USER GUIDE

GRADIENT
CONSTRUCTS OF TIME

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1. INSTALLATION

2.1. NATIVE ID

To install Gradient you need a Native Instruments account called Native Id. If you don't already own such account, you can create one at the Native Instruments website.

2.2. NATIVE ACCESS

Gradient is installed via Native Access (Native Instrument's download tool).

- First install Native Access on your computer. This can be found on the Native Instruments website (support > downloads).
- Open Native Access.
- Log in with your Native Id.
- Click "Add a serial".
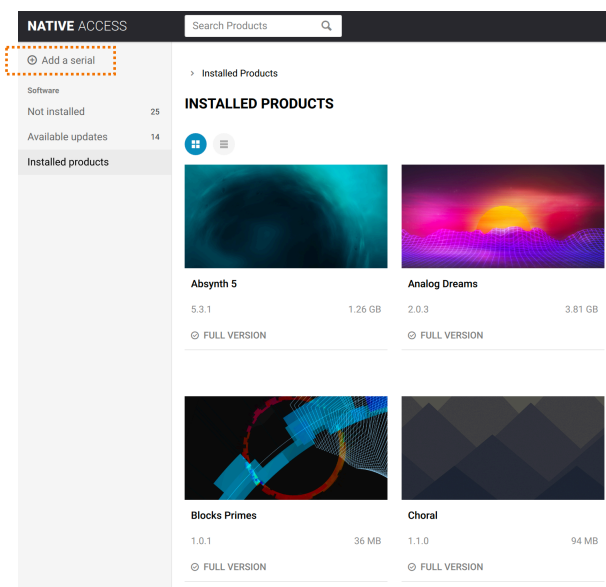
- Enter the Gradient serial code you received.
- Gradient is added to your Native Id account and you can now install it.

2. GETTING STARTED

2.1. KONTAKT (PLAYER)

Gradient runs in both Kontakt Player (free) and Kontakt.

- If you don't own Kontakt, you can download Kontakt Player for free from the Native Instruments website.
- Open Kontakt (Player) as a plug-in in your DAW or as stand-alone application.
- Go to the Browser tab on the left where you can find Gradient.
- Click "Instruments" to reveal the nki file.
- Double click "Gradient.nki" to load the instrument.

2.2. MASCHINE & KOMPLETE KONTROL

Gradient can also be accessed via Maschine and Komplete Kontrol (free) using the NKS browser.

- Go to the instruments tab of the browser (keys icon).
- Click "All Instruments".
- Select "Gradient".
- Use the Banks and Sub-Banks to navigate through snapshots or select one or multiple tags.
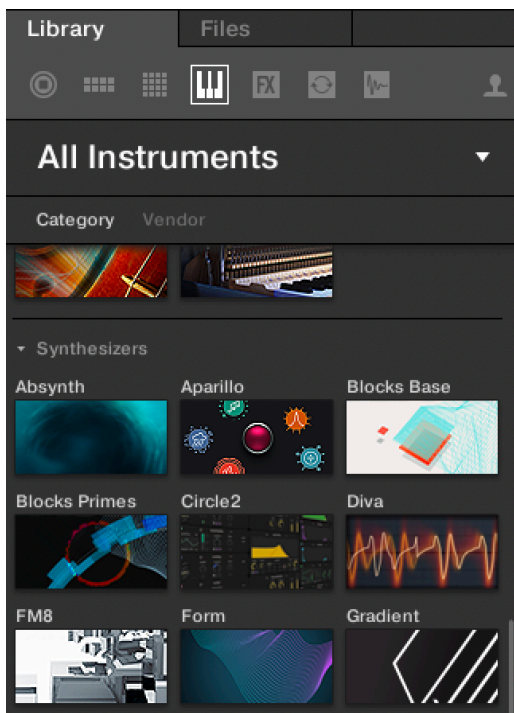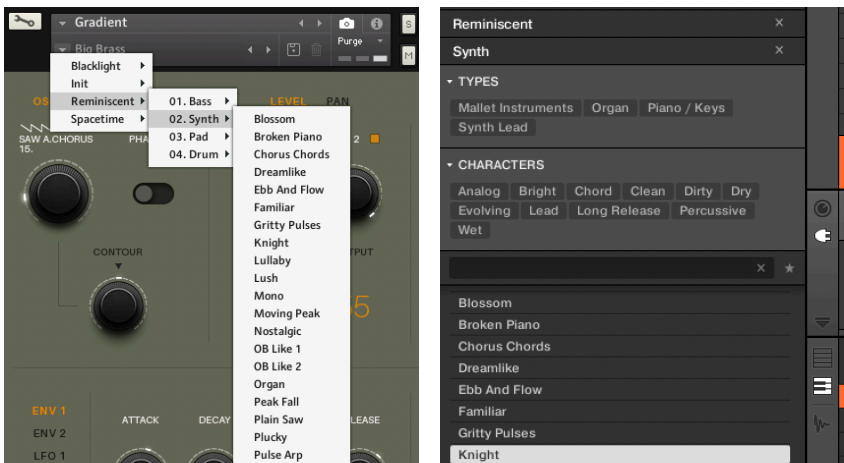
2.3. SNAPSHOTS

A good way to get familiar with Gradient is to walk through the snapshots and tweak some knobs.

Gradient comes with nearly 200 snapshots organised in 3 banks:

- **Blacklight:** 86 (melodic) techno snapshots
- **Reminiscent:** 57 classic analogue snapshots
- **Spacetime:** 52 cinematic snapshots

Each bank consists of several sub-banks that indicate the type of sound (e.g. bass, pad, drum).

Additionally, an **Init** bank is included if you prefer to make your sounds from scratch. You can save your own snapshots as well, which are stored in the nksn file format.

Browsing snapshots in Kontakt (Player)

Browsing snapshots in Maschine / Komplete Kontrol

2.4. NKS INTEGRATION

Gradient is optimised for NKS. NKS stands for Native Kontrol Standard and provides an integrated browser including tags and sound previews. All Gradient's snapshots have carefully selected pre-mapped controls.

The NKS specific features are available in Komplete Kontrol (free) and Maschine. They are not available in Kontakt (Player).

2.5. PRE-MAPPED CONTROLS

All included snapshots have 2 pages of pre-mapped controls. Each page consists of 8 parameters. These are directly accessible on Komplete Kontrol keyboards and Maschine controllers, but can be mapped to a generic midi controller as well.

- Page 1 is the same for each snapshot
- Page 2 is unique to each snapshot

This approach was chosen to deliver a good balance between immediacy and flexibility.

2.5.1. Page 1
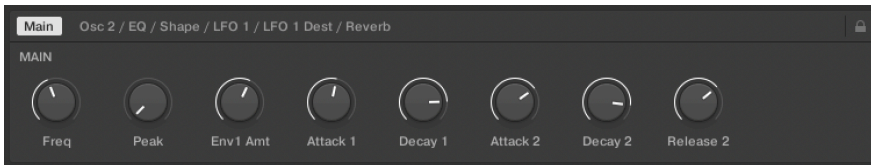
The controls of the main page are the same for all snapshots. The reason is that these controls are commonly used to fit a sound to a track. Next to that, they can be used to add movement to a sound by tweaking them live. Keeping the main page consistent between snapshots supports so called muscle memory; you will soon remember what each knob does.

2.5.2. Page 2
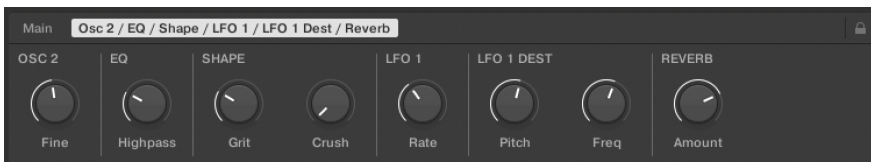
The controls of the second page are unique to each snapshot. They have been carefully selected and are a perfect fit for that specific sound. They expand a single snapshot to a snapshot 'space', with many variations to be explored.

2.5.3. Init Bank

The Init bank contains two special snapshots that are perfect if you want to make a sound from scratch. Both produce a sine wave, but the pre-mapped controls are different.
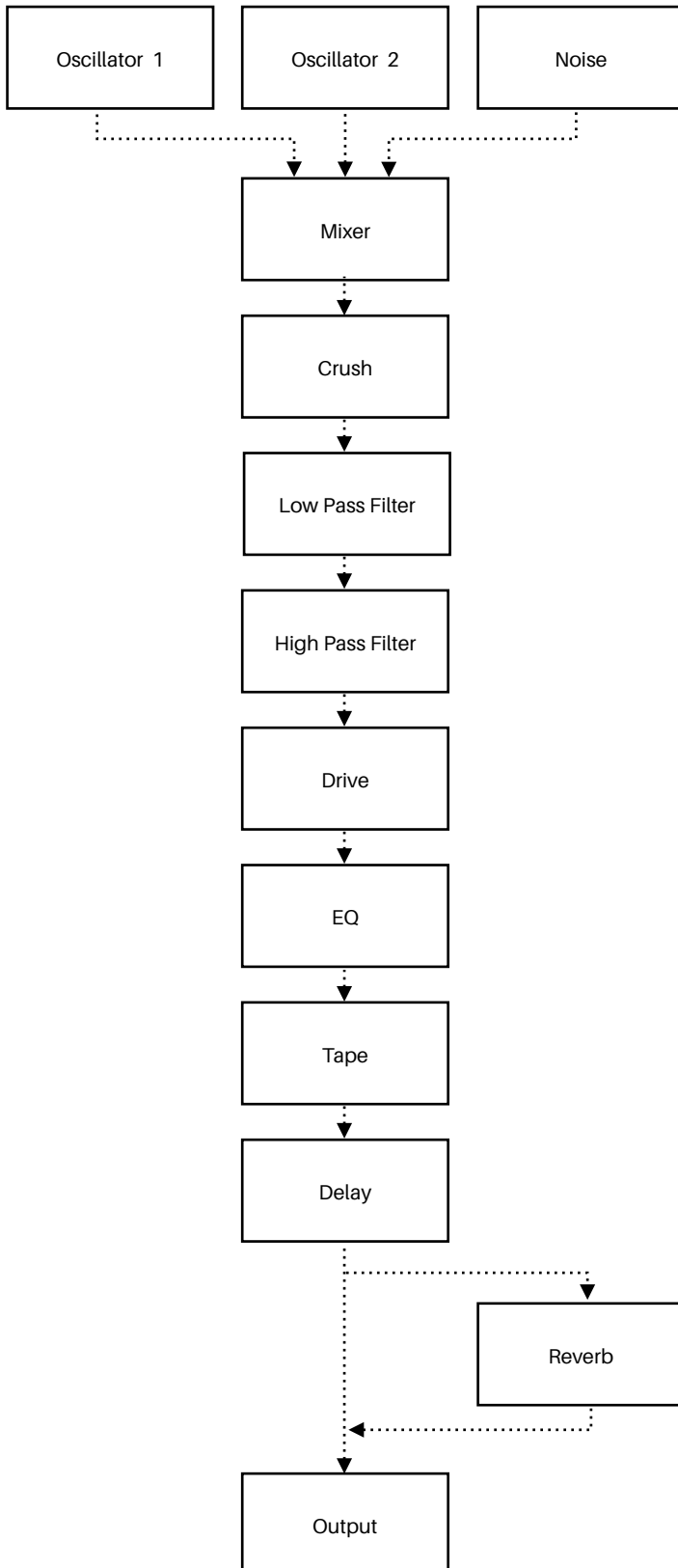
1. All Controls

This snapshot provides (almost) all Gradient's controls (14 pages) and allows for hands-on detailed sound design.

2. Quick Start

This snapshot only provides the most important controls (2 pages). Quickly sketch a new sound using these hands-on controls and fine-tune using Gradient's user interface.

3. SIGNAL FLOW

4. CONTROLS

4.1. INSTRUMENT SETTINGS

4.1.1. Snapshot Screen
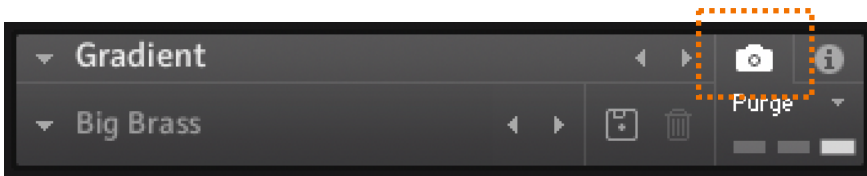
The snapshot screen (denoted by the camera icon) is used to browse snapshots. Use the left and right arrows to go through them sequentially or click the down arrow (left from the snapshot name) to select a specific snapshot. You can also save your own snapshots by clicking the disk icon.

4.1.2. Info Screen
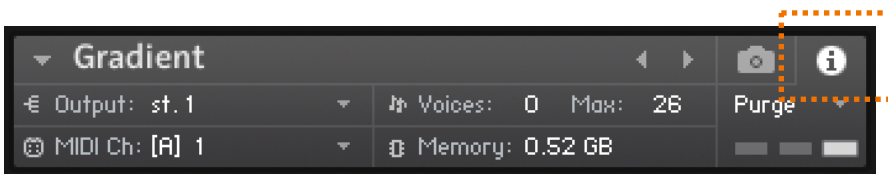
The info screen (denoted by the 'i' icon) contains a number of generic settings:

- **Audio output** (select one of the configured Kontakt audio outputs).
- **Midi** device and midi channel.
- Maximum **number of voices**. By default this is set to 26, but this can be changed. Note that the more voices used, the higher the CPU consumption. Gradient uses 1 voice per activated oscillator/noise source per note played. The noise source uses 2 voices at maximum. For example: playing a 3 note chord with a sound that uses oscillator 1, 2 and the noise source uses 8 voices.

4.2. SECTION OVERVIEW

Gradient's controls are grouped into 4 sections. Each section contains multiple tabs.

1. **Oscillators:** Sound source controls
2. **Mixer:** Level and panning controls
3. **Filters & Shapers:** Filters, EQ and distortions
4. **Modulation & Effects:** Envelope & LFO controls and destinations, delay & reverb and keyboard controls

Cmd-clicking (Mac) or Ctrl- clicking (PC) a control resets it to its default value.

4.3. OSCILLATORS

4.3.1. Oscillator 1

⊘ Wave

The *Wave* knob selects the oscillator waveform. There are 83 different waveforms that range from basic (sine, saw, pulse) to complex (distortion, ring modulation, audio rate modulation, etc.). The waveforms are grouped into the following categories:

1. **Sine** (wave 1 to 6)
2. **Saw** (wave 7 to 19)
3. **Pulse** (wave 20 to 31)
4. **PWM** (wave 32 to 45)
5. **Complex** (wave 46 to 83)

- The waveform is updated as soon as a new key is pressed.
- The *Wave* knob is greyed out if oscillator 1 is disabled (see Mixer section 4.4.1).

Some helpful info is displayed above the *Wave* knob:
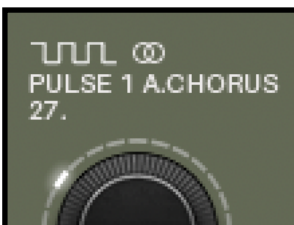
A. Waveform category (icon)

B. Stereo icon, shown if the waveform is stereo

C. Name of the waveform

D. Waveform index number

TIP: To quickly select a specific waveform click on the name of the wave. A dropdown list will appear.

⊘ Phase Reset

- If **enabled** (switch to the right) the waveform is always played back from the same start point.

- If **disabled** the oscillator is 'free running'. This means it's triggered at a random point each time a key is pressed.

TIP: *Phase Reset* is useful to create a consistent, punchy sound. This can be helpful for percussive or bass sounds.

⊘ Contour

Contour is an additional simple volume envelope exclusively for oscillator 1. This shape is added to the volume shape generated by envelope 2.

- To the **left:** Oscillator 1 fades out more quickly.
- To the **right:** Oscillator 1 fades in more slowly.

TIP: *Contour* is useful in combination with oscillator 2. Use oscillator 1 to create a percussive attack or blend it in slowly to create more movement.

4.3.2. Oscillator 2

⟳ Wave

The *Wave* knob of oscillator 2 is identical to the *Wave* knob of oscillator 1 (as described in section 4.3.1.).

⟳ Phase Reset

- If **enabled** (switch to the right) the waveform is always played back from the same start point.

- If **disabled** the oscillator is 'free running'. This means it's triggered at a random point each time a key is pressed.

TIP: *Phase Reset* is useful to create a consistent, punchy sound. This can be helpful for percussive or bass sounds.

⟳ Tune

Tune sets the pitch of oscillator 2 in semitones (24 semitones up / down).

⟳ Fine Tune

Fine Tune sets the pitch of oscillator 2 in cents (1 semitone up / down).

4.3.3. Noise

⊘ Wave

The *Wave* knob selects one of the 21 noise sources.

⊘ LPF Bypass

If *LPF Bypass* is enabled (switch to the right), the noise source is not passed through the low pass filter.

TIP: *LPF Bypass* is useful to mimic tape hiss or to create percussive sounds with a bright, noisy attack.

⊘ Contour

Contour is an additional simple volume envelope exclusively for the noise source. This shape is added to the volume shape generated by envelope 2.

• To the **left:** The noise fades out more quickly.
• To the **right:** The noise fades in more slowly.

TIP: *Contour* is useful to create a noisy impact at the beginning of a sound leaving the tail clean.

4.4. MIXER

4.4.1. Level

⊘ Osc 1 / Osc 2 / Noise (knobs)

These knobs set the level of the oscillators and noise source.

⊘ Osc 1 / Osc 2 / Noise (buttons)

These buttons enable or disable (mute) the oscillators and noise source.

TIP: It's a good habit to disable unused sound sources as Gradient will use less CPU resources if disabled.

⊘ Output

The overall output level (at the end of the signal chain).

4.4.2. Panning

⟳ Osc 1 / Osc 2

These set the panning of oscillator 1 and 2 in the stereo field.

⟳ Pan Mode

Pan Mode selects one of three dynamic panning modes that affect both oscillators and the noise source. The intensity is controlled by the *Pan Amt* control.

- **Alternating** (**ALT**): Every time a key is pressed the sound switches from left to right and vice versa.

- **Keyboard tracking** (**KEY**): Lower notes pan the sound more to the left, higher notes pan the sound more to the right.

- **Random** (**RND**): Every time a key is pressed the sound is panned randomly.

TIP: These pan modes can be useful to thicken chords and spread them across the stereo field. They can add interesting movement to arpeggios as well.

⟳ Pan Amt

The intensity of the dynamic panning as set by the *Pan Mode*.

4.5. FILTERS & SHAPERS

4.5.1. Filter

🕐 Frequency

The cutoff frequency of the low pass filter. High frequencies are removed as the knob is turned anticlockwise.

🕐 12 / 24

Button to select between two filter types:

- **12:** A 12dB/oct filter, a gentler filter slope resulting in a brighter sound.
- **24:** A 24 dB/oct filter, a steeper filter slope resulting in a warmer sound.

🕐 Peak

The peak (or resonance) of the low pass filter at the frequency set by the *Frequency* control.

🕐 Env 1 Amt

Bipolar control that determines how much envelope 1 modulates the cutoff frequency.

🕐 Key Track

Determines how much the key position affects the cutoff frequency. In other words: The lower the note, the lower cutoff frequency. The higher the note, the higher the cutoff frequency.

4.5.2. EQ

⏱ Highpass

The cutoff frequency of the high pass filter. Low frequencies are removed as the knob is turned clockwise. This is a 12dB/oct filter with a fixed resonance amount.

TIP: The high pass filter is an effective tool in combination with the *Overdrive* and *Tape* controls. By removing lower frequencies the saturation responds differently; it affects the upper frequencies stronger.

⏱ Air

Air controls the high shelf EQ boost.

⏱ Mid Freq

Mid Freq controls the center frequency of the bell shaped EQ.

⏱ Mid Gain

Mid Gain is a bipolar control that cuts / boosts the frequencies of the bell shaped EQ.

4.5.3. Shape

⊘ Drive

Drive controls the amount of saturation. This thickens the signal by adding some pleasant additional harmonic content. The saturation is applied after the low pass and high pass filters. The saturation is applied to each note individually, meaning that each note of a chord is saturated independently as opposed to the chord as a whole.

⊘ Grit

Grit is a (hidden) noise source that modulates the low pass filter frequency and adds a gritty texture to the sound.

⊘ Crush

Crush is a sample rate reducer. It adds a digital lo-fi flavour to the signal and can introduce inharmonic frequencies. The higher the value, the lower the sample rate. The sample rate reduction is applied before the low pass filter.

TIP: Inharmonic frequencies introduced by *Crush* can be useful when creating percussive sounds like hihats.

⊘ Tape

Tape adds some tape style saturation. The knob controls the amount of saturation. The button enables / disables the effect. It's the last effect in the signal chain just before the reverb and delay. As opposed to *Drive*, *Tape* affects the signal as a whole (instead of each note individually). This means that the amount of saturation depends on the number of notes played.

4.6. MODULATION & EFFECTS

4.6.1. Envelope 1

Gradient has two envelopes with identical controls but with different modulation destinations. The default destination of envelope 1 is the **low pass cutoff frequency**. By using the modulation destinations on the right it can be used to modulate other controls as well.

⊘ Attack

Sets the attack phase of envelope 1.

⊘ Decay

Sets the decay phase of envelope 1.

⊘ Sustain

Sets the sustain phase of envelope 1.

⊘ Release

Sets the release phase of envelope 1.

⊘ Pitch

Bipolar control that determines how much envelope 1 modulates the pitch of both oscillators.

⊘ Drive

Bipolar control that determines how much envelope 1 modulates the *Drive* control.

⊘ Highpass

Bipolar control that determines how much envelope 1 modulates the cutoff frequency of the high pass filter.

4.6.2. Envelope 2

Gradient has two envelopes with identical controls but with different modulation destinations. The default destination of envelope 2 is **level** (amplifier). By using the modulation destinations on the right it can be used to modulate other controls as well.

⊘ Attack

Sets the attack phase of envelope 2.

⊘ Decay

Sets the decay phase of envelope 2.

⊘ Sustain

Sets the sustain phase of envelope 2.

⊘ Release

Sets the release phase of envelope 2.

⊘ Pitch

Bipolar control that determines how much envelope 2 modulates the pitch of the oscillators selected by the *Dest* control.

⊘ Dest

- **All:** Envelope 2 affects the pitch of both oscillator 1 and 2.
- **1:** Envelope 2 only affects the pitch of oscillator 1.
- **2:** Envelope 2 only affects the pitch of oscillator 2.

⏱ LP Freq

Bipolar control that determines how much envelope 2 modulates the cutoff frequency of the low pass filter.

TIP: Using envelope 1 and 2 to control the cutoff frequency at the same time allows for more complex modulation shapes.

⏱ Gate Mode

If *Gate Mode* is enabled (switch to the right) the level is high as soon as a key is pressed. In this mode the attack, decay and sustain phases are ignored, but the *Release* control still affects the level (ideal to prevent clicks).

TIP: Enabling *Gate Mode* frees up envelope 2 for other modulation destinations without affecting the level.

4.6.3. LFO 1

Gradient has two LFOs with identical controls but with different modulation destinations. Note that the phase of the LFO is set independently for oscillator 1, 2 and the noise source. In other words, the LFO wave cycle does not necessarily start at the same point for each source. If required, the phase can be aligned by **holding Shift +clicking the *Rate* control**. Alternatively, *Retrig* will align the phase as well.

⊘ Rate

The rate or speed of LFO 1.

TIP: The LFO rate can go high enough to modulate the destinations at audio rate. Using a high LFO rate in combination with the pitch destination allows for rudimentary FM sounds.

⊘ Free / Sync

- **Free:** *Rate* is not synced to the host tempo.
- **Sync:** *Rate* is synced to the host tempo. The *Rate* knob is replaced by the clock division.

⊘ Wave

LFO 1 waveform selection: **triangle**, **ramp** or **square**.

⊘ Stable / Unstable

- **Stable:** The LFO waveform is generated perfectly.
- **Unstable:** Some randomness is added to the LFO. The randomness affects the shape of the waveform, not the timing of the LFO.

⊘ Retrig

If *Retrig* is enabled, the LFO is forced to retrigger from the same start point every time a key is pressed.

⊘ Delay

Delay is only available when *Retrig* is enabled. It controls the LFO fade-in time after a key has been pressed. The intensity will gradually increase over time until the maximum is reached.

⊘ Pitch

Bipolar control that determines how much LFO 1 modulates the pitch of oscillator 1 and 2.

⊘ LP Freq

Bipolar control that determines how much LFO 1 modulates the cutoff frequency of the low pass filter.

⊘ Pan

Bipolar control that determines how much LFO 1 modulates the panning. The panning behaviour is set by the *Dest* control.

⊘ Dest

- **All:** Oscillator 1, 2 and the noise source are panned.
- **2:** Only oscillator 2 is panned.
- **1**-**2:** Oscillator 1 and 2 are panned in opposite direction.

4.6.4. LFO 2

Gradient has two LFOs with identical controls but with different modulation destinations. Note that the phase of the LFO is set independently for oscillator 1, 2 and the noise source. In other words, the LFO wave cycle does not necessarily start at the same point for each source. If required, the phase can be aligned by **holding Shift + clicking the *Rate* control**. Alternatively, *Retrig* will align the phase as well.

Rate

The rate or speed of LFO 2.

TIP: The LFO rate can go high enough to modulate the destinations at audio rate. Using a high LFO rate in combination with the pitch destination allows for rudimentary FM sounds.

Free / Sync

- **Free:** *Rate* is not synced to the host tempo.
- **Sync:** *Rate* is synced to the host tempo. The *Rate* knob is replaced by the clock division.

Wave

LFO 2 waveform selection: **triangle**, **ramp** or **square**.

Stable / Unstable

- **Stable:** The LFO waveform is generated perfectly.
- **Unstable:** Some randomness is added to the LFO. The randomness affects the shape of the waveform, not the timing of the LFO.

⊘ Retrig

If *Retrig* is enabled, the LFO is forced to retrigger from the same start point every time a key is pressed.

⊘ Delay

Delay is only available when *Retrig* is enabled. It controls the LFO fade-in time after a key has been pressed. The intensity will gradually increase over time until the maximum is reached.

⊘ Pitch

Bipolar control that determines how much LFO 2 modulates the pitch of the oscillators selected by the *Dest* control.

⊘ Dest

- **All:** LFO 2 affects the pitch of both oscillator 1 and 2.
- **1:** LFO 2 only affects the pitch of oscillator 1.
- **2:** LFO 2 only affects the pitch of oscillator 2.

⊘ Highpass

Bipolar control that determines how much LFO 2 modulates the cutoff frequency of the high pass filter.

⊘ Level

Bipolar control that determines how much LFO 2 modulates the overall level.

4.6.5. Effects

The FX section displays the controls of the built-in **delay** and **reverb** effect.

⏱ Time

Time controls the delay time.

⏱ Free / Sync

- **Free:** Delay time is not synced to the host tempo.
- **Sync:** Delay time is synced to the host tempo. The *Time* knob is replaced by the clock division.

⏱ Feedback

Delay feedback control. The higher the feedback, the more repeats are generated.

⏱ Stereo / Ping Pong

In ping-pong mode the delay bounces back and forth between the left and right channel.

⏱ Delay Amt

The amount of delay. If the delay is deactivated (using the orange button) this control is greyed out.

⏱ BBD / Tape

- **BBD:** Mimics the characteristics of an analogue (bucket brigade) delay.
- **Tape:** Mimics the characteristics of a tape delay.

⊘ Size

Size controls three reverb parameters simultaneously: size, time and diffusion.

⊘ Reverb Amt

The amount of reverb. If the reverb is deactivated (using the orange button) this control is greyed out.

4.6.6. Keyboard Controls

⊘ Pitch bend

Sets the pitch bend range in semitones.

⊘ Mw > Freq

Determines how much the modulation wheel controls the low pass cutoff frequency.

⊘ Mw > LFO1

If enabled, the modulation intensity of LFO1 is controlled by the modulation wheel. This affects all destinations of LFO 1.

- If the modulation wheel is at its **lowest** position, the effect of LFO 1 cannot be heard.
- If the modulation wheel is at its **highest** position, the modulation destination amounts of LFO 1 are applied.

⊘ Vel > Level

Determines how much the keyboard velocity controls the level, also known as velocity sensitivity.

⊘ Monophonic

In monophonic mode, only the last played note is heard. The previous note is cut off as a new one is played.