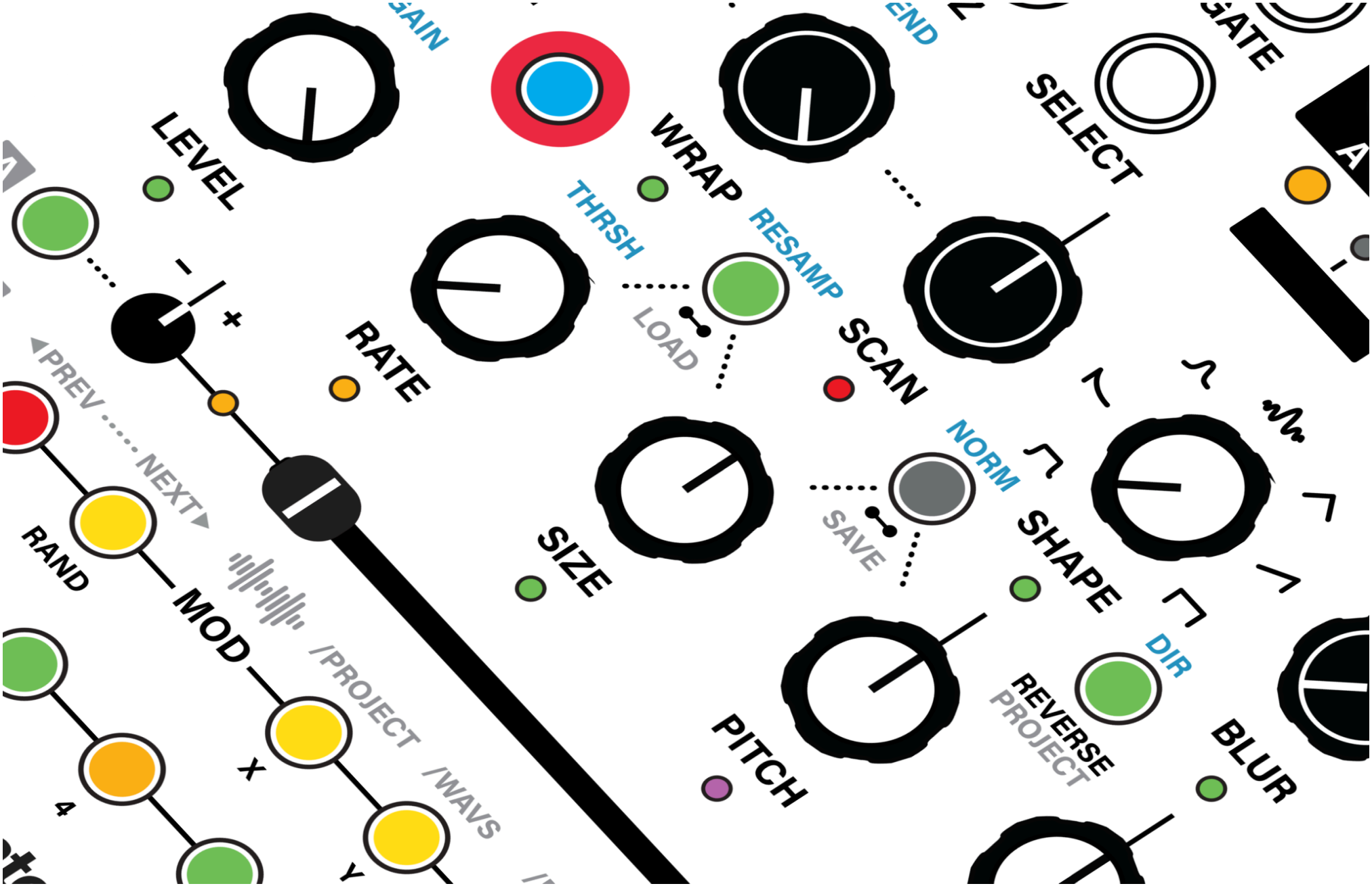
Intellijel Multigrain v1.2 — 2025.07.04

Live Stereo Morphing Granular Sampler



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Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by Intellijel Designs, Inc. could void the user's authority to operate the equipment. Any digital equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.

This device meets the requirements of the following standards and directives:
EMC: 2014/30/EU
EN55032:2015 ; EN55103-2:2009 (EN55024) ; EN61000-3-2 ; EN61000-3-3
Low Voltage: 2014/35/EU
EN 60065:2002+A1:2006+A11:2008+A2:2010+A12:2011
RoHS2: 2011/65/EU
WEEE: 2012/19/EU

Installation

Installation ⟩ Before you Install

Multigrain is designed to be used with a Eurorack-compatible Case and Power Supply. We recommend our Intellijel Cases and Power Supplies.

You will need…

- Ribbon power cable (included)
- Rack screws (included) and a screwdriver (not included).
- 20HP of 3U rack space.
- One free power header on your Power Bus Board.
- Enough current draw from your Case Power Supply.

Check your PSU has enough juice (aka current)

1. For every module connected to the power supply board (inc. Multigrain), record the current draw at each voltage: +12V, -12V and +5V. This info is commonly found in the manual. See **Technical Stuff** for Multigrain Specs.
2. Sum together all current values with matching voltages - giving you three separate current values.
3. Compare these to the current values stated in the specifications of your Case Power Supply. If the current value at each voltage for all modules is less than the Power Supply's current values, Multigrain can be installed.

⚠ **Failure to adequately power your modules may result in damage to your modules or power supply.**

We would strongly recommend against:

- Leaving gaps between modules – dirt & debris can fall in and cause issues such as electrical shorts.
- Using open frames or enclosures that expose the backside of the module or power supply.

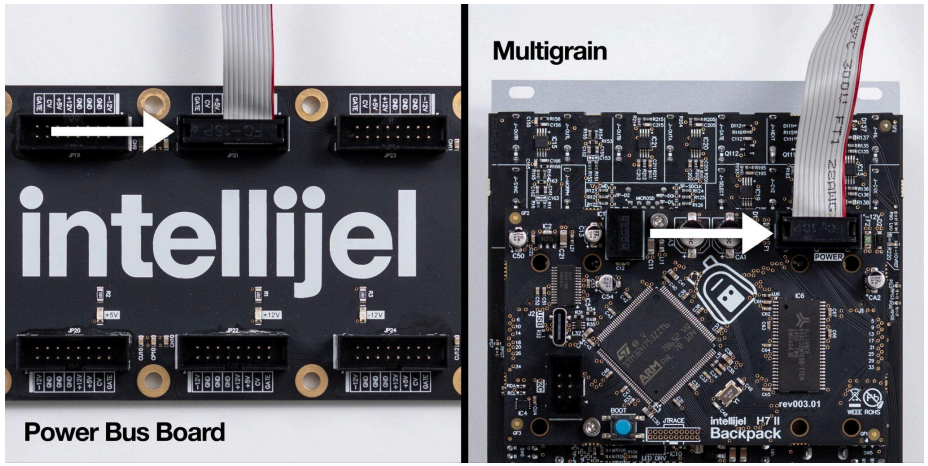
You can use a tool like **ModularGrid** to assist in your planning. If you are unsure about anything relating to installation, please **contact us** before proceeding.

Installation ⟩ Install your Multigrain

1. Switch off & disconnect the power supply from your eurorack case.

⚠ **Failure to do so may result in serious injury or equipment damage.**

2. Connect the 10-pin end of the included ribbon cable to the power header on Multigrain. The header is shrouded to help with orientation. This cable may already be connected to Multigrain. If so, ensure it is seated correctly. The red stripe on the ribbon cable should be aligned with the side of the connector marked "-12V."



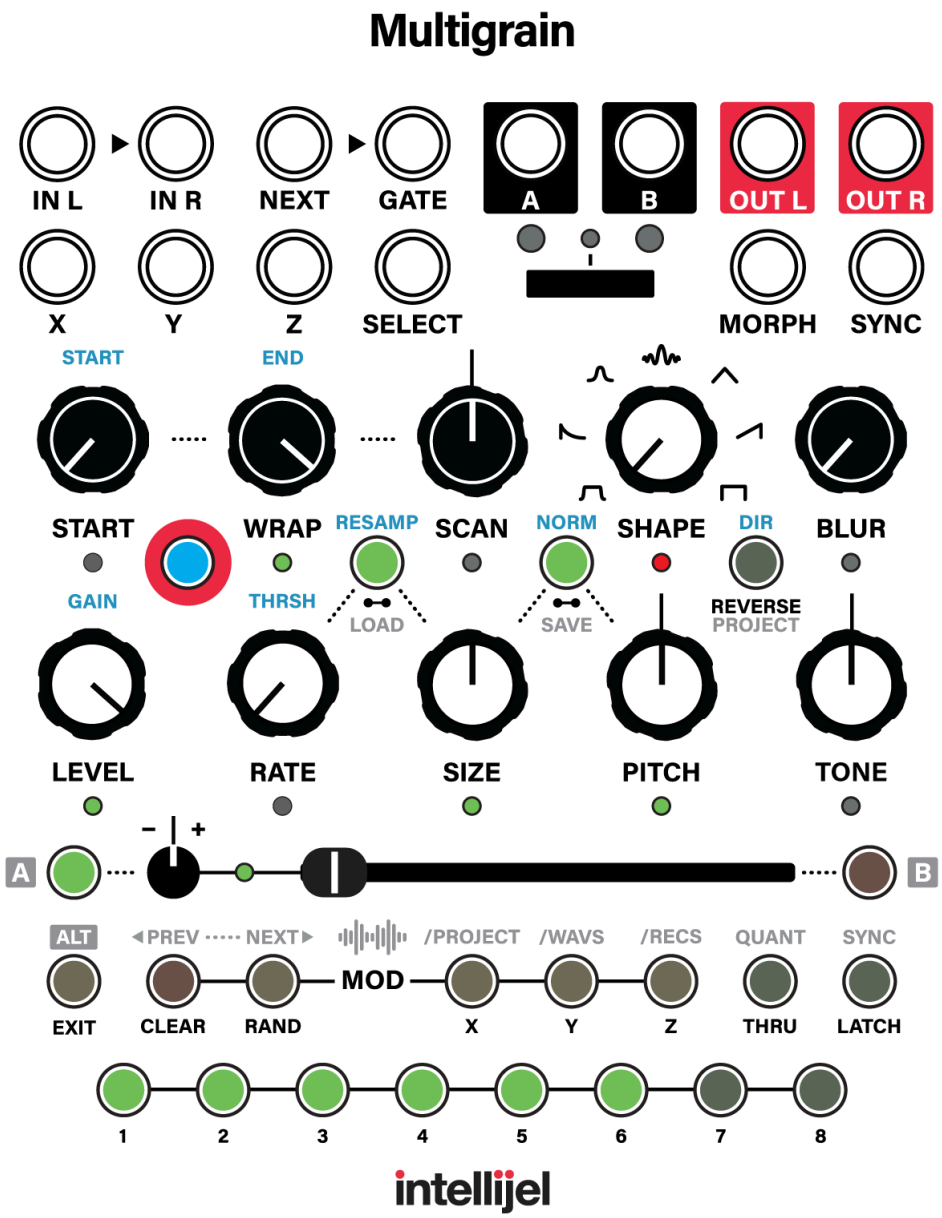
3. Connect the 16-pin end of the ribbon cable to an available header on your case's power bus board. Ensure the red stripe on the ribbon aligns with the side of the power header labelled "-12V" or similar marker. Current Intellijel cases use shrouded headers to help with orientation. If you're unsure, please check the manual for your power supply or case.

⚠ **Misalignment or a backwards ribbon cable can potentially damage the module. Double check alignment and that the headers are fully seated before continuing.**

4. Reconnect the power supply and switch on. Immediately check that all modules are switched on and operating correctly. If you notice a problem, power off your system immediately and check for mistakes.

TL;DR — Quick Start

Multigrain is a very deep module. Assuming you can patch up the basics, this one-page quick start should help you make sounds right away! Keep reading through the manual for more comprehensive explanations of all the functions.



Setup

Make sure the included microSD card is inserted, then power on. Using the panel diagram on the left, align the **10 KNOBS** and toggle the **LINK** buttons (also labelled LOAD / SAVE) and **REVERSE** button to match the diagram.

Slide the **MORPH** fader all the way to the left. Press the **SCENE** A button, it will start to *BLINK*, indicating that it is the Active Scene on the panel.

Patch from **OUT L** + **OUT R** to your system outputs (e.g. line output module, mixer, headphone out etc.) so that you can hear the module. Now you're ready to start!

Play

Press or hold one of the **SOUND 1-8** buttons to start playing a Sound. The button will *BLINK* – indicating that this is the Active Sound on your panel.

Try this – Press **LATCH**, then press a **SOUND 1-8** button. The Sound will play continuously, without needing to hold the Sound button. You can switch between Sounds, and they will stay latched on. Press **LATCH** again to disable.

When a Sound is playing, turn any of the **10 KNOBS** to affect the granular engine for the Active Sound.

Try Toggling **REVERSE** to hear the sounds played backwards!

Morph

Let's try Morphing; with the **MORPH** fader on the left, press the **SCENE** B button. **SCENE** B will *BLINK* to show that it's now active on the panel. You may notice the **Knob LEDs** changing to reflect the parameter settings in Scene B.

Now turn the **KNOBS**, you will notice that they do not change the sound. Slowly move the **MORPH** fader towards the right, and you'll hear all of your parameters morph from **SCENE** A to **SCENE** B!

That's all for the Quick Start, read on for more…

Welcome to Multigrain

Multigrain is a *Live Stereo Morphing Granular Sampler* with instant access to eight Sounds. These sounds are played back through a granular engine with morphable scenes, and a reverb effect that we call Blur.

Granular sampling or synthesis creates small slices of audio—or *grains*—from a larger piece of audio. In Multigrain, streams of grains can be shaped, layered, pitched, filtered, and reversed to generate entirely new sounds.

The granular engine has a full set of controls to shape your grains. You can apply two panel settings per Sound—*Scenes A and B*—then morph between them using the Morph fader.

The eight available Sounds use stereo WAV files or live input, up to 32 seconds long, to generate grains from. These are loaded in from the microSD card, recorded from the inputs or resampled from the outputs.

Multigrain loves modulation. It has three assignable CV inputs, which can be applied to any of the granular engine's parameters. You can also apply internally generated random modulation, and sync Multigrain to your system clock. Additional dedicated CV inputs allow you to move through Sounds, and modulate the Scene Morphing.

Projects & Presets let you store multiple configurations and sample sets for instant recall. This frees you up to explore new sound palettes, while still being able to return to your favourites.

This written manual covers all the functions and operations of Multigrain, but it's up to you to truly explore its potential in your Eurorack system. Sections of this manual have also been made into video tutorials on our YouTube channel. If you're more of a visual learner—

Go to the **Multigrain Video Manual Series** on YouTube. ➜

Navigating with LEDs

Multigrain's user interface comprises 'Pages' and LED behaviours designed to help you navigate the different functions in lieu of a screen.

Navigating ⟩ Button LEDs

The buttons are all backlit with LEDs. Their behaviour is designed to help you understand their function on any given page. Generally, they follow these guidelines, exceptions will be noted deeper in the manual—

- LED is *LIT* — The button is available or 'On'
- LED is *DIM* — The button is 'Off', but can be activated
- LED is *OFF* — The button is completely unavailable
- LED is *BLINKING* — Feature associated with the button is selected
- LED is *RAPIDLY BLINKING* — Page associated with the button is active
- LED is *FADING* — Button will lead to a Page or perform an action

Navigating ⟩ Knob/Fader LEDs

The 10 Control **KNOBS** all have a small LED beneath them – aka the **KNOB LED**. This displays the parameter's true position. In some cases, the true position of a parameter knob does not match with its physical position. This is often the case when switching between Sounds or Modulation pages. Moving a knob will immediately snap the parameter to the physical position.

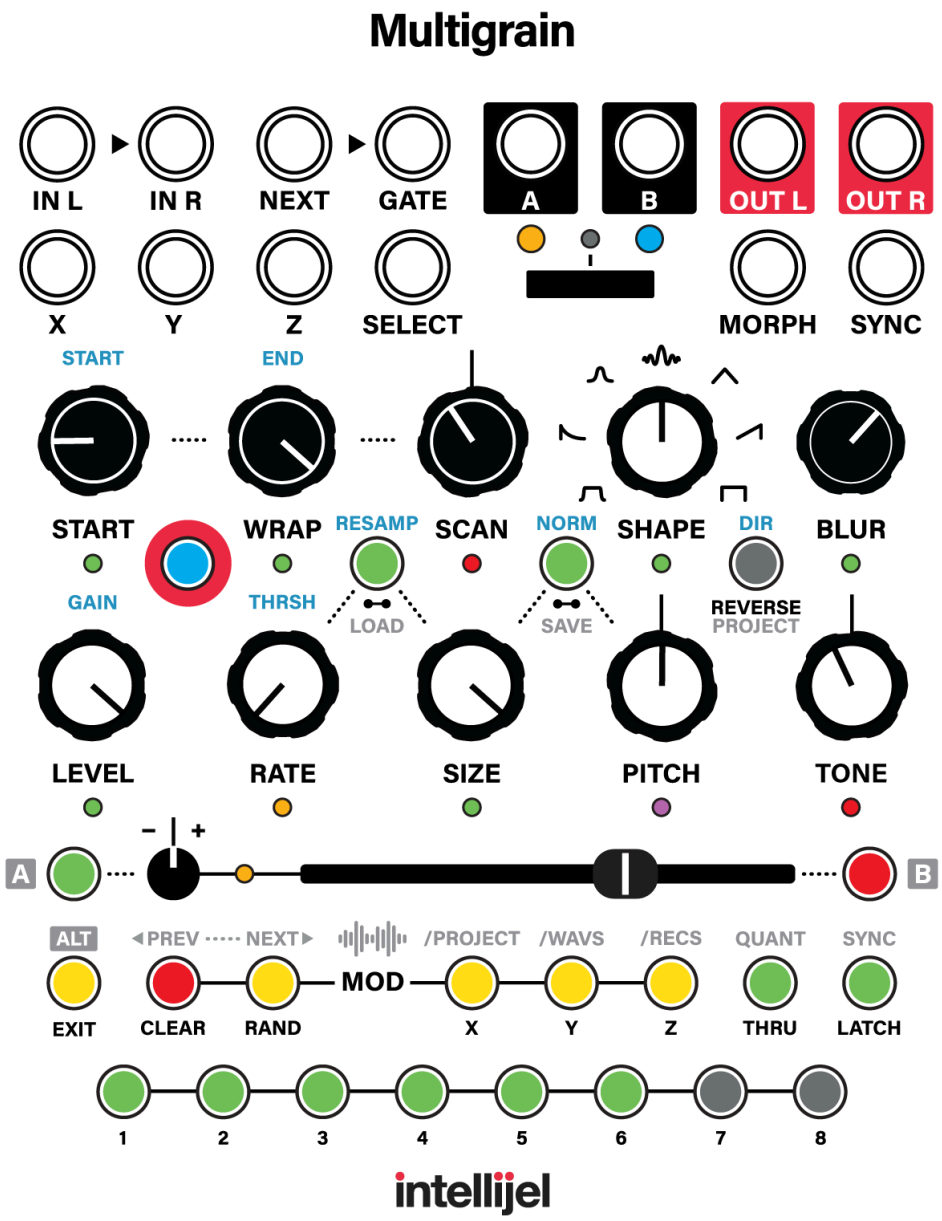
The **MORPH** Fader has a dedicated LED that reflects the modulated position of the fader.

Reading this Manual

Various Controls and Jacks will be referred to with **BOLD ALL CAPS** text, sometimes coloured to match Multigrain's Panel.

For example **ALT** functions will be referred to in GREY, and Advanced Sample controls in BLUE. Some elements will be unique, such as **SAMPLE**, **SCENE A**, and **OUT L**.

Home Panel



Input & Output Jacks

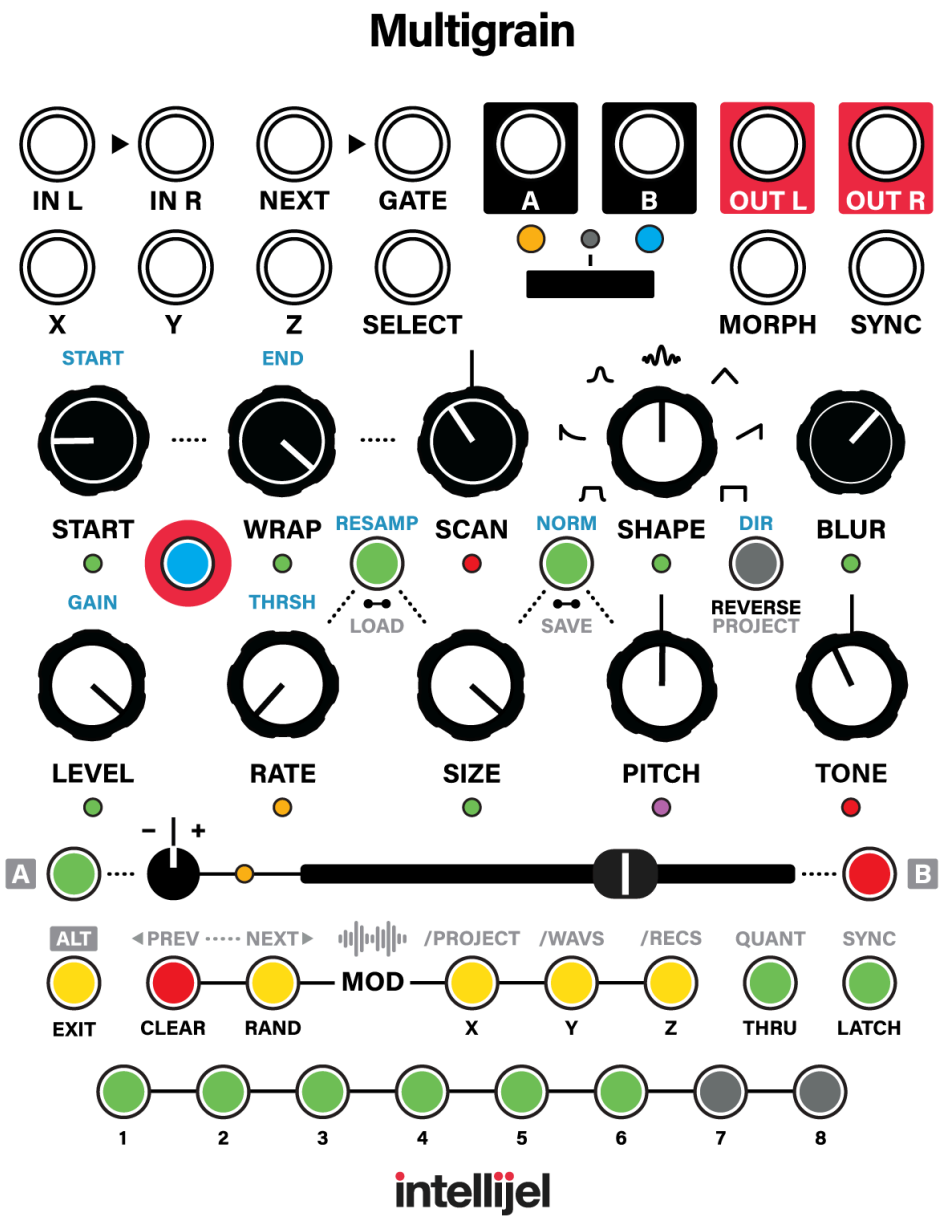
IN L + IN R	Left & Right Audio Input
NEXT	Advances to next Sound (>2V)
GATE	Gate Input for playing Sound (>2V)
A + B	Assignable CV Outputs (±5V)
OUT L + OUT R	Left & Right Audio Output
X, Y, Z	Assignable Modulation Inputs (±10V)
SELECT	Sound Selection Input (±10V)
SD Card	Card slot for microSD (≥32gb)
MORPH	Morph Fader CV Input (±10V)
SYNC	Sync Input for Clock Trig / Pulse (>2V)

Knobs & Fader

START	Starting Position of the next grain
WRAP	Scan area from Start position
SCAN	Speed & direction of Position Scan
SHAPE	Grain Window Shape
BLUR	Reverb Send / Decay Amount
LEVEL	Grain Volume Level
RATE	Grain Trigger Rate
SIZE	Grain Length (20ms - 4secs)
PITCH	Grain Pitch
TONE	2-pole LP-HP Filter
MORPH*	Fader blends between Scenes
MORPH ATT*	Attenuverter for Morph CV

* *Not labelled on panel.*

Home Panel (Continued)



Buttons

SAMPLE* Sample/Resample to microSD
Freeze/Unfreeze Looping Recorder

* *Identified as the button in the big red circle.*

RATE–SIZE* Links Rate & Size Parameters

SIZE–PITCH* Links Size & Pitch Parameters

REVERSE Reverses grain Playback

* *labelled with a small link icon and dotted lines to connect the knob.*

SCENE A Selects Scene A controls

SCENE B Selects Scene B controls

ALT / EXIT Dual function: Enter Alt menu / Exit any Page

CLEAR Clear Mod Assigns, Scenes & Sounds

RAND Assign Random modulation

X Assign X modulation

Y Assign Y modulation

Z Assign Z modulation

THRU Toggles Audio Input Monitoring

LATCH Toggles Latching of Sounds

SOUND 1-8 Trigger/Select the 8 Sounds

Note: *Many controls will change function as you navigate through different features of Multigrain. You will see these new functions described in detail as you move through the manual.*

Home Page — *Home Sweet Home*

All of the main functions of Multigrain are found on the Home Page. Playing Sounds, changing parameters, morphing between Scenes, it's all here!

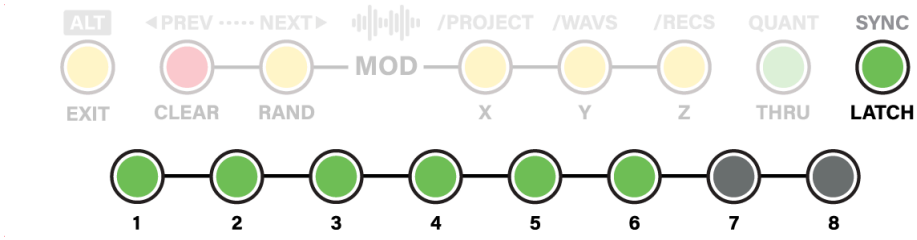
Home ⟩ Sounds

Multigrain does not playback your sounds like a normal sampler. The sample content or live input is chopped up, layered, rearranged and played back as a stream of grains based on your parameters and modulation.

In Multigrain—a sample with its scenes and settings is referred to as a Sound; when a Sound is linked to the Live Input, it's referred to as a Live Sound.

Sounds and Live Sounds are functionally the same, they just get their audio from different sources.

SOUND 1-8



Multigrain has eight **SOUND** buttons labelled **1-8**. If a **SOUND** button is *LIT GREEN*, it's occupied with a sample. An empty **SOUND** button will be *OFF*. When a **SOUND** is playing back, it will change colour to *AMBER*.

Press or hold any **SOUND 1-8** button to select and trigger grains from that Sound at the set **RATE**. While you can only select and trigger one Sound at a time, the grains from all eight Sounds can overlap and play together.

When you press any **SOUND 1-8** button, that Sound will become Active. The active **SOUND** button will *BLINK*. The panel controls are always linked to the Active Sound (and Active Scene). As you switch Sounds, the **Knob LEDs** will change to reflect the Active Sound settings.

Look for the *BLINKING* **SOUND** and **SCENE** buttons to establish which Sound and Scene are currently linked to the panel controls.

LATCH

The **LATCH** button sustains or *latches* a Sound. Enabling latch will not trigger a sound on its own, but the next sound that you trigger will *latch* as if you are holding the button down.

Press **LATCH** to enable. It will display *LIT GREEN* if no Sound is currently playing.

Press any **SOUND 1-8** button with **LATCH** enabled. The **SOUND** and **LATCH** buttons will turn *AMBER*. Grains from the **SOUND** you pressed will be generated continuously.

When **LATCH** is enabled, you can switch between **SOUND 1-8**. The most recently selected sound will stay latched, so you can use this to move seamlessly between Sounds.

Press **LATCH** again to release, any playing grains will complete.

Home ⟩ Live Sounds v1.2

Multigrain can generate grains from live audio input. Any of the eight **SOUNDS** can be assigned as a Live Sound.

SOUND 1-8 + SAMPLE

To enable a Live Sound, hold any **SOUND** button and press **SAMPLE**. The **SOUND** button will turn *MAGENTA*. To switch back to a sample-based Sound, repeat the same button combination.

When at least one Live Sound is enabled, the Looping Recorder will take over, and the **SAMPLE** button will turn *MAGENTA* (or *CYAN* if frozen).

You can play a Live Sound using the **SOUND** button or **GATE** / **NEXT** input. The audio content of grains depends entirely on the audio in the Live Memory.

You can also use **LATCH** with Live Sounds. When a Live Sound is playing or latched, the **SOUND** button will turn *PINK*.

A Live Sound is subject to all the same granular controls, modulation and morphing – all outlined over the next few pages of the manual.

In a Preset, it's possible to use any combination of Live Sounds and Sample-based Sounds. You can create a Live Sound from any empty or occupied **SOUND**. If the Sound was empty, the Live Sound will load with the default settings outlined previously. If the Sound was occupied with a Sample, its current settings will carry over to the Live Sound. The Sample will remain in place but won't be used - it'll still be there if you switch back.

SAMPLE

When the Looping Recorder is active, the **SAMPLE** button toggle between Recording (*MAGENTA)* and Frozen (*CYAN*).

All Live Sounds create grains using audio from **IN L** + **IN R** that's fed into the Looping Recorder – an alternative mode to the Sample Recorder.

The Looping Recorder has been implemented to support Live Sounds, but it can also be used as an alternative mode for capturing samples.

See **Looping Recorder** for more. ➜

Active vs. Playing SOUND

Sometimes, the **SOUND** that's Active on the panel does not match the **SOUND** that is Playing.

An Active **SOUND** will *BLINK*, and is linked to the panel controls. When you press a **SOUND 1-8** button, the Sound will be both active & playing. Active Sounds can only be chosen with manual button presses - not CV.

If the **SOUND** that is Playing is different from the Active Sound, it will *FADE*. This will be the Sound triggered by **GATE** only.

When using **NEXT** and **SELECT** CV, the Playing Sound will change, but the Active Sound remains constant on the panel. You can perhaps start to imagine how linking the panel controls to the Playing Sound would make it challenging for editing!

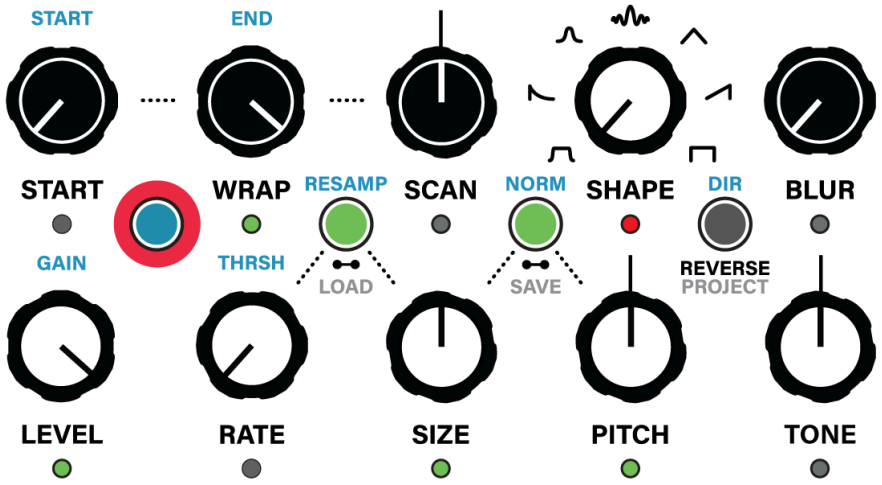
You can also manually separate the Active and Playing Sounds. Hold **LATCH** + press **SOUND** to make it Active without also Playing it. This is handy for making silent edits while another Sound is playing.

Default Sound Parameters

When you create a new Sound, or when you reset a Sound/Scene (more on this later), the Sound parameters default to an initialised state, as shown in the diagram below.

These default settings are meant to provide you with a clear starting point for your granular experiments.

Bear in mind, this diagram represents the true position of the controls for an initialized sound. The physical positions of your controls may differ—



These **KNOBS** and **BUTTONS** translate to the following values—

START	**WRAP**	**SCAN**	**SHAPE**	**BLUR**
0 sec	100%	No Scan	Tukey	No Blur

RATE–SIZE Link On **SIZE–PITCH Link** On **REVERSE** Off

LEVEL	**RATE**	**SIZE**	**PITCH**	**TONE**
100%	1 Hz *(1xSIZE)*	1 Sec	1x	No HP/LP

Dedicated Sound CV — GATE, NEXT, SELECT

Multigrain has 3 dedicated inputs to selecting and triggering Sounds.

GATE Input

The **GATE** input triggers the Sound that's currently playing (>2V). While **GATE** is held high, grains will continue to generate based on **RATE**.

NEXT Input

When a trigger is received at the **NEXT** input (>2V), the **SOUND** to the right of the most recently played Sound is next to be triggered.

NEXT is normalled to **GATE**, meaning that you can use one gate signal (into **NEXT**) to advance to the next Sound and simultaneously trigger it.

Empty Sounds are ignored by **NEXT**.

NEXT Input (RESET Mode) v1.2

NEXT can be configured as a **RESET** input for the **SCAN** functionality.

By default, the **SCAN** position is automatically reset when a trigger is received on the **GATE** input; by enabling **RESET** mode for **NEXT**, Multigrain will wait for a trigger on the **NEXT** input (>2V) before resetting the scan position. As before, pressing the Sound Button, or Switching Sounds will still reset the **SCAN** position, only the behaviour of the **GATE** and **NEXT** inputs are changed.

NEXT is normalled to **GATE**, meaning that you can use one gate signal (into **NEXT**) to both **RESET** and trigger the Sound. This use of **NEXT** matches the original behaviour of **GATE**, but does disable the original **NEXT** functionality.

See System Settings Page for more. ➜

SELECT CV Input

CV into the **SELECT** input (±5V) determines which Sound is playing or will play next.

SELECT does not offset from any manual selection. **SOUNDS 1-8** are mapped across a range of 0V to 5V. Negative voltage is rectified internally. Negative voltage range is mirrored, e.g. -5V and +5V are treated the same – both select **SOUND 8**.

Empty Sounds are ignored by **SELECT**.

Sound Shortcuts

Enable Live Sound

Press and hold the **SOUND** button you want to switch to a Live Sound, then press ⏺ **SAMPLE**. To switch it back to a sample-based Sound, repeat the same process. v1.2

Enable Live Sound (With No Trigger)

When switching between Live and Sample-based Sounds, you may want to avoid generating grains.

Press and hold **LATCH**, then press and hold the **SOUND**, then press ⏺ **SAMPLE**.

Select a Sound without Triggering

Hold **LATCH** and press a **SOUND** to select it without triggering.

Kill All Sounds

Hold **LATCH** and press **CLEAR** to immediately silence all grains, Blur will decay naturally.

Copy Sound

Hold the **SOUND** button that you want to copy, then press the **SOUND** button that you want to copy to.

Randomize Sound

Hold **RAND** and press the **SOUND** button to randomize all of its parameters (both Scenes).

Home ⟩ Scenes & Morphing

In Multigrain, each Sound has two Scenes – A and B. A Scene includes the positions of the **10 KNOBS**, plus the status of the **REVERSE** button—described in the next section. Morphing between Scenes transitions a sound's timbre seamlessly between two subtly or drastically different states.

SCENE A / SCENE B

SCENE A (*GREEN*) and **SCENE B** (*RED*) are located on the left and right of the **MORPH** fader.

Press **SCENE A** or **SCENE B** to make it Active for editing on the panel, the active Scene button will *BLINK*.

You can activate either Scene at any time, but to *hear* a Scene, you must also slide the **MORPH** fader to either end of the throw—
left for **SCENE A** or right for **SCENE B**.

MORPH

The **MORPH** fader determines the Sound's parameters based on its position between the two Scenes. The position of the **MORPH** fader is universal. No matter what Scene is Active the **MORPH** fader position is what you hear.

The **MORPH LED** will show the position of **MORPH** by crossfading the **SCENE A** and **SCENE B** colours.

Selecting the Scene opposite from the **MORPH** position allows you to silently edit multiple parameters, and then seamlessly transition to these new settings.

SCENE A and **SCENE B** will be auto-selected based on the position of the **MORPH** fader as it moved side to side, this is disabled if changes are being made while the **MORPH** fader is moving or you have manually selected a Scene.

Again, look for the *BLINKING* **SOUND** and **SCENE** to orient yourself as to what is currently active on the panel.

Scene Shortcuts

Copy Scene

Hold the **SCENE** button to copy, press the other **SCENE** button to paste. Alternatively, press another **SOUND** to copy **SCENE** to it.

Randomize Scene

Hold **RAND**, press the **SCENE** button you wish to randomize.

Clear/Reset Scene

Hold **CLEAR**, press the **SCENE** button you wish to reset.

Dedicated Morph CV — MORPH

MORPH CV Input

The **MORPH** fader has a dedicated **MORPH CV** input (±5V). Patch in CV to modulate the position of the **MORPH** fader.

The **MORPH ATT** (attenuverter) controls the level and/or inversion of the CV signal, the **MORPH** fader itself will act as an offset. A CV of ±5V will sweep the range of **MORPH**.

The **MORPH LED** always shows the modulated position of **MORPH**.

Morphing Minutiae

For a most controls (e.g. **SIZE, LEVEL**), the **MORPH** fader smoothly sweeps the range between parameter values from **SCENE** A and **SCENE** B

For example, if **SIZE** A is 1sec, and **SIZE** B is 3sec (a 2sec difference between the Scenes) then when **MORPH** is in the center position, at 50%, the grains generated will be 2sec long.

REVERSE and **SHAPE** are discrete values—meaning there is no smooth transition between them. In this case, the **MORPH** fader position determines the probability of each new grain triggering with the Scene A or Scene B value.

Another example, let's say **SHAPE** A is Decay and **SHAPE** B is Bell. When the Morph fader is positioned a quarter of the way from **SCENE** A, grains have a 75% chance of Decay and 25% chance of Bell.

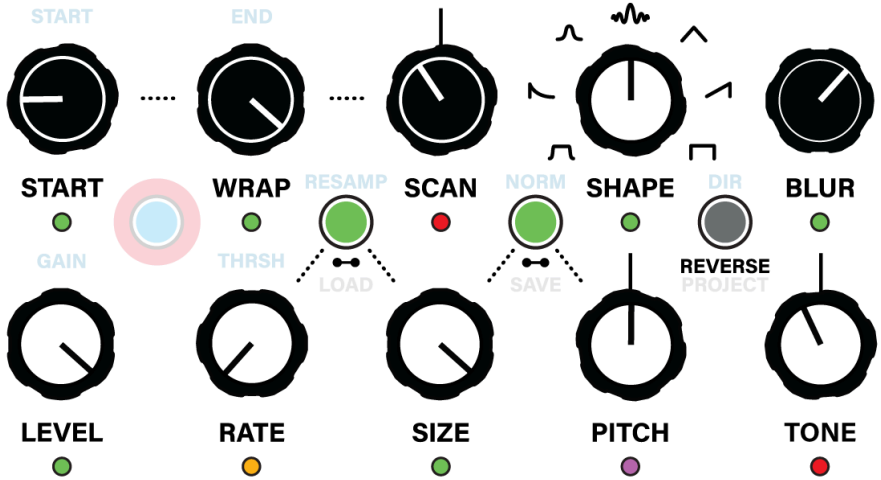
Your modulation attenuversion amounts are also set per Scene, and will morph along with the Scene's grain settings.

See **Mod** for more. ➜

Keep in mind, these transitions are applied to all of the grain parameters at once—**SIZE**, **PITCH**, **BLUR**, **etc**—*all* of them. Morph from stable positions to wild random and modulated unheard sounds,—all animated with just the **MORPH** fader and CV.

Home ⟩ Granular Engine — Multigrain Core

In Multigrain, Sounds played with the **SOUND** buttons or **GATE** input create streams of grains, rather than simply playing back the sample in its entirety. The granular engine shapes these grains, controlled with 3 groups of knobs and buttons in the middle of the module.



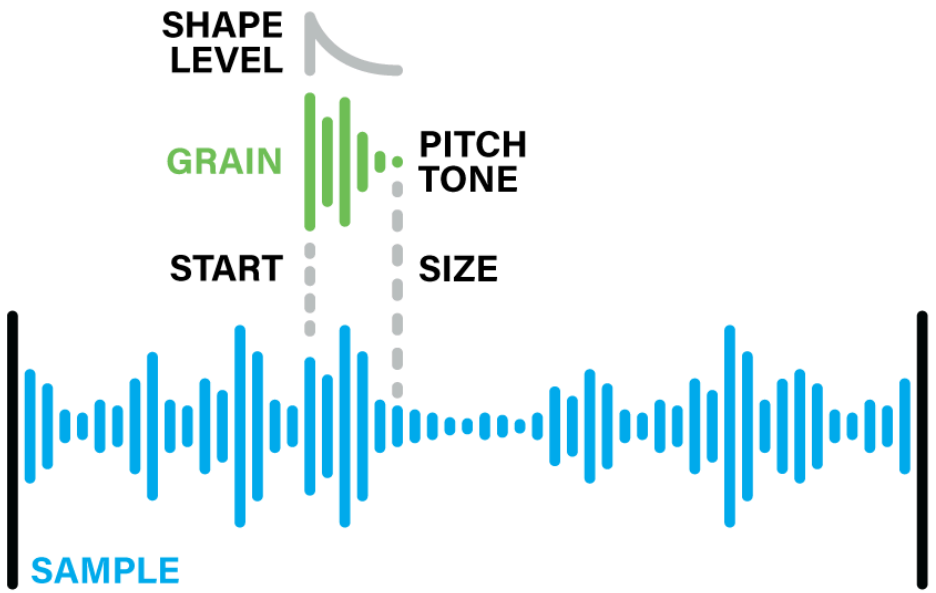
The three **BLACK KNOBS** on the top-left of the panel are the **Position Controls**. They determine where grains are generated from in the Sample or Looping Recorder (for Live Sounds).

The six **GREY KNOBS** are the **Grain Controls**. They describe the characteristics of each new grain as it is generated, at frequency set by the **RATE** control.

And finally, the black **BLUR** knob determines—*for each grain*—a send amount to the Blur effect.

With modulation, morphing, and movement, each grain can be wildly different—from short blips to continuous streams that overlap and merge together.

The Anatomy of a Grain



As mentioned near the start of this manual, grains are just small fragments of audio from a larger audio sample.

On Multigrain, grains are launched from a specific position in your sample or Live memory (**START**); grain lengths (**SIZE**) generally range from 20ms to 4sec; each grain can play at a different speed (**PITCH** / **REVERSE**); each has its own amplitude and envelope (**LEVEL** / **SHAPE**); and each one is filtered through its own 2-pole HP/LP filter (**TONE**).

Position Controls

The three **BLACK KNOBS** (highlighted below) are used to set the position and area of the sample or Live Memory from which grains are generated. Keep in mind that grains are generated from the Playing Sound.

START

The **START** knob sets the position in the sample where the grains will start from, ranging from the beginning of the sample to the end. With Live Sounds, you will process the most recent audio in Live Memory when **START** is fully CW.

WRAP

WRAP sets a boundary in which **SCAN** and specific random position modulation will occur. Use this to narrow your explorations to a specific area of your sample or Live Memory.

SCAN

SCAN advances the start point of each successive grain by a set distance through the area defined by **START** and **WRAP**. **SCAN** can move forwards (CW) or backwards (CCW) through the **WRAP** area. When **SCAN** is centered, the start position of each grain remains static.

By default the Scan distance will always reset to the **START** position when the **SOUND** button is pressed or a **GATE** is received, even when **LATCH** is active.

The **NEXT** input can be configured as a **RESET** input, decoupling the reset functionality from the **GATE** input. v1.2

See NEXT Input (RESET Mode) for more. ➜

Position Controls for Live Sounds

Live Sounds create grains from the Live Memory of the Looping Recorder.

The Granular Engine works in exactly the same way, but instead of using a fixed Sample, it uses the input audio that's being recorded to the Live Memory in real-time.

START

When Frozen, you will find that the **START** parameter works as you expect, with the oldest recorded audio at the beginning of the knob range, and newer audio at the end.

When Recording, **START** will track with the 'Record head', CW will track closest to it, moving further as you turn CCW.

With a greater Live Memory length, you may notice grains will take longer to pick up audio from the input when **START** is positioned further CCW.

SCAN / WRAP

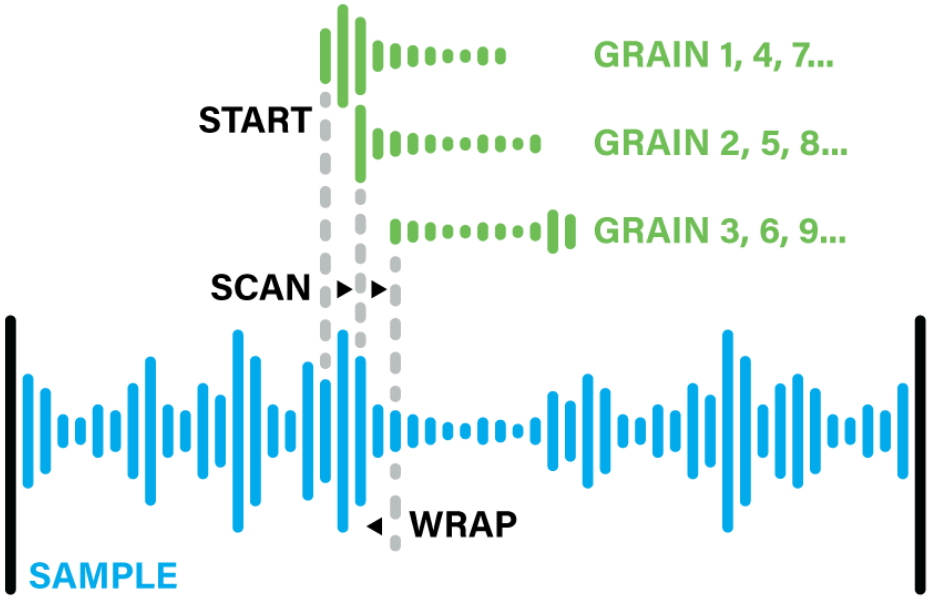
Further, **SCAN** and **WRAP** will apply further offsets to your grain position when following the 'Record Head' of the Looping Recording, weaving in and out.

START / WRAP / SCAN (Synced Live Sounds)

In any mode, the combination of **START**, **WRAP** and **SCAN** always determine the starting position of the Grain.

When SYNC is enabled on a Live Sound, the starting position will be quantized to a multiple of the incoming clock time on the **SYNC** input. v1.2

The Start of a Grain



In the diagram above, you'll see the application of **START**, **SCAN**, and **WRAP**. In this simplified example, grains are generated from a small area of the sample or Live Memory at an arbitrary **RATE** while the Sound is playing. Restarting the playback of a Sound will reset the scanned position to **START**.

Grain 1 is generated at the **START** position. **SCAN** is set in a forward direction, which advances the start position of each subsequent grain through the sample.

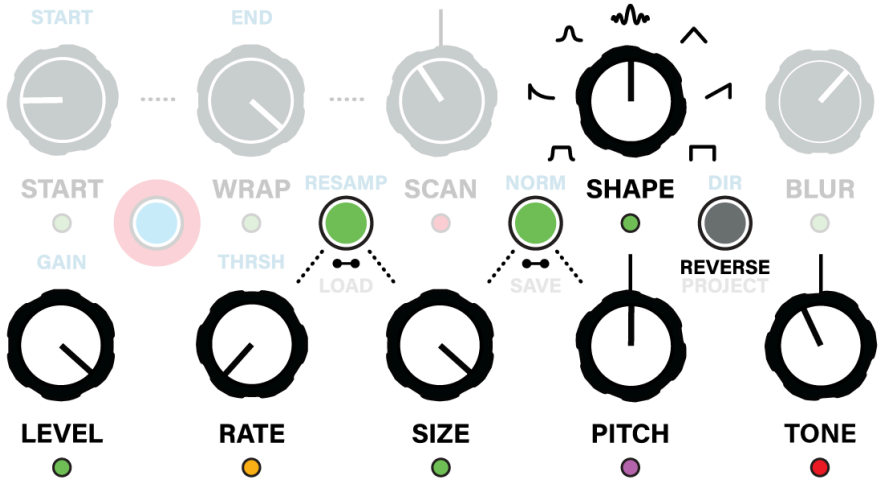
The scan distance accumulates for Grain 2 and 3, until it reaches the **WRAP** position, at which point the start position (advanced by scan) *wraps* back around to the **START**. The cycle continues while the Sound is played, generating grains 4, 5, 6 and 7, 8, 9. As parameters change, these relationships will shift, causing many more than 9 grains to overlap.

To better understand the relationships between the position controls, try this—**LATCH** a familiar Sound with **SCAN** in the center position, and listen to the grains repeat. Increase **SCAN** forward (CW) a small amount, and listen as your grains advance through the Sample. Now turn **SCAN** backwards (CCW) of center, and listen to the grains play back in reverse order of the original sample.

Grain Controls

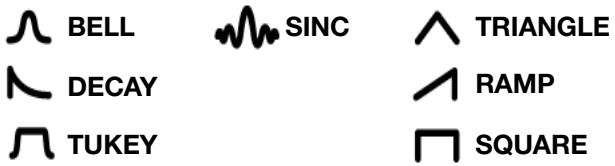
The six **GREY KNOBS**, plus a trio of buttons, determine the characteristics of the grains and the rate at which they are generated.

As each new grain is formed, all of its parameters are calculated when it's played, and are held for the duration of the grain. Any control changes and modulation will take place on the next grain. You could imagine a grain as a snapshot of the panel settings at the precise moment that it's formed.



SHAPE

Use **SHAPE** to determine the style of the amplitude envelope applied to the grain. There are 7 options to choose from—



SHAPE options are discrete, and do not morph from one shape to another. As with all parameters, the shape is determined as each grain is generated.

LEVEL

LEVEL sets the output volume of the grain.

TONE

Each grain has its own 2 pole HP/LP filter that applies a lowpass when **TONE** is CCW, or a highpass when **TONE** is CW. No filtering is applied when **TONE** is in the center position.

RATE (Unlinked)

The **RATE** knob sets the frequency at which grains are generated while a Sound is being played. Rate of grain generation ranges from 0Hz to 130.813Hz (C3).

When set to 0Hz (fully CCW), only a single grain will fire when a Sound is played. Retriggering the Sound will generate a new grain.

*Note: You will see that the behaviour of **RATE** can be modified using the **RATE–SIZE** link button between the **RATE** and **SIZE** knobs – described on the next page.*

RATE (SYNC)

RATE can be synced to an external clock using the **SYNC** input.

SYNC is enabled on the Alt Page with **ALT** + **SYNC**. If no input is detected at **SYNC** when enabled, **RATE** will operate as if **SYNC** is disabled.

When **SYNC** is enabled, the **RATE** control multiplies (CW) or divides (CCW) the clock at the **SYNC** input by values – 2, 4, 8, and 16. In the center position, **RATE** = x1 Clock.

The phase of **RATE** is not maintained when synced. Use the **GATE** Input to reset the phase. Sync timing is slewed internally and will lag behind slightly if you adjust the speed of your sync source (e.g. clock). This is intentional to avoid any abrupt changes in the rate of grain generation.

There are many ways to effectively 'Sync' Multigrain without using the **SYNC** feature using **NEXT**, **GATE**, **SELECT**, **MORPH** and the Assignable **CV**, have fun experimenting!

SIZE (Unlinked)

Use **SIZE** to set the length of the grain from 20ms to 4sec. When this control is centered, grain size is ~1sec.

*Note: You will see that the behaviour of **SIZE** can be modified using the **SIZE–PITCH** link button between the **SIZE** and **PITCH** knobs.*

*Note: As **RATE** is increased, **SIZE** may be automatically scaled down to maintain stability/quality.*

RATE–SIZE (Linked)

The **RATE–SIZE** link button changes the behaviour of the **RATE** knob.

RATE–SIZE is enabled per Sound, and applies to both Scenes.

When **RATE–SIZE** is linked, **SIZE** determines the base rate of grain generation—the smaller the grain size, the faster the rate.

The **RATE** control will now multiply the base rate from 1x (fully CCW) to 8x (fully CW)

When **RATE** is fully CCW (1x), a new grain will be generated at the end of the previous one, leaving no gaps between grains.

As you increase **RATE**, the grains will start to overlap.
For example, if your grain **SIZE** is 1sec, and **RATE** fully CW (8x), new grains will be generated every 125ms (⅛ Sec), causing them to overlap.

When SYNC and **RATE–SIZE** are both enabled, the **SIZE** of the grains will snap to the nearest division of the clock source at the **SYNC** input. **RATE** still acts as a multiplier, except in this case steps through discreet values from 1x to 8x.

SYNC is enabled on the Alt Page with ALT + SYNC.

See **Sync** for more. ➜

PITCH

The **PITCH** knob sets the playback speed of the grain audio. When centered, the grain audio at the original speed.

PITCH spans ±2 octaves. Since each octave doubles the rate of the previous octave, grains can be played back four times faster, or four times slower than that of the original audio.

Note: The maximum range of Pitch with modulation extends up to ±3 octaves.

The **PITCH** knob LED is *GREEN* at the original pitch and octave intervals. In any other position, it is *RED.*

You can fine-tune a Sound to adjust the center point of the **PITCH** knob. This is adjusted in the Alt Page.

See **Alt** for more. ➜

The **PITCH** knob is unquantized by default, but it can be linked to the Quantizer. When the Quantizer is enabled, the knob LED will always be *PURPLE*.

See **Quantizer** for more. ➜

SIZE–PITCH (Linked)

The **SIZE–PITCH** link button changes the behaviour of the **SIZE** knob.

SIZE–PITCH is enabled per Sound, and applies to both Scenes.

When **SIZE–PITCH** is unlinked, **SIZE** sets the grain size as a fixed length of time, regardless of the audio content.

When **SIZE–PITCH** is linked, **SIZE** sets the initial grain size as the amount of audio content. **PITCH** adjusts the playback speed, but it also adjusts the grain size to match the set amount of audio content.

SIZE–PITCH link examples—

*For these examples, consider that **SIZE** is set to 1sec*

1) When **PITCH** (1x) is centered, **SIZE** works out to the same length when linked or unlinked, therefore the grain size is 1sec.
2) When **PITCH** is set to one octave up, the audio is played through twice as fast, therefore the grain size is 0.5sec.
3) When **PITCH** is set to one octave down, the audio is played through at half speed, therefore the grain size is 2sec.

SIZE–PITCH link is useful when you want to change the **PITCH** of a specific vocal phrase, nature sound, or percussion hit, while maintaining the same audio content within the grain.

Since grain size is scaled by **PITCH**, much longer and shorter grains are achievable at extreme pitch settings.

RATE–SIZE–PITCH (Linked)

When **RATE–SIZE** and **SIZE–PITCH** are both linked, you will notice a chain effect in that—

Adjusting **PITCH** will affect the grain **SIZE** and **RATE.** Higher **PITCH** equals smaller **SIZE** and faster **RATE**.

SIZE will affect **RATE** as described in **RATE-SIZE** linked, but it does not affect the **PITCH**.

REVERSE

REVERSE toggles the playback direction of the audio in the grain. This does not affect the **SHAPE** or **SCAN** direction.

REVERSE is enabled per Scene.

PING-PONG

Ping-Pong mode changes certain playback behaviours in Multigrain, and can be considered a bit more of an experimental mode.

Ping-Pong is enabled per Sound, and applies to both scenes.

Long press **REVERSE** to activate **Ping-Pong** mode—the button LED will *FADE* when **Ping-Pong** is active. You can still toggle **REVERSE** when **Ping-Pong** is enabled.

By default **SCAN**, **WRAP**, and the grain playheads will wrap around when they reach their various start and end points. When **Ping-Pong** is enabled, these markers will change direction instead of wrapping around. Your Grains will start scanning in the opposite direction, and audio will start to play in reverse until it reaches the original start point, at which point it will play forwards again.

Blur — End of chain Reverb

This is Multigrain's built-in reverb effect.

BLUR

As you increase **BLUR** (CW), the reverb send amount for each grain increases as well as the overall decay of the reverb itself.

If **THRU** is enabled, the input will also be sent through the Blur effect at the same level as the Sound that is currently playing.

See Thru for more. ➜

Granular Engine Shortcuts

Control All Scenes

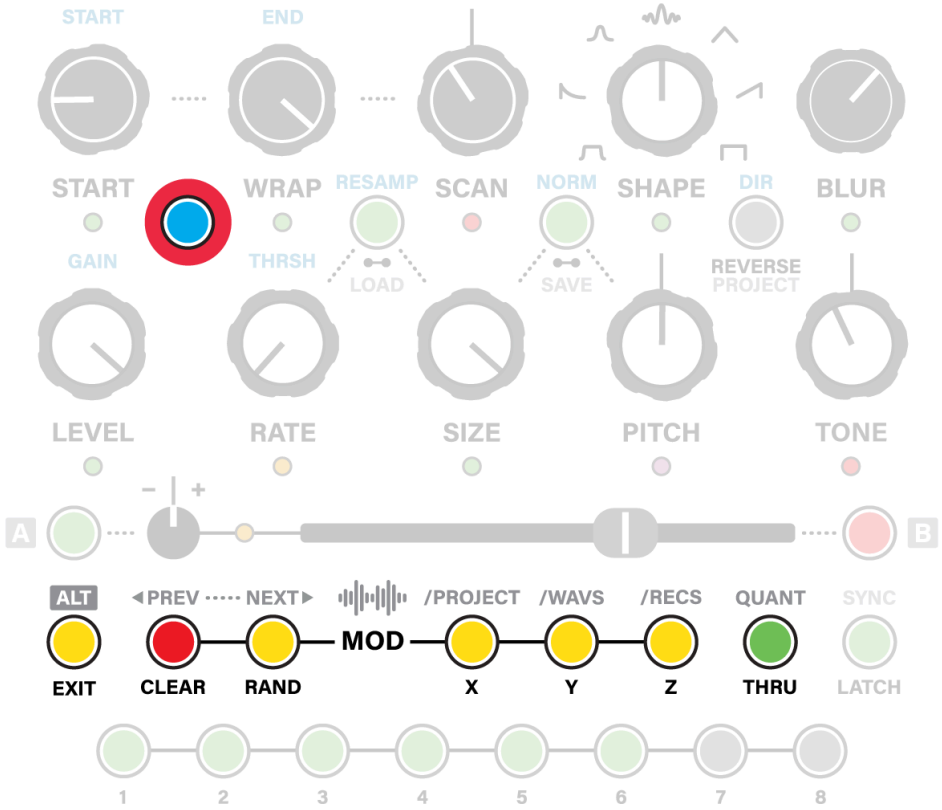
Hold either Scene button A or B, both will start *BLINKING*. Continue to hold the Scene button and adjust a grain engine parameter. The parameter will change to the same setting in both Scenes of the active Sound.

Control All Sounds

Hold **LATCH**, the occupied Sound buttons will start to *BLINK*. Continue to hold **LATCH** and adjust a grain engine parameter. The parameter will change to the same value in the active Scene across all Sounds.

Control All - Scenes & Sounds

Hold **LATCH** and either Scene button A or B. The Scene & Sound buttons will all start to *BLINK*. Adjust a parameter, and it will change to the same value across all Sounds & Scenes.



Input Pass-thru

The **THRU** button allows audio from the module inputs to pass through to the audio outputs. The audio input trim is adjusted on the Sampling Settings page. By default, the input gain is 1x (unity).

Audio through the module can be sent to the Blur effect, as determined by **THRU** setting and the **BLUR** control for the currently playing Sound.

If an empty Sound is selected, you can still set the **BLUR** amount for the audio input. The amount of **BLUR** applied on empty Sounds is saved with your preset. v1.2

THRU

Press the **THRU** button to toggle audio passthrough on or off.

When enabled, this allows audio to pass from **IN L** + **IN R** to **OUT L** + **OUT R**. The button LED is *LIT GREEN* (default) or *RED* when enabled. The input trim for **IN L** + **IN R** can be set from the Sampling Settings Page.

See Sampling Settings for more. ➜

LATCH + THRU — Blur Bypass

You can choose whether audio through from **IN L** + **IN R** is sent to BLUR or not.

Hold **LATCH** and press **THRU** to toggle this behaviour. The **THRU** LED will turn *RED* when bypassing Blur, and *GREEN* when sending to Blur. v1.2

LATCH + THRU (Hold) — Lock

You can lock your **THRU** state to avoid accidentally switching it on / off in the heat of the moment. This will also lock the Blur Bypass setting.

Hold **LATCH** and **THRU** for 1 sec to toggle on or off.
The **THRU** LED will *FADE PURPLE* when locked. v1.2

Sampling

SAMPLE

The SAMPLE button—the one in the red circle—is used to capture audio for granular processing.

When the Sample Recorder is active, you can sample external audio, resample Multigrain's outputs, or access the 32 second 'Always Listening' memory.

See Sample Recorder for more. ➜

When the Looping Recorder is active, you can use this button to Freeze/Unfreeze the recorder, as well as capture samples from it. v1.2

See Looping Recorder for more. ➜

Alternate Functions

ALT / EXIT

The ALT **/ EXIT** button accesses the Alt Page, which opens up more settings and Pages on Multigrain.

You can also use this button to exit any Page back to Home. It will *FADE RED* when this is the case.

See **ALT** for more. ➜

Clear / Reset

CLEAR

The **CLEAR** button opens the Clear Page. You can open this to clear or reset Scenes, Sounds and Modulation assignments.

See **Clear** for more. ➜

Modulation

RAND / X / Y / Z

Buttons **RAND**, **X**, **Y**, and **Z** are your Modulation Assignment Pages. Use them to assign modulation from CV inputs, or from the internal random source.

See **Mod** for more. ➜

Mod Pages — *RAND / X / Y / Z*

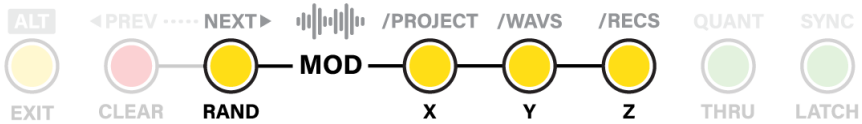
Multigrain has 4 assignable modulation sources: **RAND** (Random) / **X** / **Y** / **Z**.

Each modulation source on Multigrain can be applied, and attenuverted, to any and all of the **KNOB** parameters, as well as the **REVERSE** toggle.

X / **Y** / **Z** are CV inputs located on the 2nd row of jacks at the top of the module. ±5V will sweep the range of any parameter.

RAND is a bipolar random modulation source, internally generated per parameter with each grain.

Each Scene has its own modulation amounts, using **MORPH** you can smoothly transition to different states of modulation.



RAND / X / Y / Z

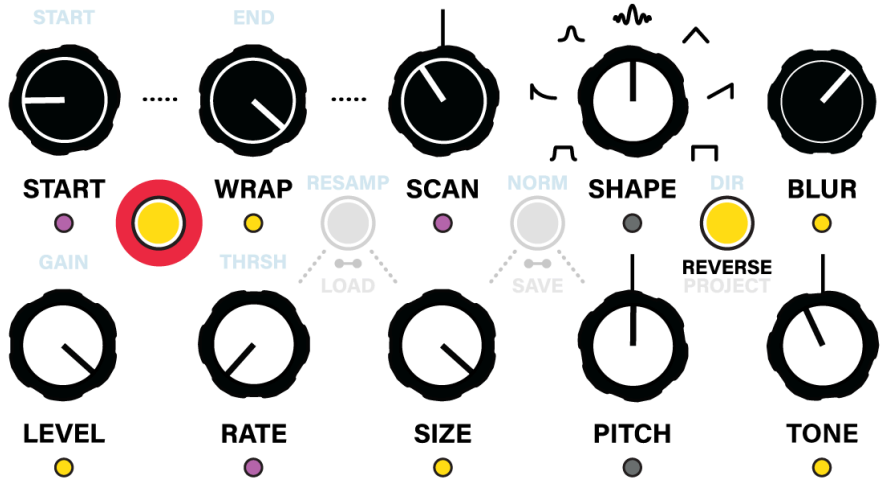
Press either the **RAND** / **X** / **Y** / **Z** button to open the associated Modulation Assignment Page (Mod Page for short). The button will *RAPIDLY BLINK YELLOW* to show it's selected.

Once you have finished assigning modulation, press **EXIT** to return to the Home Page.

To momentarily access a Mod Page, hold the **RAND** / **X** / **Y** / **Z** button, make your changes, then release to return to the Home Page.

All four of the Mod Pages function in the same way.

Mod 〉Assigning Modulation



When a Mod Page is active, the **10 KNOBS** act as attenuverters for their given parameters.

Turn any **KNOB** to either side of the center position to assign modulation to it, CCW (Counter Clockwise) for negative amounts, and CW (Clockwise) for positive. The **Knob LEDs** use brightness to display modulation depth, and colour to show modulation polarity, *PURPLE* for negative modulation, and *YELLOW* for positive.

The **REVERSE** button is also assignable to modulation. It is either toggled on (*LIT YELLOW*), or off (*DIM YELLOW*).

Modulation of **REVERSE** is based on the source voltage exceeding a 2.5V threshold, at which point it will invert the Scene's **REVERSE** setting.

Looping Recorder Only

Modulation can be assigned to ⏺ **SAMPLE** to toggle Freeze/Unfreeze on the Looping Recorder. Modulation is based on the source voltage exceeding a 2.5V threshold, at which point it will invert the Freeze state of the Looping Recorder.

When **SYNC** is enabled, random toggles will be synced to the clock rate. v1.2

Note: This toggle is applied per Preset, not to individual Scenes or Sounds.

See Looping Recorder for more. ➜

Mod ⟩ Random Modulation Details v1.2

RAND is a random modulation source, internally generated per parameter with each grain (like sample and hold). The random source for *most* parameters is a unipolar value from 0% to 100% (of the Parameter Range). A unipolar source allows you to control the polarity of the Random modulation using attenuverter-style assignments, in positive or negative directions.

Let's use **SIZE** for example—

a) When you apply **RAND** in a *positive* direction (CW from noon), the size of each grain will randomly get *longer* from the current **SIZE** setting.

b) Conversely, if you apply **RAND** in a *negative* direction (CCW from noon), the size of each grain will randomly get *shorter* from the current **SIZE** setting.

Note: In Multigrain v1.2, the Random Source values changed from bipolar to unipolar for more expressive assignment. You can revert to the old behaviour on the System Settings Page. v1.2

See System Settings Page for more. ➜

RAND — Assign Behaviours

Random modulation comes in a lot of flavours – noise, sample and hold, probability, etc. With this in mind, we figured that certain parameters on Multigrain could benefit from multiple types of random modulation. While the user interface for assigning random modulation is the same for all Parameters, the CCW behaviours associated with some Parameters will be different.

We've taken care of the specifics, so you can just have fun assigning **RAND** and listening for the individual effect! For those that need to know more, we've created a table outlining what random modulation is doing to each parameter. SYSTEM Refers to the **Random Source System Setting**, by default this is **Unipolar (0V to +5V)**, but can be toggled to **Bipolar** (-5V to +5V).

See System Settings Page for more. ➜

Param	Random Mod CCW Assign	Random Mod CW Assign
START	Random Source: **Unipolar (0V to +5V)** Attenuator sets the probability of random modulation from 0 to 100% *The **WRAP** amount will act as an Attenuator from 0 to 100%*	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to 100%
WRAP SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
SCAN SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
SHAPE SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
BLUR SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
LEVEL	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to ±100% is *applied with opposite polarity to the left & right channels*	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to 100%
RATE	Random Source: **Unipolar (0V to +5V)** Attenuator sets the probability of the Trigger happening, from 100% to 3%	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to 100%
SIZE SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
PITCH SYSTEM	Attenuation from 0 to -100%	Attenuation from 0 to 100%
TONE	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to ±100% is *applied with opposite polarity to the left & right channels*	Random Source: **Bipolar (-5V to +5V)** Attenuation from 0 to 100%

Unique Mod Behaviours

Some controls have a unique function when modulation is assigned. This section describes these behaviours, and includes more detail regarding the Random Mod behaviours on the previous page.

SAMPLE (Looping Recorder Only)

RAND / **X** / **Y** / **Z** can be assigned to Freeze/Unfreeze the Looping Recorder. When **SYNC** is enabled, random toggles will be synced to the clock rate.

PITCH V/OCT

For volt-per-octave control of the **PITCH** parameter, assign 100% modulation depth (fully CW) from **X**, **Y** or **Z**.

RAND on LEVEL or TONE (Panned Modulation)

When **RAND** is applied to **LEVEL** or **TONE** in a CCW direction, random modulation is applied with opposite polarity to the left & right channels—creating a random panning stereo effect.

RAND on START (aka Spray)

A control commonly found on Granular Synthesizers is 'Spray'. Spray is a random amount applied to the start position of a grain. Multigrain does not have a dedicated control for this, since you can achieve this effect using modulation from **RAND**.

Two flavours of Spray are included—

1) RAND modulation applied to **START** in a CW direction randomizes the **START** position, within an area set by attenuation amount.

2) RAND modulation applied to **START** in a CCW direction sets a probability that the start of a grain will be randomly selected from any section of the **WRAP** area. Use this modulation along with **SCAN**, **WRAP**, and **SIZE** to limit your exploration to a narrow area of the sample or Live Memory.

RAND on Rate

When **RAND** is applied to Rate in a CCW direction, the amount of attenuation sets a probability of a grain being generated at the current rate. Probability is 100% when the attenuator is positioned at noon (no random applied), and 3% when fully CCW. v1.2

Mod Shortcuts

Randomize X, Y or Z

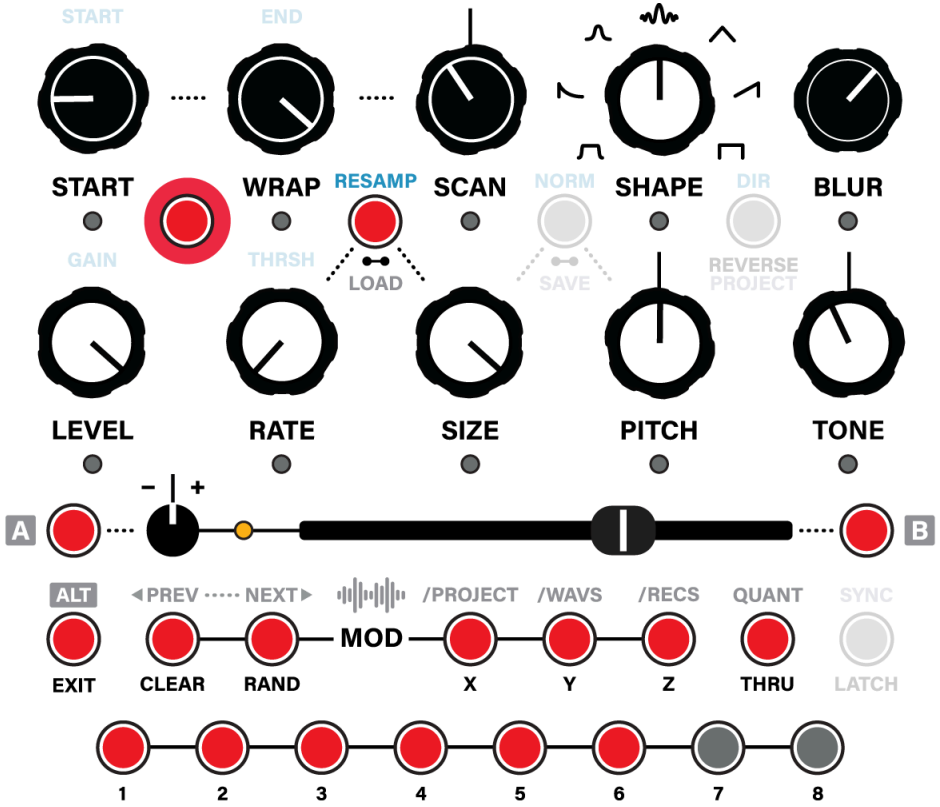
Hold **RAND** and press **X**, **Y** or **Z** to randomize their modulation assignments.

Randomize RAND

Hold **RAND** and press ALT to randomize the random modulation assignments.

Clear Page — *Hit the Reset Button*

You can use **CLEAR** to clear/reset Sounds, Scenes, Modulation assignments, and the 'Always Listening' memory.



CLEAR

To access the Clear page, press **CLEAR**. Any buttons with functions that can be cleared will turn *LIT RED*. They will appear *DIM RED* or *OFF* if they are already cleared or empty.

Clear Options

Clearing a **SOUND 1-8** once, will clear its scenes, settings and modulation…
…Clearing a **SOUND 1-8** *again*, will clear its sample assignment. v1.1
Clearing a **SCENE** will reset the panel parameters for that Scene only.
Clearing **RAND**, **X**, **Y**, or **Z** will clear modulation for the active Scene.
Clearing **SAMPLE** will clear any audio in the 'Always Listening' memory.
Clearing **LOAD** will load the Init Preset with empty Sounds. v1.1
Clearing QUANT will clear and disable the Quantizer for the current Sound.

Safe Clear

In the Clear Page, press the button of the item you want to clear – it will start to *BLINK RAPIDLY*. Press again to confirm clear. *This action cannot be undone*.

To cancel, press **CLEAR**, or any other button.

*Note: Clearing a **SOUND** will not delete samples from your microSD card. These remain in the folders on the microSD card.*

To exit the Clear Page, press **EXIT**.

Quick Clear

While holding **CLEAR**, press the button of the item you want to clear, this will clear instantly, without asking you to confirm. *This action cannot be undone*.

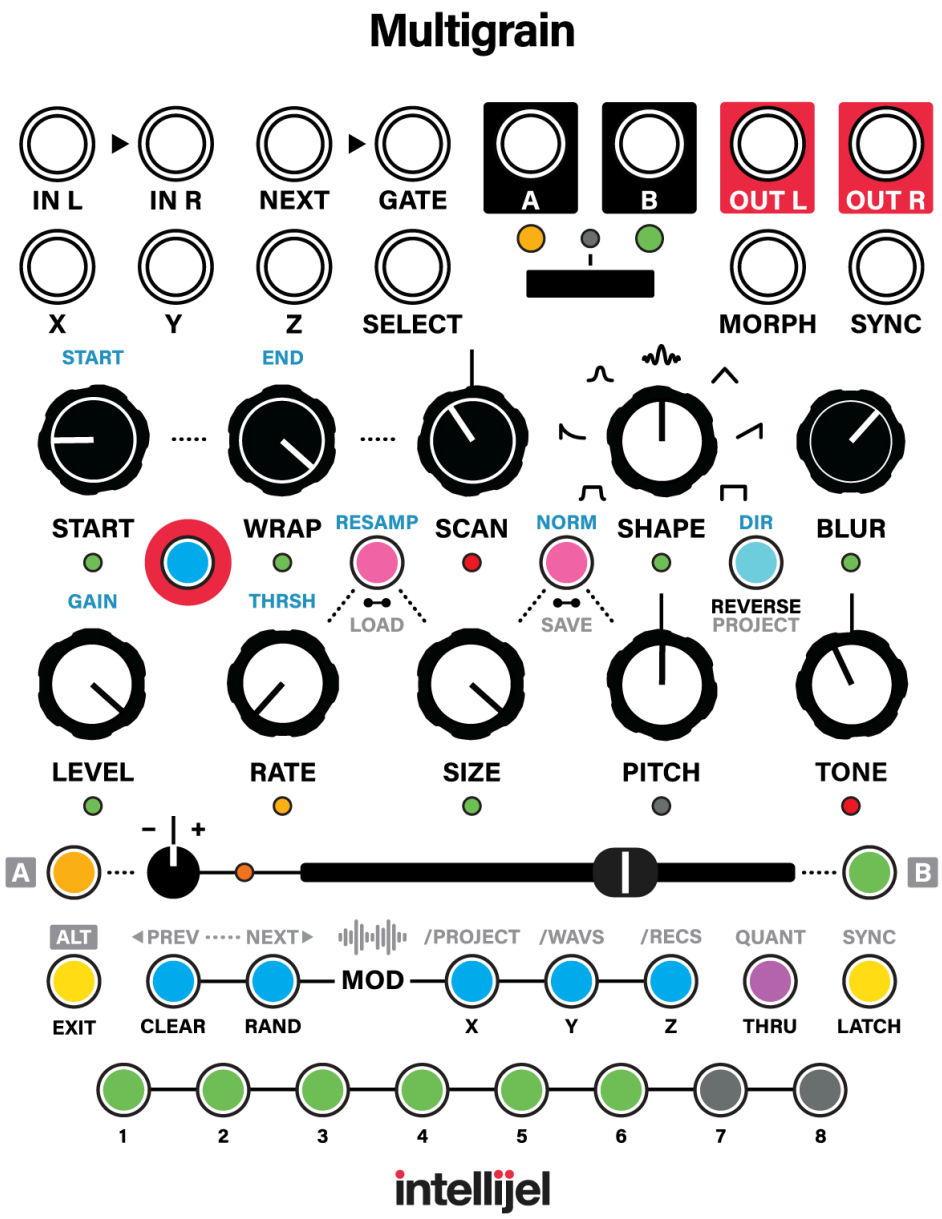
Release **CLEAR** to return to the Home Page.

Modulation Clear

When the **CLEAR** is pressed in a Mod Page, you can also clear individual modulation assignments by turning the knob when **CLEAR** is active. You will see the **Knob LED** turn *OFF*.

Note: This does not apply to mod assignments for Freeze/Unfreeze. This is set per Preset and must be toggled manually from the appropriate Mod Page.

Alt Panel



Knobs

PITCH Fine Tune Pitch for current Sound

*The other **9 KNOBS** and **MORPH** will function as they do on the Home Page*

Buttons

LOAD Opens Load Preset Page

SAVE Opens Save Preset Page

PROJECT Opens Project Page

A Toggles **A** Output Mode

B Toggles **B** Output Mode

ALT / EXIT Enter / Exit Alt Page

PREV Select previous sample in folder

NEXT Select next sample in folder

/PROJECT Select /PROJECT sample folder

/WAVS Select /WAVS sample folder

/RECS Select /RECS sample folder

QUANT Open Quantizer Page

SYNC Toggles sync for current Sound

*The **SOUND 1-8** buttons will function as they do on the Home Page*

Alt Page — *Under the Hood*

The Alt Page enables access to additional Pages, as well as a few extra settings.

To access the Alt Page, press ALT.

You'll notice a change of colour across the button LEDs as their function changes. Buttons that are *FADING* will take you to another Page.

Except for **PITCH**, the rest of the **KNOBS** and **SOUND 1-8** buttons act the same as they do on the Home Page.

To momentarily access the Alt Page, hold ALT, make your changes, then release to return to the Home Page.

Alt 〉Settings

PITCH

On the Alt Page, the **PITCH** knob becomes a **Fine-Tune** control (±7 semitones) for the active Sound. **Fine-tune** is independent of the **PITCH** control from the Home Page, and is not affected by Quantization.

Fine-Tune can be helpful to adjust the base or root pitch of Sound relative to other Sounds you are exploring.

The **PITCH** LED indicates whether Fine-Tune is applied. *YELLOW* if pitched up (CW), *PURPLE* if pitched down (CCW), or *OFF* when no **Fine-Tune** is applied.

To lock in with the Quantizer settings, we recommend fine-tuning any pitched audio to C where possible.

SYNC

On Multigrain you can sync the overall rate of the grains with a clock source patched into the **SYNC** input. Press SYNC on the Alt Page to toggle on (*LIT YELLOW*) or off (*DIM YELLOW*).

See **RATE (Synced)** for more. ➜

For Live Sounds, **SYNC** will also quantize the starting position of a Grain to a multiple of the incoming clock time on the SYNC input.

See **START / WRAP / SCAN (Synced Live Sounds)** for more. ➜

A / B CV Output Modes

Multigrain has two assignable modulation outputs which generate CV based on your granular explorations.

On the Alt Page, A / B buttons assign the function of the **A** & **B** modulation outputs. Press repeatedly to toggle through the mod output options.

Colour coding indicates the modulation type—

GREEN	Morph Fader position with modulation.	**A** Default
AMBER	Every new grain creates a trigger.	**B** Default
BLUE	Grain envelope output, mixed if grains overlap.	
MAGENTA	Envelope follower based on the input signal.	
RED	Envelope follower based on the output signal.	
WHITE	Random Sample & Hold triggered by grains.	
CYAN	Pitch value of the latest grain. v1.2	

Alt ⟩ Pages

<PREV / NEXT> /PROJECT /WAVS /REC

These five buttons will bring you to the Sample Loader Page, as well as perform their function – explained further in the Sample Loading section of this manual.

See **Sample Loading** for more. ➜

QUANT

The **QUANT** button will bring you to the Pitch Quantizer Page.

On the Alt Page, the **QUANT** button is *FADING PURPLE* when Quantization is enabled and *DIMLY FADING PURPLE* when disabled.

See **Quantizer** for more. ➜

SAVE / LOAD

On the Alt Page, the **SAVE** and **LOAD** buttons enter the Save and Load Preset Pages.

See **Presets** for more. ➜

PROJECT

On the Alt Page, the **PROJECT** button enters the Project Page.

See **Projects** for more. ➜

PROJECT (Hold for System Settings)

On the Alt Page, holding **PROJECT** for 4 Sec button enters the System Settings Page.

See **System Settings Page** for more. ➜

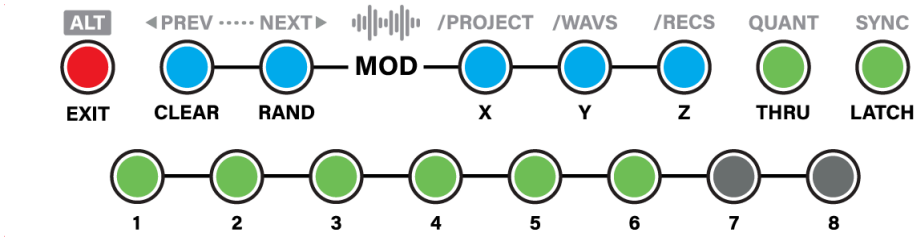
SAMPLE

On the Alt Page, the **SAMPLE** button enters the Sample Settings Page.

See **Sampling Settings** for more. ➜

Sample Loading Page

In Multigrain, the Sample Loading Page lets you browse and load samples to the **SOUND** buttons for creating grains.



The five BUTTONS for the Sample Loading Page are labelled either side of the grey waveform icon on the Multigrain Panel, above the **MOD** label.

Press ALT to open the Alt Page, then press any one of the Sample Loading buttons to open the Sample Loading Page *and* perform their action (see more in the button descriptions.)

The Sample Loading buttons replace **CLEAR**, **RAND**, **X**, **Y**, and **Z** until you press **EXIT.** These buttons will also turn *BLUE* to indicate the Sample Loading Page is active. The rest of Multigrain will revert to the Home Page functions.

Samples can be loaded from 3 folders – /WAV, /RECS**,** and /PROJECT. You can load the eight Sounds with Samples from a mixture of folders.

The /WAV and /RECS folders are globally accessible from any Project. Each Project has its own /PROJECT folder to keep project-specific Samples together, and allow more space for the global folders. More about Projects later.

See Projects for more. ➜

In the Sample Loading Page, you can switch between Sounds and swap out Samples instantly, without needing to leave the page. Press or **LATCH** the **SOUND** button to preview Samples through a Sound's grain settings.

If you want to select a different Sound silently (without triggering it), you can also hold **LATCH** while pressing **SOUND 1-8**.

/PROJECT /WAVS /RECS

Press or **LATCH** the selected **SOUND** button to preview Samples through a Sound's grain settings as you surge through the samples

Pressing one of the three /FOLDER buttons will select the folder to load Samples from for the active Sound, it will immediately load a sample from that folder.

/PROJECT	Current Project Folder	/Multigrain/PROJECT01
/WAVS	Global sample pool	/Multigrain/WAVS
/RECS	Samples recorded on Multigrain	/Multigrain/RECS

Samples in the /PROJECT and /WAV folders are indexed alphabetically.

Samples in the /RECS folder are ordered chronologically, from newest to oldest.

Samples in the /WAV and /RECS folders are available in any Project.

If a /FOLDER button is *OFF*, the folder contains no Samples and it cannot be selected.

See File Structure for more. ➜

<PREV / NEXT>

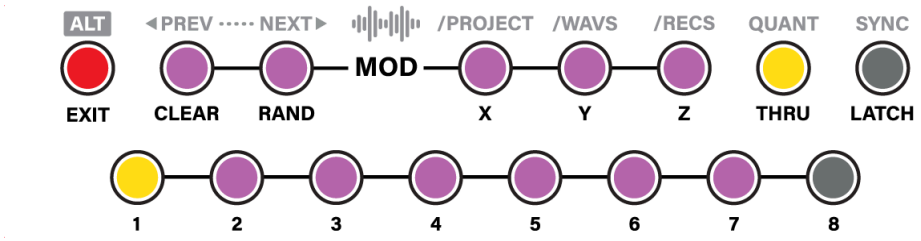
Press or **LATCH** the selected **SOUND** button to preview Samples through a Sound's grain settings as you surge through the samples

Use the <PREV / NEXT> navigation buttons move through samples in the selected folder. If the <PREV / NEXT> are *OFF*, you have reached the beginning or end of the folder.

Long press < PREV / NEXT> to advance 5 Samples in one go.

Quantizer Page

The Quantizer allows you to limit the **PITCH** of grains to a user defined 12-TET Scale.



When the Quantizer Page is active, 12 of the lower buttons become the 12 **NOTES** of a single octave keyboard. **CLEAR**, **RAND**, **X**, **Y**, and **Z** represent the 'Black keys', and **SOUND 1-7** are the 'White keys'.

To access the Quantizer page, press ALT, then press QUANT.

To exit the Quantizer, press **EXIT**.

The Quantizer is a per Sound setting, and applies to both Scenes.

You can use **Fine-Tune** to adjust your pitch outside of the Quantizer Scale.

See Fine-Tune for more. ➜

NOTES (12)

Press each **NOTE** to toggle it on or off in your scale.

The Quantizer is enabled when at least one **NOTE** is active, and it is disabled when no **NOTES** are active.

The root note is *LIT YELLOW* and other quantized notes are *LIT PURPLE*. Notes are *DIM* when inactive.

Long press a **NOTE** to select it as the new **ROOT NOTE** of your scale. All the other quantized **NOTES** will shift to maintain the same interval from the **ROOT NOTE**.

For those looking for perfect Chromatic control and modulation of a Sound, enable all **NOTES** on the Quantizer Page and set **X**, **Y**, or **Z** to 100% Mod depth to the **PITCH** knob.

QUANT

Press QUANT on the Quantizer Page to toggle between two options for Quantization—

1) **PITCH Knob + Mod** — When the QUANT button is *DIM YELLOW* on the Quantizer page, the **PITCH** knob and modulation assigned to it are both quantized. In this mode, the **PITCH** LED is *PURPLE*

2) **PITCH Mod Only** — When the QUANT button is *LIT YELLOW* on the Quantizer page, quantization is applied to pitch modulation only. The **PITCH** operates as usual with an unquantized ±2 octave range. Any modulation applied to **PITCH** will snap to the active notes in the Quantizer. In this mode, the **PITCH** LED is *GREEN* or *RED* (same colours as with unquantized operation).

Quantizer Shortcuts

Quick Access

From the Home Page, Long press QUANT to quickly access the Quantizer.

Copy Quantizer Notes across Sounds

On the Alt Page, select the **SOUND** to copy the Quantizer notes. Then, hold QUANT and press the destination **SOUND 1-8** button to paste. v1.1

Edit Quantizer Settings across All Sounds

From the Quantizer Page, hold **LATCH** while pressing the **NOTE** or QUANT to apply the related Quantizer settings to all Sounds. v1.1

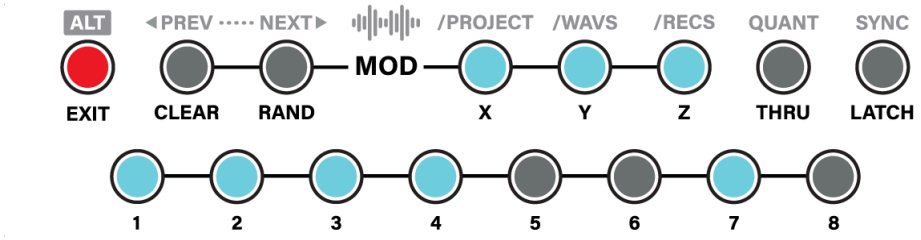
Project Page — *Switching Projects*

In Multigrain, a Project contains Presets, Samples, and an Autosaved state. The definition of a 'Project' is open to interpretation; it could be a single track, a live set, or a whole album. You may want to isolate a set of Samples for a specific idea, this is a great use of Projects.

Ultimately you can consider a Project as your 'Working Folder'. On the microSD card, it will appear as Multigrain/PROJECTXX.

Multigrain Supports up to 48 Projects — six banks of eight.

See File Structure for more. ➜



To switch Projects open the Project Page by pressing ALT, then press PROJECT – also labelled **REVERSE** (not to be confused with the folder button labelled /PROJECT). The button will *BLINK RAPIDLY*.

To exit the Project Page, press **EXIT**.

X / Y / Z

Use **X**, **Y** and **Z** buttons to select the Bank. Each button allows access to two Banks, the *BLINKING* Bank and *RAPID BLINKING* Bank.

BUTTON	*BLINKING*	*RAPID BLINKING*
X	**Bank 1 (X)**	**Bank 4 (XX)**
Y	**Bank 2 (Y)**	**Bank 5 (YY)**
Z	**Bank 3 (Z)**	**Bank 6 (ZZ)**

Press either the **X**, **Y** and **Z** button once to switch between Banks 1-3, and a second time to switch between Banks 4-6.

1-8

The numbered buttons **1-8** represent the eight Projects in each Bank. Press **1-8** to immediately switch to that Project.

Note: Don't worry if you switch Projects without saving your Preset first, the Autosaved state has got you covered!

Bank	*Projects*
Bank 1 (X)	**Project 1-8**
Bank 2 (Y)	**Project 9-16**
Bank 3 (Z)	**Project 17-24**
Bank 4 (XX)	**Project 25-32**
Bank 5 (YY)	**Project 33-40**
Bank 6 (ZZ)	**Project 41-48**

A *LIT* **1-8** button indicates that a Project folder exists. If the button is *OFF*, that Project does not exist, but will be created when you switch to it.

A *BLINKING* **1-8** button indicates the currently active Project.

Project Shortcuts

Switch Quickly Between Preset Save, Preset Load and Project Pages.

When you're on the Project, Preset Save, or Preset Load Pages – you can quickly switch between them by pressing **LOAD**, **SAVE** or **PROJECT**. You don't need to press ALT again.

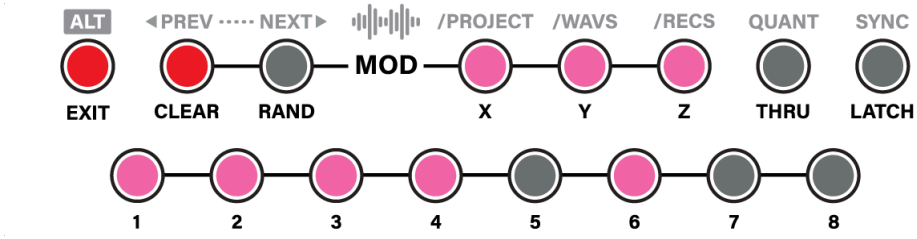
Preset Page – Loading and Saving

A Preset comprises eight Sounds with associated Scenes settings and Sample assignments.

An additional Autosave Preset is saved regularly to the current Project. This is the Preset that automatically loads when you power on the module or switch Projects.

You can create up to 48 Presets in each Project — six banks of eight.

See File Structure for more. ➜



To manage Presets, press ALT, then press LOAD or SAVE to open the Preset Load or Preset Save Page. The active Page button will *BLINK RAPIDLY*.

To exit a Preset Page, press **EXIT**.

X / Y / Z

Use **X**, **Y** and **Z** buttons to select the Bank, each button allows access to two Banks, the *BLINKING* Bank and *RAPID BLINKING* Bank.

BUTTON	*BLINKING*	*RAPID BLINKING*
X	**Bank 1 (X)**	**Bank 4 (XX)**
Y	**Bank 2 (Y)**	**Bank 5 (YY)**
Z	**Bank 3 (Z)**	**Bank 6 (ZZ)**

Press either the **X**, **Y** and **Z** button once to switch between Banks 1-3, and a second time to switch between Banks 4-6.

1-8

The numbered buttons **1-8** represent the eight Presets in each Bank. Press **1-8** to LOAD or SAVE that preset, depending on which Page you are on.

Bank	*Presets*
Bank 1 (X)	**Preset 1-8**
Bank 2 (Y)	**Preset 9-16**
Bank 3 (Z)	**Preset 17-24**
Bank 4 (XX)	**Preset 25-32**
Bank 5 (YY)	**Preset 33-40**
Bank 6 (ZZ)	**Preset 41-48**

A *LIT* **1-8** button indicates a Preset is saved to it. If the button is *OFF*, there is no saved Preset. A *BLINKING* **1-8** button indicates the 'Latest Preset' that was Saved or Loaded.

Preset ⟩ Save

When on the Save Preset Page, SAVE will *BLINK RAPIDLY*—

X / Y / Z

Select the Bank you want to save to using **X**, **Y** and **Z** buttons as described.

1-8 SAVE

These actions cannot be undone!

To save to an empty Preset, locate a **1-8** button that's *OFF*, and press it once. The Preset will immediately save you'll return to the Home page.

To overwrite an existing Preset, press a *LIT* or *BLINKING* **1-8** button once to select it. The button will *BLINK RAPIDLY*. Press it again to confirm overwrite. Saving will exit to the Home page.

The 'Latest Preset' marker will be updated in both cases.

You cannot Save over a Locked Preset. See Preset ⟩ Locking for more. ➜

Preset ⟩ Load

When on Load Preset Page, **LOAD** will *BLINK RAPIDLY*—

X / Y / Z

Select the Bank you want to load from using **X**, **Y** and **Z** buttons as described.

1-8 LOAD

This action cannot be undone! Before loading a Preset, ensure that you've saved the current Preset if you intend to keep it.

Press any button **1-8** that is *LIT* to load a Preset. Loading a Preset will immediately exit to the Home page and update the 'Latest Preset' marker.

Selecting an empty Preset (LED is *OFF*) opens an initialized Preset that clears all previous Sounds and Preset settings.

Preset ⟩ Clear

These actions cannot be undone!

CLEAR

With the Preset Load or Preset Save Page open, Press **CLEAR**, it will *BLINK RAPIDLY*.

To exit Clear, press **EXIT**.

X / Y / Z

Select the Bank you want to clear a Preset from using **X**, **Y** and **Z** buttons as described.

1-8 CLEAR

Press the **1-8** button with the Preset you want to clear, it will start to *BLINK RAPIDLY*. Press again to confirm the clear.
To cancel, press **CLEAR**, or any other button.

Preset ⟩ Locking

When on the Load or Save Preset Pages, you can lock your Presets one by one to ensure you do not delete or overwrite them. v1.1

1-8 LOCK

Long Press the selected Preset **1-8** button for ~4sec to lock. The button will show in *PURPLE* when locked, long press for ~4sec again to unlock.

Preset Shortcuts

Switch Quickly Between Preset Save, Preset Load and Project Pages.

When you're on the Project, Preset Save, or Preset Load Pages – you can quickly switch between them by pressing **LOAD**, **SAVE** or **PROJECT** without pressing ALT again.

Quick Clear

With the Preset Load or Preset Save Page open, hold **CLEAR** and press button **1-8** with the Preset you want to Clear. This will clear instantly, without asking you to confirm. Release **CLEAR** to return to the Preset Page.

Quick Save — *This action cannot be undone!*

Long press **SAVE** from the Home page. This will immediately overwrite the Latest Preset slot. The **SAVE** button will *BLINK PINK* to confirm the save.

Quick Reload — *This action cannot be undone!*

To Reload the Latest Preset, long press **LOAD** from the Home page. The previously saved version of the Preset will immediately load, and the **LOAD** button will *BLINK PINK* to confirm.

Quick Reload is a safe way to make drastic changes to your Sounds, with the ability to quickly return your original Preset – just remember to save the Preset starting point before exploring!

Quick Init Preset — *This action cannot be undone!*

Press **CLEAR+LOAD** to start a fresh Preset – no Sounds or Parameters. v1.1

Sampling on Multigrain

Multigrain needs samples to turn into grains. Aside from loading samples from the microSD card, we can record samples to the module using one of the two Recorder types – the Sample Recorder and the Looping Recorder.

Sample Recorder Summary

The Sample Recorder is the default workflow for capturing samples. It records from the module inputs, or from the outputs when resampling.

Pressing the ⏺ **SAMPLE** button starts/ends recording. You can also use an audio threshold to start recording for you. Samples can be up to 32secs, and the 'Always Listening' memory allows you to retrieve any audio from the last 32secs, even if you weren't recording.

Samples can be assigned directly to a Sound, or edited in the trimming page before being stored to the microSD card.

The Sample Recorder is automatically disabled when the Looping Recorder is enabled.

See **Sample Recorder** for more. ➜

Looping Recorder Summary

The Looping Recorder is an alternative mode, implemented to support Live Sounds. It's automatically enabled when a Live Sound is active, or it can be enabled manually from the Sampling Settings Page.

The Live Memory is set to a fixed length (8,16, 24, 32secs). It cannot resample the module outputs.

The ⏺ **SAMPLE** becomes a Freeze/Unfreeze button to pause recording into the Live Memory, and temporarily keep the audio within it. These two states can also be toggled automatically, using modulation or an input audio threshold. When Frozen, an auto-fade is applied to the end of the audio so it crossfades at the Wrap point.

Audio from the Looping Recorder can be assigned, trimmed and saved, just like the Sample Recorder.

See **Looping Recorder** for more. ➜

Sample Recorder

Multigrain's **Sample Recorder** can capture audio from the inputs **IN L** + **IN R**, or resample the outputs **OUT L** + **OUT R**, for processing through the granular engine. The **Sample Recorder** is the default workflow for capturing samples.

Sample recording can be initiated manually by pressing the ⏺ **SAMPLE** button, or automatically using an audio threshold. The **Sample Recorder** is *Always Listening* to your audio source. At any moment, you can capture, trim and save samples from the past 32 secs, without initiating a recording. You will notice ⏺ **SAMPLE** *SLOWLY FADES DIM BLUE* when it's listening.

All samples recorded on Multigrain are stored in the **/Multigrain/Recs** folder. To keep your samples safe, Multigrain does not provide an interface to erase samples from your microSD card. Use a computer to manage sample content. These samples can be loaded to Sounds later, using the /RECS button in the Sample Loading page.

See Sample Loading for more. ➜

Multigrain provides two levels of Sampling—

Basic Sampling (Non-disruptive) — Record, save and assign samples with no more than three button presses. Basic sampling will never get in your way, you can play other Sounds as you record, and assign new samples to Sounds without interruption.

Advanced Sampling (Trimming/Always Listening) — Entering the Advanced Sampling Page will stop playback. From here you can trim your recording before saving, or save samples from the audio content in the 'Always Listening' memory.

Additional settings such as recording threshold, input level, resampling and normalization can apply to both Basic and Advanced Sampling. These settings can be accessed from the Sample Settings Page via the Alt Page without interrupting playback.

See Sampling Settings for more. ➜

Basic Sampling — Three Clicks

1) Start Recording

⏺ SAMPLE

Press the ⏺ **SAMPLE** button to start recording, the button will turn *LIT RED* as it records. If a sampling threshold is set, the button will *FADE RED* and recording will only start when the audio level exceeds the threshold.

See THRSH for more. ➜

2) Stop Recording

⏺ SAMPLE

Press the ⏺ **SAMPLE** button again to stop recording. Recording will also stop automatically after 32 seconds.

The ⏺ **SAMPLE** button, and all empty **SOUND 1-8** buttons will *RAPIDLY FADE BLUE*, offering you a choice of where to assign the recording.

When a recording is waiting to be saved, 'Always Listening' is paused.

3) Save Recording — Two Options

⏺ SAMPLE

Press the *RAPIDLY FADING BLUE* ⏺ **SAMPLE** button to save the recording to the **/Multigrain/Recs** for use later.

Or

SOUND 1-8

Pressing any of the *RAPIDLY FADING BLUE* (empty) **SOUND 1-8** buttons will save the recording to the **/Multigrain/Recs**, and it will assign it to the selected **SOUND**. You cannot overwrite Sounds with samples assigned to them in this mode.

Always Listening

The ‘Always Listening’ memory will contain audio content from the last 32 seconds. This audio comes from **IN L** + **IN R** (Resampling disabled) or **OUT L** + **OUT R** (Resampling enabled)

SAMPLE (Hold)

Instead of initiating a recording, long press the **SAMPLE** button (~1sec) while it’s *SLOWLY FADING BLUE.* Then you can assign or save the audio like a recorded sample – see **3) Save Recording**. v1.1

The Always listening memory will reset after the audio is saved or discarded.

Using Clear with SAMPLE

After making a recording, you can use **CLEAR** in a couple of ways—

CLEAR + SAMPLE — Discard Recording

If you would like to discard your new recording without saving to the microSD Card, Press **CLEAR**, then press **SAMPLE** button which will *RAPIDLY BLINK*.

Press **SAMPLE** again to confirm Clear.

When you’re done, press **EXIT**.

CLEAR + SOUND 1-8 — Replace a Sound

Since you cannot overwrite pre-exisiting **SOUNDS** with Basic Sampling, you can use **CLEAR** to remove the assigned sample from a **SOUND**.

With a sample ready for assignment, press **CLEAR**, then press the occupied **SOUND** button. It will *BLINK RAPIDLY*. Press it again to confirm and clear the Sound settings. The **SOUND** button will appear *DIMLY LIT RED*. Press the **SOUND** button again twice to clear the Sample Assignment. v1.1

Press **EXIT**, and you’ll return to the Sample assignment view (*RAPIDLY FADING BLUE*) where it’s now possible to assign the sample to the cleared **SOUND**.

See Clear for more. ➜

Looping Recorder v1.2

Multigrain's Sample Recorder can be switched out to operate as a Looping Recorder. This mode of operation was implemented to support Live Sounds, but it also offers an alternate method for capturing samples. It's especially good at sampling drones, thanks to its auto-fading feature that applies a 100ms crossfade to the audio.

Like a tape loop, the Live Memory of the Looping Recorder has a fixed length, Older audio is erased as new material is recorded. The **Live Memory** length can be set to 8, 16, 24 or 32 seconds on the Sampling Settings page.

See Sampling Settings for more. ➜

It's important to note that, unlike the Sample Recorder, the Looping Recorder does not support Resampling.

Enable Looping Recorder (Sampling Settings Page)

Using the Sampling Settings Page, you can set the **Looping Recorder** to be enabled at all times, without the need for active Live Sounds. This allows you to take advantage of the Looping Recorder's features when capturing samples – fixed memory length, auto-fade and freeze.

See Sampling Settings for more. ➜

Enable Looping Recorder (Automatically)

Creating a Live Sound will automatically enable the Looping Recorder.

SOUND 1-8 + ⏺ SAMPLE

To create a Live Sound, hold a **SOUND** Button and press ⏺ **SAMPLE**.

When Looping Recorder is enabled, the ⏺ **SAMPLE** button is *LIT MAGENTA* on the Home Page.

If you disable all Live Sounds, the Looping Recorder will switch back to the Sample Recorder (unless it was enabled from the Sampling Settings Page).

Using the Looping Recorder

When Looping Recorder is enabled, the ⏺ **SAMPLE** button is *LIT MAGENTA* on the Home Page when recording; when Frozen, the ⏺ **SAMPLE** button is *LIT CYAN*, Recording will be paused.

⏺ SAMPLE — Freeze

You can Freeze (Pause) the Looping Recorder.

When the Looping Recorder is active, press ⏺ **SAMPLE** to Freeze it. The ⏺ **SAMPLE** button will turn *CYAN*.

Freeze can be controlled using **RAND** / **X** / **Y** / **Z** modulation.

See Mod for more. ➜

Threshold Recording (Auto-Freeze)

When a Threshold is set on the Sampling Settings Page, the Looping Recorder will automatically Pause or Auto-Freeze (*FADING MAGENTA) the* recording when the audio input dips below the threshold for 1 sec, and resume when the audio input rises above the threshold again (*LIT MAGENTA)*

If the Recorder is Frozen (*CYAN*) The threshold will have no effect.

See Sampling Settings for more. ➜

Save your Loop to the SD Card

SAMPLE (Hold)

Long press the **SAMPLE** button (~1sec) to save your Loop to the SD Card or Assign to an Empty Sound.

SAMPLE

Press the *RAPIDLY FADING BLUE* **SAMPLE** button to save the recording to the **/Multigrain/Recs** for use later.

Or

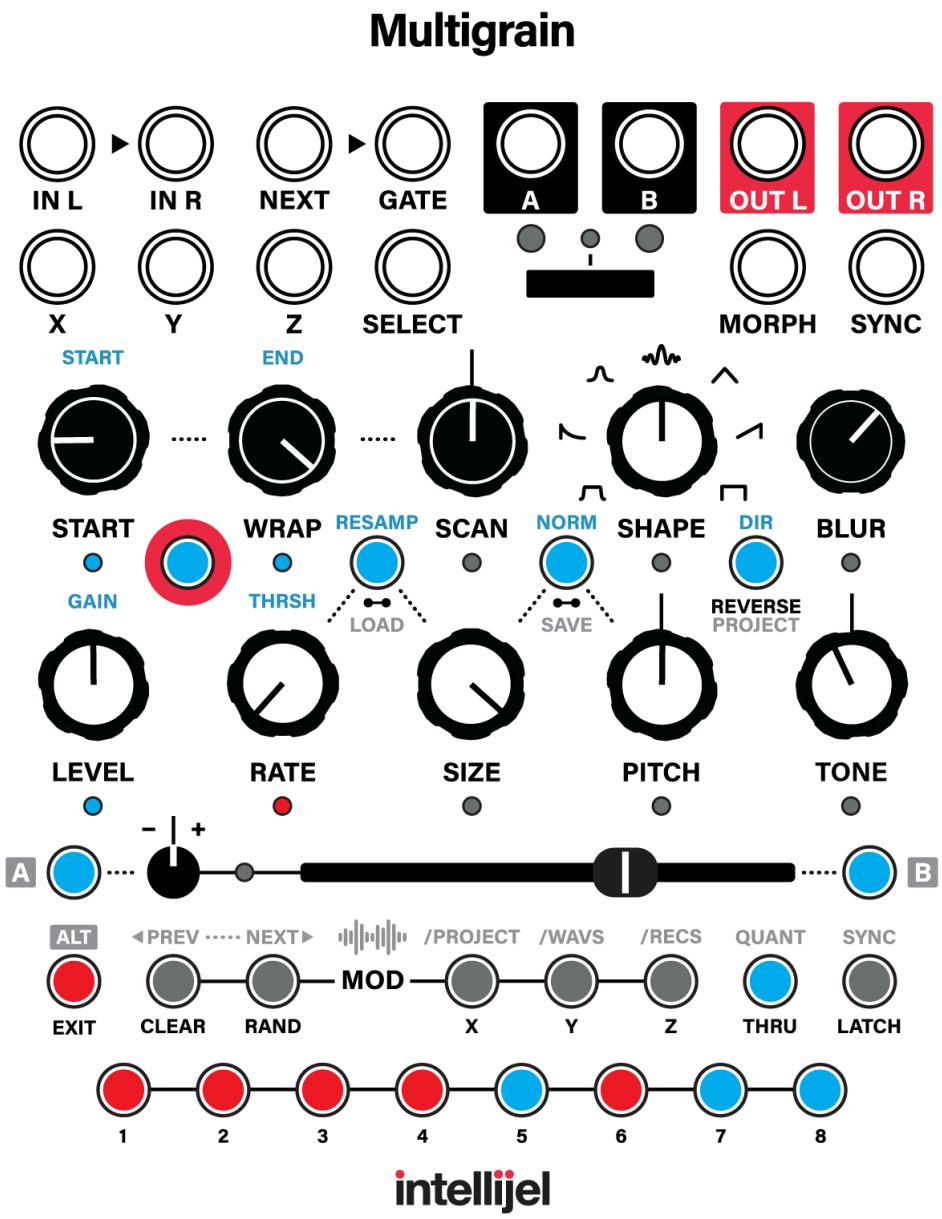
SOUND 1-8

Pressing any of the *RAPIDLY FADING BLUE* (empty) **SOUND 1-8** buttons will save the Live Memory to a sample in **/Multigrain/Recs**, and it will assign it to the selected **SOUND**.

When a Live Sound is Active, saving a Loop to an empty **SOUND** will copy the Parameters from the Active Live Sound.

You cannot overwrite Sounds with samples assigned to them in this mode.

Advanced Sampling Panel



Sample Trimming

START Trim Start point of captured audio

END Trim End point of captured audio

SCAN* Nudge start point while auditioning sample

* *Not directly labelled for Sampling*

SAMPLE* Record / Resample / Save / Enter Sampling page.

* *The button in the big red circle.*

DIR Changes behaviour of Audition buttons

A Auditions the start of sample

B Auditions the end of sample

ALT / EXIT Exit Sampling Page

SOUNDS 1-8 Select Sound to Assign Recording

Sampling Settings

GAIN Set input gain

THRSH Set sampling threshold

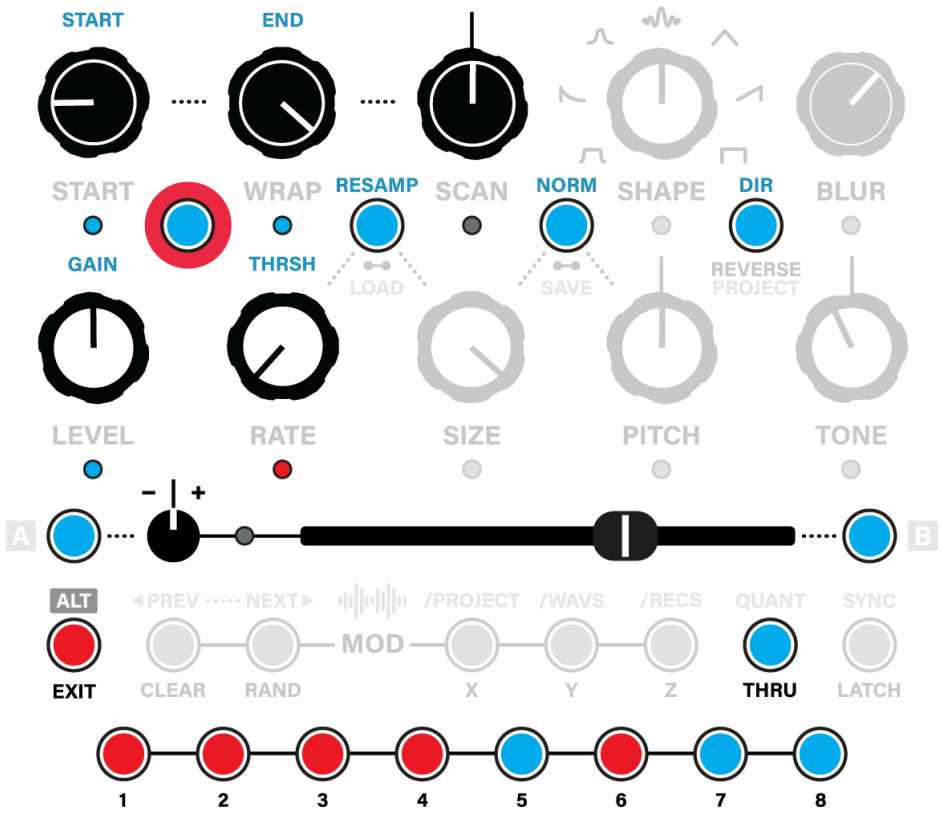
RESAMP Toggle Resampling and Looping Recorder v1.2

NORM Toggle Normalization setting

THRU Toggles Audio Input Monitoring

Advanced Sampling Page — *Trim*

The Advanced Sampling Page builds on the Basic Sampling workflow by allowing you to trim and preview the sample before saving. When you enter the Advanced Sampling Page, the granular engine will pause.



The Advanced Sampling Page also offers some sample related settings, these controls are spread about the interface. We'll break them down section by section.

Advanced Sampling

SAMPLE

Follow Steps 1 and 2 in the Basic Sampling section to capture a sample.

See Basic Sampling for more. ➜

Or

You can also capture the audio in the 'Always Listening' memory. v1.1

See Always Listening for more. ➜

When you have a recording ready to save or edit, the SAMPLE button will be *RAPIDLY FADING BLUE*.

SAMPLE (HOLD)

Long Press the SAMPLE button (~1sec) to enter the Advanced Sampling Page.

START and END will be set to the Start and End of your recording.

Preview Recording

You can preview your recordings in the Advanced Sampling Page.

SCENE A / SCENE B

Press and hold the **SCENE A** and **SCENE B** buttons to preview your trimmed recording, they will respond differently based on the Direction setting (**DIR**).

DIR

Whenever you enter the Advanced Sampling Page, direction will reset to **Forward** and **DIR** will be *DIM*

Press the **DIR** button to cycle between three options to modify the behaviour of both preview buttons— Forward, Reverse, Looping.

When **DIR** is *DIM* (default), Preview will happen in a **Forward** direction—

Hold **SCENE A** to preview your entire recording from **START**.

Hold **SCENE B** to preview one second before the **END** of your recording.

When **DIR** is *LIT*, previewing will happen in a **Reverse** direction—

Hold **SCENE A** to preview one second after the **START** of your recording in reverse.

Hold **SCENE B** to preview your recording from the **END** in reverse.

When **DIR** is *FADING*, previewing will happen in forward direction, with **Looping** enabled—

Hold **SCENE A** to preview your recording from the beginning and wrap to **START** when it reaches the **END**.

Hold **SCENE B** to preview the last second of your recording and wrap to **START** when it reaches the **END**.

Trim Recording — *Start + End*

Before saving your Sample to the microSD card, you can trim the Start and End points in the Advanced Sampling Page. Since Multigrain is 'always listening', you can trim from the manually recorded audio, *plus* whatever was in the memory before that (within the 32sec memory length).

START / END

START and END will set the boundaries of the sample to a portion of the recording memory. These are automatically set to the block of time you chose to record, or to the start and end of the 'Always Listening' memory if you decided to use that instead. Both controls are independent of each other.

Hold **SCENE** A or **SCENE** B button to preview your changes.

Bear in mind that while you are holding the preview buttons, you will not hear changes to START and END taking effect.

Release and hold them again to hear any changes that you've made.

Unlike most other controls on Multigrain, START and END use what is known as 'Pass-thru Takeover'—meaning those values will not change until you pass through the true value associated with the knob.

Trim Recording — *Nudge*

Nudge trimming is a really quick way to remove clicks and pops from the beginning or end of a recording. Use the **SCENE** A and **SCENE** B buttons with the **SCAN** to make fine adjustments to the START and END positions respectively.

NUDGE (SCAN)

The **SCAN** knob will set a nudge amount in milliseconds, it provides 4 discrete options in either Forward (CW) and Reverse (CCW) directions—
25, **75**, **125** or **250ms.**

Nudge amount is indicated by the brightness of the **Knob LED**. *BLUE* indicates forward direction, *RED* indicates reverse direction. If it's *OFF*, Nudge is inactive.

When **SCAN** is set with a nudge value, each press of **SCENE** A will nudge the START position by the set amount of milliseconds, moving it gradually forward or backward from its current position.

Each press of **SCENE** B will nudge the END position by the amount set by **SCAN**, moving it either forward or backward from its current position.

DIR works in conjunction with **SCAN** as described.

It's important to note that if you manually adjust START or END after nudging, you may lose your carefully selected trim points. **SCAN** will also reset to **0ms** when you adjust START or END again.

Save Recording — *Where do you want it?*

Once you've edited your sample in the Advanced Sampling Page, there are a few saving options available to you—

SAMPLE (Save to SD)

Press the *FADING BLUE* SAMPLE button to save the recording to the **/Multigrain/Recs** for use later.

SOUND 1-8 (Save to SD and Assign to Sound)

Pressing any of the *BLUE* (empty) **SOUND 1-8** buttons will save the recording to the **/Multigrain/Recs** for use later as above, and it will also assign it to the **SOUND** you pressed.

If a **SOUND** already has a sample assigned to it, the button will be *LIT RED*.

Press a *LIT RED* **SOUND** button once to select it (*it will BLINK RAPIDLY*), then press it again to confirm overwrite.

To cancel, press any other button.

Saving Multiple Samples from the Same Recording

It is possible to save multiple edits from the same recording from the Advanced Sampling Page.

When you save a Sample, the SAMPLE button *RAPIDLY BLINKS* and then switches *OFF*, indicating the current edit is saved (you cannot save the same edit twice).

As soon as you adjust START, END or **Nudge**, the SAMPLE button starts *FADING* again, indicating that you have made a new edit, and it is ready to be saved as a new file.

This is useful for separating out multiple sections of the same sample. You can assign edits to different Sounds, or you can decide which to use later.

When you're done, press **EXIT** to return to the Home Page.

Sampling Settings

In addition to the trimming controls, the Advanced Sample Page hosts a few Sampling and Input related settings.

You can access a **Settings Only** version of this page that will not interrupt playback, and will disable the Trimming UI.

For the **Settings Only** page, Press ALT, then press SAMPLE.
The LED will *RAPIDLY BLINK BLUE*.

RESAMP

RESAMP stands for **Resample**. This button switches between standard input Sampling, Resampling the outputs and the Looping Recorder which is an alternative sampling mode implemented for Live Sounds.

Press RESAMP to toggle between **Sample** (*DIM BLUE*), **Resample** (*LIT BLUE*), and Looping Recorder (*LIT MAGENTA*). v1.2

When RESAMP is set to Sampling (*DIM BLUE*), recording takes place directly from the **IN L** + **IN R** jacks. You can record **IN L** + **IN R** even when **THRU** is disabled.

When RESAMP is *LIT BLUE*, recording comes from what you hear at OUT L + OUT R, including the **IN L** + **IN R** audio when **THRU** is enabled. Resampling allows you to capture audio created by the granular engine. You can also make use of **THRU** and **BLUR** to record the inputs passed through the Blur effect. Use this to save clips for later, or to reprocess granularized audio all over again.

When RESAMP is *LIT MAGENTA*, the usual sampling workflow is replaced with a Looping Recorder. In this mode, resampling is disabled, and recording takes place directly from the **IN L** + **IN R** jacks. v1.2

See Looping Recorder for more. ➜

NORM

NORM stands for **Normalize**.

When enabled, normalization will be applied to a sample as it's saved. You can decide whether you want to normalize a sample after capturing it. This will raise the volume of quiet recordings to a maximum increase of 20dB.

Note: Once a sample has been saved with Normalization applied, it cannot be undone.

GAIN

GAIN sets a gain amount for **IN L** + **IN R**. In the center position, the gain is 1x (unity). It ranges from down to 0.5x (CCW) and up to 2.5x (CW).

THRSH

THRSH stands for **Threshold**, and relates to the audio input level.
Set a Threshold to automatically trigger an action when the audio input level at **IN L** + **IN R** meets or exceeds it. This applies to Threshold Recording (Sample Recorder) or Auto-Freezing (Looping Recorder). v1.2

When Fully CCW, **Threshold** is set to zero, meaning that it is disabled. The THRSH **Knob LED** will show *LIT RED*. This is the default setting.

When THRSH is set to any amount above 0, The brightness of THRSH **Knob LED** indicates threshold level, showing as *LIT BLUE*. The LED turns *RED* when input audio meets or exceeds the threshold.

Threshold with the Sample Recorder

Setting a THRSH level only allows recording to start once the threshold is met or exceeded. This is handy for capturing samples from the moment they begin, avoiding silent gaps at the start.

If the input audio is below this threshold, Pressing ⏺ **SAMPLE** will arm recording. The button will *FADE RED*. When the audio level passes the threshold, recording starts and the button switches to *LIT RED*.

See Basic Sampling for more. ➜

Threshold with the Looping Recorder

Enabled the Auto-Freeze features of the Looping Recorder

See Threshold Recording (Auto-Freeze) for more. ➜

GAIN

GAIN sets a gain amount for **IN L** + **IN R**. In the center position, the gain is 1x (unity). It ranges from down to 0.5x (CCW) and up to 2.5x (CW).

SIZE

Set the fixed **SIZE** of the Looping Recorder (8, 16, 24, or 32 sec). The LED is shown in *MAGENTA* as this setting only applies to the Looping Recorder.

See Looping Recorder for more. ➜

THRU

The **THRU** button is available on the Advanced Sampling Page and Sampling Settings Page. With **THRU** enabled, you can monitor **IN L** + **IN R** as you adjust GAIN or THRSH.

In either page, press **THRU** to toggle on (*LIT BLUE*) or off (*DIM BLUE*)

On the Advanced Sampling Page, **THRU** is always switched off by default. This is assuming that you're on this Page to edit a sample. Enabling **THRU** monitors **IN L** + **IN R** directly (pre Blur).

When exiting this Page, **THRU** reverts to its original state on the Home Page.

On the Sample Settings Page, the state of **THRU** remains consistent from the Home Page and vice versa, so as not to interrupt any audio passing through the module. If the input audio is running into **BLUR**, this also remains the same. The **BLUR** control is disabled in this Page.

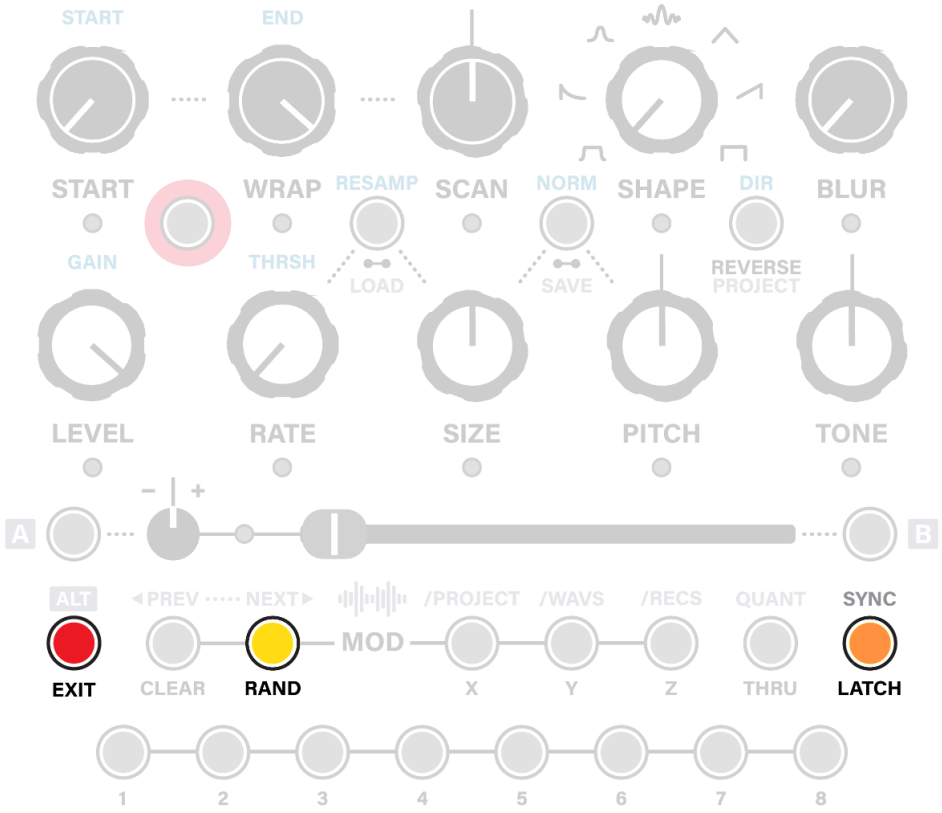
System Settings Page v1.2

Some settings just don't fit anywhere else - so we've created the System Settings Page where you can toggle those settings to your preference. They are System wide toggles, and affect the overall behaviour of the module.

ALT + PROJECT (Hold for 4 Sec)

From the ALT Page, hold the PROJECT button for 4 Sec button to enter the System Settings Page.

Press **EXIT** to return to the Home Page.



This is correct, there are currently only 2 settings on this page.

Random Modulation Source

Toggle Random Source between Unipolar and Bipolar.

RAND — Modulation Source

Press **RAND** to toggle between a Unipolar Source, shown as a *YELLOW* LED; and a Bipolar Source, shown as a *BLINKING YELLOW/PURPLE* LED.

See Random Modulation Details for more. ➜

Note: In Multigrain v1.0/1.1, the general Random Source was a virtual bipolar voltage of -5V and +5V, and this meant that in general, applying RAND in positive or negative directions made no difference. This behaviour was changed to Unipolar (0V to +5V) in v1.2. Use this setting to revert back to the original bipolar setting if you prefer.

LATCH — NEXT / RESET Input Toggle

Press **LATCH** to toggle between **NEXT** and **RESET** functionality of the NEXT Input. The **NEXT** button will be *LIT AMBER* when the **RESET** functionality is enabled, and *DIM* when it's set to act as the **NEXT** input (default).

See NEXT Input (RESET Mode) for more. ➜

Not So Secrets

Secrets ⟩ Clear Settings

CLEAR (Hold on boot)

Hold **CLEAR** on boot to reset the Global Settings to default.

Secrets ⟩ Soft Reboot

LATCH + CLEAR (Hold for 4 Sec)

Hold **LATCH + CLEAR** for 4 Seconds to reboot the module without powering your whole system off.

See Removing the microSD Card for more. ➜

Secrets ⟩ Bonus Themes

Multigrain has three bonus LED colour themes to choose from. The bonus themes will not align with the manual, and may throw some of the standard LED colour conventions out the window in exchange for vibes.

If you experience colour deficiency, you may find one of these themes helpful.

SAMPLE / LOAD / SAVE / PROJECT (Hold on boot)

When powering on or rebooting the module, hold one of the following buttons to switch to a theme.

Button	Name	Palette
SAMPLE	Intellijel	Warm Analog (default)
LOAD	Reload	Cool Blues
SAVE	Golden	Gold and Purple
PROJECT	Royal	Red and White

Secrets ⟩ Session Counter

Multigrain, like most modules, does not keep track of time. When saving files, we aren't able to properly mark the time and date of a recorded Sample.

We've worked around this by using a Session Counter.

Each time Multigrain boots up, it increases the Session Counter. This counter is used to generate an arbitrary 'creation date' of the samples recorded on Multigrain. If you look at the Times and Dates of the files in your recording folder on your computer, you'll be able to isolate a session by its date, making it a bit easier to collect a set of recordings from a single recording session.

Secrets ⟩ Live Sound Sample Loading

When you're playing a Live Sound, it's creating grains from Live Memory of the Looping Recorder.

However, you can still load / switch Samples tied to that Sound in the background. This way, when you switch back to a sample-based Sound, you can quietly choose which Sample will be used. v1.2

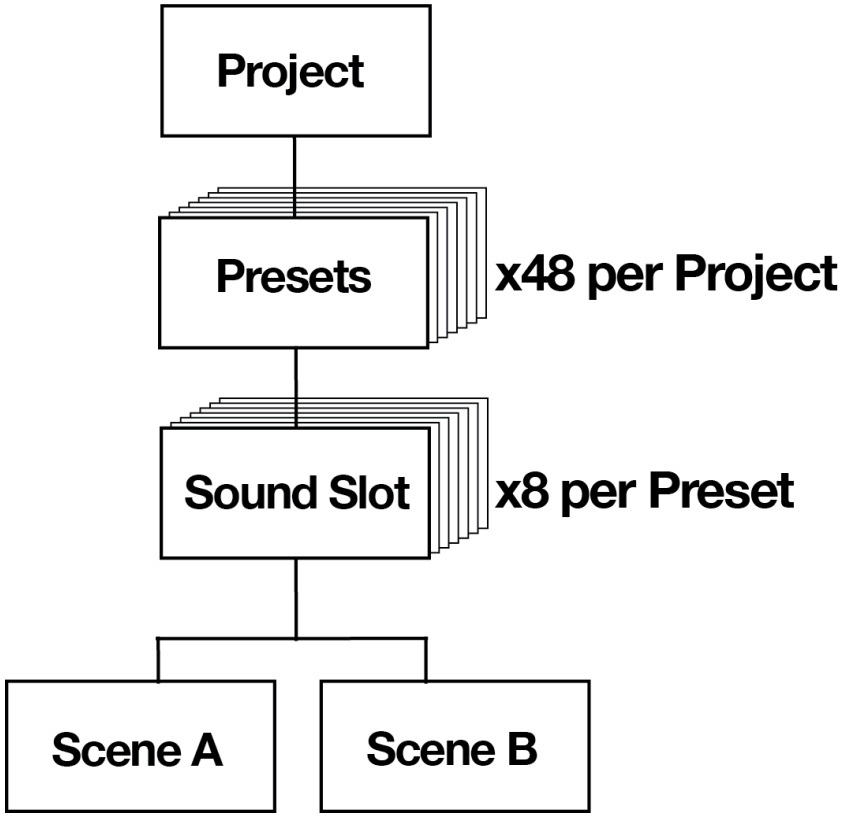
Multigrain's Structure

There are 48 Projects (6 Banks x 8 Projects)

A **Project** contains 48 **Presets** (6 Banks x 8 Presets)
A **Preset** contains 8 **Sounds**
A **Sound** is 2 **Scenes** and a reference to a **Sample** or **Live Memory**.

Samples are stored in three locations:

- The /PROJECT folder (128 per project)
- The /WAVS folder (128)
- The /RECS folder (1024)



Structure ⟩ Global Settings

These are stored in **Settings.mgs** in the Multigrain Folder.

- Latest Project Number
- Session Count
- Input Trim
- Resampling
- Normalize
- Theme
- Threshold
- Blur

Structure ⟩ Preset Settings

These are stored in the **Presetxx.mgp** and **Autosave.mgp** files in your Project Folders.

- Preset Number
- Latest Scene
- Latest Sound Number
- Mod A and B Out Option
- Input Thru Enabled
- Latch Enabled
- Sync Enabled
- Freeze Modulation Assignments v1.2
- Sounds Settings (8)
  - Sync Mode
  - Link Size-Pitch
  - Link Size-Rate
  - Quantizer
  - Sample Folder
  - Sample Filename
  - Quantize Mode
  - Fine Tune
  - Ping Pong
  - Scenes Settings (two per Sound)
    - Panel Settings — 10 Knobs and Reverse
    - Mod Assigns (RAND, X, Y, Z) — 10 Knobs and Reverse

Structure ⟩ microSD Card

The microSD card included with Multigrain stores Samples, Projects, Presets and Settings crucial for operating the module. While it's possible to use without a microSD card (Ephemoral Mode) it does limit the functionality.

If the **microSD LED** is *OFF*, then the module does not recognize the card.

Files & Folders

Here is what Multigrain's file structure looks like—

Folders / Files	Description
📁Multigrain	*All of Multigrain's files*
📁Project01	*Project 1 folder*
📁Project02	*Project 2 folder*
Autosave.mgp	*The autosave State for this Project*
Preset01.mgp	*Preset For Project 2*
Preset02.mgp	"
SampleA.wav	*Project Specific Sample*
SampleB.wav	"
📁Recs	*Recordings Folder (Global Folder*)*
Rec00001.wav	*A Recording made on Multigrain*
Rec00002.wav	"
…	
📁Wavs	*Wav Folder (Global Folder*)*
Cool_beats.wav	*A Wav file copied from a computer*
Cool_beans.wav	"
…	
Settings.mgs	*Global Settings file*

*Any .wav files in the Global Folders**, /Recs** and **/Wavs**, are available to any Project.

Boot Behaviours

Booting with microSD Card (from Factory)

Multigrain will boot up normally. The included microSD card comes pre-loaded with Projects & Presets that are ready to use, plus space to store new ones.

Booting with microSD Card (empty)

If an empty microSD card (FAT-32) is installed, Multigrain will automatically generate the file structure (shown left) – this will of course contain blank Projects, Presets and no Samples.

Booting without microSD Card (Ephemeral Mode)

If you boot Multigrain without a microSD card inserted, the module will still work but certain functionality will not be available to you.

Projects, Presets, Sample Loading and Saving will not work. However, you will be able to record samples, assign them to Sounds and use the Granular engine. You are limited to 8 Samples in the RAM – one for each Sound.

All Sounds and changes will be lost when rebooting.

Removing the microSD Card

Typically, we would advise against removing the microSD Card during operation, as you will need to reboot Multigrain to reindex, and regain access to the card.

When you remove the microSD Card—

- Multigrain will continue to function with the active Project, Preset and Sound settings.
- Some controls may appear unresponsive if the module tries to save after the microSD card is initially removed, this can last ≤5sec.
- You will lose the ability to access anything on the microSD Card until Multigrain is rebooted, you cannot Save or Load Presets/Autosave, Projects, or Samples.

Reboot – LATCH + CLEAR (Hold for 4 Sec)

If you have removed the microSD Card, you can reboot the module without powering off your system to regain access.

Re-seat your microSD Card, then hold **LATCH + CLEAR** for 4 Seconds, the module will restart, you will see the firmware version displayed on the middle row of buttons (as described previously). The microSD card will be reindexed, and your latest project will be reloaded.

Using with External Device (Computer)

You can access files from Multigrain's microSD Card using an external device with a card reader, such as a computer.

Make a Multigrain Backup

Simply copy the "/**Multigrain**" folder from the microSD card to your device to make a backup.

Add/Transfer Samples

Copy sample files (Stereo/16bit/48kHz/≤32secs/.WAV) into a new or existing project folder **Multigrain/Project*XX*** *where XX is 01 to 48 for Project specific samples.*

or

Place your samples in **/Multigrain/Wavs** (Accessible to any Project) folders on the card.

See **Sample Loading** for more. ➜

Shortcuts and Combos

Action	Page	Shortcut	
Clear Sound v1.1	Home	Hold **CLEAR**	Press **SOUND 1-8** — *Once = Clear Settings, Twice = Clear Sample*
Clear / Reset Scene	Home	Hold **CLEAR**	Press **SCENE**
Clear Mod Assigns	Home	Hold **CLEAR**	Press **RAND** / **X** / **Y** / **Z**
Select Sound without Trigger	Home	Hold **LATCH**	Press **SOUND 1-8**
Quick Save Current Preset	Home	Long Press **SAVE**	
Quick Reload Current Preset	Home	Long Press **LOAD**	
Load Init Preset v1.1	Home	Hold **CLEAR**	Press **LOAD**
Quick Open Quantizer	Home	Long Press QUANT	
Copy Quantizer across Sounds v1.1	Alt	Hold QUANT	Press **SOUND 1-8**
Apply Quantizer Settings to All Sounds v1.1	Quantizer	Hold **LATCH**	Press **NOTE** or QUANT
Ping-Pong Mode	Home	Long Press **REVERSE**	
Control All Sounds	Home	Hold **LATCH**	Adjust Parameter
Control All Scenes	Home	Hold **SCENE**	Adjust Parameter
Control All Sound + Scenes	Home	Hold **LATCH** + **SCENE**	Adjust Parameter
Copy Sound	Home	Hold **SOUND**	Press **SOUND** (empty)
Copy Scene	Home	Hold **SCENE**	Press **SCENE** (opposite) / **SOUND**
Randomize Sound	Home	Hold **RAND**	Press **SOUND**
Randomize Scene	Home	Hold **RAND**	Press **SCENE**
Randomize RAND	Home	Hold **RAND**	Press ALT
Randomize X / Y / Z	Home	Hold **RAND**	Press **X** / **Y** / **Z**
Quick Open Sampling Settings	Home	Hold ALT	Press SAMPLE
Quick Assign A / B Mod Output	Home	Hold ALT	Toggle A / Toggle B
Quick Assign Modulation	Home	Hold **RAND** / **X** / **Y** / **Z**	Adjust Parameter
Quick Clear Preset	Preset Save / Load	Hold **CLEAR**	Press **SOUND 1-8**
Advance 5 Samples	Sample Loading	Long Press <PREV / NEXT>	
Kill All Sounds	Any	Hold **LATCH**	Press **CLEAR**
Reboot	Any	Hold **LATCH** (4sec)	Hold **CLEAR** (4sec)

Shortcuts and Combos (Continued)

Action	Page	Shortcut	
Enable Live Sound v1.2	Home	Hold **SOUND 1-8**	Press **SAMPLE**
Enable Live Sound (No Trigger) v1.2	Home	Hold **LATCH** + **SOUND 1-8**	Press **SAMPLE**
THRU Blur Bypass v1.2	Home	Hold **LATCH**	Press **THRU** – *GREEN = Blur Send, RED = Blur Bypass*
THRU Lock v1.2	Home	Hold **LATCH**	Hold **THRU** (1sec) – *PURPLE FADE = Locked*
Open System Settings Page v1.2	Alt	Hold **PROJECT** (4sec)	

Sample Guide

As of Firmware 1.1

Format

Multigrain only supports one format—

File Type	Sample Rate	Sample Type	Channels	Max Length
.WAV	48 KHz	16 Bit	Stereo (2)	32 Sec

Best Practices / Ideas

Below are some tips on what kind of samples work best with Multigrain's granular engine—

Loops

Loops are great, the Grain playheads will wrap from the end to the start of a sample, loops avoid any discontinuities when wrapping..

One Shots

Make sure to trim these up, avoid a lot of dead air at the start and end of a sample. Chords, Strums, Arps, Drums, all work great.

Multisamples

Load a bunch of sounds in a sequence to a single WAV file. Trim them up, as too much dead air will make it harder to pin point grains.

Split L/R

Put different content on the L and R channels for some more wild patching/effects.

"Dead Air"

Obviously silence can be very musical, and necessary, but be conscious of it when making samples for Multigrain. Some samples will benefit from quiet moments for sure, especially when left to drone, with **LATCH** and **SCAN**.

Normalizing

Multigrain has a **LEVEL** control, we can always attenuate a sound, normalize a sample beforehand to get its max dynamic range.

Density

Dense sounds, with many layers are very fun to explore, phrases or clips from full tracks can make for amazing sound scapes.

Acoustic

Acoustic/physical instruments can provide so much warmth even when being digitally mangled, and provide sounds not native to a synth environment, to be processed as if they were.

Factory Sound Packs Index

Bank X	**Multigrain Projects**
/Project01	Intellijel Quick Start Project
/Project02	Richard Devine
/Project03	Speedy J / STOOR
/Project04	Taylor Deupree
Bank Y	**Intellijel Projects**
/Project09	slow wild
/Project10	Rau
/Project11	Veltenhill
/Project12	Jonathan Davies
/Project13	Intellijel Counts!
Bank Z	**Red Means Recording Projects**
/Project17	Random Metal
/Project18	VocalScapes
/Project19	Instrumentation
/Project20	VRAL Drones
/Project21	Synth Sweeps

Technical Stuff

Specifications

Module Width: 20HP

Current: 130mA @ +12V
13mA @ -12V
0mA @ +5V

Audio File Format: .WAV
48kHz
16bit
Stereo
≤32 seconds

Storage: microSD
FAT-32
≤32gb recommended

Firmware

It's always best to keep your Multigrain module up-to-date for the latest features and fixes for those pesky, but hopefully infrequent, bugs.

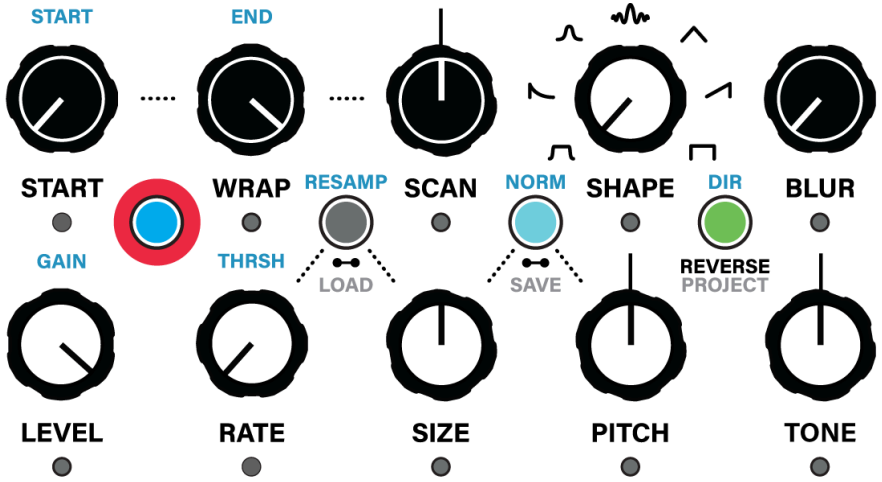
Firmware ⟩ Firmware Version

When you reboot Multigrain, the **SAMPLE** (A), LOAD (B), SAVE (C), and PROJECT (D) buttons use colour to show the current firmware version, arranged in the format – (A).(B).(C).(D)

Colour Index—

0 = BLACK/OFF	5 = *ORANGE*
1 = *BLUE*	6 = *RED*
2 = *CYAN*	7 = *MAGENTA*
3 = *GREEN*	8 = *PURPLE*
4 = *YELLOW*	9 = *WHITE*

For Example, if the firmware version is 1.0.2.3, the buttons would display:



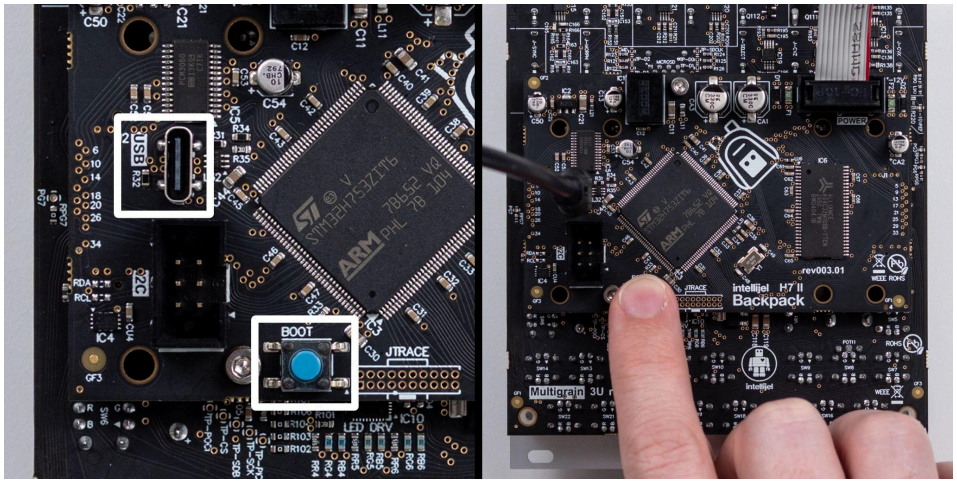
BLUE — OFF — CYAN — GREEN

Firmware ⟩ How to update

Download and Install the latest Intellijel Firmware Updater from https://intellijel.com/support/ ➜

Power off the module, but keep it connected to your module power source.

Turn the module over so the back panel can be accessed. Place it down securely so that it's not in contact with anything that could cause electrical shorts or damage.



Plug a USB-C cable between the module's USB-C port and a computer.

Hold the Boot button while switching on power to Multigrain. You can release the button as soon as the power is on.

Open the Intellijel Updater, select Multigrain from the left dropdown menu and the latest firmware version from the right.

Press 'Update', wait until the updater dialogue indicates the process is complete.

Exit the updater, power cycle Multigrain, and you should be good to go!

1.2.0.0 (2025-07-01)

- **New: Live Sounds** — Generate Grains from Live Input!
  - Any and all Sounds can be a Live Sound, generating grains from the New Looping Recorder.
  - Mix Live Processing with Sample Sounds across the 8 Sounds buttons.
  - Use multiple Live Sounds to sequence between different Effect Parameters.
  - Hold a **SOUND** button and press **SAMPLE** to Toggle! The **SOUND** button will turn MAGENTA, when enabled and PINK when **GATE**/**LATCHED**. The Looping Recorder will be enabled automatically.
  - Enable **SYNC** to quantize the **START-SCAN-WRAP** position to a multiple of your incoming **SYNC** time.
  - If you save the Looping Recorder to an Empty Sound, it will copy the settings from the current Live Sound.
  - Multigrain offers more control than a typical granular effect and we didn't want to limit any control with the introduction of Live Sounds. Built-in Click reduction will avoid any sharp clicks if your grains cross over the record head, so go wild with modulation and let Multigrain handle it! You can of course tune your parameters to completely avoid any Grain/record head collisions.
- **New: Looping Recorder** — With CV over Freeze/Listen.
  - Auto-enabled for Live Sounds, but also great for sampling drones.
  - Toggle between Frozen (CYAN) and Listening (MAGENTA) using the **SAMPLE** button.
  - Assign **RAND/X/Y/Z** to Freeze/Listening Toggle (a Global/Preset Level assignment).
  - Supports threshold Based Auto-Freeze (follows your **THRSH** Setting).
  - Auto Crossfade over loop point when freezing (100ms) for smoother Loops/Freezes.
  - Save your Loops to the SD Card (Long Press **SAMPLE**) like you would any other sample.
  - Samples **L+R INPUTS** only, does not support resampling.
  - Configured on the Sample Settings Page—
    - Press **RESAMP** to toggle between Sample (DIM), Resample (), and Looping Recorder (MAGENTA).
    - Set **SIZE** of the Looping Recorder (8, 16, 24, or 32 sec).
    - Set **THRSH** to enable threshold based Auto-Freeze.
- **New: Dry THRU Option** — Bypass **BLUR**.
  - Press LATCH+THRU
  - The **THRU LED** will turn RED when **THRU** is dry, GREEN when passed thru **BLUR**.
- **New: Lock your THRU Setting** — Avoid accidental toggles.
  - Hold **LATCH+THRU** for .5 sec to toggle.
  - The **THRU LED** will turn PURPLE and lock to its current state when locked.
- **New: Grain Pitch MOD Output option**
  - Can be assigned to **MOD A** or **B**.
  - BLUE to match the quantized output colour of some of our other modules. Grain Env colour was changed to CYAN.

- **New: RESET option for NEXT Input.**
    - The functionality of the **NEXT** input can be toggled to be a **RESET** input for **SCAN**.
    - Allows you to manually advance the **SCAN** position using the **GATE** input, and **RESET** the position using the **NEXT** input.
    - **RESET** functionality can be enabled on the Systems Setting Page.
    - When this option is enabled, the original **GATE** functionality—Resetting **SCAN** on every **GATE**—is available by patching only into **NEXT**, leaving **GATE** unpatched; relying on the hardware normal to pass the gate signal from **NEXT** (Resetting **SCAN**) to **GATE** (Triggering the Sound).
- **New/Tweak: Random RATE Handling overhaul.**
    - Much wider variation over the range of attenuation.
    - Random Grain Probability when assigning RAND negatively.
- **Tweak: Internal Random Source is now Unipolar for most Params**
    - Allows for greater control and more variety in random modulation.
    - Can be reverted to the old behaviour on the Systems Setting Page.
- **New: System Settings Page.** — Only 2 Settings!
    - Long press **ALT+REVERSE** (~4 sec) to open.
    - Press **RAND** to Toggle the Internal Random Source type.
        - YELLOW = Unipolar (Default)
        - YELLOW/PURPLE (BLINKING) = Bipolar
    - Press **LATCH** to Toggle the **RESET** function for **NEXT**.
        - DIM = NEXT (Default)
        - AMBER = RESET
    - **ALT** to Exit
- Tweak: EMPTY Sound BLUR settings are now saved in the State/Preset, and not the Global Settings.
- Fixed: Stabilize Sync Clock with “RUN/STOP” style clocks (common with MIDI devices/daws).
- Fixed: File Handling / Folder Position tweaks, should be more intuitive, and track changes to /RECS better.
- Fixed: Currently Playing Sound was Stopping when clearing a Sound.
- Fixed: Can clear a slot with a Missing WAV file.
- Fixed: Random Rate modulation was not applied properly (was only applying a jitter to the parameter).
- Fixed: Minor Bug Fixes and Tweaks.

1.1.0.0 (2025-04-17)

- **New/Change: Save your ‘Always Listening’ memory without interrupting playback.**
  Long Pressing the sample button when it's slowly glowing blue to Assign/Save to a SOUND, or save to the SD card without interrupting play, this matched the behaviour of the standard record functionality; long pressing a 2nd time will enter the Advanced Sampling Page where you can trim the contents of your recording.
- **New/Change: CLEAR+SOUND 1-8 is now 2 stages.**
  First Tap will clear the reset the Sound Settings, but keep the sample, pressing again will clear the sample.
- **New: Init Preset Shortcut.**
  Press CLEAR+LOAD to start fresh, no Sounds, no Params.

- **New: Preset Locking; protect a preset from getting overwritten.**
  From the Save or Load Page, Hold the Preset slot for 4 seconds, it will turn PURPLE.
- **New: Quantizer Copy/Paste across sounds.**
  From the ALT Page, hold QUANT and press the destination SOUND.
- **New: Quantizer Edit All Sounds.**
  From the Quantizer Page, hold LATCH while pressing the NOTES to apply the Quantizer to all sounds.
- Tweak: Randomizing a Sound (RAND+SOUND 1-8) now includes the 2 Link settings and Ping Pong.
- Fixed: The Advanced Sample Page may open up with incorrect START/END positions.
- Fixed: Long Pressing NEXT/PREV when browsing samples now aligns with manual ±5 samples at a time (was moving by ±10).
- Fixed: Wider WAV compatibility, with less common file headers.
- Minor Bug Fixes and Tweaks.

1.0.3.0 (2025-03-27)

- Minor Bug Fixes and Tweaks.

1.0.0.0

- Initial release.