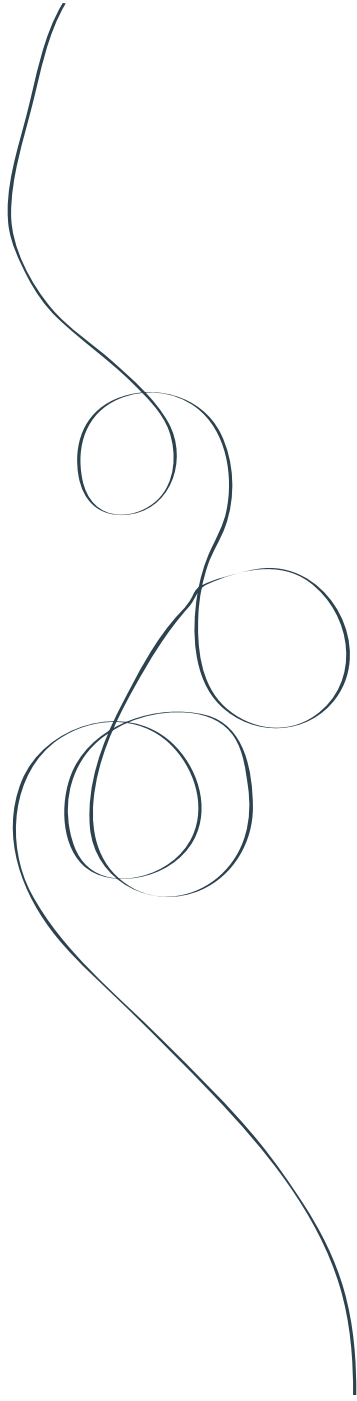


**LOUPÉ**



# LOUPÉ

## V1.1.5 Additions

Words by André Lafosse

### New Games Parameters

KILL DRY, when on, completely mutes the dry signal. The Dry/Loop knobs works as a “loop level” control. When active, the display reads “KD.” Kill Dry can be combined with Force Dry.

SCROLLQUANT (/B, /Q) quantizes each turn of the Scroll encoder, so that playback windows change at rhythmically precise values.

EXP causes the pedal action to switch from «sample» state to «Tails» state.

RFXMIX is a way to fine tune the gain of ReadFX when they’re active. In order to have an effect, the ReadFX Mix and Feedback parameters must be different from :0 / :10 or :10 / :0. The default value is 7, which is identical to the level of previous firmware versions.

### New Functions

#### Revins

REVINS, at first listen, seems to behave like a normal Reverse effect: press it once, and the loop plays backwards. Press it a second time, and it plays forwards again. But Revins actually records the entire “play in reverse, then play forwards again” process, up to the point where the effect was initially engaged, and then inserts that recording into the loop. It takes what would normally be “playback behavior,” samples it, and splices it destructively into the original audio.

As an example, suppose we have an initial loop like this:

✓ A B C D E F G H ✓

If we activate Revins when we're about to read D, then the loop plays backwards, so we get reverse C followed by reverse B. If we then turn Revins off, the loop starts playing forwards again, and we hear B, then C, played normally.

But, the change of playback directions has been recorded, and gets inserted into the loop at the point where Revins was first activated. So the new loop is now

✓ A B C revC revB B C D E F G H ✓

with the underlined portion representing the "recorded playback direction changes" that are inserted into the loop.

Revins increases the length of a loop twice as fast as Insert or Instut. (A one-second instance of Revins will add two seconds to the loop.) So repeated use of Revins will dramatically increase the loop length, and do so very quickly.

## HalfDub

HALFDUB cuts the loop playback to half speed and enables overdubbing. Pressing HalfDub a second time closes Overdub, and returns to regular speed.

It's important to note that HalfDub deals with pitch/speed changes differently than other Loupe functions do. When applying a pitch shift through ReadFX, the change in speed and pitch is actually occurring as post-processing of the original loop. (Remember that ReadFX can be thought of as a secondary audio signal, which runs in parallel with - and is fed by - the original, "dry" loop.) Among other things, this means that overdubs made while ReadFX pitch shifting is engaged will also sound pitch-shifted when they play back, and are revealed to be at regular speed/pitch (i.e. the same as the "dry" loop) when ReadFX is turned off.

In contrast to this, HalfDub is true "Vari-Speed." It directly affects the dry loop itself by cutting the playback rate in half, instead of post-processing the dry loop in a separate ReadFX audio signal. This means that overdubs made while in half speed will play back at their original, "live" speed and pitch, as long as HalfDub remains on. Turning HalfDub off returns the base loop to the original speed and pitch, while any overdubs made in half speed will now play back one octave higher/twice as fast. (This type of "direct" Vari-Speed is the manner in which most live looping devices deal with Half Speed.)

## Rec /B /Q

REC/B and REC/Q are ways of leaving a current loop and immediately recording a new loop, while retaining the length/timing of the previous loop. These functions do not initiate a Record by themselves; they only operate in relation to the timing of a previous loop. If there is no loop currently recorded, Rec/B and Rec/Q won't do anything.

## New ReadFX Parameters

### Pitch, Savarts, Glide

The pitch can now be shifted a total of two octaves up and down, doubling the previous range of available transposition.

Below the -24 pitch shift value, there's also a STOP setting, which is probably most useful (or at least most readily apparent) in conjunction with the new Glide parameter.

GLIDE controls how quickly the Loupe moves from one pitch to another. With Glide at 0, the pitch change is immediate. With a value above 0, Glide introduces an audible shifting/sliding between pitches, rather than an instant transition. The higher the Glide value, the longer it takes to transition from one pitch to another.

Beyond "regular" pitch shifting, Glide also impacts Reverse and Infinite Reverse. With a Glide value greater than 0, the ReadFX Reverse functions behave like analog reel-to-reel tape: the playback pitch and speed slows down to zero, and then gradually speeds up again, now playing backwards, until the loop plays back at its original pitch in reverse.

SAVARTS allows for pitch changes of less than a half step: one half step is equal to 24 Savarts. Since there are 100 cents in a half-step, one Savart is the equivalent of roughly 3.9863 cents. Savarts allows access to microtonal sounds; among other applications, it can create very subtle and gradual pitch shifts in the entire loop if used "destructively." (When ReadFX Feedback is set so that the "FX" value is greater than 0, the ReadFX signal can be overdubbed into the audio of the "dry" loop.)

# Habit and Rabbit

HABIT and RABBIT deal with moving the Loupe's «play head» to different parts of the loop.

Habit deals with moving through the memory on a bar-by-bar, or cycle-by-cycle, basis. If you think of Scroll as a way of gradually «scanning» through the loop's history in a (more or less) linear fashion, Habit lets you jump directly to specific parts of the loop's history in an instant, non-linear way. How far back it goes is determined by the number of bars selected when «Habit» is turned on in ReadFX. Note that in practice, «the number of bars» is defined, in part, by how long overdub is left open.

For instance:

- If Overdub is opened, and new audio is added across four repetitions of the loop, then each of those four repetitions counts as one bar.
- If Habit = 1 bar, the memory will go back one repetition. If Habit = 2 bars, it goes back two repetitions, and so on.

Rabbit shifts the placement of the entire loop by a specific rhythmic subdivision. For instance, if Rabbit =  $\frac{1}{8}$ , then the entire loop is moved one 8th note later than its original placement.

The nature of Rabbit means that, if there isn't a steady rhythmic reference to compare the Loupe's audio to, the impact of Rabbit won't be heard as anything other than a temporary glitch in the timing of the loop (when the effect is first engaged). The impact of Rabbit can be best heard through one of the following scenarios:

- 1) The ReadFX mix parameter is set so that both the ReadFX and original loop can be clearly heard ( $D/5 - FX/5$  is exactly «half and half»). This way, the displacement of the ReadFX audio will be heard along with the original, un-shifted loop. This can create all manner of rhythmic phasing effects.
- 2) The Loupe is a sync master for an external device like a drum machine, which maintains a steady, undisturbed rhythm. This way, using Rabbit to displace the Loupe will be clearly heard as a shift in the relationship between the Loupe's audio and the external rhythm coming from whatever device is following Loupe's sync.

# lfo

LFOs are the biggest change in the v1.1.5 firmware, and represent perhaps the single most unique Loupé feature to date. Previously, the ReadFX LFOs consisted of two waveforms (sine and random) that modulated playback pitch, with parameters for speed and depth. As of v1.1.5, their entire premise has been rebuilt from scratch.

Now, LFOs are a collection of 100 different 16-step sequences. The number of steps can be changed, as can the step which the LFO starts on. In v.1.1, the LFOs modulate the position of the playback head. Depending on the shape of an LFO step, different aspects of the sound are changed. Pitch shifts are the most obvious and common ones, but other elements (such as playback direction) can be affected as well. (Note that the “random” mode from the 1.0 firmware is no longer available.)

The LFO rate can be set as a rhythmic subdivision ( $\times 16$  to  $/192$ ), unsynchronized speed values in Hz, or audio frequencies which produce distinct musical pitches. Depth values with an asterisk are the most conventionally “useable” ones; other values can produce microtonal intervals that are slightly out of tune with conventional 12-tone equal temperament.

The behavior and musical effect of any one LFO can vary hugely, depending on the combined values of shape, rate, depth, starting step, and number of steps. Changing just one of these parameters can dramatically alter the effect an LFO has on a loop.

For instance, let’s start with a relatively “simple” setup:

```
LFO Wave: Tria  
LFO Speed: /4  
LFO Depth: 7*  
LFO Length: 16  
Mix D/0 - FX/10
```

(so we only hear the ReadFX signal when it’s on)

Record a single note/drone for a couple of seconds, and then engage the LFO. You’ll hear it bouncing in quarter notes between one octave below the original pitch, and a perfect fifth above the original pitch.

Change Speed to 1. Now the entire loop alternates between playing one octave down, and a perfect fifth up (with a syncopated rhythm).

Change Depth from 7\* to 5\*. The loop now bounces between a fifth below, and a fourth above, the original pitch (i.e. if your drone note is C, then it plays G both above and below the original C.)

Change Speed to /16 and Depth to 12\*. Now the loop alternates quickly between silence and an octave above the original pitch.

Set Depth back to 7\*, Speed to /8, and Length to 5. The loop bounces between an octave down and a fifth up, but because the length is now an odd value, the pitch changes are syncopated in unpredictable ways.

Switch LFO shape to Tri4, Depth to 12\*, and LFO Length to 10. Now, the loop alternates between an octave down, an octave up, a fifth below, a fifth above, and silence.

Factory games 45-49 (which are new for v1.1.5) make extensive use of the new LFOs. Some of them also contain Stutter and Auto-Follow functions, combined with LFOs in a single ReadFX switch/button.

Each LFO is a collection of different waveforms, organized in a 16-step sequence.

Each step can be one of these: zero, one, up, down, sineup, sinedown, etc...

zero will do nothing (original pitch), one will just make an offset, up and down

(triangle and saw) will make pitch changes. The pitch will vary according to the depth parameter setting. On certain depth values, the sound will stop, and sometimes it will also play backwards (R as reverse on Depth table).

The shapes of the different LFOs are categorized as follows:

saW waveforms (11 to 20) are a mix of up, up2, up3

Saw waveforms (21 to 30) are a mix of down, down2, down3)

Xaw waveforms (31 to 40) are a mix of up, up2, up3, down, down2, down3

-Sn waveforms (41 to 50) are a mix of sine, zero, one

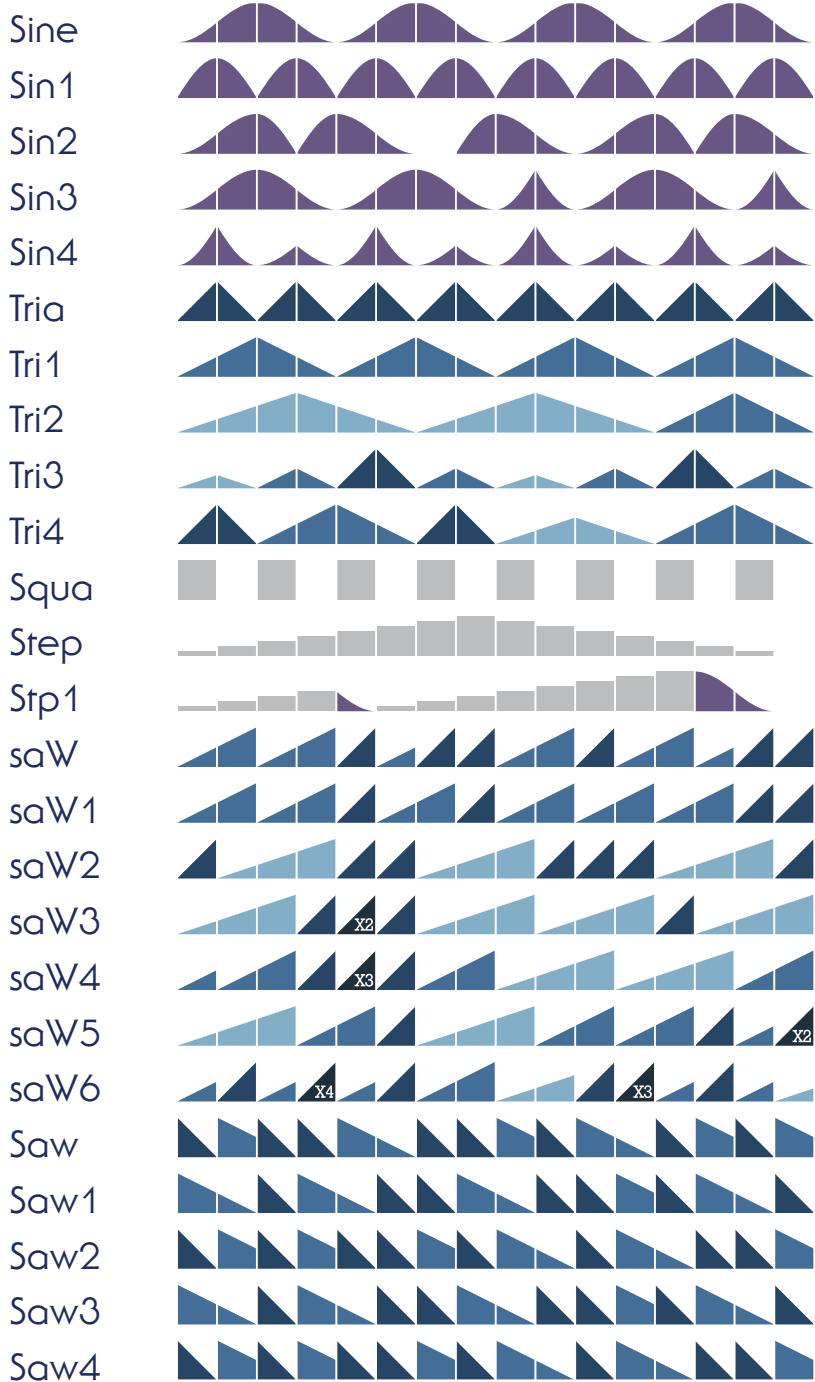
-saW waveforms (51 to 60) are a mix of up, up2, up3, zero, one

-Saw waveforms (61 to 70) are a mix of down, down2, down3, zero, one

-Xw waveforms (71 to 80) are a mix of up, up2, up3, down, down2, down3, zero, one  
waveforms 81 to 98 are a total mix !

depth	up	up2	up3	down	down2	down3
2	-2			2		
3	-4		-1	3		1
4	-5			4	2	
5*	-7	-3	-2	5	3	2
6	-9	-4		6		
7*	-12	-5	-3	7	4	3
8	-16	-6		8		
9	-19	-7		9	5	
10	-24	-9	-5	10	6	4
11	-36	-10	-6	11		
12*	Stop	-12	-7	12	7	5
13	-29 R	-15	-8	13	8	
14	-24 R	-17	-9	14		
15	-16 R	-22	-11	15	9	
16*	-12 R	-24	-12	16		7
17	-7 R		-14	17		
18	-4 R		-16	18		
19*	0 R	Stop	-19	19	12	9
20	3 R		-23	20		
21	5 R		-26	21		
22	7 R	-24 R	-31	22	14	
23	10 R	-17 R		23		
24*	12 R	-12 R	Stop	24	16	12
25	15 R	-7 R				
26	16 R	-5 R	-31 R			
27		-2 R	-24 R			
28*	19 R	0	-19 R	28	19	
29	21 R	3 R	-13 R			16
30	22 R	5 R	-10 R			
31*	24 R	7 R	-7 R	31	22	17
32	25 R	9 R				
33	27 R	10 R	-2 R			
34*	28 R	12 R	0	34	24	19
35	30 R	15 R				
36*	31 R	16 R	5 R	36	26	21
37		18 R	7 R			
38*	34 R	19 R	9 R	38	28	
39		21 R				
40	36 R	23 R	12 R	40		24
41		24 R				
42					31	
43			16 R			
44						
45						
46						
47						
48						





Saw5  
Saw6  
Saw7  
Saw8  
Saw9  
Xaw  
Xaw1  
Xaw2  
Xaw3  
Xaw4  
Xaw5  
Xaw6  
Xaw7  
Xaw8  
Xaw9  
-Sin  
-Sn1  
-Sn2  
-Sn3  
-Sn4  
-Sn5  
-Sn6  
-Sn7  
-Sn8  
-Sn9

