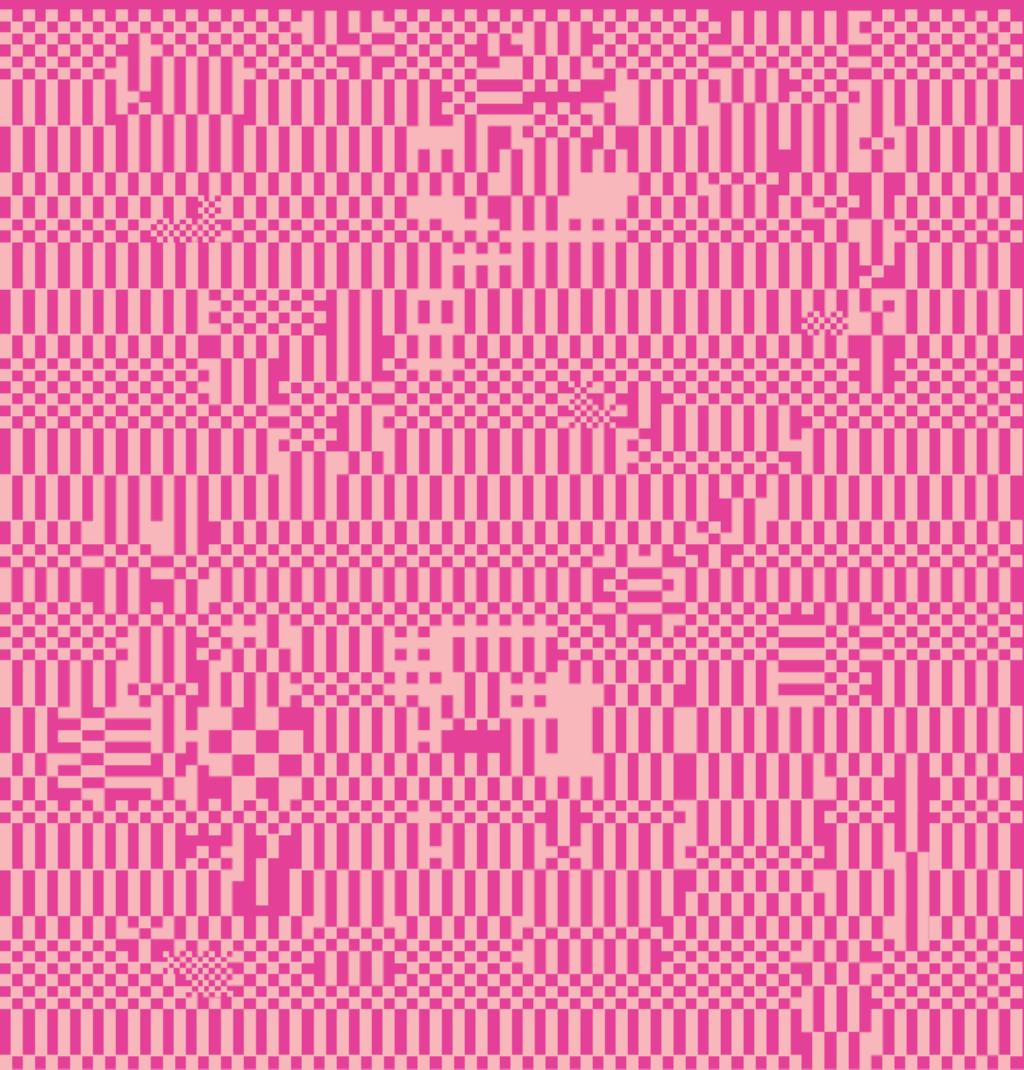


CBA + Ghz ref 2023 – LSY01



A field guide to  
**LOSSY**



# Table of Contents

---

- 2 Overview**
- 4 Setup**
- 6 Getting Started**
- 8 Controls**
- 14 Hidden Options**
- 18 Loss** → 20 Modes
- 24 Filter** → 22 Packets → 23 Ideas
- 26 Verb**
- 28 Freeze**
- 30 Gate**
- 32 Customize**
- 34 Ramping**
- 36 External Control**
- 38 Bye**
- 40 Signal Flow**

*Goodhertz*

Lossy was developed in collaboration with Goodhertz.



Power req: 9V DC Center Negative ~400 mA

## Overview

Lossy captures the special kind of degradation that happens to digital audio when it's shrunk, transferred, and otherwise contorted:

Streaming music on a 56k modem,  
an MP3 ripped from a CD-R,  
a viral video from 2007 played  
through a cellphone.

All the nasty and beautiful mistakes of heavily-deconstructed digital audio in an easy-to-tweak real-time pedal.

*Artifacts on demand.*



The pedal can be broken into three main blocks:

A loss section that deconstructs the audio (pg. 18).

A filter section to shape and emphasize the artifacts (pg. 24).

A reverb section to feed or diffuse the loss (pg. 26).

You won't find a specific format or influence replicated here, but instead a wide-ranging exploration of all the right and wrong sounds made possible through **data compression**.

It's both familiar and unlike anything else.

*Let's see.*

# Setup

Let's get Lossy settled into its new home. If you're experienced with pedals you can probably ignore this bit and dive right in.

## POWER

Lossy requires a 9V DC, center negative power supply with at least 400 mA of current.

You'll see this symbol on your power supply:



## I/O

Lossy can be used in mono, stereo, or mono to stereo. The default setting will automatically work for either mono or stereo:

Mono in, mono out



TS CABLE

Stereo in, stereo out



TRS CABLE

Many stereo devices use dual mono jacks, so you may need a TRS to dual TS-style cable.



If you have a mono input but want to split it to stereo output: Turn on the **MISO** dip switch.

And if you want to use Lossy to create a wide stereo image: Turn on the **SPREAD** dip switch (pg. 32).

## OPTIONS

Lossy has lots of ways to customize and fine-tune your experience. If you'd like to get right into all that, check out:

- Hidden Options (pg. 14)
- Customize (pg. 32)
- Ramping (pg. 34)
- External Control (pg. 36)

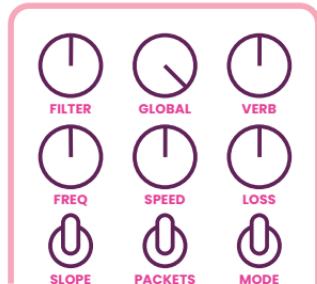
Otherwise it's probably best to start with all dip switches in this position:



*Okay let's get started.*

## Getting Started

**Begin with this:**  
Everything right up the middle except GLOBAL.



Now slowly turn LOSS up to max...



...then SPEED down to min.

*You should find yourself immersed  
in a sea of spectral artifacts.*



Try out some different filter positions and notice how they emphasize and pull different harmonics out of the artifacts.



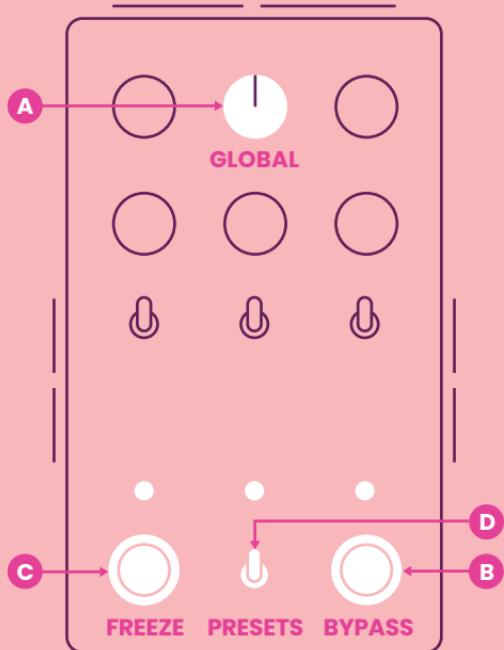
And turn on the freeze to create a roaming spectral companion.

Once you have things to your liking, roll back the GLOBAL knob to mellow out the intensity of the effect. This is a good formula for getting comfy with Lossy and making new presets – start with GLOBAL at max to really hear what it can do, then adjust to taste.



*There is a lot more to explore, so let's begin.*

## General Controls



Engage, increase, recall.

A

### GLOBAL (RAMP)

Sets the overall amount of processing in place of a Mix control. You can think of GLOBAL like a macro knob that increases the intensity of everything. If ramping is engaged (pg. 34), this knob's function will change to control the ramping speed.

B

### BYPASS / GATE

- Tap to engage the pedal.
- Hold to engage Lossy's gate (pg. 30).

C

### FREEZE / STATE

- Tap to engage the freeze effect.
- Hold to change to the solid state (pg. 28).

D

### PRESETS

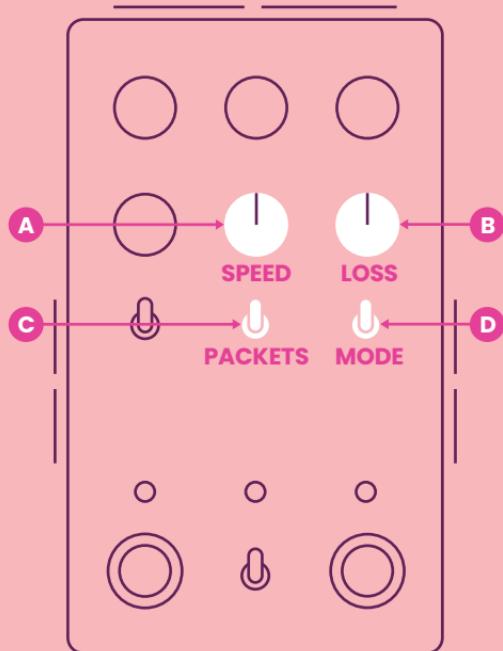
The left and right positions each store a preset, while the middle position is live. To save to the right slot, hold the right foot switch for 3 seconds, then add the left footswitch for another 3 seconds. Do the same for the left slot, but start by holding down the left footswitch. The middle LED will blink to indicate success.



### HIDDEN OPTIONS

Hold both footswitches down to adjust the Hidden Options. See pg. 14 for details.

# Loss Controls



Select, deconstruct, adjust.

## A SPEED

Controls the rate of the Loss and Packet effects, as well as the update rate of the Freeze. Slower speeds introduce spectral smearing and leave space between packets, while faster speeds become more garbled and textural.

## B LOSS

Controls the depth of the Loss and Packet effects. This will control both the strength of the effects, as well as which frequencies are affected.

## C PACKETS

Selects the Packet mode (pg. 22).

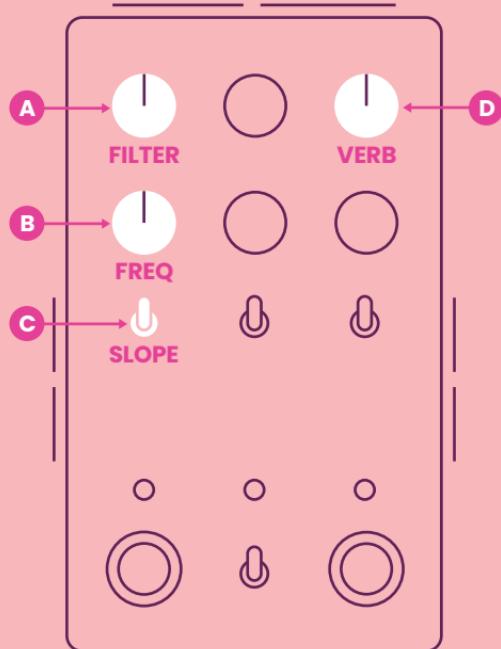
- Ⓐ PACKET REPEAT – Fills the spaces of Packet Loss with frozen audio.
- Ⓑ CLEAN – No Packet effect applied.
- Ⓒ PACKET LOSS – Recreates the skips and spaces of a bad connection.

## D MODE

Selects the Loss mode (pg. 20).

- ▢ INVERSE – Everything stripped away in Standard mode.
- ▣ STANDARD – Lossy data compression reminiscent of a low bit-rate digital MP3.
- ▣ JITTER – Inaccuracies in phase and timing due to imperfect clocking.

## Filter and Verb Controls



Cut, sweep, expand.

A

### FILTER

Controls the width of the filter. At the minimum position there will be no filtering – turning up the knob gradually introduces filtering and narrows it to focus on a specific range.

B

### FREQ

Controls the range of the filter, moving the center frequency.

C

### SLOPE

Sets the slope of the filter.

- 6dB – Gentle, tone-knob-like filtering.
- 24dB – Balanced, mildly-resonant filtering.
- 96 dB – Intense, highly-emphasized filtering.

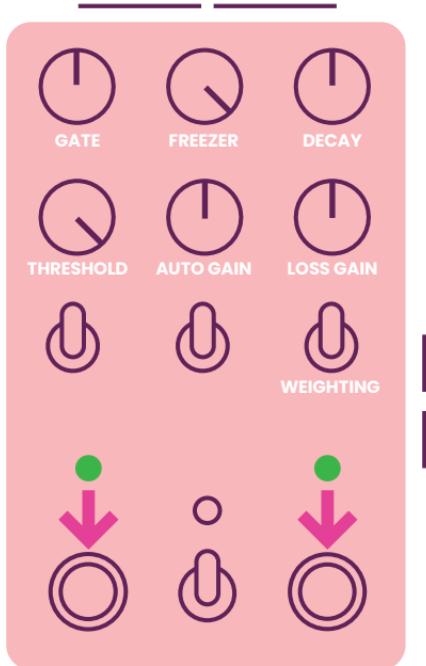
D

### VERB

Controls the reverb wet/dry mix. If the ALL WET dip switch is engaged this control becomes a true analog mix, blending the Lossy-processed signal with the analog input signal (more on pg. 33).

# Hidden Options

Hold down both footswitches until the LEDs turn green to access the Hidden Options.



(Above settings are the default for all Hidden Options.)



**GATE**  
Sets the cutoff for Lossy's gate (engaged by holding the bypass switch, pg. 30). Any audio quieter than this threshold will be silenced when the gate is on.



**FREEZER**  
Adjusts the balance between the live and frozen signal. This will only apply when FREEZE is engaged (pg. 28).



**DECAY**  
Sets the size / length of the reverb.



**THRESHOLD**  
Sets the threshold of a built-in limiter – the lower the threshold, the more limiting. The limiter helps keep the output levels consistent and also brings out the details of Lossy's various modes. The limiter tends to make signals quieter, so it's often helpful to compensate for this using the LOSS GAIN control.

## Hidden Options - Continued



### AUTO GAIN

Gradually introduces automatic gain compensation for the Loss modes. The Loss modes create their effect by manipulating the frequency spectrum, so this helps keep the perceived volume the same.

### LOSS GAIN

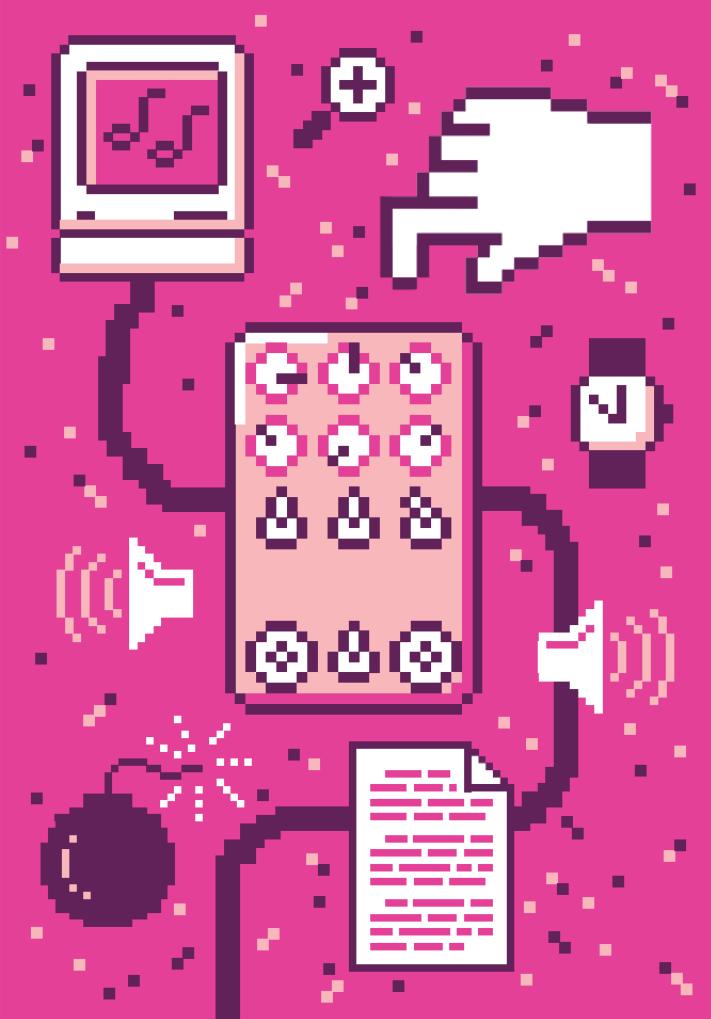
Controls the overall gain of the wet signal, with cut or boost up to 36 dB.

### WEIGHTING

Controls whether frequencies are weighted equally or if they use a psychoacoustic model for the Loss modes. This option lets you favor some frequencies over others.

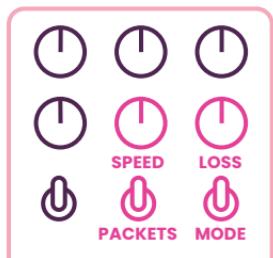


**RESET** - To reset all the Hidden Options to their default setting, flip the preset toggle to the left position and back to center three times. Once you see the blinking lights, press both footswitches to confirm.



## Loss

*This is where it happens.*

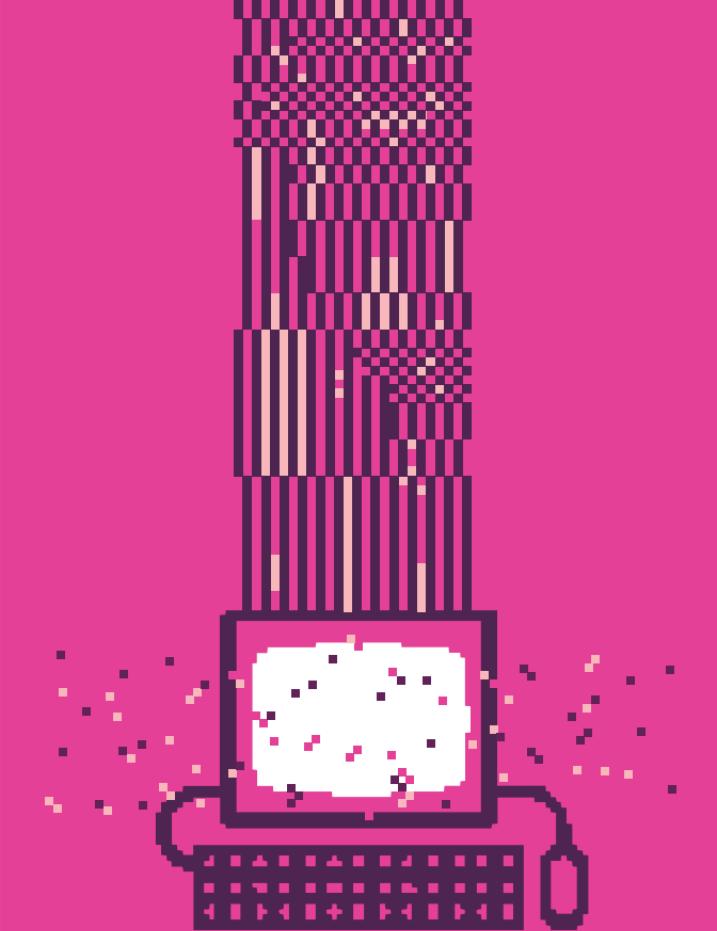


The Loss section analyzes and breaks down your input audio, degrading it and pulling out a stream of harmonics and artifacts.

It's made up of two distinct parts that you can mix and match...



...controlled by a shared set of very versatile knobs.



## Loss Modes

There are three Loss modes, each with a notably different sound, feel, and response.

Each mode starts by affecting a narrow strip of the frequency spectrum and then gradually spreads as the LOSS knob is turned up.



### STANDARD

Lossy data compression reminiscent of a low bit-rate digital MP3, with a darker sound that is stuffed full of chiming spectral harmonics.



### INVERSE

A counterpart that plays everything stripped away in Standard mode, revealing a brighter, thinner sound with a moving, feathery quality.



### PHASE JITTER

Simulates inaccuracies in phase and timing due to imperfect clocking. Useful for introducing digital sizzle, noise, and irregularities.

The data compression process can alter the loudness of your audio in a pretty big way, so there are three Hidden Controls to help with that:



### AUTO GAIN

Helps keep the perceived volume consistent across the Loss modes, regardless of how the SPEED and LOSS knobs are set.



### THRESHOLD

Applies a limiter to the overall wet signal. Similar to AUTO GAIN, except that it applies to the pedal as a whole instead of just the loss modes.



### LOSS GAIN

Sets the overall volume of the wet signal. The limiter lowers the output volume so you can use this to compensate.

They are generally set-and-forget, but you may want to adjust them to your preferences and musical setup. Your choices will be remembered when the pedal is unplugged. See more on pg. 14.

## Packet Modes

You can think of the Packet effects as a supporting flavor to introduce errors, unpredictability, and movement to the Loss effect.

They share the same knobs as the Loss modes when engaged.

 **PACKET LOSS** – Randomly generates brief audio drop-outs – moments of silence that replicate the skips and spaces of a bad connection.

 **CLEAN** – Removes the Packet effect for a steadier, more stable sound.

 **PACKET REPEAT** – Follows the same idea as Packet Loss, but instead of silence the spaces are filled with spectral smears.



The Packet effects also randomly alternate left and right when SPREAD is engaged (pg. 32) and are helpful for generating dramatic stereo movement.

## Loss Ideas



### BAD DOWNLOAD



This is a good starting point for that ripped MP3 sound, stuffed with chirping and bubbling artifacts.



### THROUGH THE PHONE



A distant and dreamy copy of a copy that crumbles and moves. Engage the GATE and adjust the cutoff to get this one to sit just right.



### JITTERBUG



Creates a grainy translation of your input that flickers with bursts of spectral freeze. Best used in stereo.

# Filter

Lossy includes a flexible filter block that lets you completely reshape the frequency spectrum.

It's a band-pass filter made up of three parts:

## FILTER

Sets the width of the filter.

## FREQ

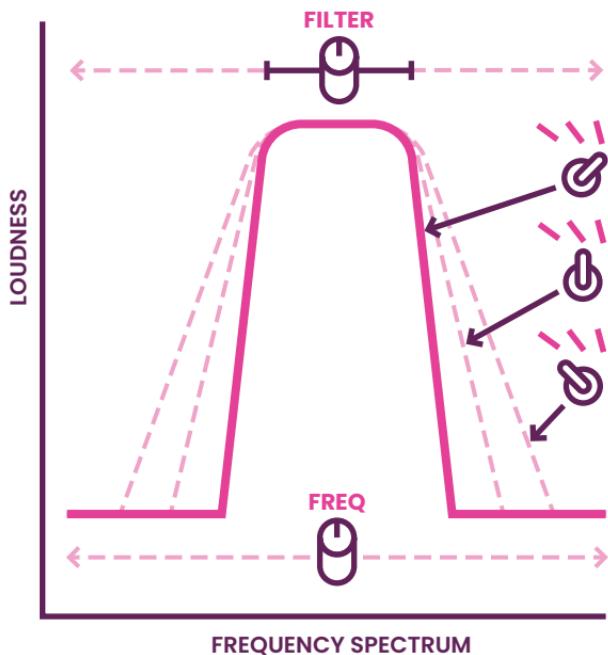
Sets the position of the filter.



Sets the slope of the filter.

You can also turn the filter inside out by flicking on the INVERT dip switch (pg. 33). Now you will only hear the frequencies that would normally be filtered out (called a band-reject filter). Useful for scooping the mids and hollowing out your sound.

The filter is a powerful part of the Lossy experience. You can use it to confine the effect for wild but controlled textures, or to emphasize a specific frequency range, or to create filtered reverb.



# Verb

Lossy's reverb is as digital as could be, with a warm character and unique decay that fizzles and sputters. Rather than creating realistic-sounding spaces, it's instead reminiscent of the reverbs used by electronic musicians in the early 1990s.



The **VERB** knob is a simple mix control:

A Hidden Option controls the decay – from the subtlest expansion to unnaturally long.



**PRE/POST**

You can also move the reverb's position in the signal flow using a dip switch, which changes things in a big way.



The reverb comes at the very front of the signal flow by default (pg. 40). This feeds the reverb into Lossy's other parts, exciting and enhancing their effect. It makes for a more cohesive and expansive sense of degradation.



You can move the reverb to the back of the signal chain by engaging the **PRE/POST** dip switch (pg. 33). This will give you a more traditional reverb that steadily trails off, regardless of whatever else Lossy is doing. This can have a useful smudging effect that blends everything together and softens the erratic motion of the **PACKET** toggle.

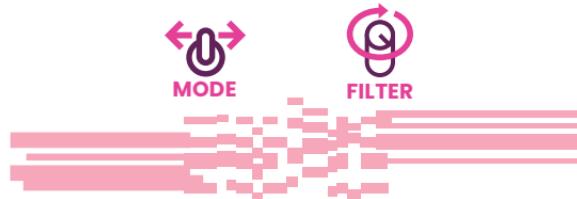
## Freeze

Lossy contains a unique and versatile type of freeze effect.

It can work like any other freeze: Hold the left footswitch and the current sound will infinitely sustain like an ambient pad.



Nice and simple. You can now play overtop of the frozen sound and freely shape it with Lossy's various controls and modes. Try out different LOSS modes and FILTER settings.

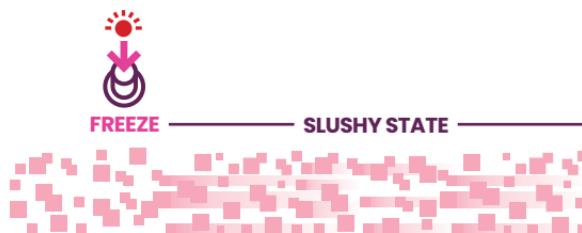


*But it can also do more.*

The freeze is able to update itself and become a shifting spectral copy of your input audio. You can use this to "refill" the sound of the freeze – a new chord, for example – or leave it running continuously like a live effect.

We call this the slushy state. Tap the left footswitch to turn the freeze on in the slushy state, or hold to toggle between solid and slushy when the LATCH dip switch is engaged (pg. 32).

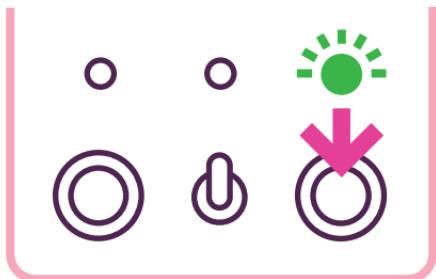
The SPEED knob will adjust how quickly it updates (while simultaneously controlling the Packet and Loss modes).



By default the freeze will take over completely once engaged, which can be very interesting in its slushy state. But you can use the Hidden Option labeled FREEZER to adjust the balance and reintroduce some of your live audio (pg. 15).

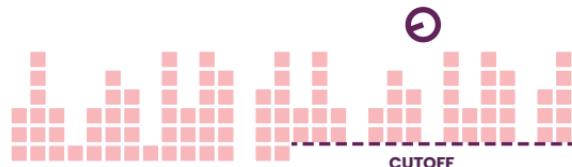
## Gate

Hold down Lossy's BYPASS switch to engage the gate.

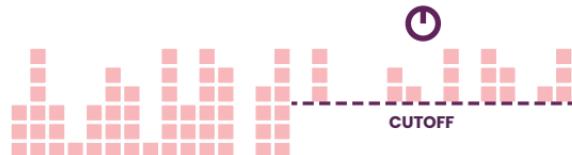


Now all audio quieter than the cutoff will be silenced. It's a simple but powerful tool for adding a layer of dynamic, audio-controlled loss to the mix.

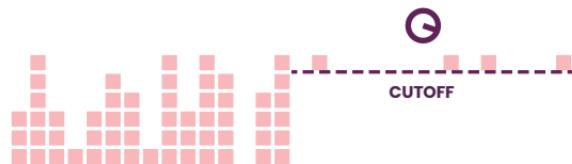
The gate can be used for a variety of things depending on how the cutoff is set.



It can create sputtering effects like a distant radio station at lower settings.



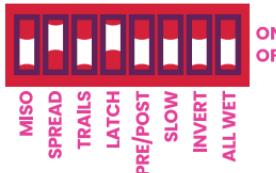
Medium settings work well as a performance gesture to introduce momentary failure.



And higher settings will consume your sound, only letting through little blips of audio.

Try different gate cutoff settings to explore what's possible for your instrument and setup. Hold down both footswitches and adjust the FILTER knob to change the gate cutoff.

# Customize



The pink-labeled dip switches on top of Lossy allow you to configure it for your setup and fine-tune things to your liking.

## MISO

Mono In, Stereo Out. Splits a mono input signal into a stereo output.

## SPREAD

Turns on stereo processing to generate movement and create an expansive stereo image. It does this by randomly alternating the Packet modes from side-to-side, and gradually widening the reverb as the VERB knob is turned up.

## TRAILS

Allows Lossy's sound to fade out naturally when the pedal is bypassed.

## LATCH

Changes the hold function for each footswitch from momentary to \*latching, so that it will remain engaged until the footswitch is held again.

## PRE/POST

Moves the reverb to the \*front or back of the signal chain (pg. 27).

## SLOW

Captures the classic sound of the Lossy plugin – bigger, darker, slower, and with more latency.

## INVERT

Changes the filter from a \*band-pass to band-reject style (pg. 24).

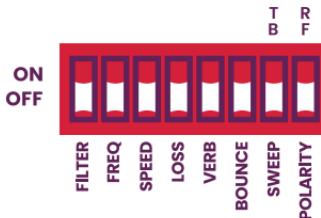
## ALL WET

A special mode designed specifically for the pedal and the needs of live musicians. In standard operation, Lossy uses a digital dry signal that adds a very small amount of latency. This will be just fine for most situations, but ALL WET allows you to switch over to true analog dry thru if you prefer. In this mode the reverb is always set to 100% wet, and the VERB knob becomes the analog mix control.

**DRY KILL** – If you'd like to remove the dry signal from the output (useful for wet/dry setups), hold the FREEZE switch down while powering up the pedal. Done! This preference will be remembered in the future.

\* Pink labels are the default settings.

# Ramping



Ramping gives you the ability to automate Lossy's knobs, either as a one-time movement (ramp) or continuous motion (bounce).

It's easier to get started with Bounce, so let's do that. We're essentially going to modulate a knob.



1. Engage Bounce.



2. Choose which knob(s) you wish to control.



3. Choose the sweep.



4. Set the speed.



Now the artifacts and harmonics will steadily shift, adding movement and increased nuance to the effect. The position of the knob you're controlling is important, because it either sets the maximum or minimum point of the range (depending on the SWEEP setting).

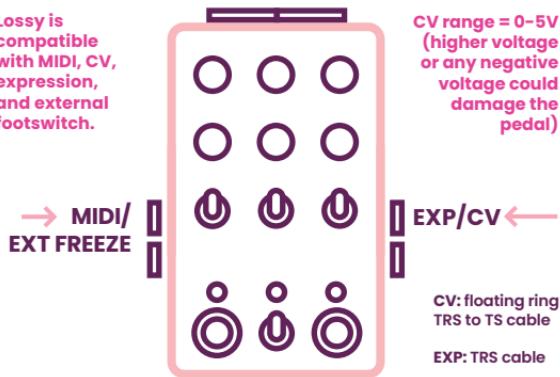
Ramp is the same idea, but the movement only happens once when you turn the pedal on. Your chosen knob(s) either rise or fall to the position set by the knob, then stay there. Useful for creating a wave of motion and activity when you first turn Lossy on.

Check out the Dip Switches 101 document on our website for a step-by-step on ramping.

Ramping is engaged as soon as the dip switch for a corresponding knob is set to ON. At this point, the GLOBAL knob automatically changes to control the ramp speed. You can still adjust GLOBAL while ramping by holding down the left footswitch as you move the knob.

## External Control

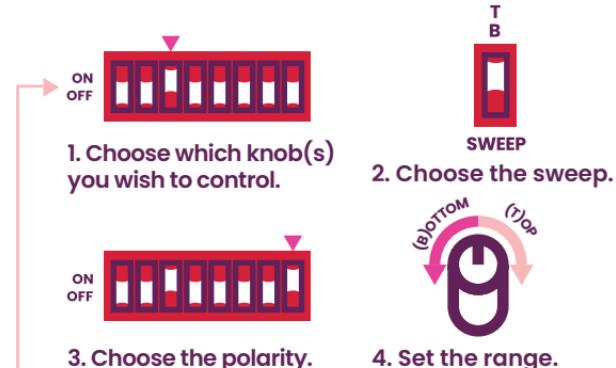
Lossy is compatible with MIDI, CV, expression, and external footswitch.



CV and expression can be used to control Lossy's knobs.

MIDI lets you go deeper and control everything, including the Hidden Options and the dip switches.

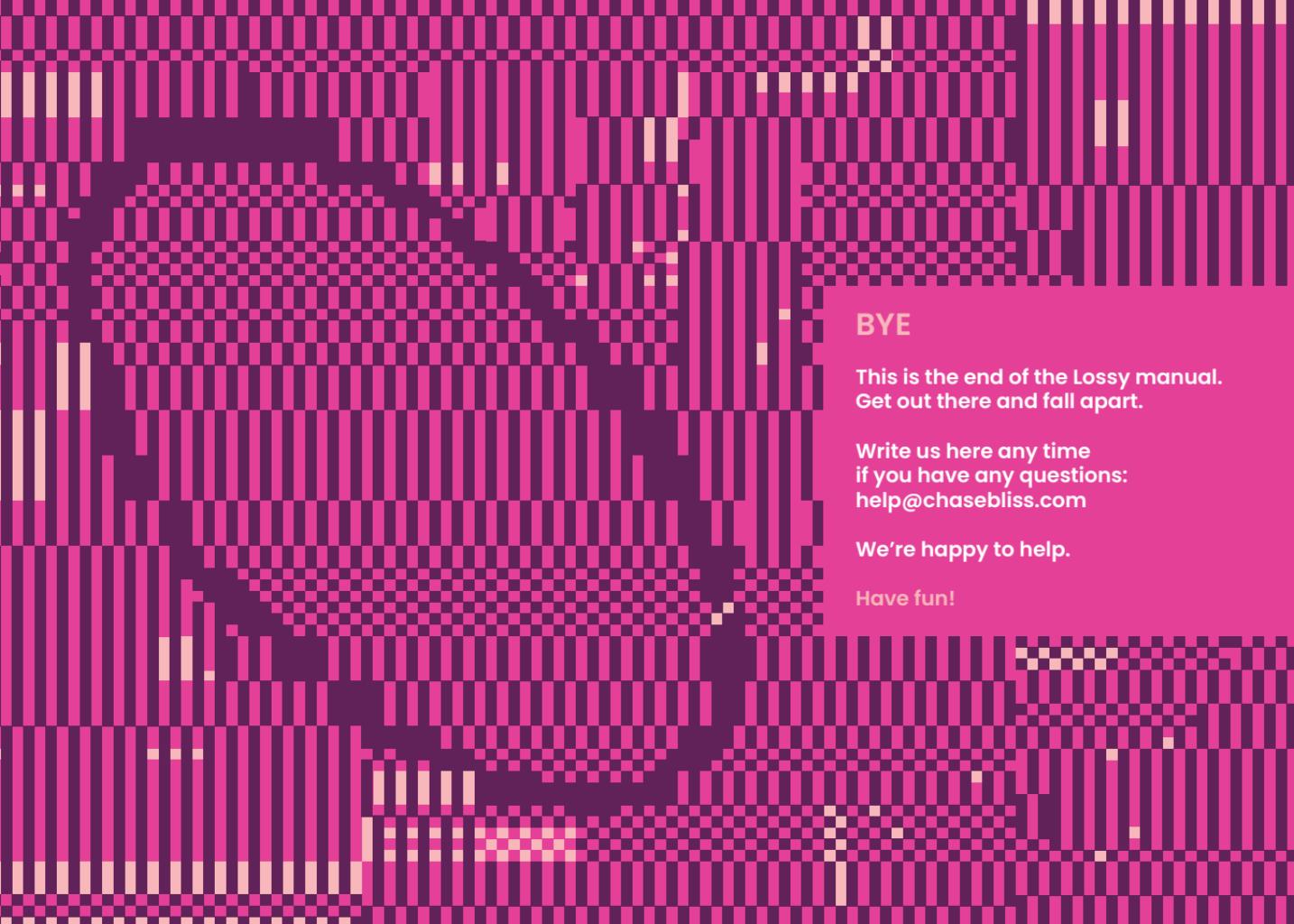
CV and expression are set up the same way as ramping using the dip switches on the top of the pedal. The pedal will simply detect a CV or expression signal when you plug it in and hand over control.



If you plug in a CV or expression signal but engage none of the knobs, you will have control over **GLOBAL**.

MIDI requires a Chase Bliss MIDIbox to convert the signal to a 1/4" TRS jack. For details on getting MIDI going with Lossy, check out the MIDI manual.

The MIDI jack can also be used to control the **FREEZE** with an external pedal. Plug in any normally-open momentary footswitch using a TS cable and you're all set, it takes control automatically.



**BYE**

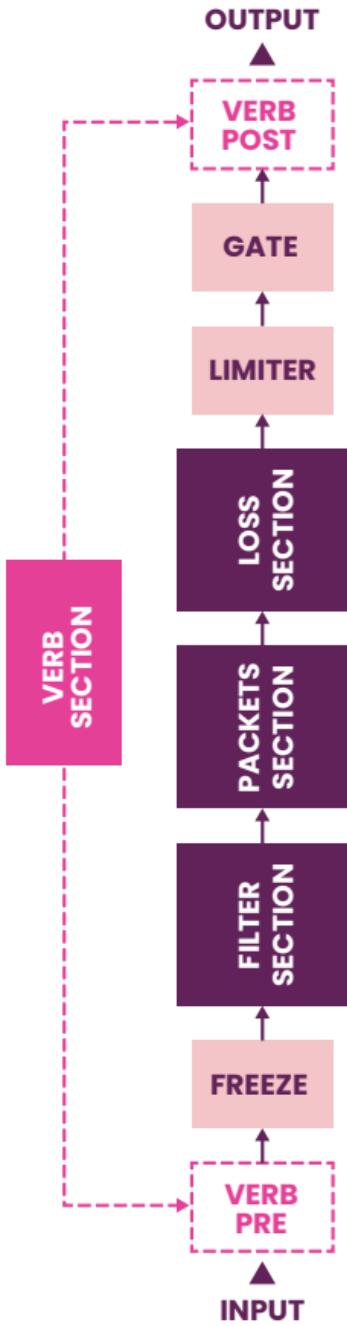
This is the end of the **Lossy manual**.  
Get out there and fall apart.

Write us here any time  
if you have any questions:  
[help@chasebliss.com](mailto:help@chasebliss.com)

We're happy to help.

Have fun!

## LOSSY SIGNAL FLOW



The **ALL WET** mode features true analog dry thru, with the dry / wet mix controlled by the **VERB** knob. See pg. 33.

