Shakmat
Lancer’s Lash

- 8HP Eurorack module
- Built & designed in E.U.

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1. Introduction

Lancer's Lash is a dedicated snare drum synthesizer built to cover everything from tight classic hits to completely off-the-map percussion. Compact and focused, it explores several approaches to snare synthesis, giving you a wide palette of strikes—from clean and punchy to fractured and experimental.

Multiple models sit at the core of the module, ranging from analog-style synthesis to physical modeling, granular textures, and FM percussion. Each engine brings its own character, letting you dial anything from familiar drum machine snaps to strange metallic bursts and evolving hybrid snares.

To keep patterns alive, Lancer's Lash includes an onboard randomizer for subtle variations or more adventurous rhythmic results. Velocity sensitivity adds expressive dynamics, while 256 preset slots keep your favorite strikes ready to fire again via CV or Select Bus.

2. Specifications

Size
8 HP

Depth
29 mm

Current draw
??? mA @ +12v
??? mA @ -12v

Digital specs
16 bits 48 kHz

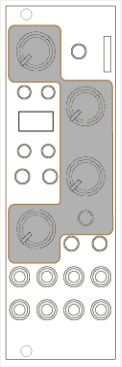
Trigger input
0 to 5v

CV inputs
-5v to +5v

Velocity input
0 to 5v

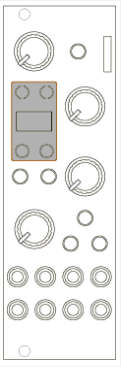
V/Oct input
-3v to +7v

3. Basics



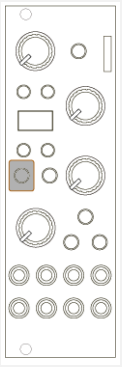
3.1 Main parameters controls

These four potentiometers control the main parameters of the snare engines : **DECAY, TIMBRE, COLOR & PITCH.** The **LOCK** buttons allows you to lock the pitch and makes the pitch potentiometer to act as an octave switcher.



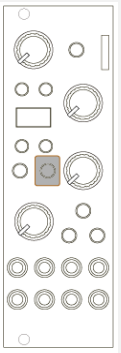
3.2 Menu screen and navigation

The menu screen is divided in two parts: the page title on top and the selected setting on the bottom. To browse through the pages, use the left and right buttons above the screen. To edit the setting, use the left and right buttons under the screen.



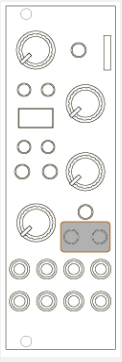
3.3 Main menu

This menu provides access to the synthesis model and several parameters, including FX amount, velocity amount, and level.



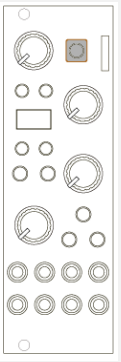
3.4 Randomizer Menu

This button opens the randomizer assignation menu



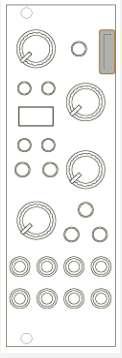
3.5 Memory

With the help of the menu screen and navigation, the **SAVE** and **LOAD** buttons allow you to recall and save up to 256 internal presets organised in 16 banks of 16 patterns.



3.6 Trigger

The **TRIG** button allows you to manually trigger sound and shows the activity of the audio output.



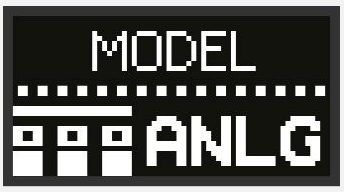
3.7 Micro SD

The micro SD card slot is used for firmware upgrade and preset management. The Lancer’s Lash does not rely on the SD Card for functioning.

4. Models

A model defines the type of synthesis used to create the sound.

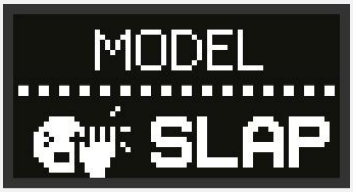
4.1 Analog



Inspired by the classic architecture of early analog drum machines, this engine combines sine waves and noise to create a wide range of percussive tones. **TIMBRE** controls several aspects of the noise, while **COLOR** adjusts the pitch envelope settings and balance between the sine waves.

The FX section adds distortion, ranging from gentle soft-clipping overdrive to aggressive hard-clipping.

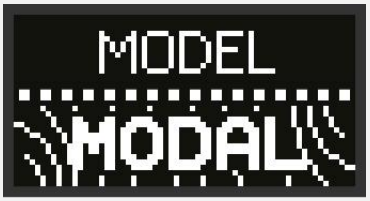
4.2 Slap



Similarly to the analog model, Slap mixes noise and sine waves. The body is built from several sine waves processed through a waveshaper, while special emphasis is placed on the noise component: bright and distorted, it adds punch and presence. **COLOR** controls the balance between the sine content and the waveshaper, while **TIMBRE** adjusts the mix between body and noise.

The FX section is a gentle soft-clipping distortion that adds extra grit and density.

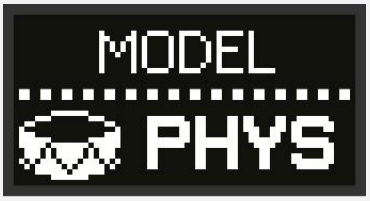
4.3 Modal



Inspired by the complex harmonic structure of acoustic snare drums, the Modal model combines additive synthesis with processed noise. Its harmonic content is built around a fundamental and a set of inharmonic partials, recreating the resonant behavior of a drum body. **TIMBRE** shapes several aspects of the noise, while **COLOR** adjusts the relative level of the harmonics.

The FX section uses multiband distortion, and adds presence without messing up the lower frequencies.

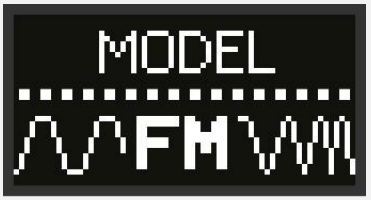
4.4 Physical



This model is based on a physical approach to snare synthesis, using an exciter routed through resonant delay lines to recreate the behavior of a drum body. **TIMBRE** controls the harmonic content of the exciter while also shaping the filtering and EQ of the delay lines, allowing the sound to move from tight and controlled to brighter, more complex responses. **COLOR** adjusts the character of the body, changing the way the resonances react and blend together.

The FX section is a distortion stage that pushes the model toward rougher, more aggressive textures.

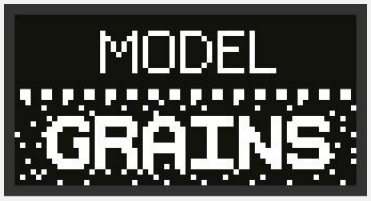
4.5 FM



This model uses a carrier modulated by several oscillators and a noise source, producing a broad palette of percussive and resonant sounds, from struck metallic objects to sharp digital claps. **TIMBRE** works as a macro control, with a strong influence on the level and tone of the noise modulator. **COLOR** adjusts the frequencies of the modulators, shifting the overall harmonic character.

The FX section combines several forms of distortion, adding density, bite, and reinforcing the metallic nature of the model.

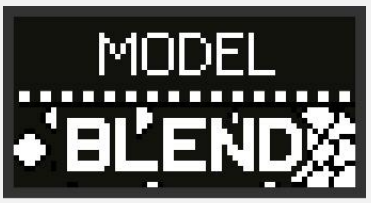
4.6 Granular



Combining a basic analog snare with a percussive granular engine, this model is inspired by drummer techniques that involve placing objects on the snare drum to alter its sound. **TIMBRE** selects the granular source material, while **COLOR** shapes key granular parameters such as pitch, duration, and density.

The FX section combines compression with subtle soft clipping, to add presence and enhance high-frequency details of the sound.

4.7 Blend

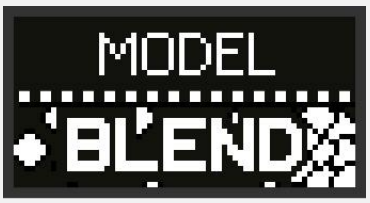


Inspired by classic hip-hop snare production, the Blend model layers boom bap samples sourced from 70s funk records. **TIMBRE** crossfades between different high-frequency layers, while **COLOR** blends a selection of body samples to shape the weight and character of the sound.

The FX section emulates the behavior of old-school samplers, adding soft clipping and lo-fi digital processing.

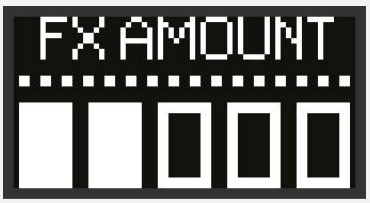
5.Main Menu pages

5.1 Model



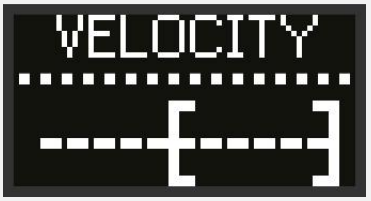
This page lets you select the snare synthesis model to be used.

5.2 FX Amount



This page sets the amount of effect. The effects are specific to each model. Refer to the previous chapter for more information.

5.3 Velocity



Lancer's Lash has a unipolar **VELOCITY** input (from 0 to 5V) that controls the level of the audio output, while also subtly affecting other parameters according to the selected model. Whenever a trigger is received at the **TRIG** input, the module samples the CV from the **VELOCITY** input.

This menu page sets the minimum level used when the **VELOCITY** input receives 0V. As the input is normalised to 5V, if no cable is connected, triggers are interpreted with maximum velocity.

5.4 Level

This page sets the audio output signal amplitude, ranging from mute to +6dB (full volume). 0 dB corresponds to a level of 10V peak to peak.

6. Randomizer

The Lancer's Lash includes a random value generator, triggered by the **TRIG** input. Press the **RNDM** button (button lights up) to activate the Randomizer. Use the screen and buttons to assign it to one or multiple parameters (Decay, Timber, Color, Pitch, FX Amount, Level, and Model). An independent amount of randomness can be set to each destination, from 0 to 9.

Holding the **RNDM** button for two seconds clears all the random values. Once a parameter is set for randomization, the **RNDM** button will stay lit, or dimmed if active but the randomizer menu is not currently displayed.

7. Memory

The Lancers'Lash can store up to 256 presets, divided into 16 banks of 16 presets. Each preset can be recalled manually, via the **PRESET** CV input, or Select Bus.

To save or load a preset, press the corresponding **SAVE** or **LOAD** button. Select a bank using the buttons above the screen and select a preset number using the buttons below the screen. Press **SAVE** or **LOAD** again to confirm.

A preset can be pre-listened before loading. To do so keep the **LOAD** button pressed while browsing through slots.

The load menu offers two more options : *INIT* which creates a basic preset free of any envelope assignment and *RNDM* which generates a random preset.

The bipolar **PRESET** CV input allows you to select a preset from the current bank. When a preset is selected from that CV input, the load menu screen is blinking.

8. Select Bus

The Select Bus protocol enables digital communication between modules through the ribbon cable used for power (at the back of the module). Communication occurs via pins 13 & 14 of the power connector, making it feasible only for modules employing large power cables (16 pins to 16 pins).

To enable Select Bus communication, a module needs to be set as a transmitter (master) and one or several modules must be set as receivers (slave). The Lancers'Lash handles the Select Bus protocol as a receiver allowing the presets to be loaded and saved using a select bus transmitter module such as the Harlequin's Context. All the modules involved in the communication need to be connected to the same bus board.

The Select Bus protocol works with 16 scenes inside a bank. Messages addressing scenes higher than 16 will be ignored.

9. SD Card

A micro SD card can be used to manage the presets and to update the firmware of the Lancers'Lash. The SD Card has to be formatted in FAT32 and the file structure has to be as follows :

A zip file containing the right folder structure and files can be downloaded on our website at www.shakmat.com/support

10. Global Options

To access the global options you have to press the **MAIN** and **RNDM** buttons together. By doing so the two main menu pages buttons will light up sequentially, indicating that you've entered the global options menu.

10.1. Pot mode

When changing presets, it is unlikely that a potentiometer still reflects the position of the current setting. This menu page allows you to set the potentiometer recall mode to either *CATCH* or *JUMP*.

In *CATCH* mode, a potentiometer needs to pass by its previously stored value in order to be active again. In *JUMP* mode, moving a potentiometer will immediately set the value.

10.2. Catch Display

When the potentiometer recall mode is set to catch, this page enables the display of an icon on the screen that helps you find the previously stored value. The display will show if the potentiometer needs to be turned clockwise or counter-clockwise until the previously stored value is reached.

10.3. Select Bus

Enable or disable the reception of Select Bus messages.

10.4. Screen saver

This page enables and sets the screen saver timer which turns off the screen when the controls are not used for a while.

10.5. Pitch Input

The **PITCH** input has two modes: Full Range and V/Oct. In Full Range mode, the entire CV input range corresponds to the two-octave range of the **PITCH** knob. V/Oct mode reduces the range of the **PITCH** input so that it follows the standard 1 V/octave scaling.

11. Preset management

The preset management menu allows you to import and export presets, per bank or as a whole, from and to a micro SD card. To do so, the SD card must be formatted as suggested in chapter 9. You can access the preset management menu by turning the Lancers'Lash on while pressing the **SAVE** or **LOAD** buttons.

When importing presets, if there are more than 16 files named BANK_XX.txt in the SD card folder, the module will import the first 16 files in alphabetical order. If there are less than 16 valid files in the folder, the module will not import anything.

The Lancers'Lash comes with several banks of factory presets. Additional preset banks are available for import on shakmat.com.

12. Factory reset

To restore your Lancers'Lash to the factory presets, settings and clear its memory, hold the **RNDM** button while powering up the module. The screen will ask you to confirm or cancel the procedure.

13. Firmware upgrade

To update the Lancer's Lash, first download the latest firmware from our website at **shakmat.com/support**. Turn off the module, take the SD card out and copy the .bin file in the Lancers_Lash folder (as described in chapter 9).

Insert the card back in the module and turn it on while maintaining the **TRIG** button pressed. The screen will guide you through the end of the procedure.

• www.shakmat.com