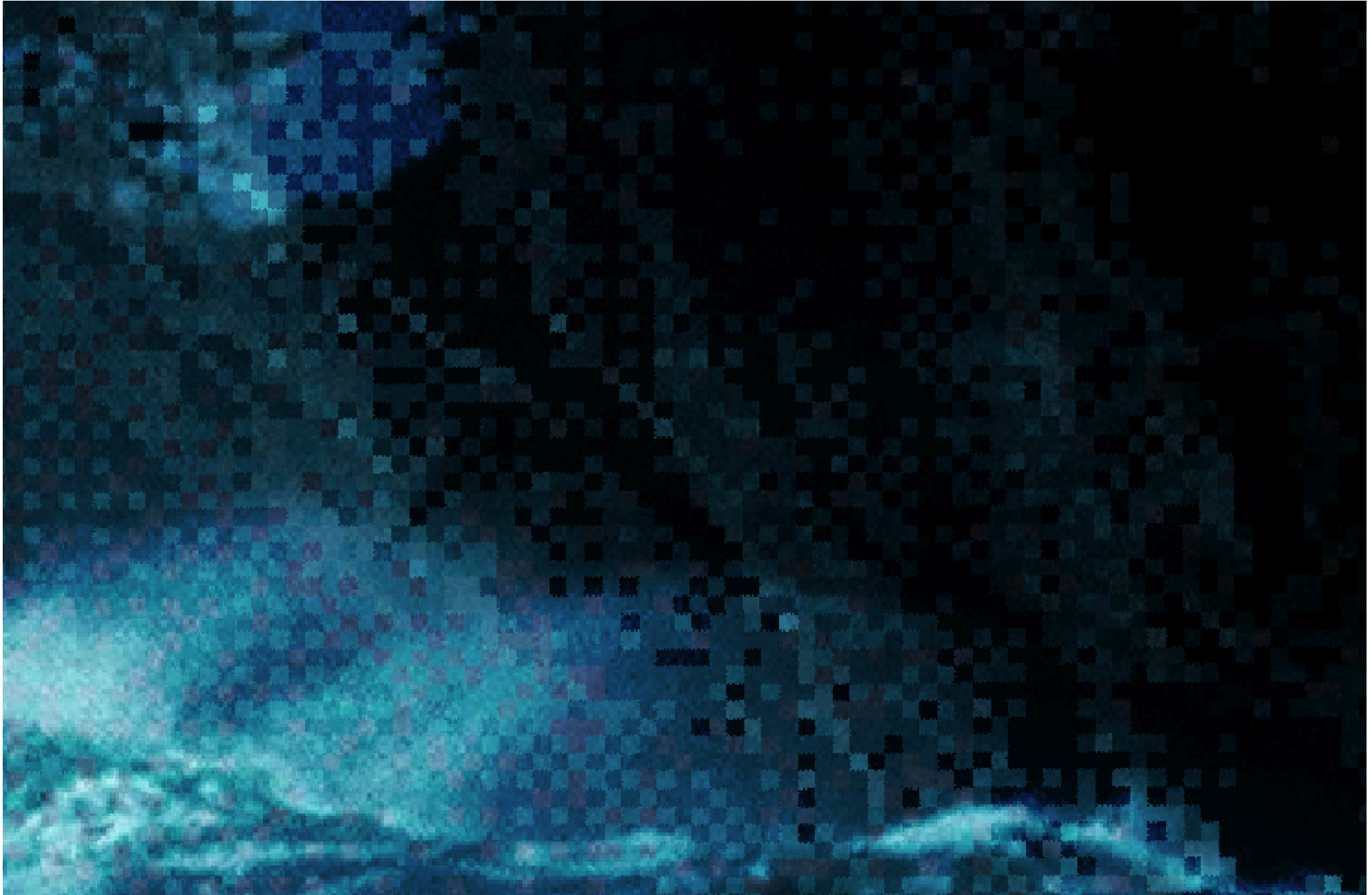


# Intellijel Swells – 2026.04.09

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Multi-Model Reverberation Module with Swell Generator



# Table of Contents

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<b>Compliance Statements</b> .....	<b>3</b>
<b>Installation</b> .....	<b>4</b>
<b>Welcome to Swells</b> .....	<b>5</b>
<b>Reading this Manual</b> .....	<b>5</b>
<b>Getting Started</b> .....	<b>6</b>
Controls, Modulation, and LED Behaviour.....	6
SWELL Modulation: Assignment and Controls.....	6
Model Reference Table.....	6
<b>Model Reference Table</b> .....	<b>7</b>
<b>Panel</b> .....	<b>8</b>
Input and Output Jacks.....	8
Knobs and Sliders.....	8
Buttons and Switches.....	9
Alt Functions.....	9
<b>Reverb</b> .....	<b>10</b>
Reverb ALT Functions.....	11
<b>Momentary FX</b> .....	<b>12</b>
Freeze.....	12
Reverse.....	12
Burst.....	12
Latching Behaviour.....	13
TRIG Assignment.....	13
<b>Swell and Modulation</b> .....	<b>14</b>
Swell.....	14
Swell ALT Functions.....	15
External CV Modulation.....	15
<b>Advanced CV + SWELL Assign mode</b> .....	<b>16</b>
<b>Send/Return Mode</b> .....	<b>16</b>
<b>Factory Reset</b> .....	<b>16</b>
<b>Firmware</b> .....	<b>17</b>
<b>Technical Stuff</b> .....	<b>18</b>
Specifications.....	18

# Compliance Statements

## FCC COMPLIANCE STATEMENT



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.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

## CANADA

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003.

## LEGAL DISCLAIMER

The information in this document is subject to change without notice and should not be construed as a commitment by Intellijel. Intellijel assumes no responsibility for any errors that may appear in this document. Intellijel may also make improvements and/or changes in the products and programs described in this document at any time without notice. In no event shall Intellijel be liable for any special, indirect, or consequential damages or any damages whatsoever resulting from loss of use, data, or profits, whether in an action of contract, negligence, or other action, arising out of or in connection with the use or performance of this information.

## EUROPEAN UNION REGULATION COMPLIANCE STATEMENT



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

Swells 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 or 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. Swells), record the current draw at each voltage: +12V, -12V and +5V. This info is commonly found in the manual. See [Technical Stuff](#) for specs.
2. Sum 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, Swells 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 and 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 Module


1. Switch off and 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 Swells. The header is shrouded to help with orientation. This cable may already be connected to the module. 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 cable aligns with the side of the power header labelled “-12V” or similar. 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.**

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.

# Welcome to Swells

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Intellijel Swells is a multi-model reverb module with a built-in **SWELL Generator**.

Choose from nine unique reverb models, passionately researched and developed by Intellijel. The models include everything from lush halls and plates, to reimagined vintage digital devices, to downright bizarre and otherworldly “spaces”.

Each reverb model has a comprehensive set of controls, including eight dedicated sliders for **PREDELAY**, **SIZE**, **DECAY**, **DAMPing**, and **EQ**, plus two “per-model” controls called **EBB** and **FLOW**. Set the optimum balance of dry and wet signals using the dedicated **INPUT** and **MIX** controls. There’s also a **DRIVE** option to saturate the signal fed into the reverb. All of these controls respond very smoothly to both internal and external modulation.

The **SWELL** generator creates waves of modulation. It is essentially an envelope follower with four operating modes. A ‘SWELL’ can be triggered from the input signal, output signal or a dedicated external sidechain input. You can also trigger it manually with the **TRIG** input or **SWELL** button. Adjust **RISE**, **FALL** and **THRESHold** to determine the shape and reactivity of your **SWELL** modulation.

The output of the **SWELL** generator is normalised to all reverb parameters, for instant self-modulation. Assign **SWELL** to parameters using the attenuverters – start with them at noon, then apply positive or negative modulation as you explore. The **SWELL** generator has a dedicated output, so you can send swells of modulation to other modules, too.

Swells features additional effects to spice up your reverbs: **FREEZE**, **REVERSE**, **BURST**, and **LO-FI**. **FREEZE** captures a slice of audio for infinite sustain through the reverb. **REVERSE** flips the audio playback from the pre-delay. Then there’s **BURST**, which fires off a momentary effect – such as a burst of noise or a surge of pre-delay feedback. Assign any or all of these FX to the **TRIG** Input.

**LO-FI** applies a model-specific effect which degrades or modifies the audio through your reverb to impose new dimensions of character. There are three levels of LO-FI: **OFF**, **MIN**imum and **MAX**imum.

The diverse and versatile set of reverb models in Swells lets you conjure a virtually infinite variety of reverberant spaces for your sound explorations. Swells is a reverb module that rewards those who like to tweak, explore and experiment.

## Reading this Manual

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

For example, **ALT** functions will be referred to in **GREY**, and unique elements will be written as they appear, such as **SWELL** or **OUT L**.

LED colours and behaviours also play an important role in the operation of Swells. We refer to their colour and behaviour in *ITALIC ALL CAPS*. For example, the parameter slider position is indicated by a *LIT GREEN* LED.

# Getting Started

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Before diving into the depths of Swells, here's a quick guide to the core functions. This page will also help you to interpret the Model Reference Table.

## Controls, Modulation, and LED Behaviour

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There are **8 Slider Controls**, plus the **INPUT** and **MIX** knobs, which control the main parameters and mix of your reverb. Patch audio into **IN L** & **IN R** and out from **OUT L** / **OUT R**, then experiment with these controls.

All of these controls can be modulated by the **SWELL** Generator, or by external CV patched to the input jacks above the sliders. Attenuverters control the modulation amount and polarity. The **LEVEL** CV input affects both **INPUT** and **MIX**.

Parameter LEDs reflect control values, including their modulated position and polarity. When no modulation is applied, parameter LEDs appear *GREEN* (upper range) or *RED* (lower range).

When modulation is assigned from the attenuverters, the Parameter LED will change colour to *CYAN* (upper range) or *PURPLE* (lower range).

## SWELL Modulation: Assignment and Controls

---

The **SWELL Generator** is normalised to all **8 Slider Controls**, plus **INPUT** and **MIX** via the **LEVEL** attenuverters. **SWELL** can be easily assigned to any parameter, by turning the associated attenuverter – the parameter LEDs will change colour as described previously.

The CV from the **SWELL Generator** is output from **SWELL** and can be patched to other Eurorack modules.

To remove **SWELL** modulation from a control, set the attenuverter to the centre position. **We recommend starting with all 10 attenuverters centred** (no modulation), then adjust to taste.

The **SWELL Generator** is controlled by the **RISE**, **FALL** and **THRESH** knobs at the bottom of the module. The **IN/SC/OUT** switch selects the trigger source, and the **SWELL** button can be used to manually activate the envelope.

## Model Reference Table

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The table on the next page describes the controls for each of Swells nine reverb models.

The overall sound of Swells is determined by the **MODEL** and **LO-FI** switches, **EBB** and **FLOW** will change function based on the switches.

### MODEL — Choose your Reverb Model

The **MODEL Switch** on the left selects bank **X**, **Y** or **Z**.

The **MODEL Switch** on the right selects **1**, **2** or **3**.

The combined positions of the two **MODEL** switches select the currently active reverb model.

### LO-FI — Modify your Model

The **LO-FI** selector switch is a model modifier, located on the right of the **MODEL** selector switches. It has three positions: **OFF**, **MIN**, and **MAX**, which determine the intensity of the effect.

Models in banks **X** and **Y** each have common **LO-FI** effects. The exotic Models in Bank **Z** are each affected individually by the **LO-FI** switch. Refer to the Model Reference Table on the next page for more information.

### EBB / FLOW

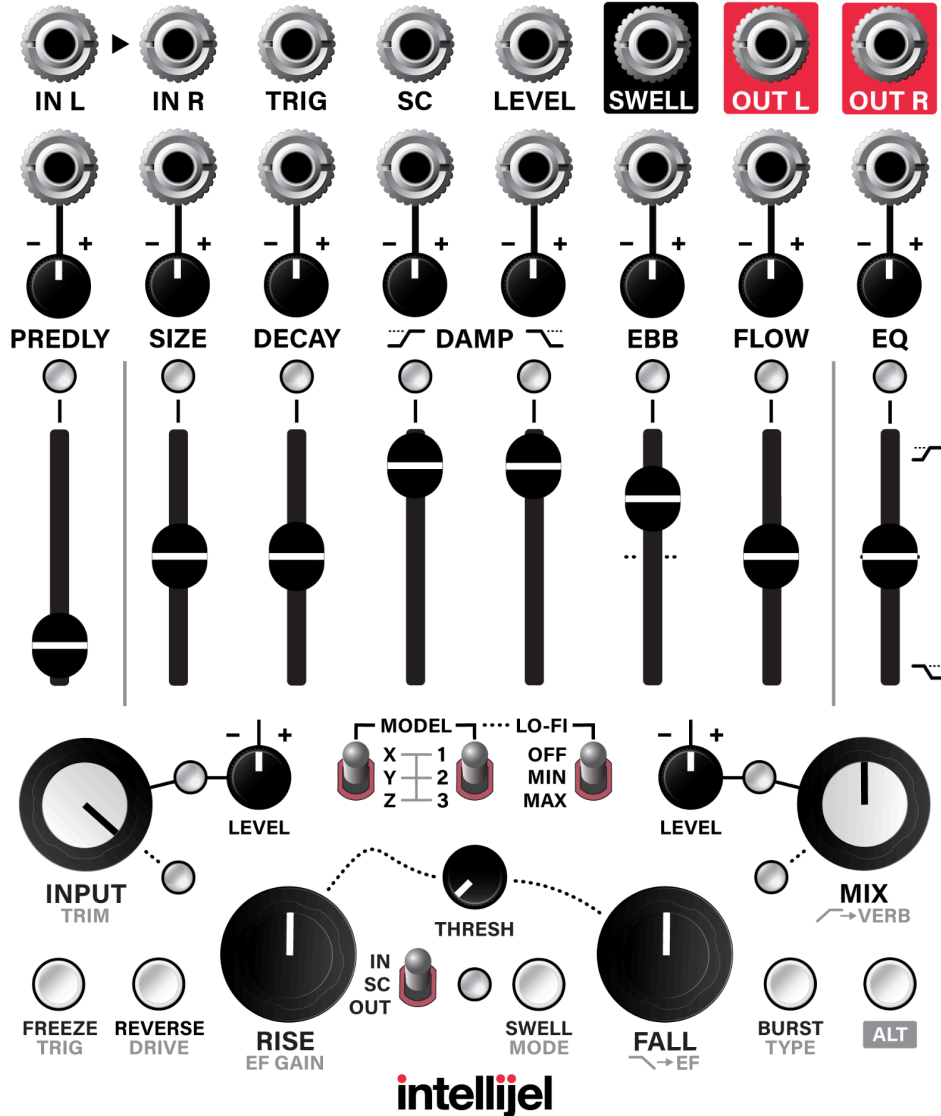
**EBB** and **FLOW** each add two unique parameters per model, determined by the **MODEL** and **LO-FI** switches.

Either slider may be *unipolar* or *bipolar* (min in centre position), depending on the parameter assigned. This will be indicated by the parameter LED behaviour for the control, and marked with “±” on the Model Reference Table.

MODEL	DESCRIPTION	EBB	FLOW	LO-FI OFF	MIN	MAX
X-1	<b>Fog</b> Sealegs' classic lush reverb, offered here with full control.	<b>Diffusion</b> Sparse → Smeared	<b>Modulation ±</b> ↑ Sine ↓ Random	—	<b>Tape Wow</b> <b>Subtle Saturation</b>	<b>Tape Wow/Flutter</b> <b>Deep Saturation</b>
X-2	<b>Blur</b> The mutant offspring of Multigrain's built-in reverb.	<b>Diffusion</b> Sparse → Smeared	<b>Modulation ±</b> ↑ Sine ↓ Random	—	<b>Tape Wow</b> <b>Subtle Saturation</b>	<b>Tape Wow/Flutter</b> <b>Deep Saturation</b>
X-3	<b>Shadow</b> Classic Dark Hall, long corridors, huge spaces.	<b>Diffusion</b> Sparse → Smeared	<b>Modulation ±</b> ↑ Sine ↓ Random	—	<b>Tape Wow</b> <b>Subtle Saturation</b>	<b>Tape Wow/Flutter</b> <b>Deep Saturation</b>
Y-1	<b>Velvet</b> High echo density with fast attack but no metallic ringing. Modern and bright.	<b>Diffusion</b> Sparse → Smeared	<b>Modulation ±</b> ↑ Sine ↓ Random	—	<b>Jel Compression</b> Fast Att / Slow Rel 4:1 / Medium Thresh	<b>Squash Compression</b> Slow Att / Slow Rel 8:1 / Low Thresh
Y-2	<b>Asterion</b> A metastable multitap delay, inspired by celestial vintage hardware units of yore.	<b>Diffusion</b> Sparse → Smeared	<b>Modulation ±</b> ↑ Sine ↓ Random	—	<b>Jel Compression</b>	<b>Squash Compression</b>
Y-3	<b>Deadspace</b> Non-Newtonian smearing for the astrally inclined, rending the fabric of space and time.	<b>Filter Resonance</b> Off → Max	<b>Force ±</b> ↑ Push ↓ Pull	—	<b>Jel Compression</b>	<b>Squash Compression</b>
Z-1	<b>Buckets</b> A matrix of variable sample-rate delays, with cruft and crunch intact.	<b>Mod Rate</b> Slow → Fast	<b>Mod Depth ±</b> ↑ Sine ↓ Random	<b>BBD Clock Rate</b> 1/1	<b>BBD Clock Rate</b> 2/3	<b>BBD Clock Rate</b> 1/2
Z-2	<b>Ritual</b> Hail to this harmonious reverb, octaves, fifths, and spiralling dissonance.	<b>Pitch / Freq Shift ±</b> ↑ Shift Up ↓ Shift Down	<b>Shifted Feedback</b> Off → Max	<b>Quantized Pitch</b> ± 2nd, 4th, 5th, Oct	<b>Free Pitch</b> ± 1 Oct	<b>Freq Shifting</b> ± 100Hz
Z-3	<b>Gaze</b> Inspired by classic nonlinear algorithms with a modern slant.	<b>Diffusion</b> Sparse → Smeared	<b>Shape</b> Flat → Ramp	<b>Saturation</b>	<b>Boost w/ Saturation</b>	<b>High gain w/ Hard Clip</b>

# Panel

## Swells



**Note:** The controls in this diagram are set to a 'neutral position'. If you ever want to reset your mixer, copy these settings!

## Input and Output Jacks

**IN L** **IN R** Left and right audio input (left normals to right)

**TRIG** Assignable Trigger input (>1.2V)

**SC** Sidechain audio / CV input for **Swell** ( $\pm 10V$ )

**LEVEL** CV input for **INPUT** and **MIX** controls ( $\pm 10V$ )

**SWELL** **SWELL** envelope output (0-5V)

**OUT L** / **OUT R** Left and right audio output

**Mod Inputs 1-8** Parameter modulation Inputs ( $\pm 10V$ )

## Knobs and Sliders

**PREDLY** Pre-delay parameter

**SIZE** Size parameter

**DECAY** Decay / Feedback parameter

**Lo-DAMP** Low-frequency damping

**Hi-DAMP** High-frequency damping

**EBB** Model-specific parameter 1

**FLOW** Model-specific parameter 2

**EQ** High / Low Tilt EQ for the reverb signal

**CV Attn 1-8** Attenuverters for **Mod Inputs 1-8** / **SWELL**

**INPUT** Level of **IN L** / **IN R** signal to reverb

**MIX** Dry / Wet mix control

**LEVEL Attn (INPUT)** CV attenuverter for **LEVEL** to **INPUT**

**LEVEL Attn (MIX)** CV attenuverter for **LEVEL** to **MIX**

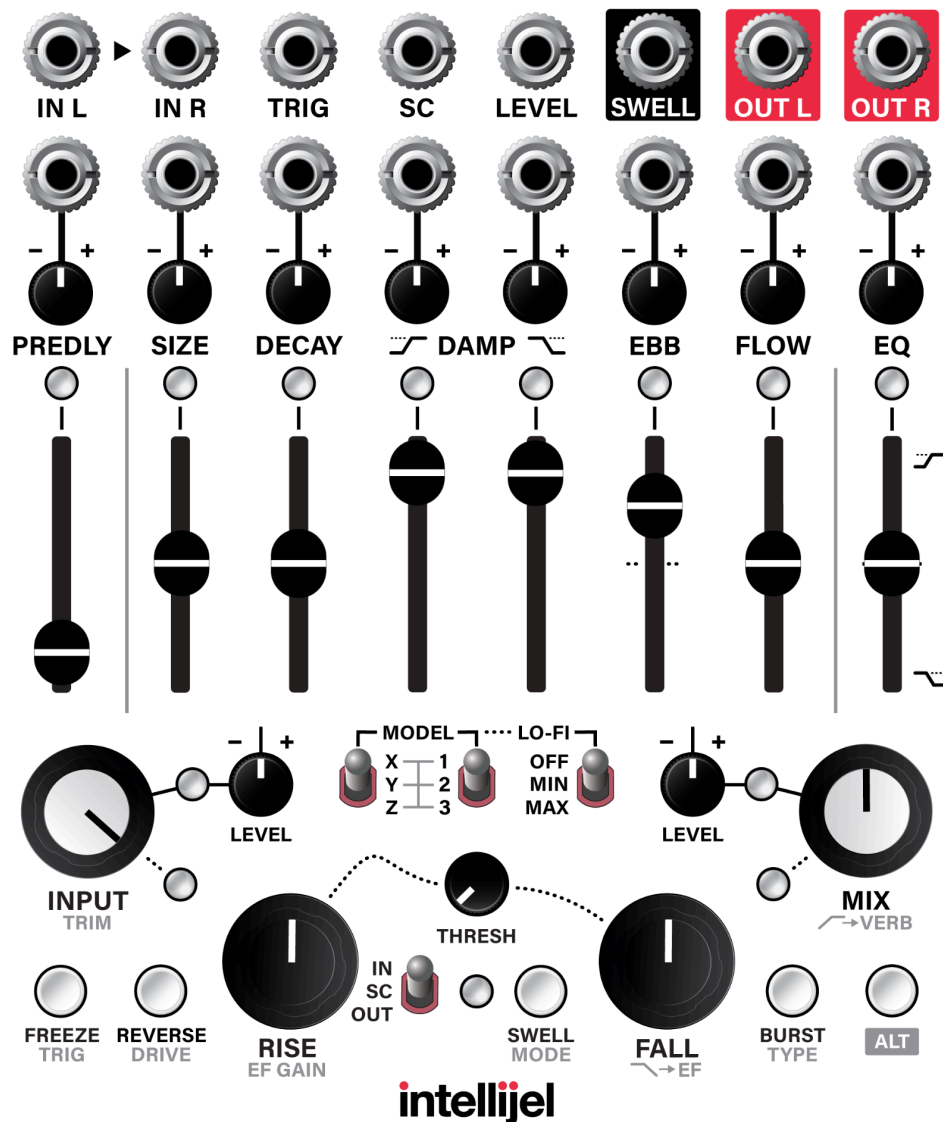
**RISE** Controls rise / attack time of **SWELL**

**FALL** Controls fall / decay time of **SWELL**

**THRESH** Threshold setting for triggering **SWELL**

# Panel (Continued)

## Swells



**Note:** The controls in this diagram are set to a 'neutral position'. If you ever want to reset your mixer, copy these settings!

# Buttons and Switches

**MODEL X / Y / Z** Reverb Bank selector switch

**MODEL 1 / 2 / 3** Reverb Model selector switch

**LO-FI** Reverb modifier effect switch

**FREEZE** Freeze effect toggle

**REVERSE** Reverse effect toggle

**IN / SC / OUT** Switch selects signal source for **SWELL**

**SWELL** Manual trigger for **SWELL**

**BURST** Manual trigger for "Burst" effect

**ALT** Accesses **ALT** functions (labelled in grey)

## Alt Functions

**TRIM** Adjusts the gain of input signal

**HPF → VERB** Sets highpass cutoff on the input to the reverb

**TRIG** Assign **TRIG** Input to functions

**DRIVE** Toggle **DRIVE** saturation for **INPUT**

**EF GAIN** Sets the gain of trigger source for **SWELL**

**MODE** Selects the trigger mode of **SWELL**

BLUE	Follow
AMBER	Gated
GREEN	One Shot
PURPLE	Delayed One Shot
RED	Looping

**LPF → EF** Sets lowpass cutoff on the **SWELL** source

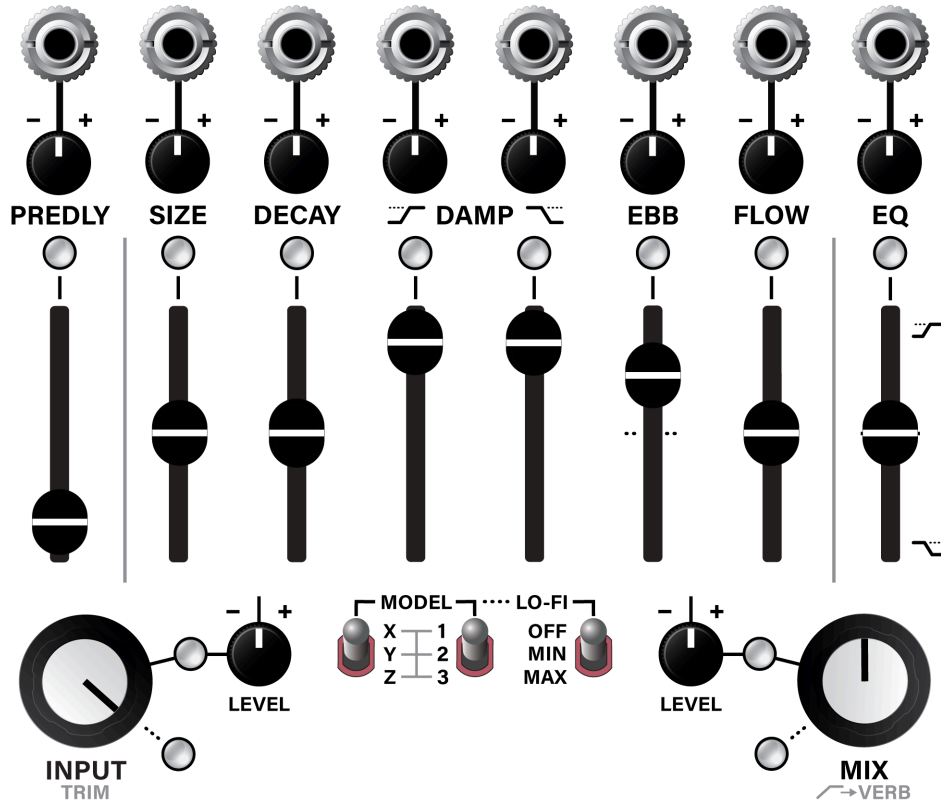
**TYPE** Selects **BURST** type

WHITE	White Noise
PINK	Pink Noise
PURPLE	Velvet Noise
RED	High Feedback on <b>PREDLY</b>

# Reverb

Swells has a comprehensive set of controls on the panel, most of which will be familiar if you've used reverbs before. The controls are tuned for each reverb.

**EBB**, **FLOW** and **LO-FI** are unique for each model. Their functions are outlined in the [Model Reference Table](#). →



The **Slider Controls** on Swells are your eight main reverb parameters. Each slider has a linked Parameter LED, Attenuverter and CV input directly above it. **INPUT** and **MIX** each have an Attenuverter and LED, but share a single **LEVEL** CV input.

The Parameter LED displays the slider's current position in *GREEN* (unipolar or upper range) or *RED* (bipolar lower range). Modulation is assigned with the CV attenuverters. When modulated, the parameter LED will show the modulated position in *CYAN* or *PURPLE*.

## MODEL Selector Switches

The combined positions of the two **MODEL** switches select the currently active reverb model.

The **MODEL Switch** on the left selects bank **X**, **Y** or **Z**.

The **MODEL Switch** on the right selects **1**, **2** or **3**.

## LO-FI

The **LO-FI** selector switch is a model modifier, located on the right of the **MODEL** selector switches. It has three positions: **OFF**, **MIN**, and **MAX**, which determine the intensity of the effect.

Model-specific functions, as noted in the [Model Reference Table](#). →

## INPUT

Sets the level from **IN L** & **IN R** to the reverb signal path only (post **TRIM**).

The LED with the dotted line to **INPUT** is the **Input Activity LED**. This displays input signal level to the reverb from min to max: *OFF*>*GREEN*>*YELLOW*>*RED*. On Swells, it's perfectly okay to push the signal louder towards *YELLOW* / *RED* as models will purposely soft or hard clip the signal.

If you feel your input signal range or dry signal is too loud or too quiet, you may need to adjust **TRIM** instead of **INPUT**. When the **DRIVE** toggle is enabled, **INPUT** will also control the drive amount.

See [Reverb ALT Functions](#) for more on **DRIVE** and **TRIM**. →

## MIX

Sets the mix between the dry input signal and the reverb signal.

The response curve of the **MIX** control is set to 'equal power', meaning the overall output level is optimised for equal loudness as you transition from dry to reverbed signal.

The LED with the dotted line to **MIX** is the Output Activity LED. This displays the module output level from min to max: *OFF*>*GREEN*>*YELLOW*>*RED*.

## PREDLY

Sets the pre-delay time of the reverb from 0 to 250ms.

The **PREDLY** is also used to set the time/division for the **REVERSE** delay.

See [Reverse](#) for more. →

## SIZE

Determines the perceived size of the reverb – minimum **SIZE** values sound *small*, maximum values sound *large* (or even *massive*). Each model on Swells has its own range for **SIZE**.

## DECAY

Sets the time it takes for reverb to fade into silence. Minimum **DECAY** values fade *quickly*, maximum values fade over *long* or *near infinite* time scales.

Note: **DECAY** is also affected by **SIZE** and **DAMP** controls.

## HI-DAMP and LO-DAMP

Two controls that reduce the decay time specifically for the low and high frequencies – at the top of the slider, minimal damping is applied; at the bottom of the slider, maximum damping is applied.

The **DAMP** controls are linked to the **DECAY** setting. For maximum decay times, all three of these sliders would be set at maximum.

## EBB / FLOW

Model-specific functions, as noted in the [Model Reference Table](#). →

Either slider may be *unipolar* or *bipolar* (min in centre position), depending on the parameter assigned. This will be indicated by the LED behaviour for the control, and marked with “±” on the Model Reference Table.

## EQ

A sweepable high / low tilt **EQ** on the reverb signal only.

This slider has a bipolar range. The upper range will *boost highs* and *cut lows*.

The lower range will *boost lows* and *cut highs*. In the centre position, the **EQ** has *no effect* on the reverb.

## Reverb ALT Functions

The following reverb functions are accessible from the Alt page and are labelled on the panel in **GREY**.

Press **ALT** to open the Alt Page. Press again to exit.

Alternatively, press and hold **ALT** for momentary access. Release to exit.

Note: When the Alt Page is active, the parameter LEDs display modulation amount for each parameter (rather than static / modulated value). This gives you a quick overview of your modulation assignments.

### TRIM (ALT + INPUT)

Adjusts the gain of the inputs **IN L** & **IN R**.

Press or hold **ALT** to enter the Alt Page, then adjust **TRIM** from x0.5 gain (CCW) to x2.5 gain (CW), with x1 in the centre position.

When entering the Alt Page or adjusting **TRIM**, the **Input Activity LED** displays gain level (**CYAN**); it will *FADE* when set to 1x (default).

When the **TRIM** is idle, this LED indicates the input signal at (pre **INPUT**) from min to max: **OFF**>**BLUE**>**YELLOW**>**RED**.

### DRIVE (ALT + REVERSE)

Overdrive the **INPUT** signal to the reverb.

Note: **DRIVE** does not affect the dry signal level.

Press **ALT**, then press **DRIVE** to enable. The button will turn **LIT BLUE**.

### HPF → VERB (ALT + MIX)

Applies a highpass filter to the reverb signal path.

The highpass frequency range is set from 50Hz (CCW) to 400Hz (CW).

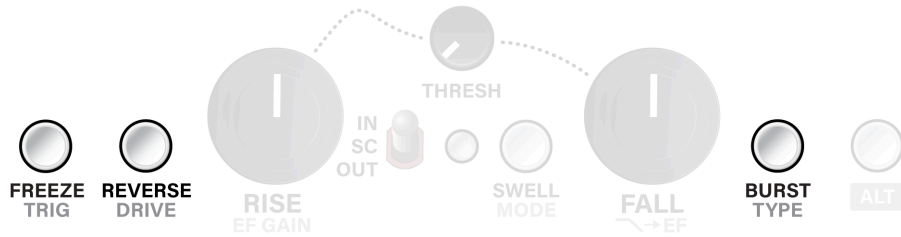
The LED indicator (**CYAN**) displays HPF frequency; it will *DIMLY FADE* when set to its minimum level at 50Hz (default).

# Momentary FX

Swells features some interesting one-button effects that complement the primary function of this module. These effects are usually toggled on/off or activated momentarily.

They can also be triggered externally from the **TRIG** input.

See [TRIG Assignment](#) for more. →



## FREEZE

Freeze the input signal to the reverb for eternal, droning soundscapes.

Press the **FREEZE** button to toggle on/off, or hold for momentary activation. It will turn *LIT BLUE* when enabled.

You can still hear the dry signal when mixed in, but no new audio will reach the reverb when **FREEZE** is active.

## REVERSE

Reverses the input signal to the reverb for some wonderfully trippy reverberations.

Press the **REVERSE** button to toggle on/off, or hold for momentary activation. It will turn *LIT PINK* when enabled.

## REVERSE + PREDLY – Reverse Time

Hold **REVERSE** and adjust the **PREDLY** slider to adjust **Reverse Time**.

The parameter LED for **PREDLY** will turn *PINK* when holding **REVERSE**. Adjusting **Reverse Time** does not affect **PREDLY** time or modulation.

You can set the **Reverse Time** from 100ms to 2 seconds, or as divisions if **Reverse Sync** is enabled (*/1, /2, /4, /8*).

See [Reverse Sync](#) for more. →

## BURST

Injects a momentary burst of noise into the input path of the reverb.

Press and hold the **BURST** button for momentary activation. The button LED is *LIT* when activated, and its colour will reflect the currently selected **TYPE**.

## TYPE (ALT + BURST)

There are four different types of **BURST**.

Press or hold **ALT** to access the Alt Page, then press **TYPE** repeatedly to cycle through the following options:

<i>WHITE</i>	White Noise Burst
<i>PINK</i>	Pink Noise Burst
<i>PURPLE</i>	Velvet Noise Burst
<i>RED</i>	Sets High Feedback on <b>PREDLY</b>

## Latching Behaviour

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Swells Momentary FX can all be latched into an *ON* position.

**FREEZE** and **REVERSE** can be both toggled *ON/OFF* with a tap of the button. If the button is held, the effect will only be active until the button is released.

**SWELL** and **BURST** are both momentary by default; the effect will be active when the button is held, and inactive when the button is released.

**FREEZE**, **REVERSE**, **SWELL**, and **BURST** can all be latched *ON* by pressing the **ALT** button when any of these other buttons are held down.

This can be useful if you would like to have sustained noise from **BURST** or if you are holding **FREEZE** and decide you would like your hand back, but keep things frozen.

## TRIG Assignment

---

Swells has a single assignable Trigger/Gate input amongst the patch points, labelled **TRIG**. This can be assigned to the **FREEZE**, **REVERSE**, **SWELL** or **BURST** buttons in any simultaneous combination.

### TRIG ( **ALT** + **FREEZE** )

Press **ALT**, then press **TRIG** to enter the **TRIG** Assignment Page.

Press **FREEZE**, **REVERSE**, **SWELL** and **BURST** to toggle **TRIG** assignment on/off. The button LEDs are *LIT AMBER* when assigned to the **TRIG** input.

Press **ALT** to exit the **TRIG** assignment page.

Note: The **TRIG** Assignment Page is a sub-page of the Alt Page. The rest of the controls here will function as they do on the Alt Page.

### Reverse Sync

**Reverse Time** can be synchronized to a clock signal patched into **TRIG**.

On the **TRIG** Assignment Page, hold **REVERSE** for ~1sec to enable. The **REVERSE** button LED will *FLASH AMBER* when synced.

In order for **Reverse Sync** to work, the clock signal must have a period between 50ms and 1.25sec. If the clock period is longer, this function may not be able to stay synchronized.

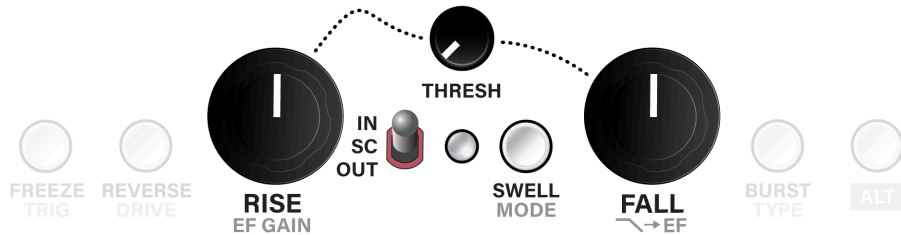
Note: If there's no clock signal patched into **TRIG**, and **Reverse Sync** is enabled, **REVERSE** will not output signal to the reverb. Therefore the reverb path will go silent.

# Swell and Modulation

Modulation is an integral part of Swells. The eight sliders, input control and mix control can be controlled with external CV, or modulated with its internal modulation source 'SWELL'. Assign modulation to each parameter with a range of your choosing, using the attenuverters.

## SWELL

**SWELL** is a built-in envelope generator that can be triggered by a variety of sources, shaped in great detail, and rapidly assigned to the **8 Slider Controls**, **INPUT** and **MIX** through extensive normaling. **SWELL** also has a dedicated CV output (0-5V), so you can patch it out to the rest of your system.



To assign **SWELL** to any of the **8 Slider Controls**, turn the parameter attenuverters in either direction past the centre. To assign it to **INPUT** or **MIX**, turn the linked **LEVEL Attenuverters**. The associated parameter LEDs will change colour set from *GREEN/RED* to *CYAN/PURPLE*, to show that the control is under the influence of modulation (internal or external).

### Swell Source Switch

Select the source signal for triggering **SWELL**. There are three options to choose from:

- IN** - Swell is triggered by the signal at **IN L** & **IN R** (pre **INPUT**)
- SC** - Swell is triggered by a signal patched to **SC** Input (short for 'Sidechain')
- OUT** - Swell is triggered by audio at **OUT L** / **OUT R** (post **MIX**)

### RISE

Sets the attack time of the envelope when **SWELL** is triggered.

This ranges from 10ms (CCW) - 5sec (CW)

**RISE** is *logarithmic* – the initial rise is faster, and slows as it reaches the end of the rise. The trigger mode and threshold will also affect the **RISE** time.

**MODE** and **THRESH** will also affect **RISE**.

### FALL

Sets the envelope's release time after the **RISE** section completes.

This ranges from 10ms (CCW) - 5sec (CW)

**FALL** is *exponential* – the level drops faster when **FALL** starts, and becomes shallower as it reaches the end.

**MODE** and **THRESH** will also affect **FALL**.

### THRESH

Sets the threshold at which **SWELL** is activated by the trigger source.

Set a low threshold for more swells by turning CCW. Or set a high threshold for less swells by turning CW.

### Swell Activity LED

Visualises the activity of **SWELL**. It is situated between the **Swell Source Switch** and **SWELL Button**. LED colour is dependent on the Swell **MODE**.

### SWELL button

Manually trigger a **SWELL** by pressing the **SWELL button**.

**SWELL** will trigger based on the currently selected **MODE**. →

The **SWELL button** is typically momentary, but it can be latched.

Hold **SWELL button** and then press **ALT** to latch on.

To unlatch, press **SWELL** again.

The **SWELL button** function can be assigned to the **TRIG** input.

See [TRIG Assignment Page](#) Input for more. →

## Swell **ALT** Functions

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### **MODE (ALT + SWELL)**

Selects the trigger mode for **SWELL**.

To switch between Swell Modes, Press **ALT** to enter the Alt Page, then Press **MODE** to toggle.

There are five to choose from, identified by the colour of the **MODE** button:

- BLUE**      **Follow** – Classic Envelope Follower, input determines output level.
- AMBER**    **Gated** – When the threshold is reached, the input signal is treated as full scale.
- GREEN**     **One Shot** – Passing the threshold will trigger a full-length envelope.
- PURPLE**   **Delayed One Shot** – Passing the threshold will trigger a delayed full-length envelope - to be fired when the signal drops below the threshold again.
- RED**        **Looped** – Looping Envelope, passing threshold will retrigger.

### **EF GAIN (ALT + RISE)**

Set the source signal gain that triggers **SWELL** independently from the rest of the signal path. This helps to offset the range of **THRESH** without affecting the signal level through the reverb.

Press **ALT** to enter the Alt Page, then turn **EF GAIN (RISE)** to set the level, from x0.5 gain (CCW) to x2.5 gain (CW).

On the Alt Page, The **SWELL Activity LED** will alternate between **CYAN** and **BLUE**. The brightness of the LED when **CYAN** indicates the **EF GAIN** setting. The LED will *SLOWLY FADE CYAN* when **EF GAIN** is set to the default of x1 gain (Centre).

### **LPF → EF (ALT + FALL)**

Set the frequency of a lowpass filter that's applied to the source signal triggering **SWELL**.

Press **ALT** to enter the Alt Page, then turn **LPF → EF (FALL)** to set the frequency of lowpass filter. Frequency ranges from 40Hz (CCW) to 'Filter Off' (CW).

On the Alt Page, The **SWELL Activity LED** will alternate between **CYAN** and **BLUE** (as previously mentioned). The brightness of the LED when **BLUE** indicates the the **LPF → EF** setting. The LED will *SLOWLY FADE BLUE* when the filter is off (CW) as this is the default.

## External CV Modulation

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Of course, it's also possible to modulate Swells parameters with external CV. The unlabelled patch points above the parameters are the CV inputs for parameter sliders directly below them.

Simply patch in a CV modulation source ( $\pm 10V$ ), and use the attenuverters to set the range and inversion of the modulation.

**INPUT** and **MIX** share a modulation input labelled **LEVEL**. Patch in a modulation source ( $\pm 10V$ ), and use the linked **LEVEL Attenuverters** to set the modulation range for each.

In regular operation, patching in to the CV inputs for parameters will break the normaling between **SWELL** and the linked parameter. However, it is possible to combine **SWELL** and external modulation.

Continue to the next page for [Advanced CV + SWELL Assign Mode](#). →

## Advanced CV + SWELL Assign mode

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This assignment mode allows both external **CV** and **SWELL** to modulate parameters simultaneously.

External **CV** modulation is assigned from the Home Page, with the eight parameter and two level attenuverters.

**SWELL** modulation is assigned from the Alt Page with those same ten attenuverters.

The parameter LEDs will now show attenuversion amount on each page, *instead of the parameter's value or modulated value.*

Since the attenuverters are now shared between two sources, the assignments are stored in the module – this means that the physical positions of the attenuverters may not always match the modulation depth on either page. When you move an attenuverter, the modulation amount will immediately sync with its physical position (aka ‘Jump’ behaviour).

*This mode is truly for the tinkerers!*

### **ALT** + **SWELL** (Hold 5 Sec) – Toggle Advanced/Normal Mode

Hold **ALT** and **SWELL** for five seconds to toggle between normal and advanced CV modes. Swells will exit the Alt page when the mode is changed.

When entering Advanced mode, all parameter modulation is reset.

### **ALT** + **SWELL** (Hold 1 Sec) – Clear Modulation Assignments

In this advanced modulation assignment mode, you can quickly clear assignments.

Hold **ALT** and **SWELL** for one second,  
The parameter LEDs will *FLASH WHITE* and all modulation assigned to external **CV** and **SWELL** will be immediately cleared.

## Send/Return Mode

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Swells has an alternate operation mode where the dry signal is muted. This is intended for when Swells is connected to an auxiliary send on a mixer, or used in any other situation where you do not want the dry signal passing through.

When Send/Return is enabled—

**DRY** signal is NOT passed through to the outputs.

**MIX** controls the **WET** level only.

### **FREEZE** (Hold on boot)

Toggles Send/Return Mode on and off

All buttons light *RED* for a couple seconds when Send/Return Mode is enabled.

All buttons light *GREEN* for a couple seconds when Send/Return Mode is disabled.

## Factory Reset

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### **REVERSE** (Hold on boot)

Resets the Global Settings to default.

The LEDs will flash *BLUE* to indicate that the settings are reset.

# Firmware

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

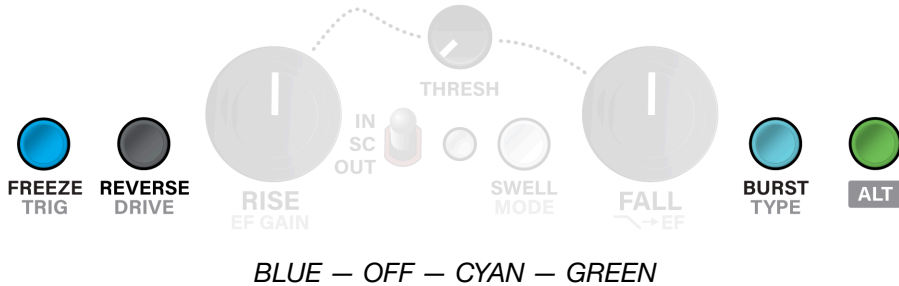
## Firmware Version

When rebooting Swells, **FREEZE** (A), **REVERSE** (B), **BURST** (C), and **ALT** (D) buttons use colour to show the current firmware version, arranged in the format – (A).(B).(C).(D)

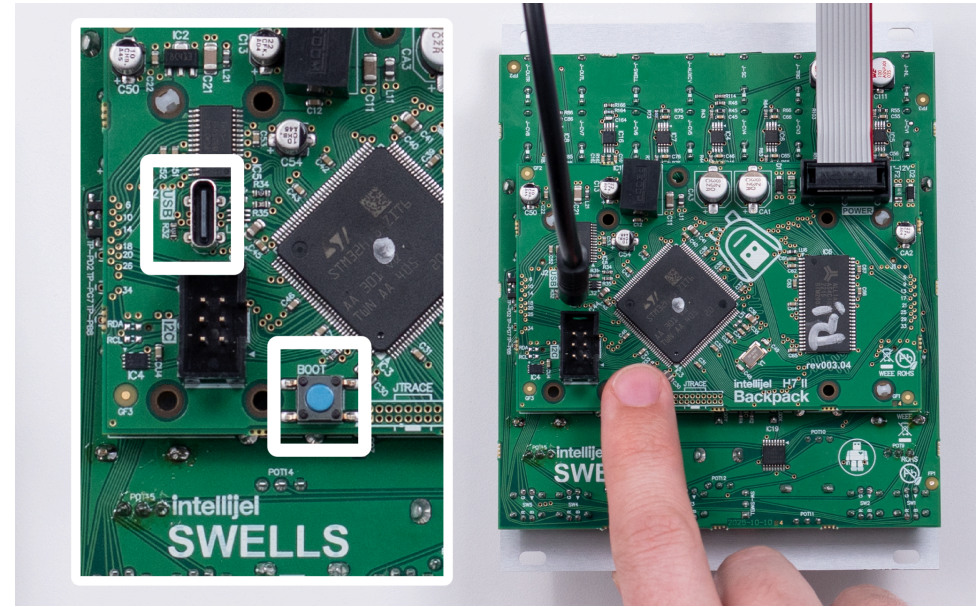
Colour Index –

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:



# How to update



Open the IntelliJ Firware Updater in your browser and follow the instructions on the page: <https://intellijel.github.io/firmware/> →

Swells Firmware Update Instructions:

- 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 the power to Swells. You can release the button as soon as the power is on.
- Open the IntelliJ Web Updater, select Swells from the dropdown menu.
- Then press "Connect", locate your device in the pop-up and press "Connect" again. It may appear in your device list as "DFU in FS Mode".
- Press "Update", wait until the updater dialogue says "Done!"
- Then disconnect the USB, put Swells back in the case, reboot the module, and check the firmware version using the LEDs.

# Technical Stuff

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## Specifications

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Module Width	20HP
Module Depth	30mm
Current	117mA at +12V 0mA at +5V 6mA at -12V