MZOURACK

DIKTAAT

Overview

DIKTAAT is a 4-channel, performance-focused trigger sequencer. DIKTAAT embraces immediacy and improvisation. You don't get to program your drum patterns step-by-step. Instead, the tools provided allow you to express yourself on the fly. Don't worry about making mistakes, focus on having fun!

Features:

- 4-channel trigger sequencer
- 4 banks x 4 patterns memory (16 / 32 / 64 steps long, 8-slot pattern chaining)
- Various ways to generate and remix trigger sequences on the fly
- Mutes
- Probability
- Reset In and Reset Out - for manually resetting all your sequencers in unison
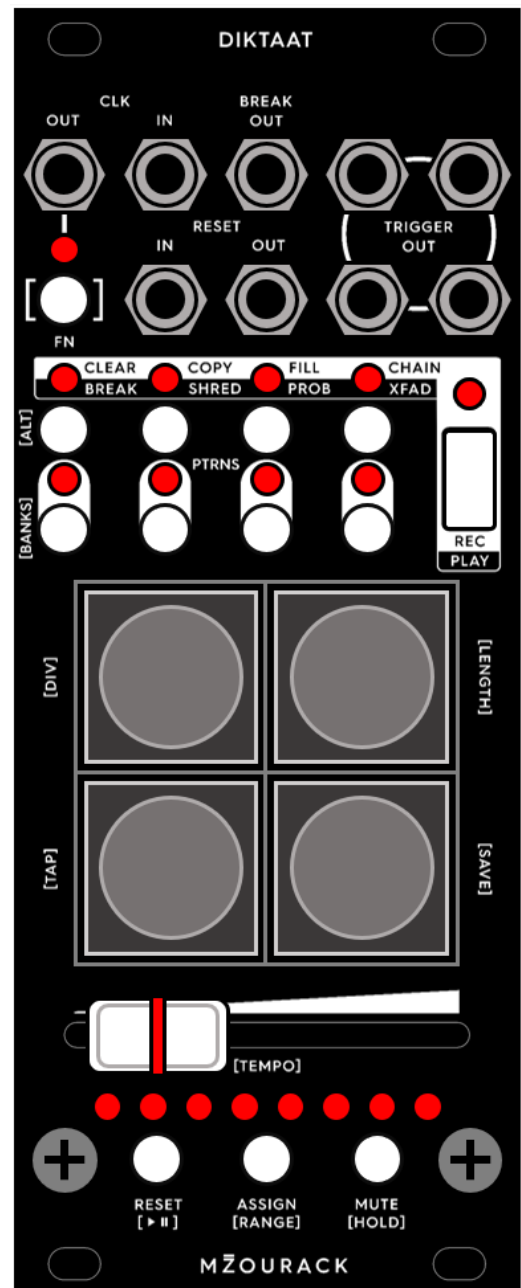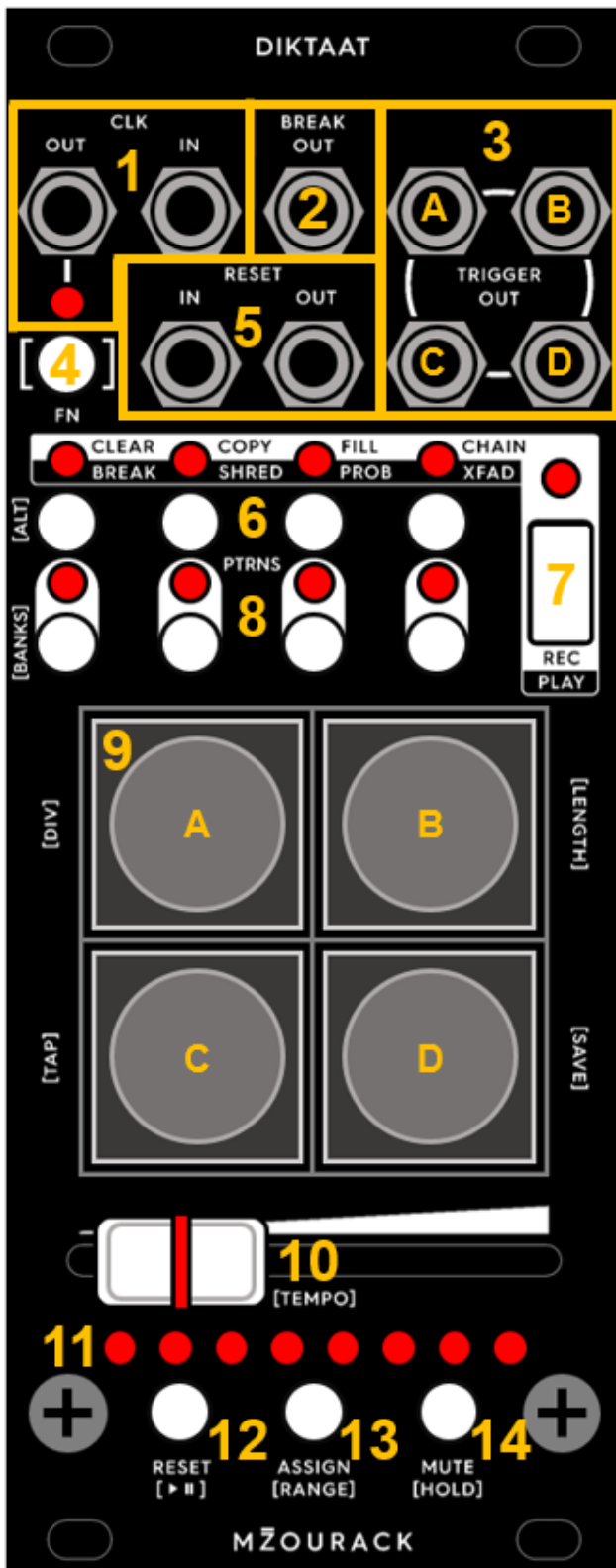- Clock In and Clock Out

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DIKTAAT

Table of Contents

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Front Panel

1 - Clock In and Out patch points. The LED corresponds to the Clock Out signal. Clock is generated internally with nothing plugged into Clock In.

2 - Break Output is related to the Break Tool.

3 - Outputs of sequencer tracks A-B-C-D.

4 - FN button - related to all items on the front panel enclosed in **[brackets]**

5 - Reset In and Out patch points.

6 - Patterns and Banks section.

7 - REC / PLAY Mode switch. When the LED is on, REC mode is active and REC tools are available. When it is off, the PLAY tools are available.

8 - REC Tools (CLEAR, COPY…) and PLAY Tools (BREAK, SHRED…) selection.

9 - Backlit buttons A-B-C-D which perform various functions based on the state of the module.

10 - Fader which performs multiple functions based on the state of the module.

11 - Strip of 8 LEDs which usually shows the current position in the running pattern or other information based on the state of the module - see the various modes.

12 - Manual Reset button.

13 - The Assign button gives momentary access to any mapped REC or PLAY tool.

14 - Mute button, can be double-tapped for instant global mute/unmute.

Patterns and Banks

A pattern on the DIKTAAT corresponds to a group of four independent single-trigger tracks. Four pattern slots are available per bank.
The global length of tracks, tempo and clock divider can be changed via the FN button.

Four tracks forming a pattern with a length of 16
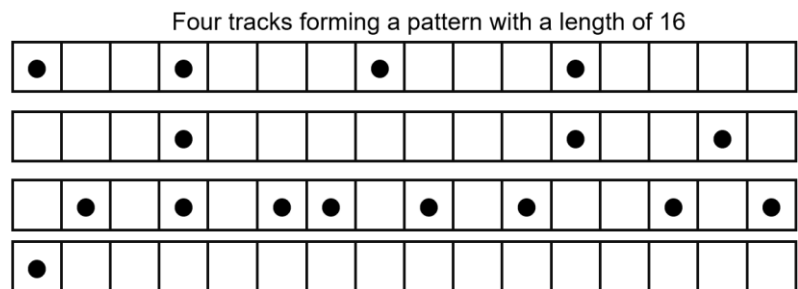
The active pattern can be changed by the four PATTERNS buttons, unless you are using some tool which changes their behavior, like the CLEAR or the CHAIN tool. Manually switching the pattern also erases any active pattern chain.

Note that manually switching the patterns is instant by default - this can be changed in the Advanced Settings.

The LEDs show the currently active pattern with an uninterrupted glow and the upcoming pattern in the pattern chain loop with a flash.

← Light shows active pattern

← Buttons change active pattern

Access banks by holding FN
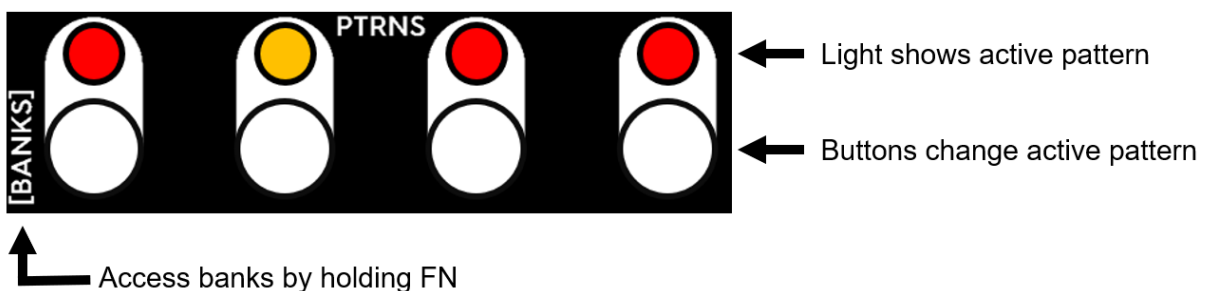
The 4-pattern groups are organized into 4 banks which are accessible by pushing the PATTERNS buttons while holding FN (the LEDs that usually show the active patterns will display the active bank).

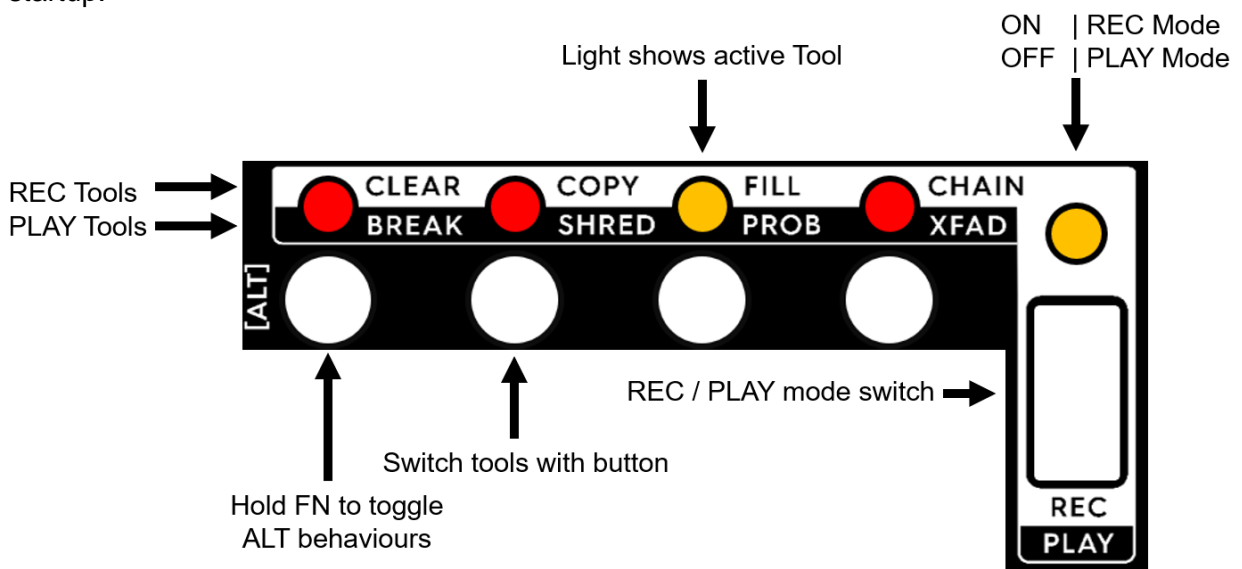All recorded tracks can be saved into memory and recalled on device startup.

Modes

A number of tools are accessible on DIKTAAT - these are grouped into the REC Mode and the PLAY Mode. These can be switched by the large toggle button. When the nearby LED is on, you are in REC mode, when it is off, you are in PLAY mode.

The four smaller buttons are used for switching between the individual tools available in each of the Modes. The LEDs above these buttons show the active tool.

When holding FN, the tool buttons can be used to toggle the ALT behavior for each tool. The ALT behavior of each tool is explained within the tools respective section of this manual.

Whether a tools ALT behavior is on or off can be saved into memory and recalled on device startup.

Light shows active Tool

ON | REC Mode
OFF | PLAY Mode

REC Tools
PLAY Tools

CLEAR   COPY   FILL   CHAIN
BREAK   SHRED   PROB   XFAD

[ALT]

REC / PLAY mode switch

Switch tools with button

Hold FN to toggle
ALT behaviours

REC
PLAY

Hint: In this image, the selected tool is FILL

REC Mode

REC Mode - DEFAULT Tool

When no Tool is active, trigger patterns can be recorded in real time via the backlit buttons.
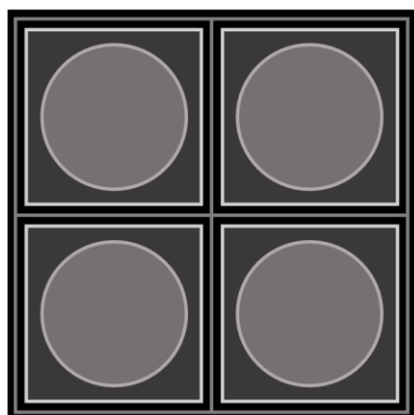
Record triggers into tracks in real time

This default REC Tool is accessed when entering* REC Mode via the REC/PLAY toggle button or when deactivating the currently active Tool by pressing its corresponding button.
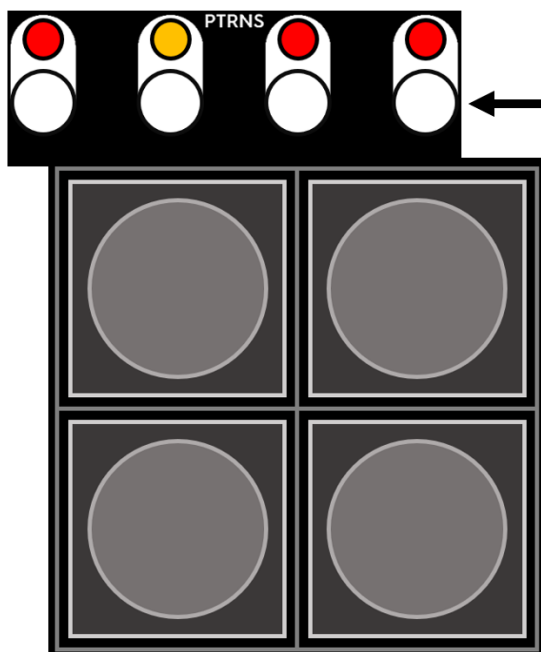
*This behavior can be changed, see Advanced settings.

A temporary mute function can be activated for this tool via FN + [HOLD].

REC Mode - CLEAR Tool

Pressing the backlit buttons will clear out all triggers on the corresponding track in the active pattern. Entire patterns can be cleared via the pattern buttons.

PTRNS

Clear all tracks in selected pattern

Select tracks to clear in current pattern

ALT Mode: Remove notes from tracks only while holding the corresponding backlit button (think of it like scrubbing a tape as it plays). To clear the whole track like in the default behavior, double tap the corresponding button. Instant pattern clearing behavior via the patterns buttons is unchanged.

REC Mode - COPY Tool

Upon activating the COPY tool, you first have to select what you want to copy. This can be any track of the current pattern via the backlit buttons, or any of the four patterns via the Pattern buttons

After selecting the track/pattern to copy from, the backlit buttons and Pattern buttons are used for pasting.

This leads to four different copy/paste scenarios:

Track → Track   - Track of active pattern is copied to another track of active pattern
Pattern→ Pattern   - Entire pattern is copied to another pattern
Track → Pattern   - Track of active pattern is copied to corresponding track in pattern
Pattern→ Track   - Corresponding track in pattern is copied to track of active pattern

To start copying something else, de- and re-activate the COPY Tool.

Copy (from) Patterns
Paste (to) Patterns

Copy (from) Tracks
Paste (to) Tracks
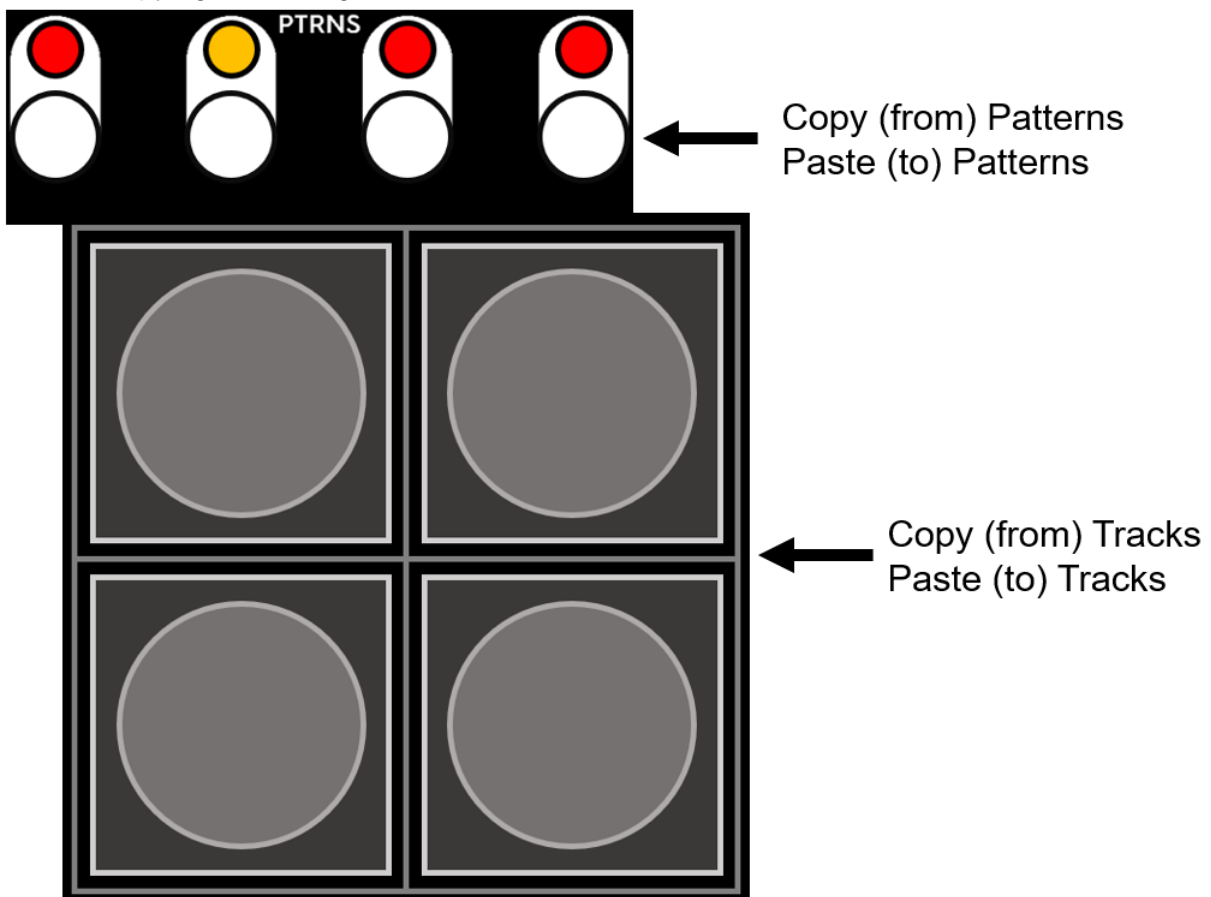
ALT Mode: Two-finger copy/pasting - With no backlit or pattern button pressed, select what you want to copy by pressing and holding any of the backlit or pattern buttons. With the button from the previous step still held, paste to as many destinations as you want by tapping the corresponding buttons. By releasing all backlit and pattern buttons again, you can select a new target to copy and repeat.

REC Mode - FILL Tool

Press and hold one or more of the backlit buttons. Triggers will be recorded into the corresponding tracks following trigger sequences selected by the fader. The currently selected sequence is visualized on the LED strip below the fader.

Note that the two rightmost sequences are 2- and 3- trigger sequences that randomize every couple of clock ticks unless some backlit button is pressed.
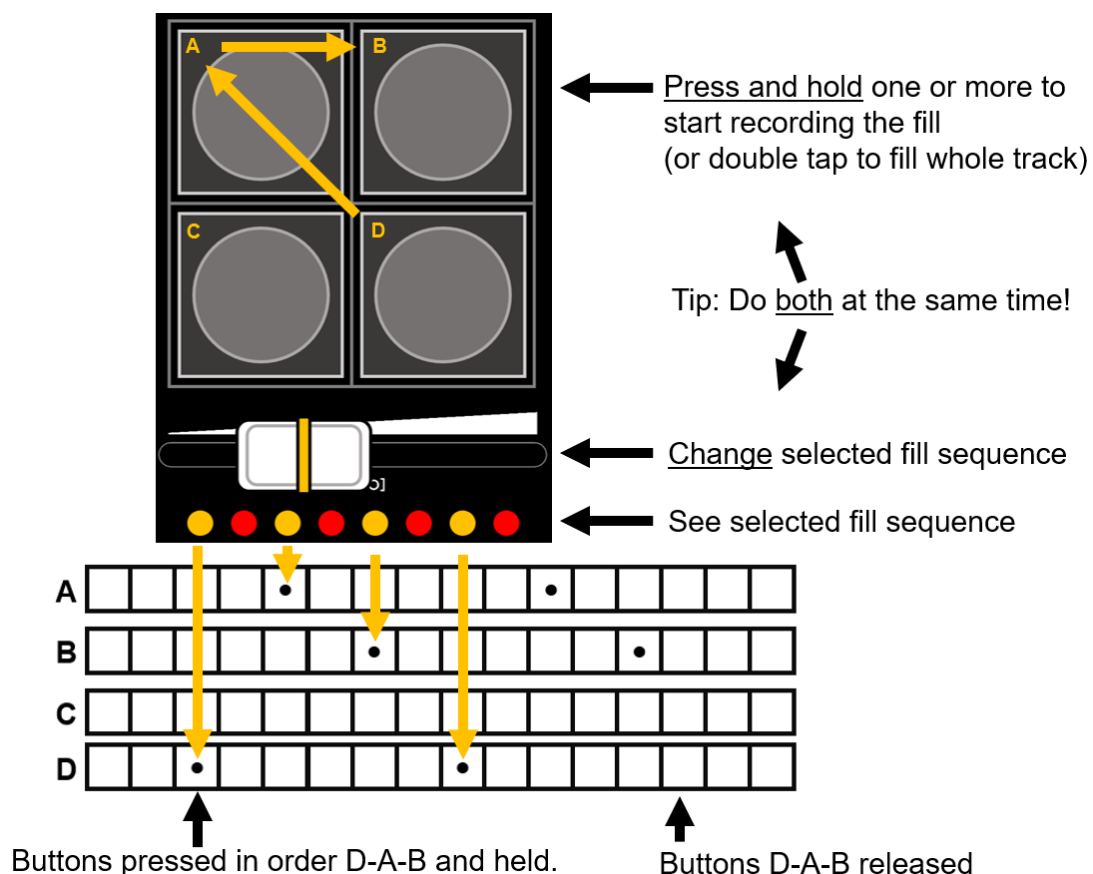
When more than one button is held, the tracks into which the triggers are recorded alternate based on the order in which the buttons were pressed.

Great for linear drumming!

By default, pauses are also being recorded into the held track buttons (e.g. filling eighth notes over sixteenth notes will result in removing every second sixteenth note).

If ALT Mode is active, pauses are not created and triggers are only being added.

Double tapping the backlit button fills the entire corresponding track with a loop of the currently selected sequence.

Press and hold one or more to start recording the fill
(or double tap to fill whole track)

Tip: Do both at the same time!

Change selected fill sequence

See selected fill sequence

Buttons pressed in order D-A-B and held.
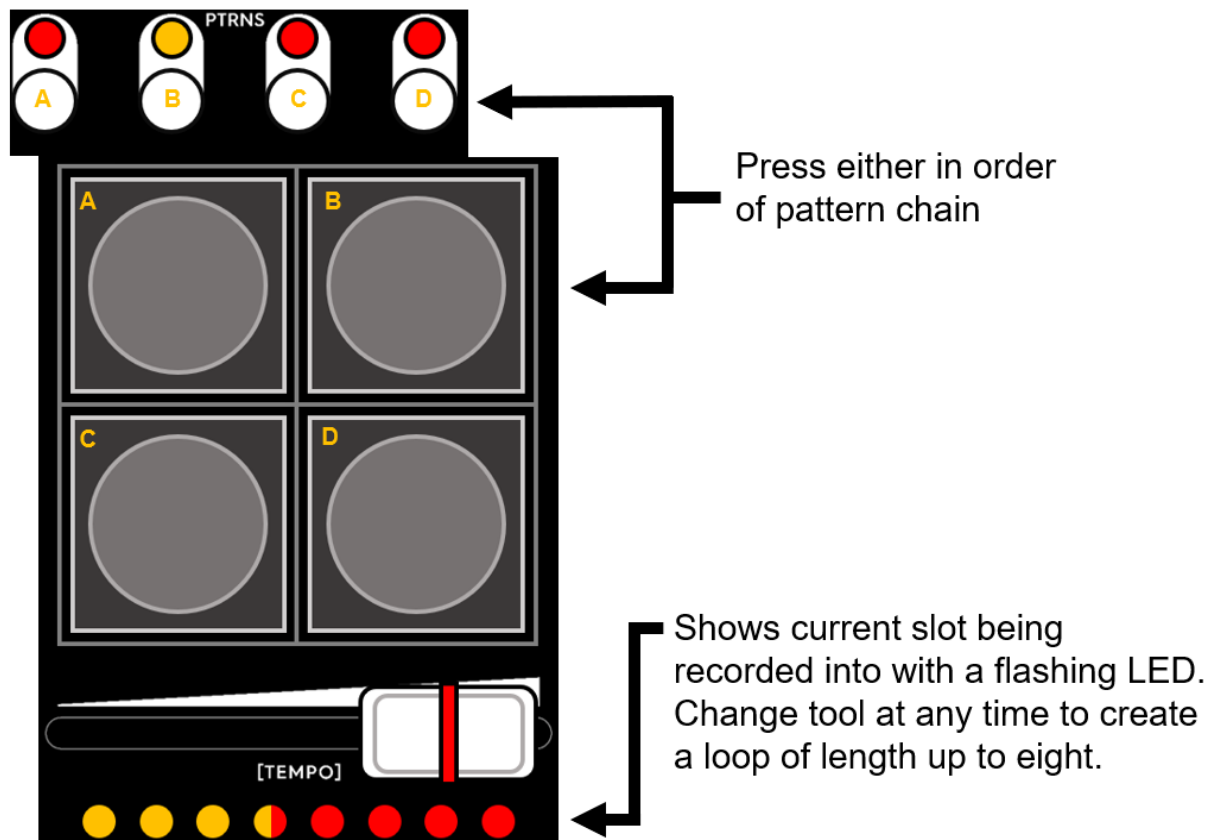
Buttons D-A-B released

REC Mode - CHAIN Tool

Chain patterns in a loop that has up to eight slots.

Press the Patterns buttons (or alternatively, the A-B-C-D buttons, function is identical) in the order of the desired pattern chain.

The LED bar below the fader shows the position in the chain into which you are writing.

Press either in order
of pattern chain

Shows current slot being
recorded into with a flashing LED.
Change tool at any time to create
a loop of length up to eight.

ALT Mode: The pattern buttons become bank selectors - use the backlit buttons to chain patterns from various banks.

When not using the chain tool, to remind you a chain is active, the LED corresponding to the upcoming pattern flashes. The chain is broken when a pattern is changed manually.
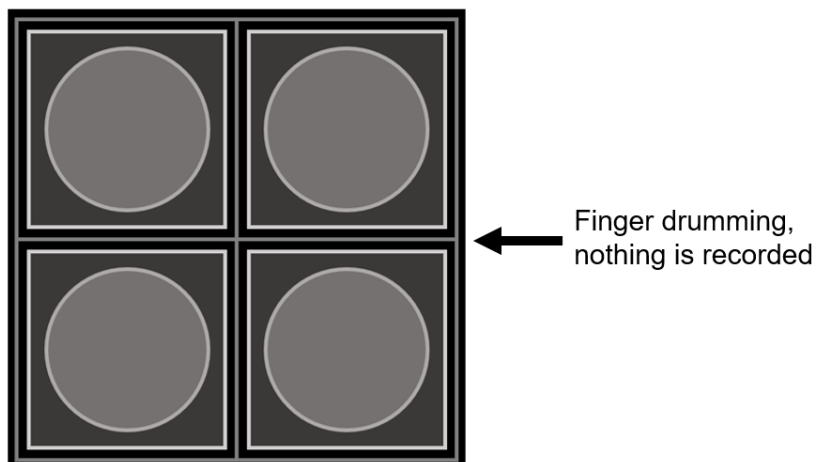
PLAY Mode

PLAY Mode - DEFAULT Tool

When no Tool is active, the A-B-C-D buttons can be used to send out triggers out of the trigger outputs.
This default PLAY Tool is accessed when entering* PLAY Mode via the REC/PLAY toggle button or when deactivating the currently active Tool by pressing its corresponding button.

*This behaviour can be changed, see Advanced settings.

An expressive mute function can be activated for this tool via FN + [HOLD].

Finger drumming, nothing is recorded

PLAY Mode - BREAK Tool

Hold one or more of the A / B / C / D buttons to momentarily loop the playing sequence starting at the beginning of the 1st / 2nd / 3rd / 4th quarter of the current pattern. The position of the end of the loop is set by the fader.

The unaffected sequence is still running in the background. Release the A / B / C / D buttons to return to it.

The Break Output sends out a trigger on every start of the Break loop, and also every time a Reset occurs. A good use for this is resetting other sequencer modules.

Break Output sends out a trigger on every start of the Break loop

Press one or more (order matters) to loop pattern starting from -
A – *1st*
B – *2nd*
C – *3rd*
D – *4th* quarter of current pattern

Set the length of the Break loop

The LED bar still shows you where in the pattern you currently are!

Tip: Use the Fader and A-B-C-D buttons together

ALT Mode: The Break Output now sends out a constant 5V gate for as long as any of the backlit buttons is held. The original Break Output behavior is now available at the Reset Output (can be disabled, see Advanced Settings).

PLAY Mode - SHRED Tool

Mash tracks against each other, deriving rhythms related to what's already going on while cleaning up overlapping triggers.

Start by pressing one of the backlit A-B-C-D buttons. This is now the *LEFT* track. While held, every other track is muted.

With the *LEFT* track button still held, tap any other of the remaining backlit buttons. This selects the *RIGHT* track.

The *LEFT* and *RIGHT* tracks are now instantly compared, for each step, checking if a recorded trigger can be found on either of them (i.e. boolean OR function).

If the answer is yes (a trigger has been found on the *LEFT* or *RIGHT* track) the *DOMINANT* track gets to have a trigger on that step while the non-*DOMINANT* track gets cleared on that step.

Whether the *LEFT* or the *RIGHT* track gets to be *DOMINANT* on that step is decided by the map shown on the LED bar below the fader. Each LED on the map corresponds to one step in the pattern. Various maps can be selected with the fader, with the positions on the left-hand side assigning dominance to the *LEFT* track more often and vice versa.
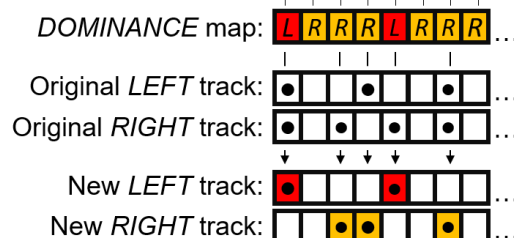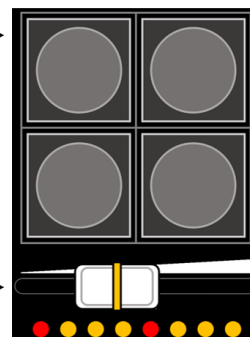
The backlit A-B-C-D buttons can also be underlined double tapped for instantly shredding that track against all the remaining three. This is done by applying the OR condition against all of the tracks, the double-tapped track becoming the *LEFT* track, while the other three becoming *RIGHT* tracks simultaneously. Now the following happens for each step of the pattern:
- If the OR condition is true for the step and *LEFT* track (i.e. the double-tapped track) is *DOMINANT*, it becomes the only track on that step with a trigger.
- If the OR condition is true for the step and *RIGHT* tracks are *DOMINANT*, the *LEFT* track gets clear on that step, the three *RIGHT* tracks are unaffected

First, select the *LEFT* track by pressing and holding one of the buttons
Second, shred with *RIGHT* track by tapping one of the remaining buttons

… or double-tap a button to shred selected track against all other tracks at once

Choose a *DOMINANCE* map ➡

DOMINANCE map: | L | R | R | R | L | R | R | R | …

Original *LEFT* track: | ● | | | ● | | ● | | …

Original *RIGHT* track: | ● | | ● | | ● | | ● | | …

New *LEFT* track: | ● | | | ● | | | …

New *RIGHT* track: | | ● | ● | | ● | | …

[ALT Mode]():
This completely changes the SHRED Tool Behavior

Activating the SHRED tool (or switching the active pattern) assigns the:
1st   / 2nd   / 3rd   / 4th
quarter of the active pattern to the
A   / B   / C   / D
buttons, respectively.

Press the A-B-C-D buttons to write the respective quarter of the pattern into the current pattern, starting at the current step of the sequence.
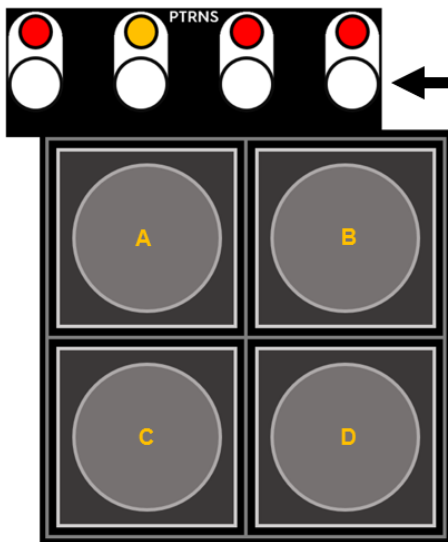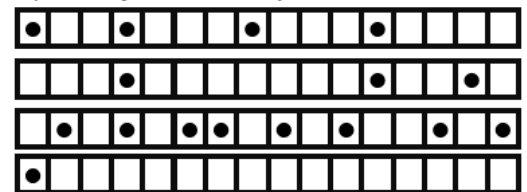
When pattern changes (manually or via chaining), the newly active pattern is chopped up and stored in the A-B-C-D buttons

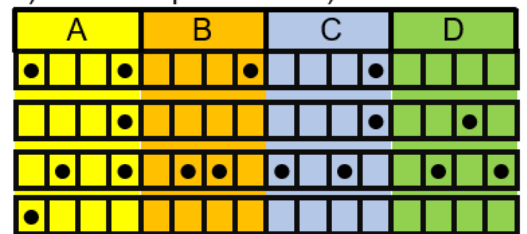Press to write *1st-2nd-3rd-4th* quarter of stored pattern into current pattern
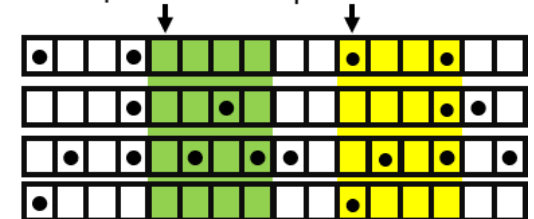
Example

1) Newly activated pattern:

2) Slices of pattern in 1) are stored:

pushed D   pushed A

3) Buttons D and A are pushed on steps 5 and 11, respectively

PLAY Mode - PROB Tool

Add some randomness and variation with probability.

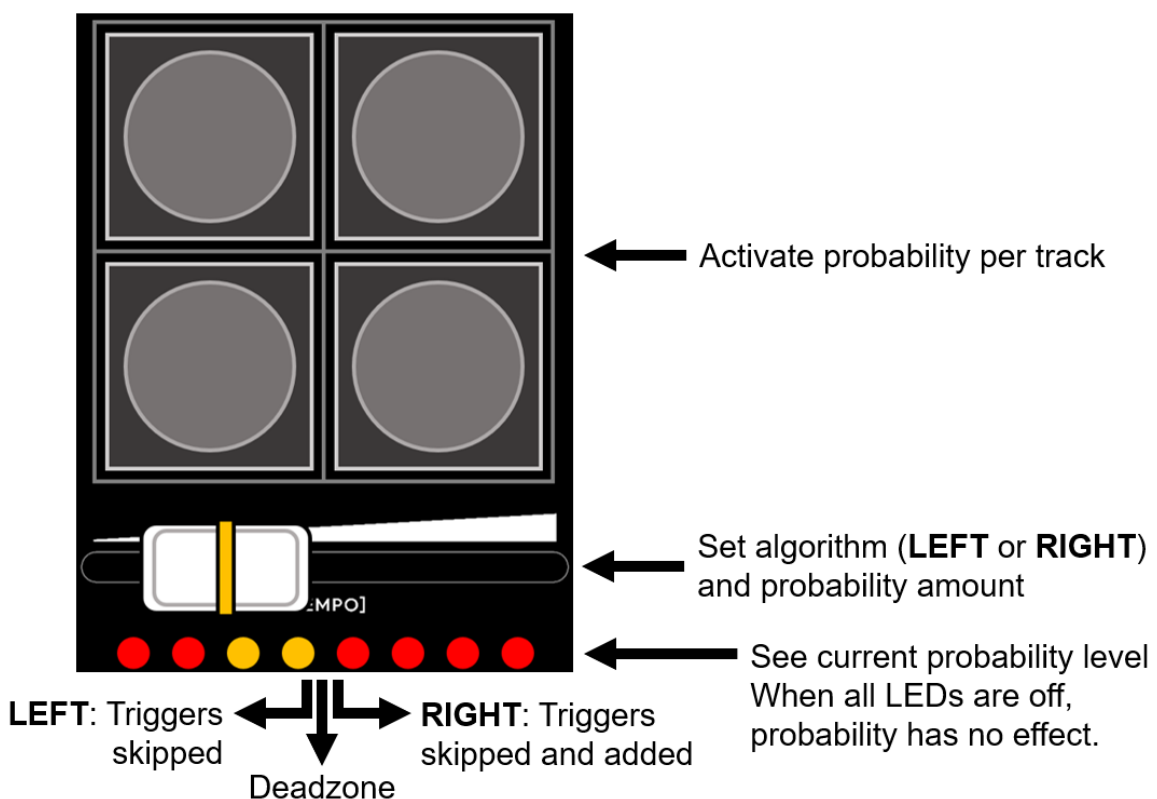Use the fader to set a global probability value.

Activate/Deactivate the probability function per-track via backlit buttons (when the LED is ON, probability as active for that track).

Probability affects playback in two different ways, depending on whether the probability parameter is set to the LEFT or the RIGHT side of the dead zone (all LEDS off) in the center of the fader:

LEFT: *Exclusive skipping* - when moving the fader left, increase the chance that recorded triggers will be skipped

RIGHT: *Skipping and Adding* - when moving right, increase the chance that recorded triggers will be skipped but also that new triggers will appear next to existing triggers

To help keep things manageable, probability is not taken into account when REC Mode is active.

Activate probability per track

Set algorithm (**LEFT** or **RIGHT**) and probability amount

See current probability level When all LEDs are off, probability has no effect.

LEFT: Triggers skipped   **RIGHT**: Triggers skipped and added

Deadzone

ALT Mode: The normal cap on the probability parameter is about 33% (the left/rightmost positions of the fader) while in the ALT mode, the cap is 100%. In other words, having the fader in the leftmost position now leads to skipping every single trigger.

PLAY Mode - X-FADE Tool

A performance tool which makes the fader behave similarly to a DJ-mixer style crossfader.

The pattern that's active when the X-FADE Tool is selected becomes the *LEFT* pattern.
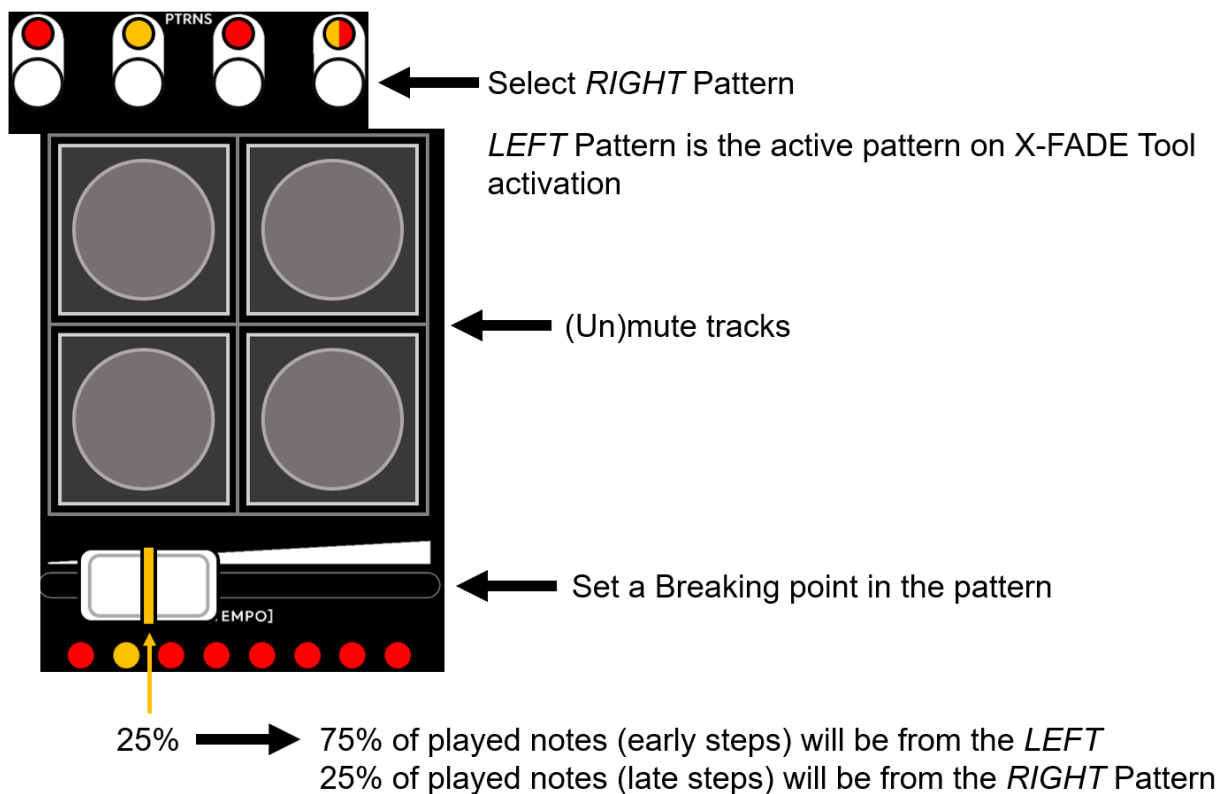
Once the X-FADE Tool is active, the *RIGHT* pattern can be selected with the Pattern buttons.

Entering the first step of the pattern, the *LEFT* pattern is active until a breaking-point step is reached. The breaking point in the playback is defined via the position of the fader.

Having the fader on the left side pushes the breaking point to the right, giving more room to the *LEFT* pattern, and vice-versa.

The backlit buttons can be used to (un)mute individual tracks, just like when using the Mute button.

The selected *LEFT* and *RIGHT* patterns are shown on the Pattern LEDs with the currently inactive pattern flashing.

← Select *RIGHT* Pattern

LEFT Pattern is the active pattern on X-FADE Tool activation

← (Un)mute tracks

← Set a Breaking point in the pattern

25% ➡ 75% of played notes (early steps) will be from the *LEFT*
25% of played notes (late steps) will be from the *RIGHT* Pattern

ALT Mode: Enables crossfading between banks while a pattern Chain is active. When activating the X-FADE Tool while a chain is active, the currently active bank becomes the *LEFT* bank, while the *RIGHT* bank can be selected via the Patterns buttons.

Reset

Reset Input
Reset Output →
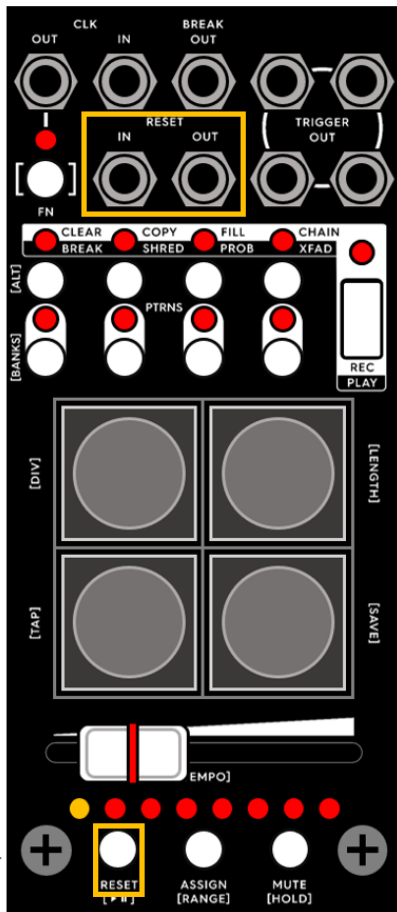
Tap to Reset the
sequence and
hold to tie reset to →
other actions

The current pattern (and pattern chain) can be reset to the first step either via an external signal or manually with the RESET button.

When a reset is called, a trigger is sent out from RESET Out. Use this to reset other modules in sync.

Note that the first clock pulse coming from CLOCK Out after the reset is delayed by 2 milliseconds. This delay is usually not noticeable to the ear but helps in making sure the target devices register both pulses. This delay can be disabled via Advanced Settings.

While **holding** the RESET button, pressing any of the backlit buttons or any of the Patterns buttons will cause a Reset to happen along with any action that button press was supposed to cause. Use this as a performative effect or to make catching that first beat easier when recording.

Mute

While holding the Mute button, toggle the mute state of individual tracks via the corresponding buttons (the backlights show the current mute state).

Usual playback indication is inverted for muted tracks to help keep track of mute states.

Alternatively, quickly **double-tap** the mute button to:
- Mute all tracks when any track is unmuted
- Unmute all tracks when all tracks are muted

Toggle the mute state of individual tracks

Hold and toggle mutes on individual tracks or double tap for global (un)mute
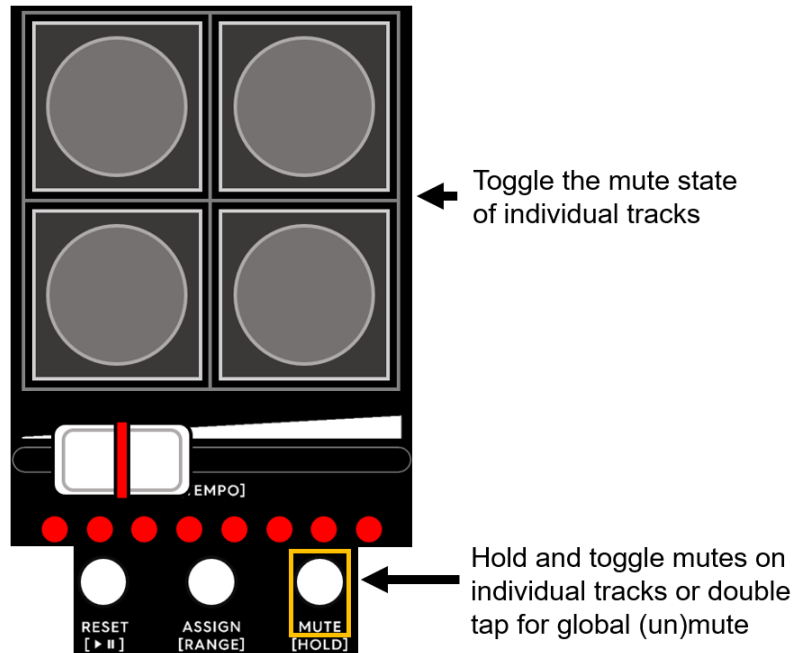
Assign

Quick access button for any tool. Can be mapped to any REC or PLAY Mode Tool (except DEFAULT). The mapped tool is activated when Assign is held. Letting go of Assign re-activates the tool that was active before.

To map a different tool to the Assign button, hold the Assign button and press any Tool button (this takes state of the REC/PLAY Toggle button into account).

While holding Assign, change mapped Tool

Hold to activate mapped Tool or to map a different Tool
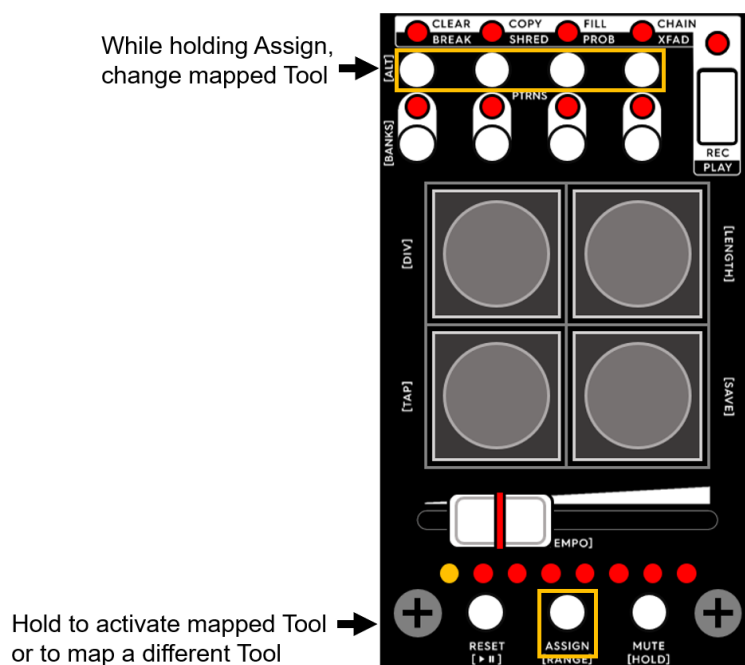
The FN Button

Hold the FN button to access various features/settings marked by the **[square brackets]** on the front panel:

[ALT] - Enable/disable the ALT behaviour of each Tool.
[BANKS] - Select the active Bank.
[DIV] - Tap to cycle through 1/2/4/8 clock divisors (the divider is applied to incoming clock when clock externally and to CLK Out when clocked internally).
[LENGTH] - tap to cycle through the possible 16-/32-/64-step pattern lengths
[TAP] - Tap tempo manually
[TEMPO] - set the rate of the internal clock generator
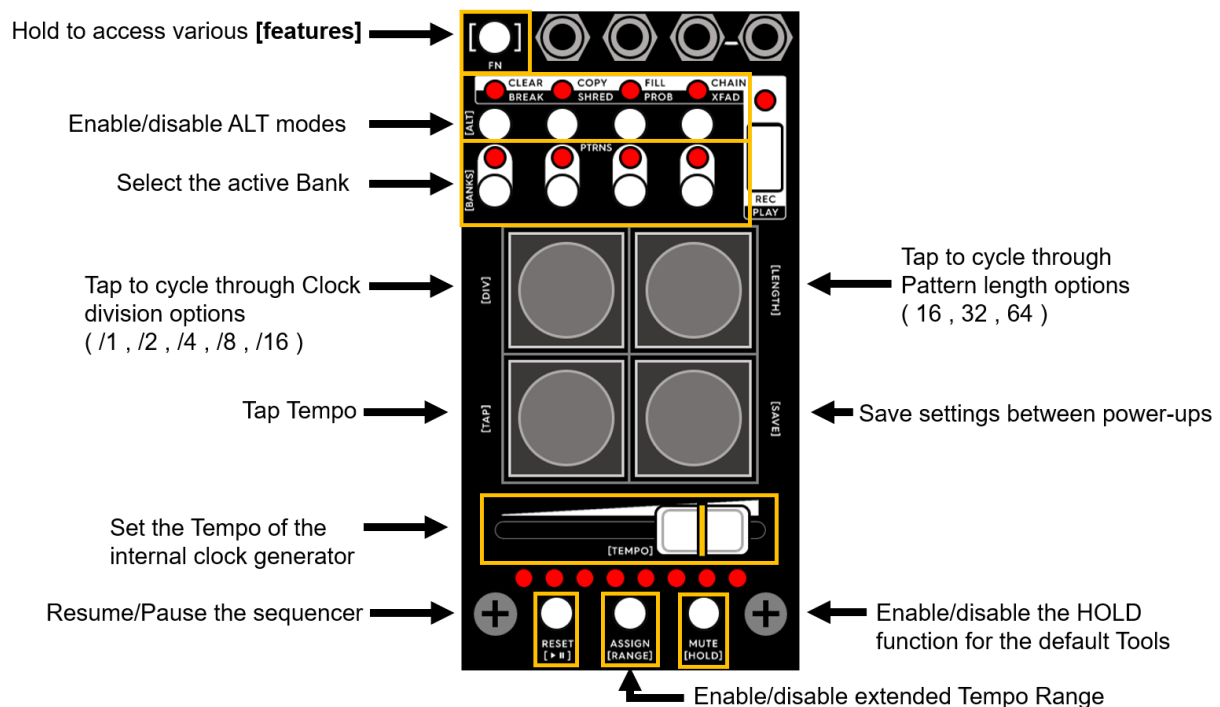**[PLAY/PAUSE]** - Resume/Pause the sequence playback
[RANGE] - Enable/disable an extended tempo range (accessible via the fader)
[HOLD] - Enables/disables the Hold function for the Default REC and Default PLAY tool. When enabled, holding the respective track button in the mentioned mode temporarily mutes the respective track until the button is released.
[SAVE] - Saves the state of the module, the settings are loaded on next device startup. Factory state can be recalled on boot. The saved data is comprised of all recorded tracks (in all patterns and banks), active pattern Chain, global pattern Length, the Assigned Tool, Mute states, Probability value and states, active Bank, Play/Pause state, extended Tempo Range option state and the Advanced Settings.

Hold to access various **[features]**

Enable/disable ALT modes

Select the active Bank

Tap to cycle through Clock division options
(/1 , /2 , /4 , /8 , /16)

Tap Tempo

Set the Tempo of the internal clock generator

Resume/Pause the sequencer

Tap to cycle through Pattern length options
(16 , 32 , 64)

Save settings between power-ups

Enable/disable the HOLD function for the default Tools

Enable/disable extended Tempo Range

Holding FN + RESET and tapping [SAVE] reloads all saved Pattern/Settings (similar to power-cycling the device).

Advanced Settings

Hold FN on startup to access some extra settings as well as seeing which firmware version is currently in your module (you can let go of FN once you're here).

The current version of the firmware (V1.0) corresponds to the following pattern shown on the LED bar below the fader: **[O-O-O-O-O-O-O-X]**

The advanced settings are accessed via the Tool Buttons.

Hold during module startup to access Advanced Settings ➡
Tap again to continue normal operation
Change the state of Advanced Settings ➡

The current version of the Firmware ➡
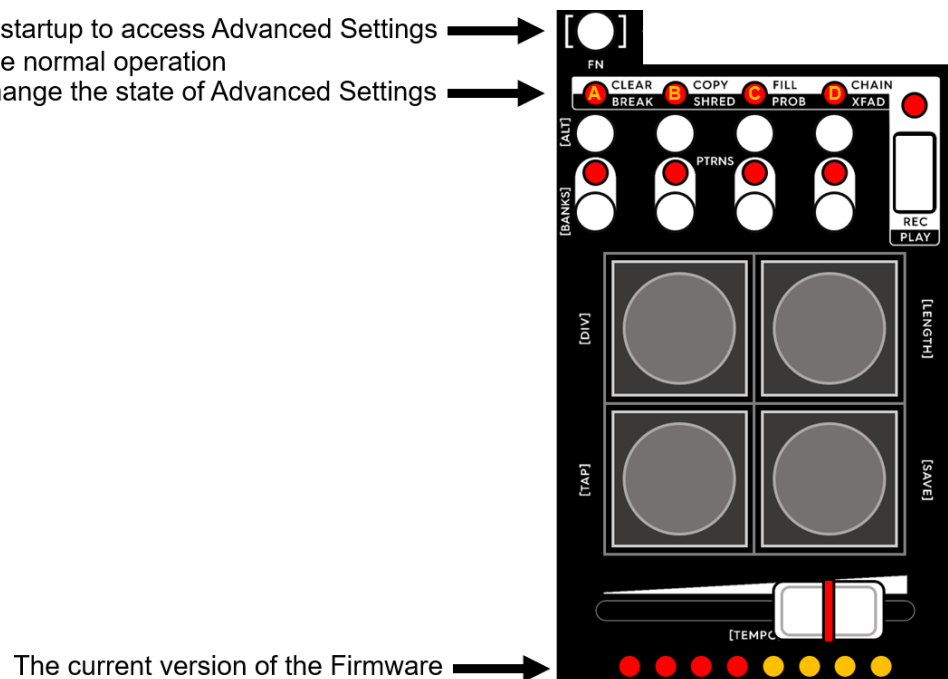
When the corresponding LED is **ON**:

    A) Disable the Break triggers on the Reset Out output when using the ALT mode of the Break Tool

    B) Disable the (2ms) delayed first clock after a reset occurs. The first clock pulse now appears in the same moment as the Reset Out (or Break Out) trigger

    C) Change the behaviour of the REC/PLAY toggle button. Pressing the button no longer resets your active tool to the DEFAULT REC Tool or DEFAULT PLAY Tool.

    D) Change the behaviour of the Patterns buttons - patterns are now changed at the end of the current pattern instead of instantly

To exit the Advanced Settings menu and start the module normally, tap the FN button.

Note that the state of Advanced Settings has to be saved via the regular FN + [Save] button combo to be recalled on next module startup.

Factory Reset

To factory reset the module, hold RESET during boot.

This restores all default settings and patterns.

Hold during startup
to reload factory →
settings / patterns
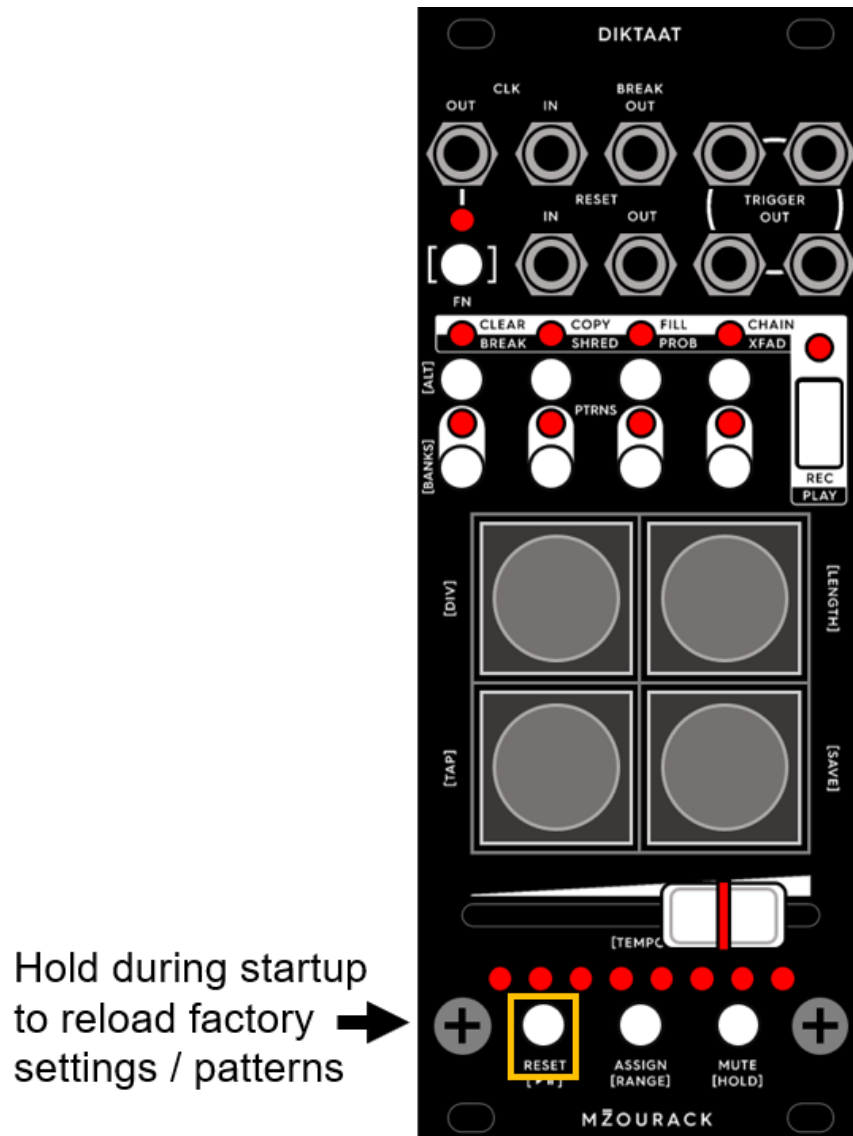
Firmware Update

Click here (or go to **mzourack.com/diktaat/firmware**) to access the online firmware update tool. You can check the currently installed version on your unit in the Advanced Settings menu.

MZOURACK

DIKTAAT

Open Source

DIKTAAT is meant to be [hackable](https://github.com/mzourack/DIKTAAT) (https://github.com/mzourack/DIKTAAT).

Credits

Made by Matěj Mžourek in Prague, 2025

Thanks for the help!

Front Panel Graphics
Gabriela

Online content
Patrik

Testers
Felix
Leoš
Nathanel
Vítek