PRACQ

REFERENCE MANUAL r24

About This Manual

Welcome to PRACQ! Thank you for your interest.

PRACQ has two manuals:
- PRACQ GETTING STARTED MANUAL (Basic tutorials)
- PRACQ REFERENCE MANUAL (This document)

At first, read the GETTING STARTED MANUAL to feel what it is like. Then proceed to this manual to get in-depth information.

The manuals will be revised with software updates. The latest software and manuals are available at www.pracq.com for free. For the convenience of the manual maintenance, the corresponding software version is not shown in the manual.

Contacts

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1. Introduction

1.1. Concepts

PRACQ is a melodic step sequencer application that aims to be a handy tool for sketch. This chapter introduces key words, structures, and so on to understand the essentials of PRACQ.

Controller

PRACQ is designed to be operated by some kind of hardware device and these devices are called "Controller" in this document.

Novation Launchpad, a grid MIDI Controller, is basically used as a controller. That's because PRACQ was inspired by the appearance of Novation Launchpad and originally made for it.
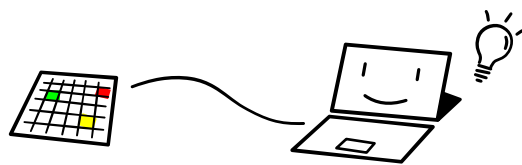
If you don't have a Novation Launchpad, use a computer keyboard and the controller screen. (See GETTING STARTED MANUAL for details.) There is a plan for the future to improve so that you can use more helpfully with a computer keyboard and the application windows.

Pad Layout

Novation Launchpad has a grid of illuminated pads (buttons). These pads are mainly used as the step pads and the keyboard pads. Most of this manual mentions methods of pad operation.

Basic Pad Layout
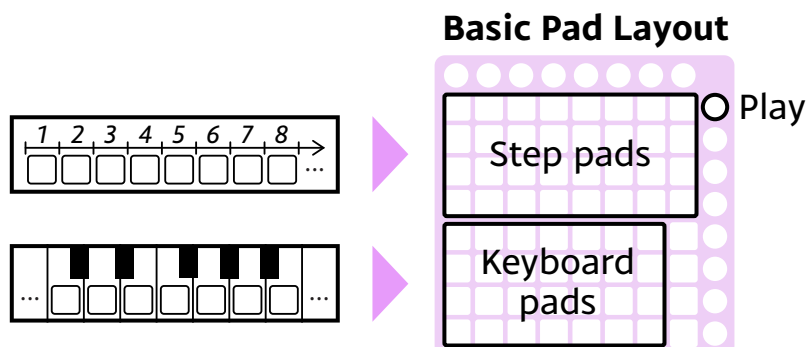
Application Windows

PRACQ has windows like the following.

Main Window

This window shows some information and has buttons to open other windows. It is not a target of operation and basically works behind the scenes.

Controller Screen

This window imitates Novation Launchpad. See GETTING STARTED MANUAL for details.

JavaScript Interpreter Window

See chapter "5.3. JavaScript Interpreter" for derails.

Setting Window

This window allows you to set up your controller, playback method, and so on. To open this window, click the "SETTINGS" button on the main window. Each item in this window is referred to as "Settings -> (Tab name) -> (Item name)" in this document.

Operation Modes

PRACQ has several modes that have their individual pad layout.

Main Mode

PRACQ is in Main Mode just after startup. This mode is designed for the step recording, a basic feature as a step sequencer.

Property Mode

This mode allows you to change sequencer settings like the BPM (Tempo) and the step time (length of playback time per step).

Command Mode

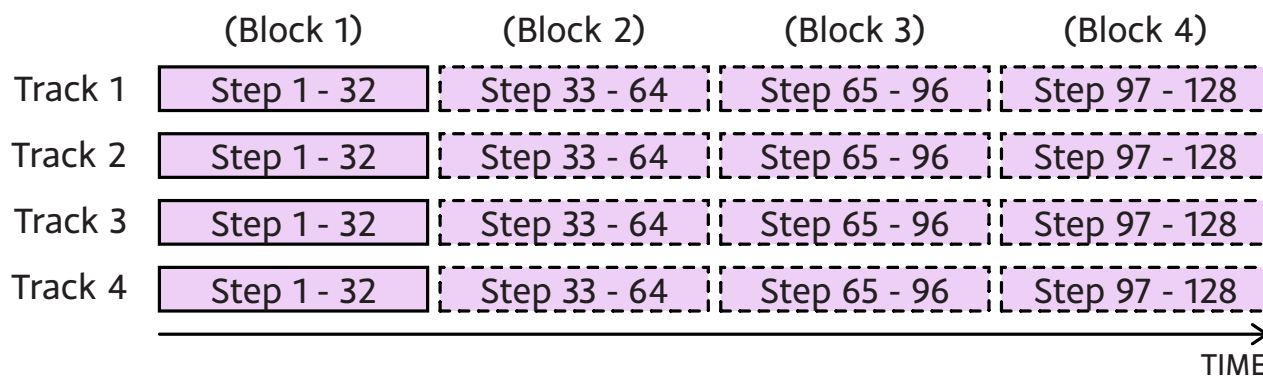In this mode, commands to edit the sequence data are available.

Scale Mode

You can edit scales that appear on the keyboard pads.

Sequence Data

PRACQ has four tracks and each track contains up to 128 steps. Every 32 steps make

up a block.

Each step can contain up to six notes and has its own properties like the length.

	(Block 1)	(Block 2)	(Block 3)	(Block 4)
Track 1	Step 1 - 32	Step 33 - 64	Step 65 - 96	Step 97 - 128
Track 2	Step 1 - 32	Step 33 - 64	Step 65 - 96	Step 97 - 128
Track 3	Step 1 - 32	Step 33 - 64	Step 65 - 96	Step 97 - 128
Track 4	Step 1 - 32	Step 33 - 64	Step 65 - 96	Step 97 - 128

TIME

> By default, only the first 32 steps (Block 1) in each step are available. See chapter "2.4. Number of steps" for details.

1.2. Controller Setting

A grid MIDI Controller is used to operate PRACQ. In addition, some operation can be performed with a computer keyboard or a MIDI keyboard.

Grid MIDI Controller

Supported Controllers

- Novation Launchpad Series
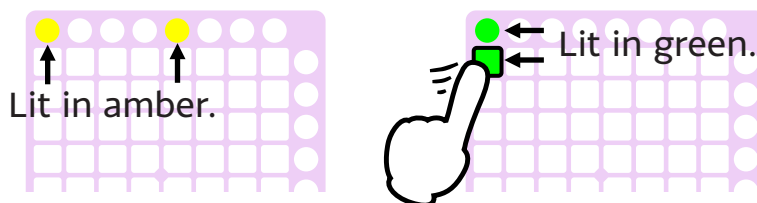- Akai Professional APC mini

In addition, other controllers that meet the requirements can also be used as a controller on PRACQ. See chapter "6.2. General Controller" for details.

Setting

1. Click the "Settings" button on the main window.
2. Select a controller type that corresponds to your controller from the Grid MIDI Controller Type menu.
3. Select a MIDI device of your controller from the Grid MIDI Controller In and Out menus. Normally, you are supposed to select the same device on both menus.
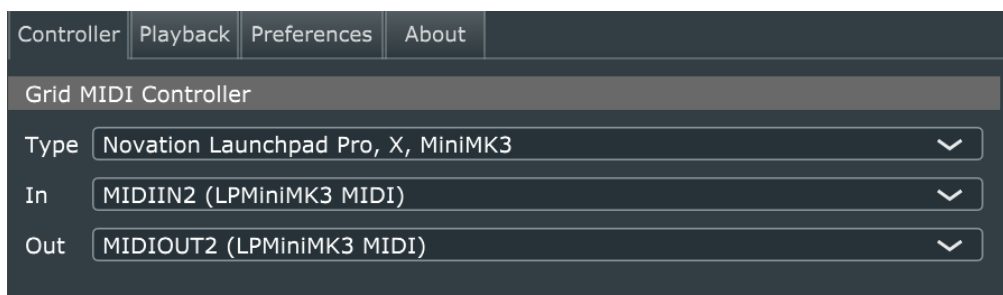
When this setting is completed successfully, your controller will become the state below.

For Novation Launchpad X, MiniMK3 Users

- First, update to the latest firmware with "Novation Components".
- These devices have two "IN"s and two "OUT"s. Select the second ones each.

For AKAI Professional APC mini Users

The lowermost eight circle pads work as the uppermost ones on a Launchpad. It seems that the lowermost eight circle pads can be lit only in Red, and the rightmost ones only in Green. Therefore please judge the situation by being lit or not, not colors.

Computer Keyboard

No special settings are required to use a computer keyboard. Make sure that the application window (Main window or Controller Screen) is active when you use a computer keyboard on PRACQ. See GETTING STARTED MANUAL for basic usage.

List of Available Keys

32 Keys	1, 2, 3, 4, 5, 6, 7, 8,
	Q, W, E, R, T, Y ,U, I,
	A, S, D, F, G, H, J, K,
	Z, X, C, V, B, N, M, ","
32 Keys Switch	Up, Down, Space
Function Pads	9, O, L, "."
Top Pads (Track, Block)	F1, F2, F3, F4, F5, F6, F7, F8
Play	Return
Shift	Del
Loop	Tab
Alternatives to Step Pads	Left (Stay), Right (Proceed)
Controller Screen Click	Ctrl, Alt (Mac: Command, Option)

**For a Non-US Layout Keyboard Users**

Assignments for the 32 keys (the 2nd to 4th rows) and the function pads can be changed at "Settings -> Controller -> Computer Keyboard Assignments."

MIDI Keyboard

A MIDI keyboard can substitute for the keyboard pads. See chapter "6.1. External Keyboard" for details.

1.3. Playback Setting

Notes from each track will be played back by the following routes. PRACQ has an internal plug-in host so that you can even use your instrument plug-ins for playback.
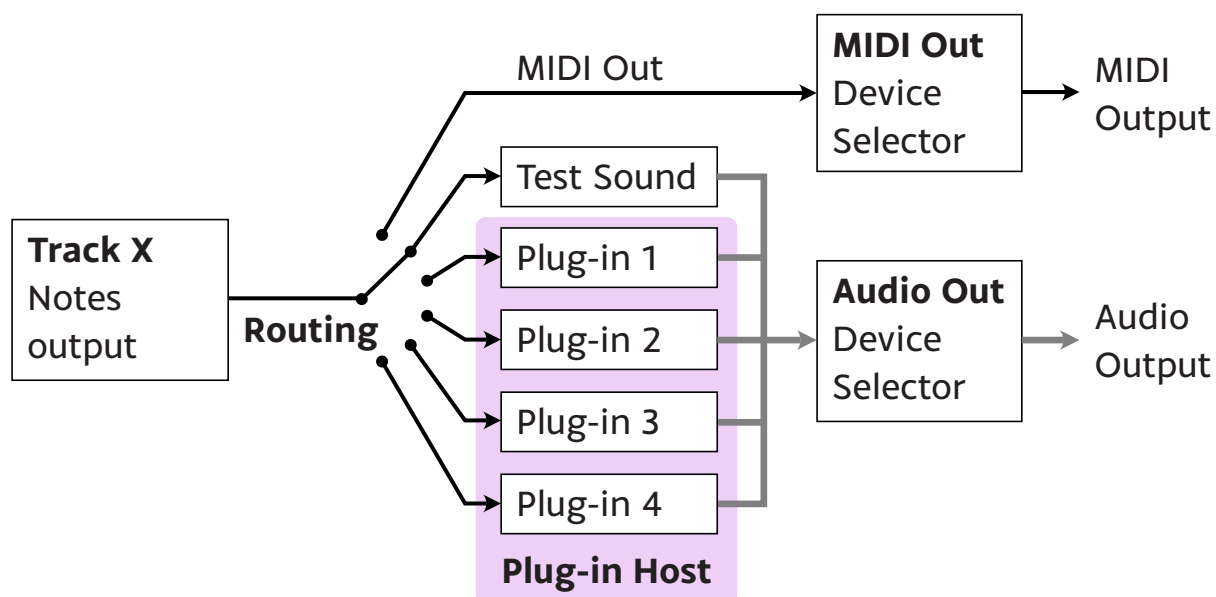
Routing

Select the destination of notes from each track from "Settings -> Playback -> Routing".

Test Sound

This is an internal simple soft synth for testing purpose.

MIDI Out

Notes output data will be sent directly to your MIDI Out device. (If a MIDI Out device is not selected, Test Sound will be applied.)

Plug-in 1 - 4

Notes output data will be sent to an internal plug-in host. You can load your instrument plug-ins into it. (If a plug-in is not loaded, Test Sound will be applied.)

MIDI Out

If you select "MIDI Out" from Routing menu, select a MIDI device to output MIDI signal from "Settings -> Playback -> MIDI Out".

Plug-in Host

If you select "Plug-in 1 - 4" from Routing menu, load an instrument plug-in for playback by the Load button at "Settings -> Playback -> Plug-in Host".

Plug-in Host (VST3 instrument)				
Plig-in 1	Load	Window	Zebralette(x64)	X
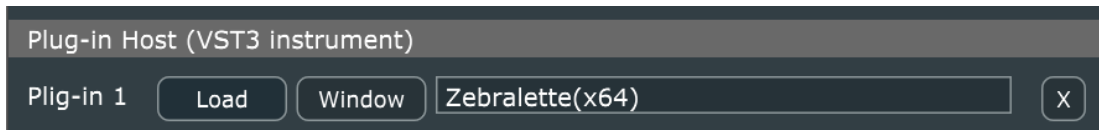
Load button   : Open the plug-in file selector.
Window button   : Open a plug-in window.
X button   : Unload the plug-in.

Plug-in Formats

	Windows	Mac

VST2	**Not Supported**
	File location (Example):
	  C:\Program Files\VSTPlugins
	File extension: .dll
		Not Supported
		File location:
		  /Library/Audio/Plug-Ins/VST/
		File extension: .vst

VST3	**Supported**
	File location:
	  C:\Program Files\Common Files\VST3
	File extension: .vst3
		Supported
		File location:
		  /Library/Audio/Plug-Ins/VST3/
		File extension: .vst3

AU (v2)	**Not Supported**	**Supported** File location: /Library/Audio/Plug-Ins/Components/ File extension: .component

> Regarding VST2 format, it is disabled by the setting file of PRACQ because of a lack of a license from Steinberg, though it has been tested.

Audio Out

If you select "Test Sound" or "Plug-in 1 - 4" from Routing menu, select an audio device to output audio from "Settings -> Playback -> Audio Out". By default, a default audio device on your computer is selected.

1.4. Explanatory Notes

Pad Operation

A particular pad is basically shown with a letter and digits on the pad layout. Examples are shown below. It is put in square brackets like [S1] or [K28] in sentences. In addition, digits part may be omitted like [S] or [K]. For example, [S] means any one of [S1] to [S32].

Pad Layout (Main Mode)

T1	T2	T3	T4	T5	T6	T7	T8	
S1	S2	S3	S4	S5	S6	S7	S8	PL
S9	S10	S11	S12	S13	S14	S15	S16	SF
S17	S18	S19	S20	S21	S22	S23	S24	LP
S25	S26	S27	S28	S29	S30	S31	S32	MD
K22	K23	K24	K25	K26	K27	K28	M1	F1
K15	K16	K17	K18	K19	K20	K21	M2	F2
K8	K9	K10	K11	K12	K13	K14	M3	F3
K1	K2	K3	K4	K5	K6	K7	M4	F4

Pad layout depends on the mode, so a certain pad may work differently at another mode.

Two Finger Operation, the characteristic of PRACQ, is shown as follows.

[A] + [B]

It means the following operation.

1. First, press [A] and hold it down.

2. Then, press [B].

HOLD DOWN
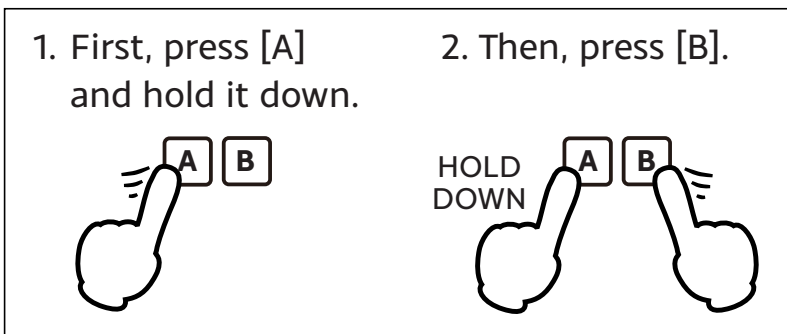
The pads will respond when pressed or released. Strength to press (velocity) doesn't matter. Pad appearance can be one of the four states shown below. It makes no distinction of brightness.

Red, Amber, Green and Off(Unlit)

Character Display on the Pads

PRACQ will inform you about the status somehow without a LCD.
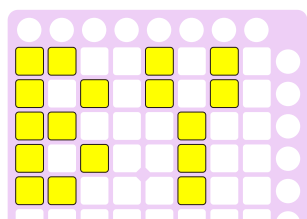
For example, display on the left shows two characters "BY." It is put in angle brackets like <BY> in sentences.

Confusing examples are listed below.

<M> <H> <W> <U> <V> Zero Oh <2> <Z> <5> <S>
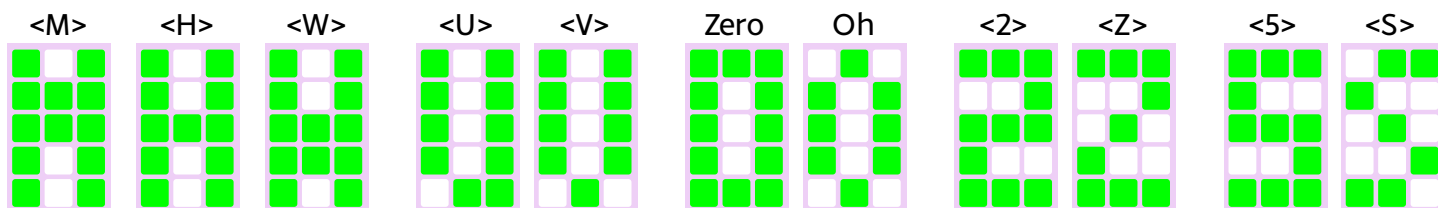
Small size numerals

<2> <3> <5> <8> <100> <120>
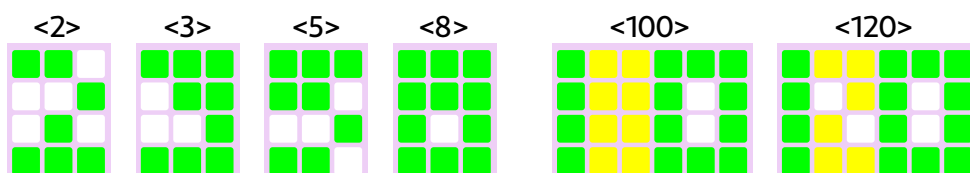
MIDI Device List

PRACQ will open MIDI devices that is assigned on the following settings.

Inputs

- Settings -> Controller -> Grid MIDI Controller -> In   (See chapter 1.2.)
- Settings -> Controller -> MIDI In (External MIDI Keyboard)   (See chapter 6.1.)

Outputs

- Settings -> Controller -> Grid MIDI Controller -> Out   (See chapter 1.2.)
- Settings -> Playback -> MIDI Out   (See chapter 1.3.)
- Settings -> Playback -> Sync Out (MIDI Clock)   (See chapter 6.3.)

▌ You can not assign the same device among the input or output settings.

2. Main Mode

2.1. Basic Operation

Basic features of PRACQ are available on Main Mode. A series of these operations are described in this chapter.

Pad Layout (Main Mode)

T1	T2	T3	T4	T5	T6	T7	T8		[T] : Top pads

[S] Step pads

S1	S2	S3	S4	S5	S6	S7	S8	PL	Play
S9	S10	S11	S12	S13	S14	S15	S16	SF	Shift
S17	S18	S19	S20	S21	S22	S23	S24	LP	Loop
S25	S26	S27	S28	S29	S30	S31	S32	MD	Mode

[MD] is unlit in this mode.

[K] Keyboard pads

K22	K23	K24	K25	K26	K27	K28	M1	F1	
K15	K16	K17	K18	K19	K20	K21	M2	F2	[F] : Function pads
K8	K9	K10	K11	K12	K13	K14	M3	F3	[M] : Multipurpose pads
K1	K2	K3	K4	K5	K6	K7	M4	F4	
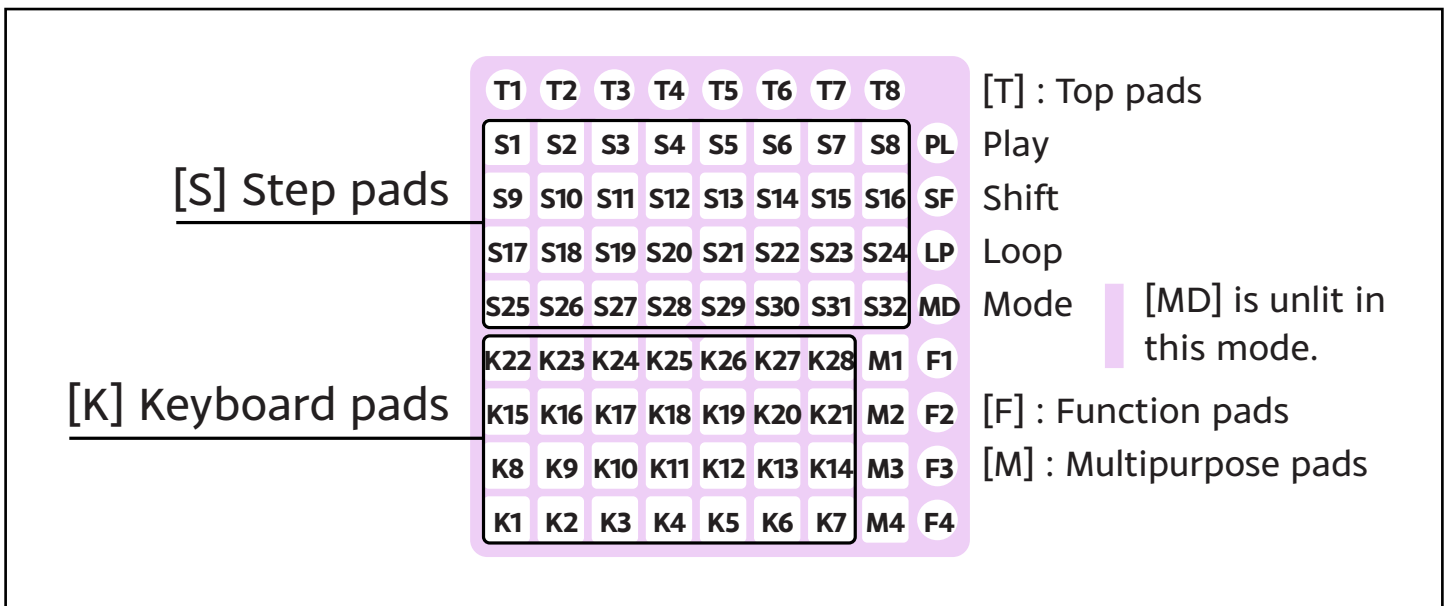
Keyboard

[K]   : Playing the Keyboard

Here is a 28-key keyboard. By default, only notes on C Major scale appears on the keyboard pads.

C Major Scale (Default)

C6	D6	E6	F6	G6	A6	B6
C5	D5	E5	F5	G5	A5	B5
C4	D4	E4	F4	G4	A4	
C3	D3	E3	F3		A3	B3
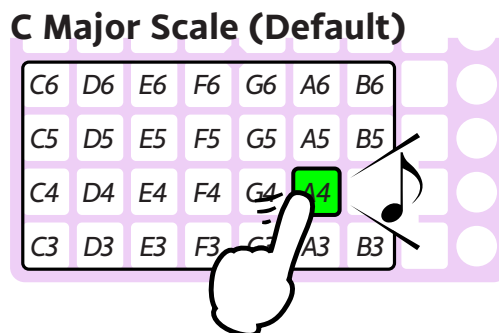
You can change a scale on the keyboard pads through Property Mode or Scale Mode. See chapter "3.1. Property Mode" and "3.3. Scale Mode" for details.

[K] + [M1]   : Keyboard Range Shift (Upward)
[K] + [M4]   : Keyboard Range Shift (Downward)

Keyboard pads range is shifted per row. (This is kept by each track.)
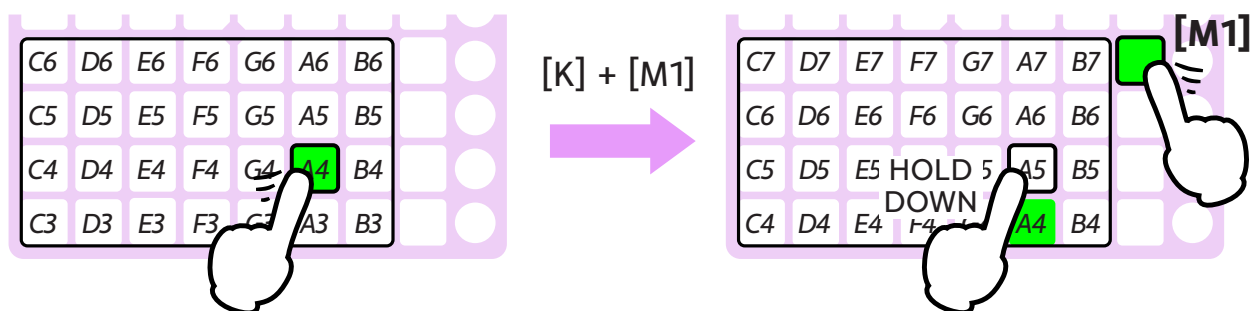
Step Recording

Steps appear on step pads [S] ([S1] to [S32]). Each step can contain up to six notes. This section describes how to edit notes in steps.

[S]   : Step Preview

If this step contains notes, these are played back and corresponding keyboard pads are lit in amber.

> By default, step preview is disabled during playback. It can be enabled on "Settings -> Preferences -> Playback".

[S] + [K]   : Adding/Removing a Note in the Step

First, select [S] that you want to edit. It blinks to indicate that it is ready to be edited. At this point, notes in the step (if any) are lit in amber on the keyboard pads.

Then select [K] that you want to edit. If it is unlit, it turns lit and the note is added to [S]. If it is lit, it turns unlit and the note is removed from [S].

Releasing [S], if it contains at least one note, it is lit in amber to indicate that. Otherwise it is unlit.

[S] + [SF]   : Step Hold

By doing this and releasing both, [S] is still kept held. So you can edit notes by using all your fingers. While some step is in this state, [SF] is lit in green. To cancel Step Hold, press any [S] or [SF].

[K] + [S]   : Adding a Note in the Step

First, select [K] that you want to edit. Then select [S] that you want to edit. If [S] doesn't contain the note on [K], the note is added to [S]. (If [S] already contains the note on [K], nothing changes.)

1. Adding a note.

HOLD
DOWN

[S]

[K]
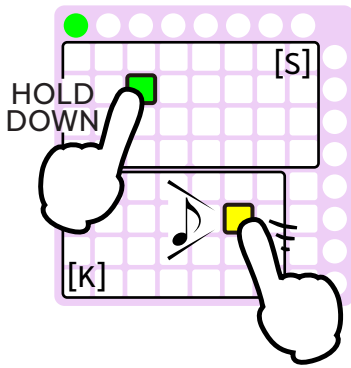
2. Release both.
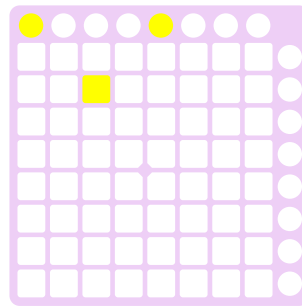
3. Step preview.
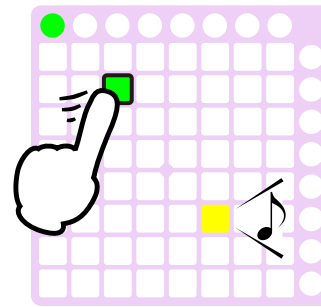
4. Adding another note.

HOLD
DOWN

5. Removing a note.

HOLD
DOWN
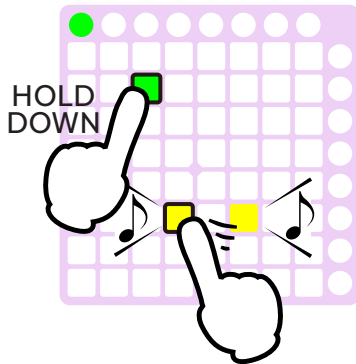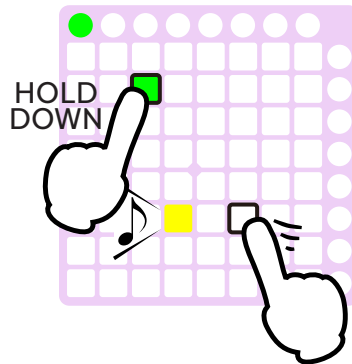
Optional Setting : Limit to one Note per Step

Check the checkbox on "Settings -> Preferences -> Step Recording -> Limit to one Note per Step". By doing so, trying to add the second note by using "[S] + [K]", the original (first) note is replaced by the second one.

Even in this case, you can add two or more notes by using Step Hold or "[K] + [S]".

4'. Replaced, not added.

HOLD
DOWN
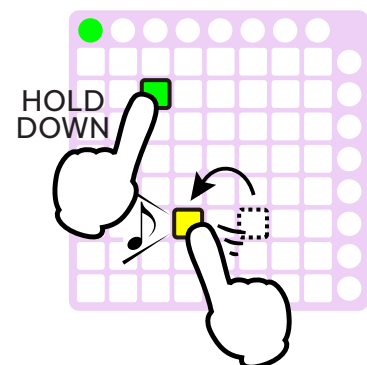
Playback

[PL] : Playback

Playback position is lit in red and progresses from step to step in order. If the step where playback position is contains notes, these are played and corresponding keyboard pads are lit in red.

During playback, [PL] is lit in Red. Press [PL] again to stop playback.

To change the tempo (BPM), see chapter "3.1. Property Mode".

1. Press [PL].
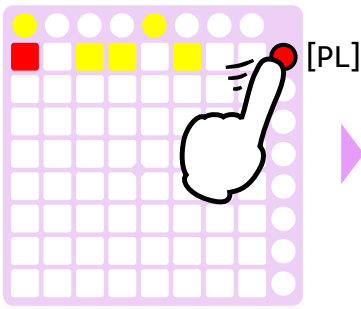
2. Playback starts.
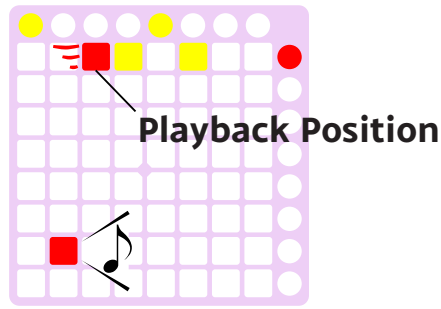
Playback Position

Playback Position

During playback, current played step is lit in red as playback position. If playback position reaches the last step, it returns to the first one and playback is continued.

When playback stops, playback position stays at the latest played step. Next playback will start from the top of the step where playback position is.

[SF] (during stopping)　**: Displaying Playback Position**
A step where playback position is is lit in red. Next playback will start from this step.

[SF] + [S] (during whether playback or stopping)　**: Moving Playback Position**
playback position (lit in red) is moved to pressed [S].

[SF] + [PL] (during whether playback or stopping)　**: Playback from the First Step**

[M1] + [PL] (during stopping)　**: Playback from Where the Last Playback Started from**

	Step 1	Step 2	Step 3	Step 4	Step 5	
If last playback is like this,			[PL]		[PL]	
next playback starts from:	[SF] + [PL]		[M1] + [PL]		[PL]	
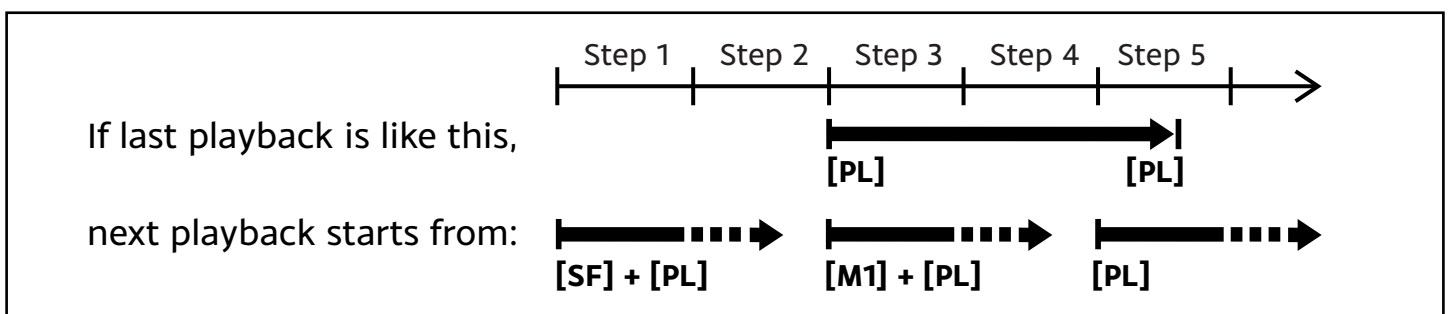
Selecting Steps

[S] + [S]　**: Selecting Steps**
Pads between both pads are selected and lit in green. The selected steps become

targets of a subsequent specific action (like "Making a Loop Region" mentioned later).

Press any [S] again to reset the selection.

1. Press the first [S].   2. Press the last [S].   3. Release both.   4. Proceed to next action.
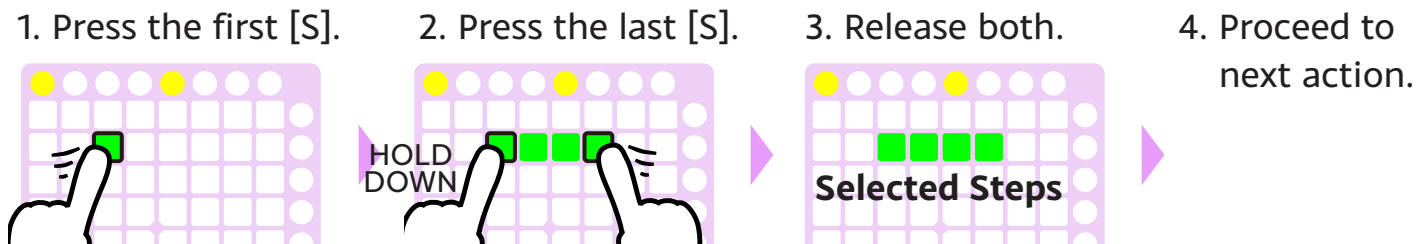
Selected Steps

| **To select ONE step only:**
| "**[S] + [M1]**" or "**[S](Held Down)** and proceed to next action"

Loop Region

By default, playback is repeated within the whole track. If you want to narrow down the coverage of playback, use the following methods.

(with Selected Steps) [LP]   : Setting a Loop Region

Selected steps, if any, are set as a loop region. By doing so, playback will looped within it. [LP] is lit in amber to indicate that a loop region is applied.

1. Select steps.   2. Press [LP].   3. Playback will be looped.

Selected steps

[LP]
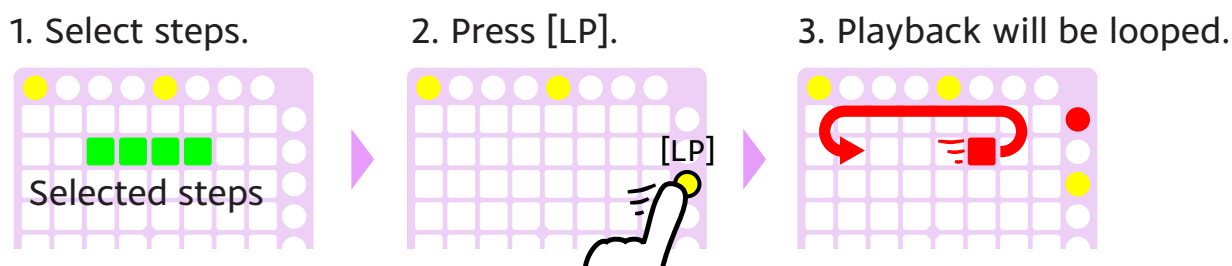
[SF] + [LP(Amber)**]** (during stopping)   **: Displaying a Loop Region**

A loop region will appear in Green.

[LP] (Without Selected Steps)   **: Suspending/Resumption an Application of Loop Region**

Copy, Cut, and Paste (Clipboard)

(with Selected Steps) [F4]   : Copy
(with Selected Steps) [F4] (Double Tap)   : Cut

Sequence data in the selected steps are copied to the clipboard. Then in the case of

"Cut," data in original steps will be deleted.

[F4] + [S] (and then release [F4] first) : Paste

Sequence data in the clipboard is pasted (overwritten) into where it starts from a pressed [S].

> Before this operation, confirm that no step is selected. Otherwise, it will result in "Copy."

1. There is sequence data.

2. Select steps.

3. Press [F4].
   (Then release it.)

Copied to the clipboard

[F4]

4. Press [F4] again.

5. Press [S].

HOLD DOWN

6. Release [F4] first.

Pasted from the clipboard
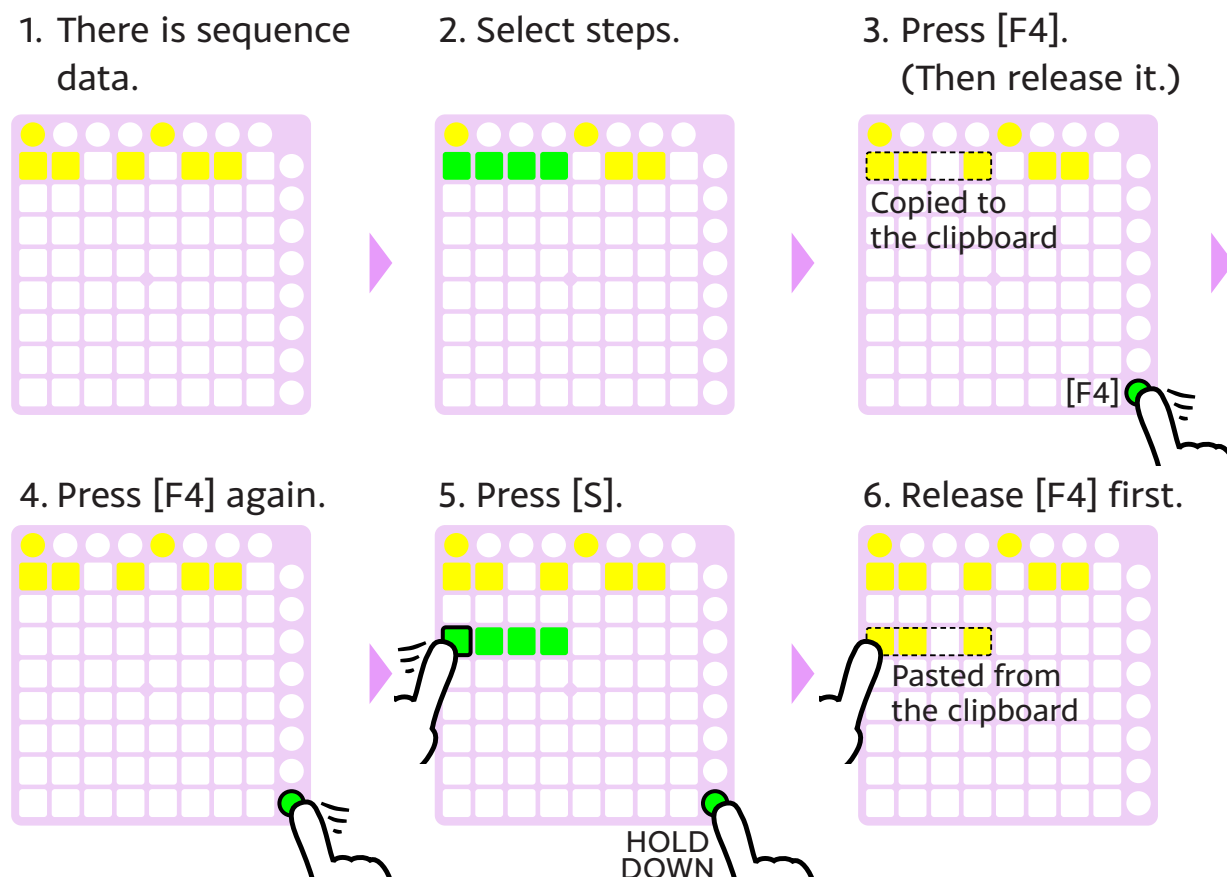
[F]   : Function Pads

Actually, this clipboard feature is a part of the function pads. Regarding the function pads, see chapter "5.1. Function Pads" for details.

MIDI File Export

[M1] + [F1]   : Export a MIDI File <XP>

Current track's sequence data is saved as a MIDI file named like "Pracq_yymmdd_hhmmss.mid".

By default, a MIDI file is saved in the desktop folder, but you could change the folder through "Settings -> Preferences -> MIDI File Export".

Exit PRACQ

[M1] + [F4]   : Exit PRACQ <BY>

To exit PRACQ, press the "X" button, press the "Exit" button or **[M1] + [F4]**.

Resuming

If you want to restore sequence data automatically when you start PRACQ next time, check the checkbox on "Settings -> Preferences -> Resuming".

Otherwise you can restore it manually on Property Mode. See section "[P1] : General Properties" in chapter "3.1. Property Mode" for details.

2.2. Keyboard-related features

The keyboard pads represent some scale and you can select this scale. Furthermore, non-scale notes are also available if you see potential in them.

Changing Scales

You can change a scale that appears on the keyboard pads.

> This operation uses Property Mode. Property Mode has its own pad layout. See the chapter "3.1. Property Mode" for details.

1. Press [MD] to enter Property Mode.

[MD]
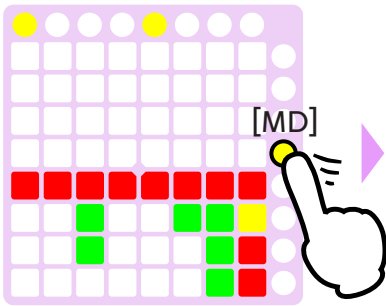
2. Press [P5] to show the scale.
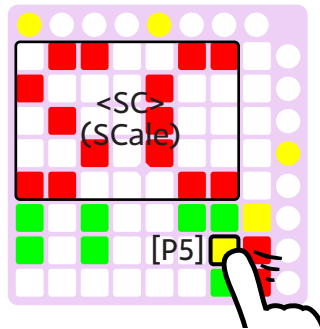
<SC>
(SCale)

[P5]

3. The current setting is shown.
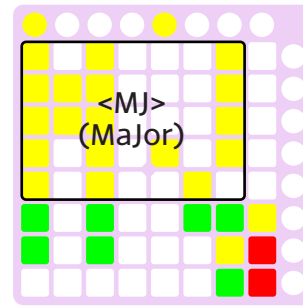
<MJ>
(MaJor)

4. Press the Up/Down pads to change the setting.

<MN>
(MiNor)

Up
Down

5. Press [MD] again to return to Main Mode.

[MD]

C Minor scale arrangement
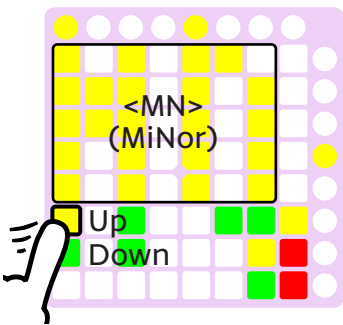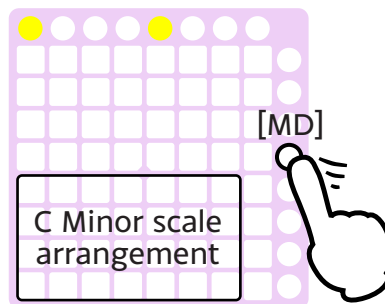
You can also change a root note In the same way.

<RT>
(RooT)

[P6]

<C+>
(C#)
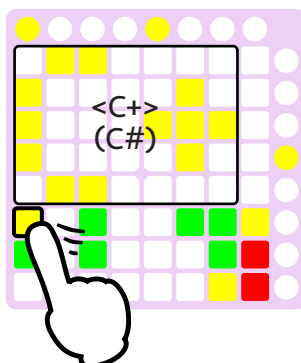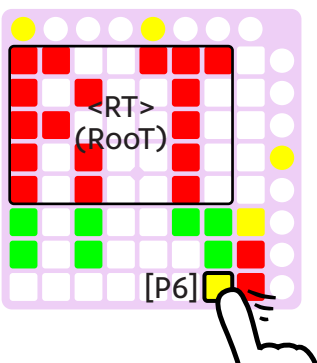
Displaying Octaves

[K] + [SF]   : Displaying Octaves

For example, if you press [K] that means note G4, pads that means note G3 and G5 are lit in green at the same time. It may be useful when Chromatic Scale or the like is selected.

Chromatic Scale

D5	D#5	E5	F5	F#5	G5	G#5
G4	G#4	A4	A#4	B4	C5	C#5
C4	C#4	D4	D#4	E4	F4	F#4
F3	F#3	G3	G#3	A3	A#3	B3
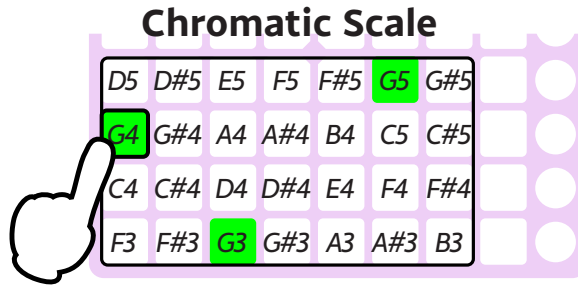
Playback Note indicators

During playback (or the step preview), the following pads are lit depending on a current playback note.

			...	K25	K26	K27	K28	M1	**Above**
								M2	**Non-scale**
	Keyboard Pads							M3	(TIE/MUTE Status)
K1	K2	K3	...					M4	**Below**
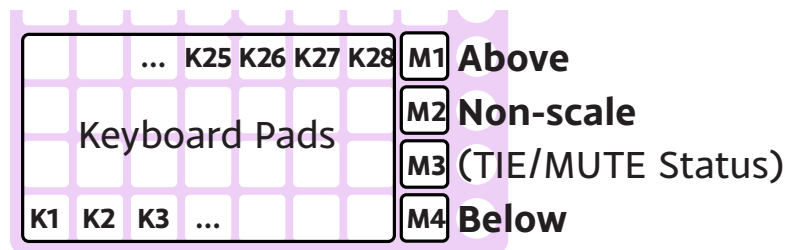
When C Major scale is selected as a keyboard pads scale...

M2	M2		M2	M2		M2	M2	M2		M2	M2	**Non-scale**
...	A2	B2	C3	D3	E3	...	F6	G6	A6	B6	C7	D7	...
M4	M4	K1	K2	K3		K25	K26	K27	K28	M1	M1	
Below		**Keyboard Pads**								**Above**		

Below   **Keyboard Pads**   **Non-scale**   **Above**

... B6

C3 D3 ...   B2

C3

C#3

C7
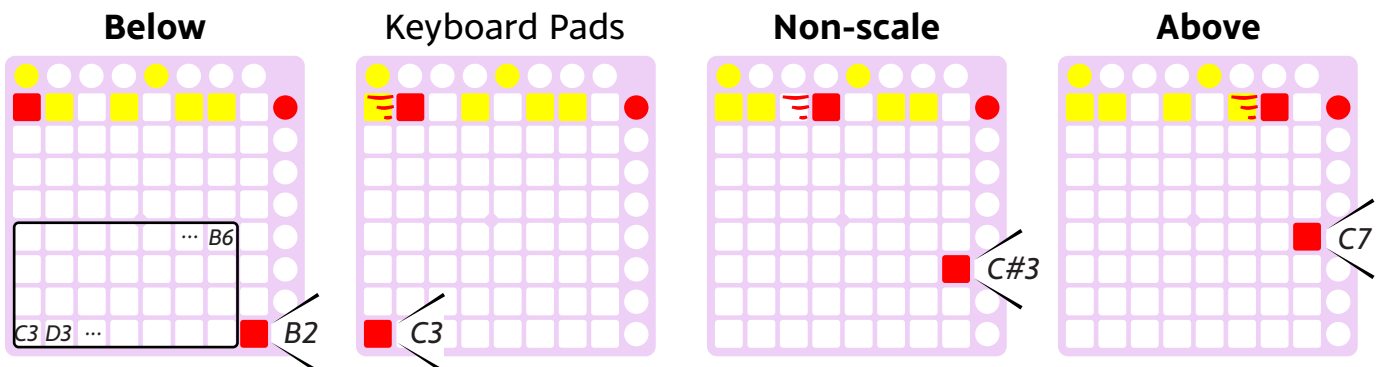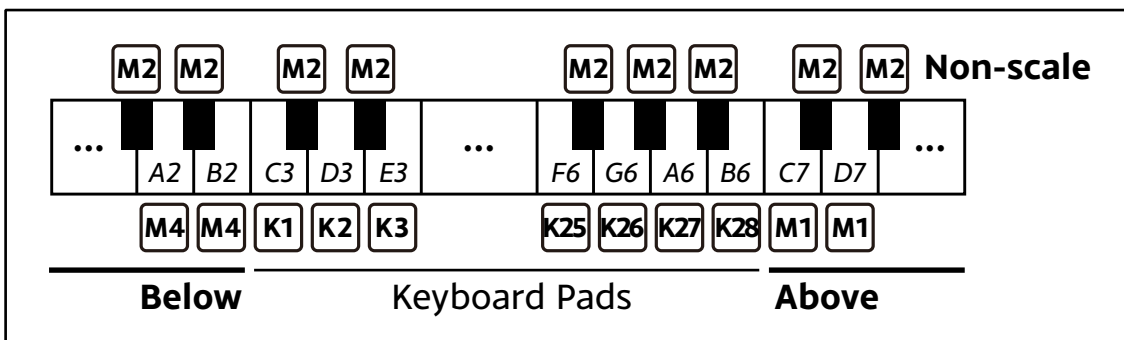
Semitone Keyboard

If you want to try non-scale notes casually, this feature is recommended rather than selecting the chromatic scale.

[K] + [M2]   **: Enabling Semitone Keyboard**
[M2(Red)**]**   **: Return to the Original Scale**

Keyboard pads will be temporarily semitone (chromatic) arrangement in which a note position of pressed [K] is kept. When Semitone Keyboard is enabled, [M2] is lit in Red.

1. C Major scale.
2. Semitone keyboard.
3. Press [M2] again to return to C Major scale.
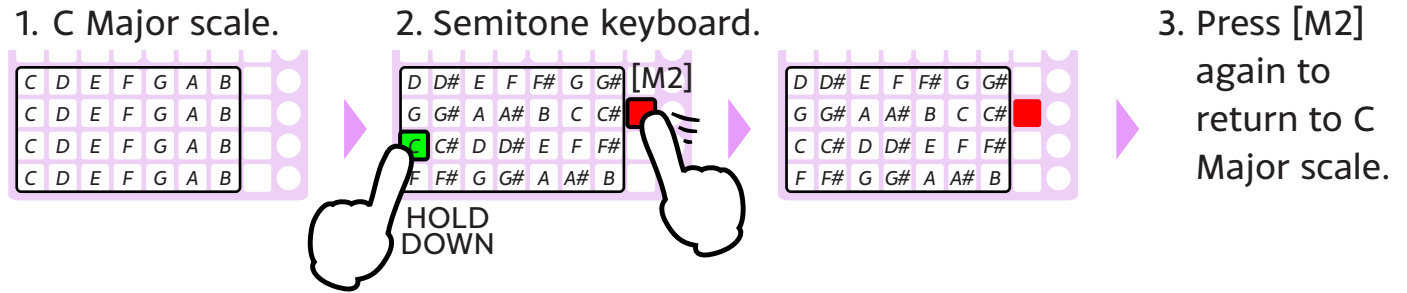
> When the keyboard pads arrangement is changed (like the keyboard range shift), the semitone keyboard will return to the original scale automatically.

Handling of Non-scale Notes

If you use non-scale notes on the step recording, these notes will appear on [M2].

[M2]   **: Complementary Key**

In the step preview, if a non-scale note is played, [M2] is lit instead of the keyboard pads. After that, [M2] will store this non-scale note and get to work as a special keyboard pad (Complementary Key).

If another non-scale note is played, a note on [M2] will be renewed. Otherwise a note on [M2] remains there.

1. If this step contains a note "D#"...
2. [M2] responds.
3. [M2] is now acting as a kind of a keyboard pad.
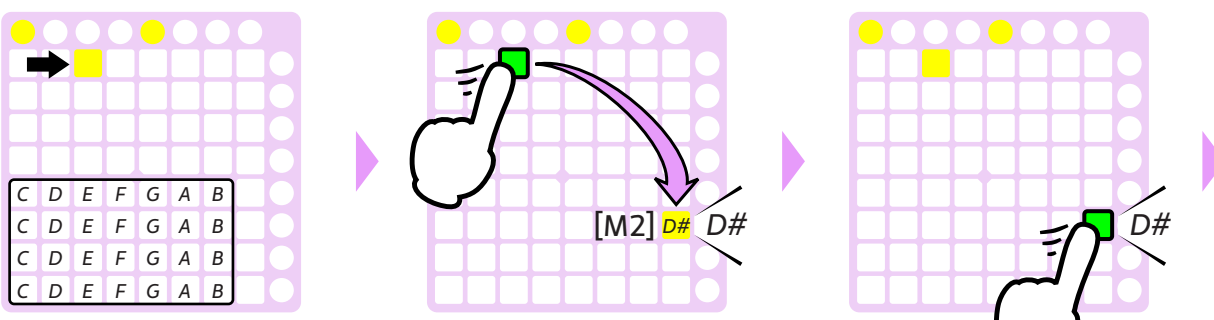
4. Adding a non-scale
note into the step.
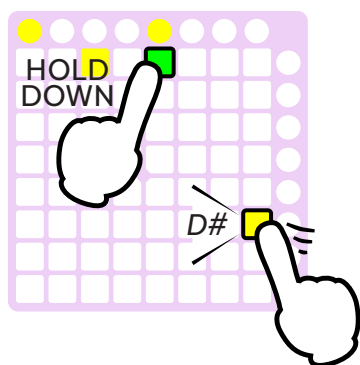
5. Removing a non-scale
note from the step.
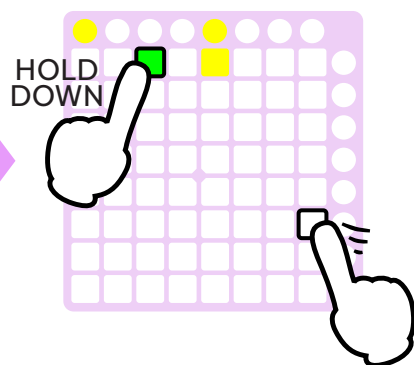
In the step preview, if two or more non-scale notes are played at the same time, only the highest note will be stored on [M2].

If a step contains two or more non-scale notes, you can not remove any notes by using "[S] + [M2]." (Use the semitone keyboard instead.)

2.3. Tracks

PRACQ has four Tracks. Each contains 32 (or up to 128) steps and it is played back individually.

Operation

[T1] - [T4]   : Track Selector

Only one track appears on the step pads at once, so you need to select a track to edit first. [T1] to [T4] represent track 1 to 4 respectively. The selected track is lit in amber.
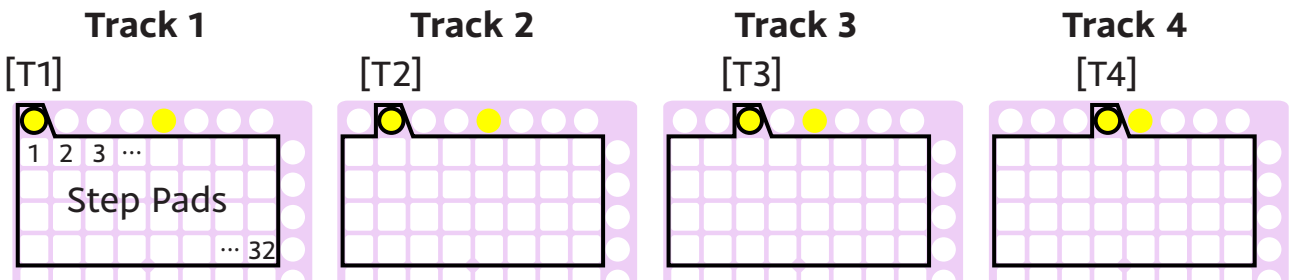
[SF]   : Displaying Track Mute State
[SF] + [T]   : Track Mute (Toggle)
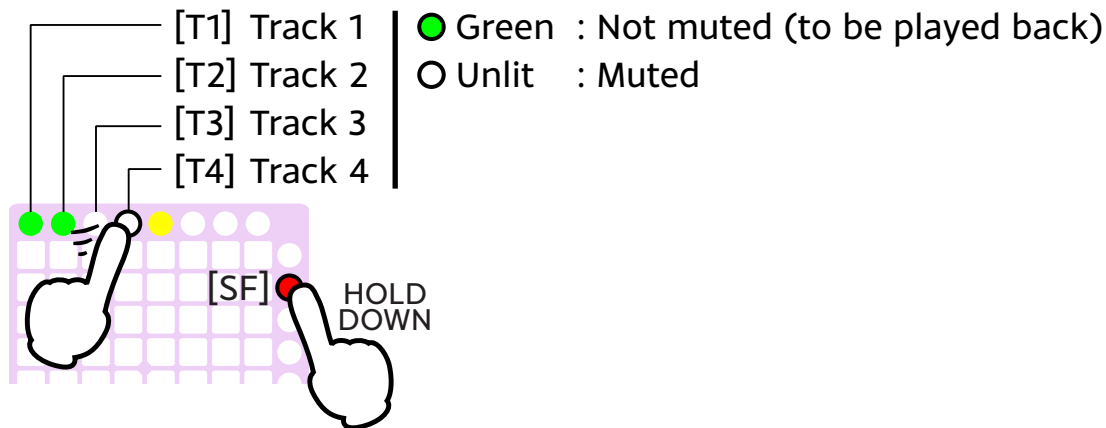
Settings

Settings about tracks (step time, MIDI channel, and so on) are made on Property Mode. See section "[P2] : Track Properties" in chapter "3.1. Property Mode" for details.

Track Sync on Playback

Each track has its own playback position, and it is played back individually at the same time. In some cases, these payback positions may be out of sync. Some examples are shown below.

[PL] : Start Playback

STEPS (Not pads)

TRACK 1 | 1 2 3 4 5 6 7 8 | STEP TIME : 1/8

TRACK 2 (Selected) | 1 2 3 4 | : 1/4

PLAYBACK POSITION → TIME
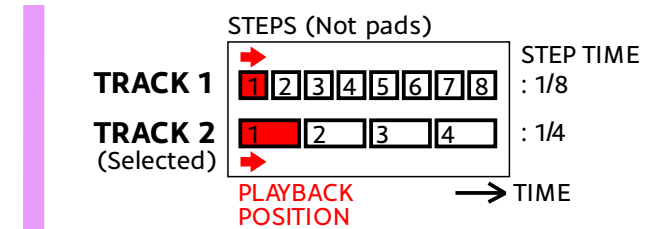
Step time means the length that one step occupies. See section "[P2] : Track Properties" in chapter "3.1. Property Mode" for details.

[PL] : Stop (Pause)
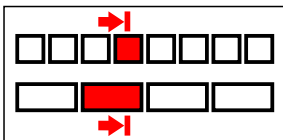
[PL] : Restart
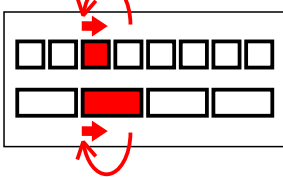
Sync will be kept.
Move to the top of the current Step. (Based on selected Track.)

[SF] + [PL] : Rewind
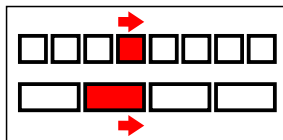
Sync will be kept.
Move to the top of each Track.

[SF] + [S] : Moving Playback Position
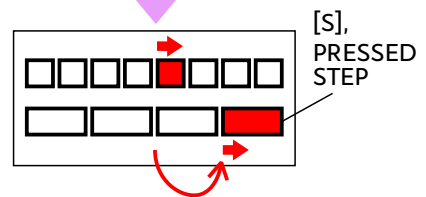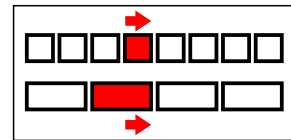
[S], PRESSED STEP

Sync will NOT be kept.
Move to [S], pressed Step. (Apply to selected Track only.)

[SF] + [PL] : Rewind

Sync will be kept again.

Also, each track has its own loop region.

LOOP REGION : 1 to 3
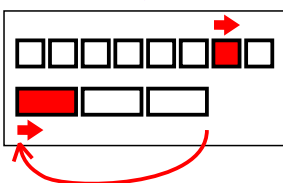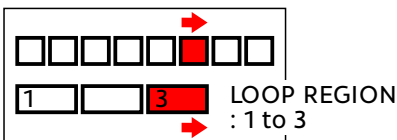
Sync will NOT be kept.
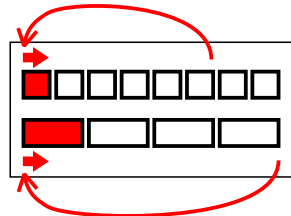
2.4. Number of Steps

PRACQ uses 32 pads as the step pads and each track contains 32 steps by default. However, you can expand the number of steps to 64, 96 or 128 per track as needed.

Blocks

Every 32 steps make up a "block" and steps are switched by the block. By default, only block 1 (that is, step 1 to 32) is available. However, you can change the number of blocks by track.
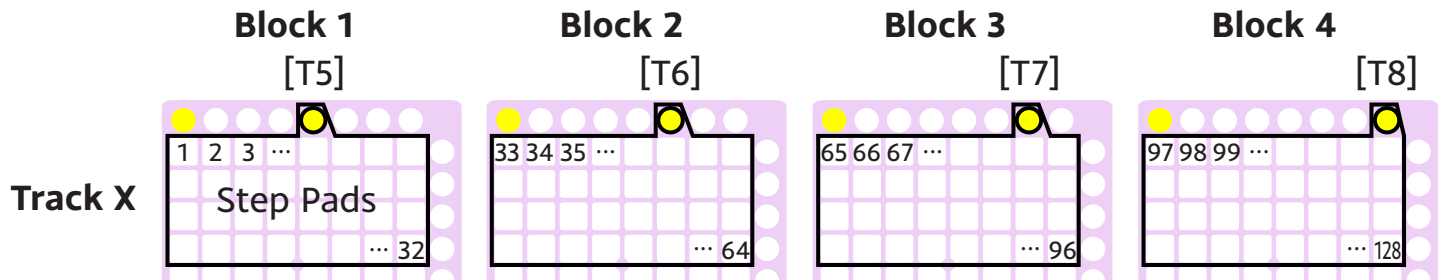
Operation

Setting the Number of Blocks

If you want to expand the number of steps, follow the procedure below.

> This operation uses Property Mode. Property Mode has its own pad layout. See the chapter "3.1. Property Mode" for details.

1. Press [MD] to enter Property Mode.

2. Press [P2].

3. Press [P5] to show the number of blocks.
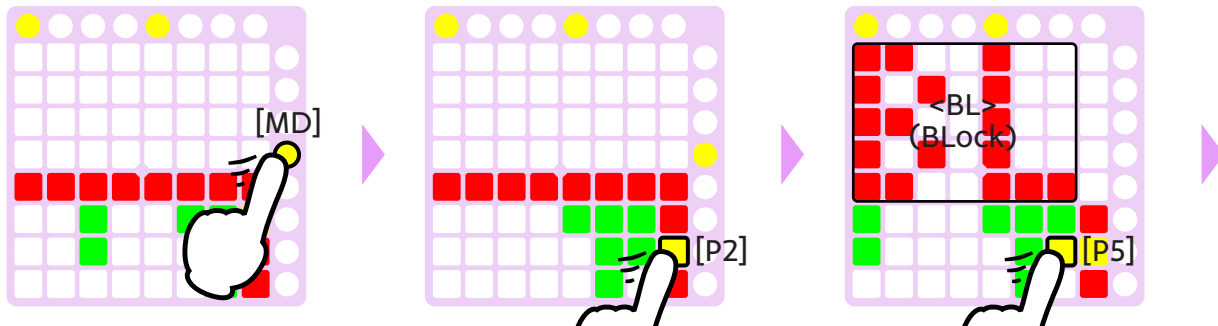
4. Select a track.

[T1] - [T4]
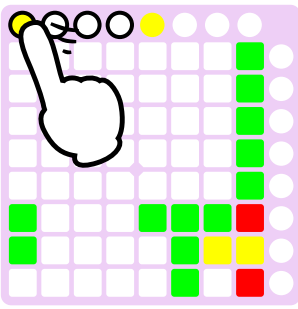
5. Press the Up/Down pads to change the number of blocks (1 to 4).
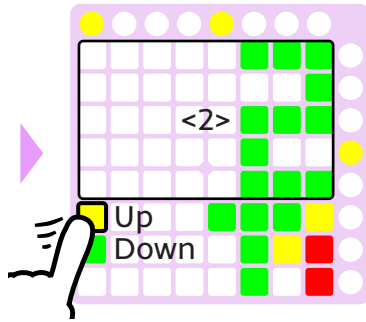
If "2" is set, block 1 and 2 are available.

6. Press [MD] again to return to Main Mode.

[MD]
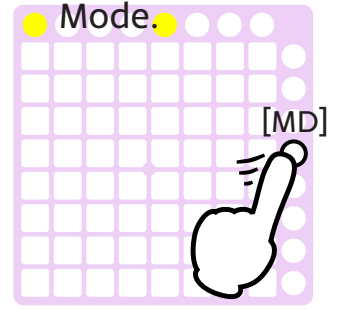
[T5] - [T8] : Block Selector

Only one block appears on the step pads at once, so you need to select a block to edit first. [T5] to [T8] represent block 1 to 4 respectively. Selected block is lit in amber.

Available blocks are depend on the setting mentioned above.

Selecting Steps beyond the Block

For example, to select Step 19 (in Block 1) to 53 (in Block 2)...

1. Press [T5] (Block 1).
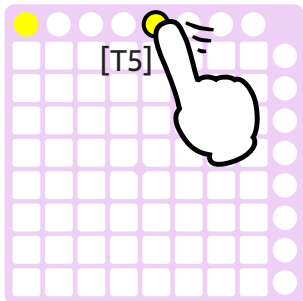
[T5]

2. Press [S19] (Step 19).

[S19]

HOLD DOWN

3. Release [T5].

HOLD DOWN

4. Press [T6] (Block 2).

[T6]

HOLD DOWN

5. Release [S19].

HOLD DOWN

6. Press [S21] (Step 53).

[S21]

HOLD DOWN

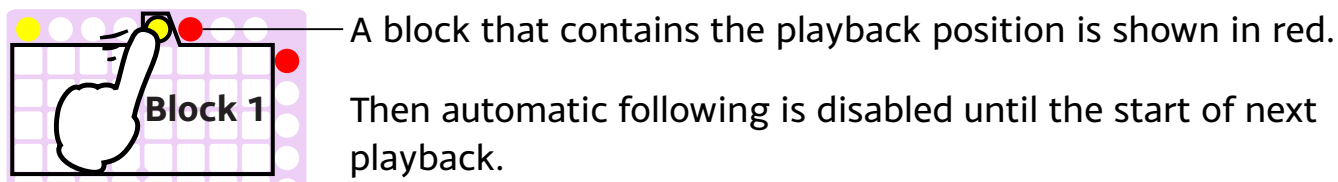**7. Release [T6].**

HOLD DOWN
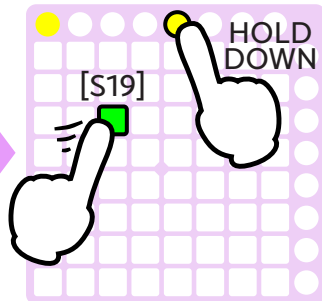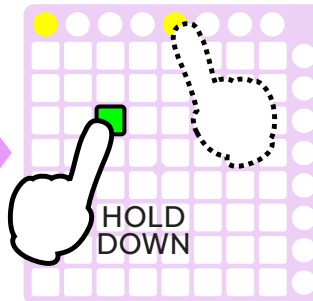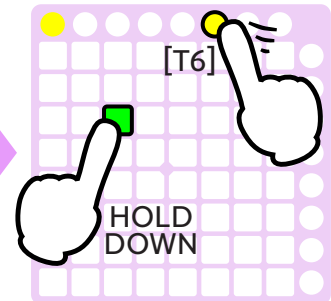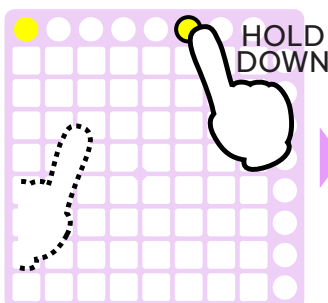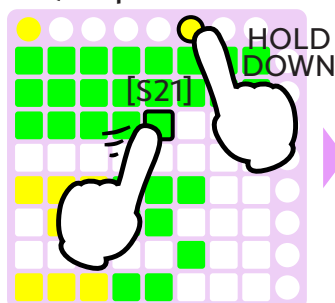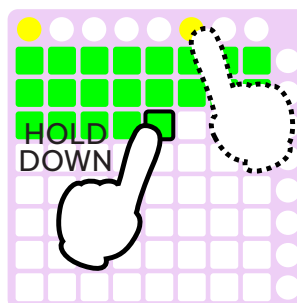
8. Release [S21].
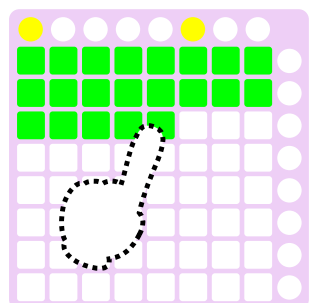
Playback Position

During playback, block display follows the playback position automatically.
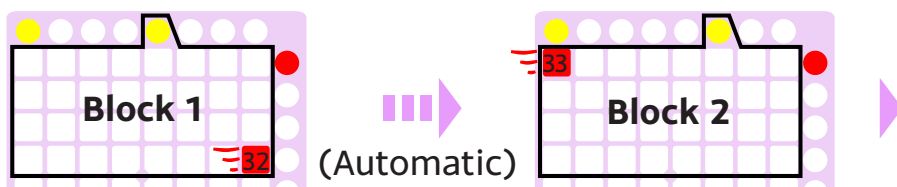
(Automatic)

However, you can switch a displayed Block manually.

A block that contains the playback position is shown in red.

Then automatic following is disabled until the start of next playback.

[M2] + [PL] (During playback)   **: Enabling automatic following**
If automatic following is disabled, it is enabled again and playback is continued.

[M2] + [PL] (During stopping)   **: Playback with automatic following disabled**

3. The Other Modes

PRACQ has several modes that have their individual pad layout. Main Mode may often be used, but you can switch modes if necessary.

Main Mode		
[MD] ↕ [MD]	[M1] + [MD] ↕ [MD]	[M2] + [MD] ↕ [MD]
Property Mode	Command Mode	Scale Mode
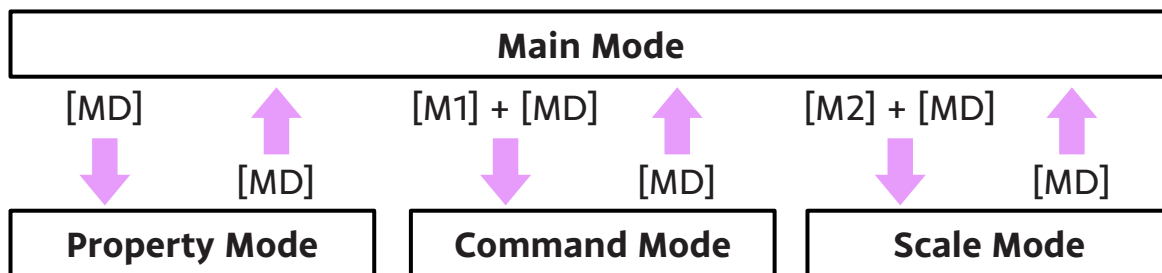
3.1. Property Mode

This mode allows you to change sequencer settings like the BPM (Tempo) and the step time (length of playback time per step).
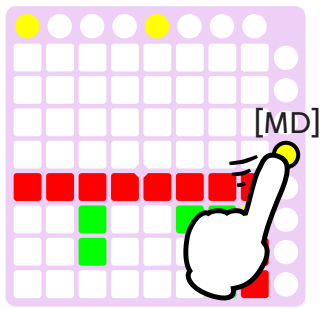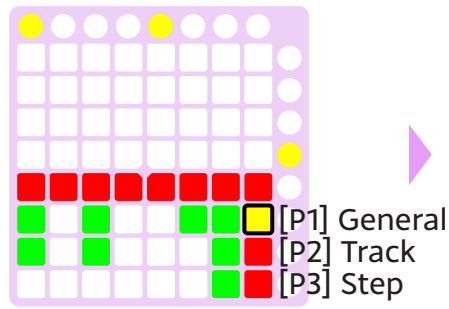
Pad Layout

[MD] :
Enter Property Mode
[MD] is lit in amber in this mode.

[MD(Amber)] :
Return to Main Mode
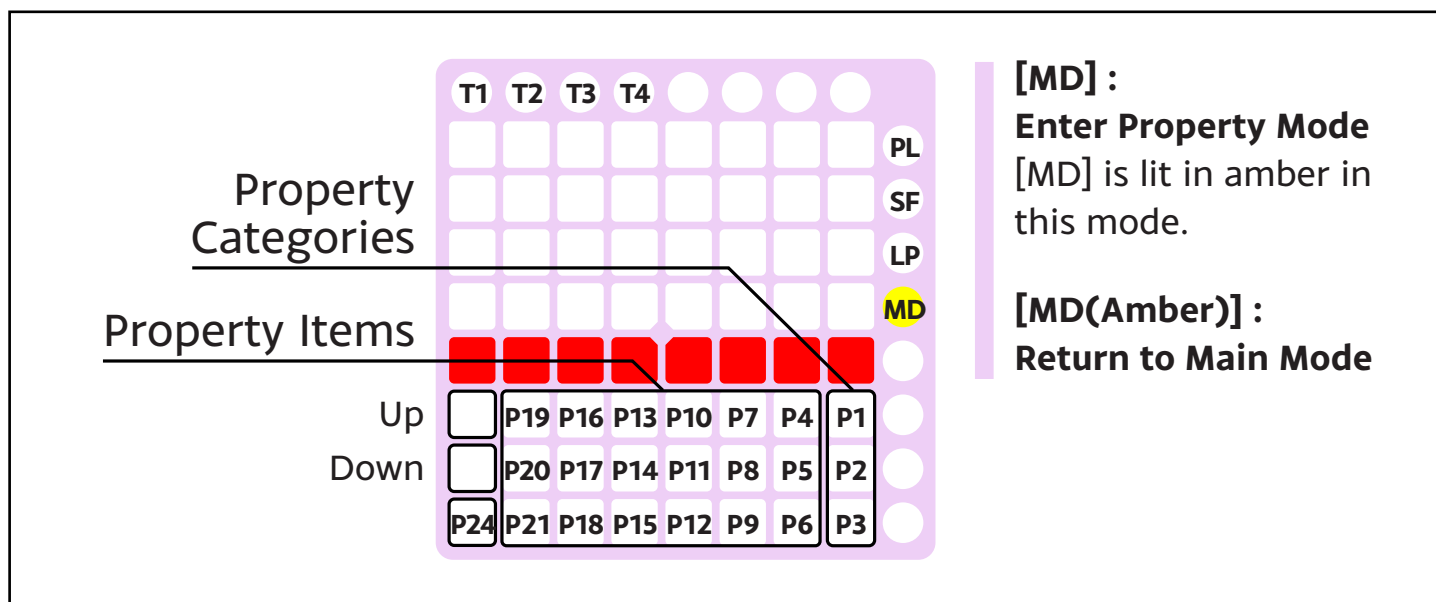
How to change the BPM (Tempo)

Here is a basic operation of Property Mode using BPM as an example.

1. Press [MD] to enter Property Mode.

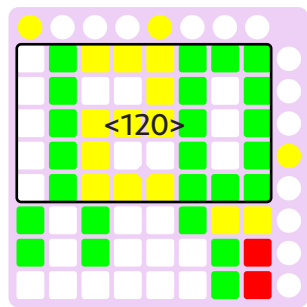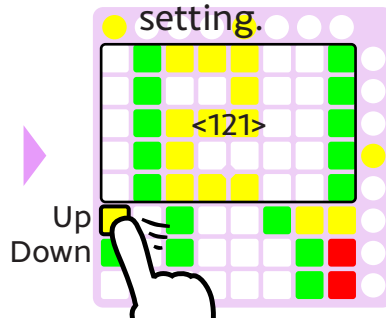2. Confirm that [P1] is lit in amber. If not, press [P1].

[P1] General
[P2] Track
[P3] Step

3. Press [P4] to show the BPM.

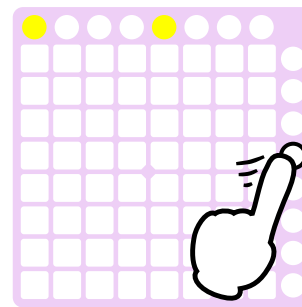<BP> (BPm)

[P4]
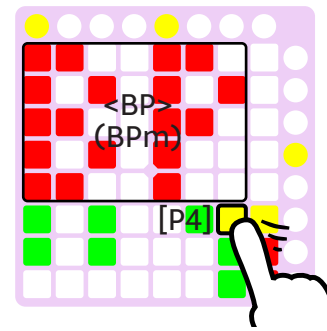
4. The current setting is shown.

<120>

5. Press the Up/Down pads to change the setting.

<121>

Up
Down

6. Press [MD] again to return to Main Mode.

[SF] + Up/Down : Changes by increment/decrement of 10.

Property Categories

In this mode, each setting item is called property and these properties fall into three categories. First select a category from among [P1] to [P3], then select an item.

- [P1] : General properties
- [P2] : Track properties
- [P3] : Step properties (Sequence data)

[P1] : General Properties

[P4]   : BPM (Tempo) <BP>

Set values : 1 - 399 [BPM]

When this item is selected, [P24] works as the tap tempo feature.

[P5]   : Scale on the Keyboard Pads <SC>

Set values : Name of scales (Chromatic <CR>, Major <MJ>, Minor <MN>, etc.)

■ See chapter "3.3. Scale Mode" for the list of available scales.

[P6] : Root Note on the Keyboard Pads <RT>

Set values : C <C>, C# <C+>, D <D>, D# <D+>, … , B <B>

[P7] : Step Offset <SO>

Set values : Offset of MIDI clock output for sync, 0 - 127

■ See chapter "6.3. Sync with an external sequencer" for MIDI clock output.

Sequence data initialize

First select an item ([P16] or [P17]), then press [P24] to execute.

[P16]   : Clear sequence data <CL>
[P17]   : Resume <RM> (Restore sequence data at when PRACQ is exited last time.)

[P2] : Track Properties

First, select a target Track ([T1] - [T4]), and then set up the following items.

[P4] : Step Time <ST>

The length of each step in the track can be set by this item.

Set values	1	2	4	8	16	32	t1, t2, t4, …
Length of one step	𝅝	𝅗𝅥	♩	♪	𝅘𝅥𝅯	𝅘𝅥𝅰	Triplets (See below)

■ There are other means to set the length of the step. Each step can have its own length by other means. See chapter "4.2. Long Note" and "4.4. Step Length" for details.

In addition, [P24] is used to set triprets.
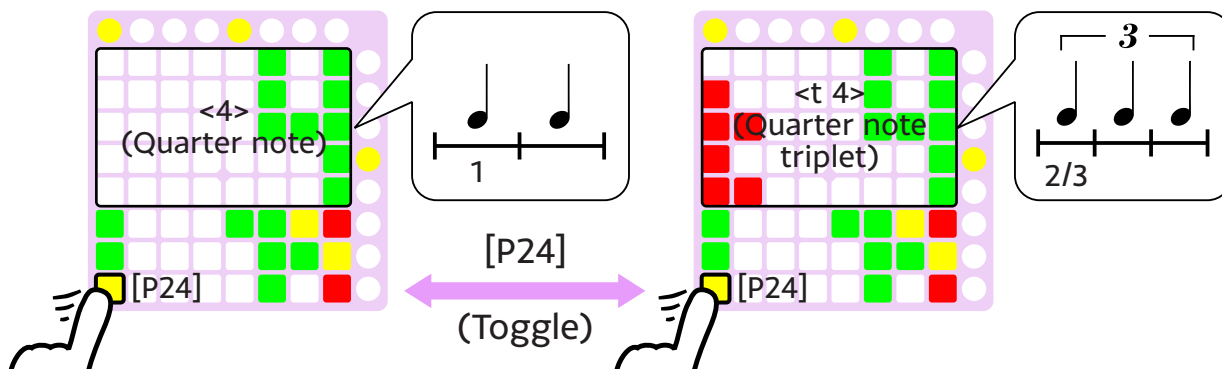
[P5]   : Number of Blocks <BL>

Set values : 1 - 4

▍ See chapter "2.4. Number of Steps" for details.

[P7]   : MIDI Channel <CH>

Set values : 1 - 16 [MIDI data]

[P8]   : Volume <VO>

Set values : 0 - 127 [MIDI data]

▍ To be exact, this item is related to MIDI channel, not track.

[P9]   : Program Change <PG>

Set values : 0 - 127 [MIDI data]

▍ To be exact, this item is related to MIDI Channel, not track.

[P10]   : Swing Value <SW>

Set values : -100 - 100 [%]

▍ By default, if the value is set over 0, odd steps get longer and even steps get shorter. See chapter "4.4. Step Length" for details.

[P3] : Step Properties (Sequence Data)

Step properties are for editing the sequence data minutely. See chapter "4. Details of Sequence Data" for details.

Each Property is set by values, levels, or colors.

[P4]   : SKIP Status <SK>

Set colors : Off (SKIP), Amber/Green (not SKIP)

▍ See chapter "4.3. Step Status" for details.

[P5]   : MUTE/TIE Status <MT>

Set colors : Green (MUTE), Amber (TIE), Off (ON or OFF)

▍ See chapter "4.3. Step Status" for details.

[P7]   : Note Number <NT>

Set values : 0 - 127 [MIDI data]

> If the step contains no note, or two or more notes, this property is not available and "__" is shown.

[P8] : Velocity <VL>

Set levels : 0 - 3 (31, 63, 95, 127 [MIDI data])

[P10] : Swing Response <SW>

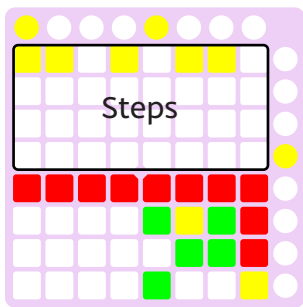Set colors : Amber (Lengthen), Green (Shorten), Off (Normal)

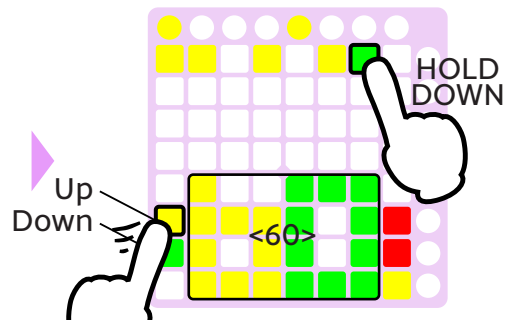> See chapter "4.4. Step Length" for details.

[P12] : Gate Time (Staccato) <GT>

Set levels : 0 - 3 (25, 50, 75, 100 [%])

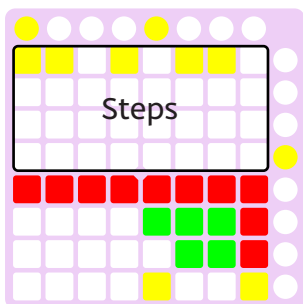### How to Set by "Values"

1. Steps will be shown.

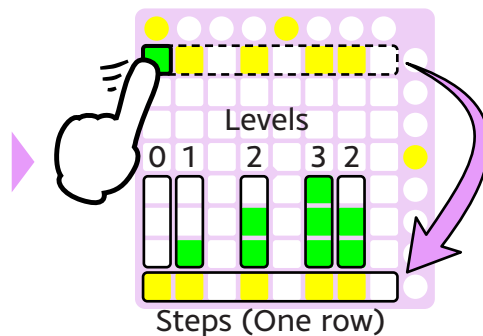2. Select a step then change the value.

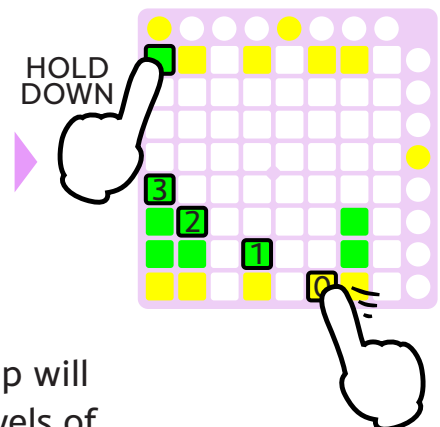### How to Set by "Levels"

1. Steps will be shown.

2. Select a step.

3. Change the levels.

A row that contains the pressed step will appear at the bottom. And then, levels of the steps will appear as shown above.

3.2. Command Mode

In this mode, commands to edit the sequence data are available.

> Some commands are also available via the function pads in Main Mode.

Pad Layout

[M1] + [MD] :
Enter Command Mode
[MD] is lit in amber in this mode.

[MD(Amber)] :
Return to Main Mode
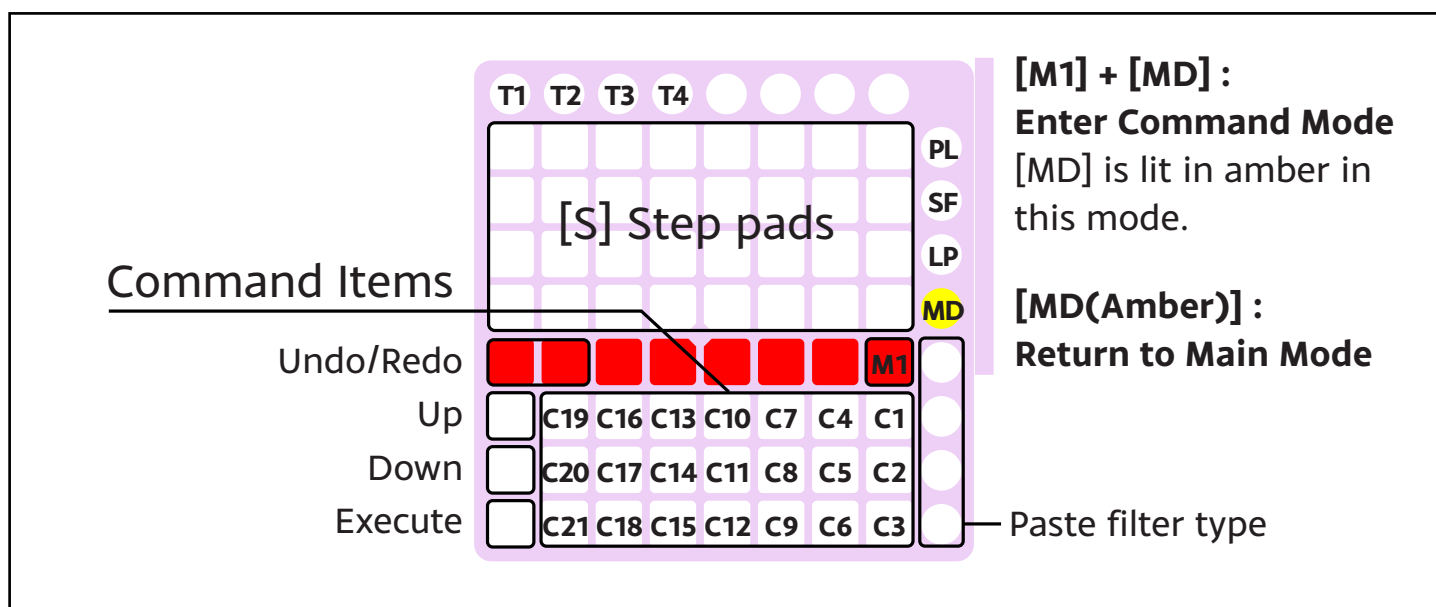
Command item list

Clipboard

> Regarding the "Ripple" commands, refer to the next section.

[C1]   : Copy <CP>
Step data is copied to clipboard.

[C2]   : Cut <CT>
[C5]   : Ripple Cut <RC>
Step data is deleted (removed). In addition, it is copied to clipboard.

[C3]   : Delete <DL>
[C6]   : Ripple Delete <RD>
Step data is deleted (removed).

[C4]   : Paste <PS>
[C7]   : Ripple Paste <RP>

Step data is pasted from clipboard.

> If steps to be pasted are longer than copied/cut steps, steps are repeated.

> You can customize contents to paste. See chapter "4.5. Paste Filter" for details.

[C9]   : Ripple Insert <RI>

Empty steps are inserted.

Transpose

[C10]   : Transpose <TP>

Note pitch is transposed in semitones.

[C11]   : Transpose (Octave) <TO>

Note pitch is transposed in octaves.

[C12]   : Transpose (Circle) <TC>

Note pitch is transposed with "Transpose value circle".

> If you want to transpose the whole sequence data, use [L4] command in Scale Mode.

Rearrangement

[C13]   : Reverse <RV>

Step order is reversed. EX: 1,2,3,4 -> 4,3,2,1

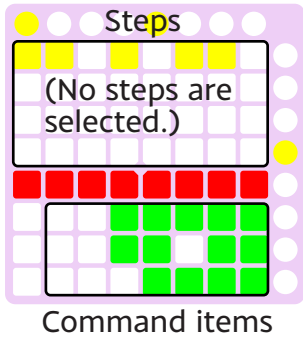> If an incomplete Long Note is selected, the result may be unexpected.

[C14]   : Rotate <RT>

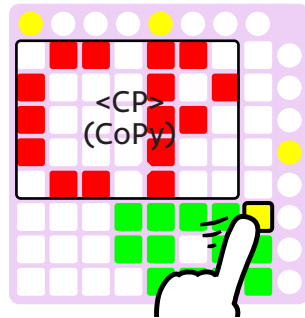Step order is rotated step by step. EX: 1,2,3,4 -> 2,3,4,1
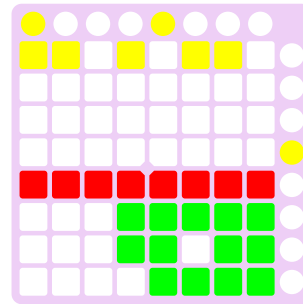
Operation

Check assignment of the command items

1. Initial state.

Steps

(No steps are selected.)

Command items

2. Select one of the command items.

<CP>
(CoPy)

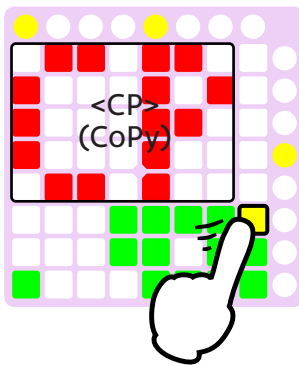3. Release it.

Nothing happens because of no selected steps.

Execute a command actually

1. First of all, select steps you want to edit.

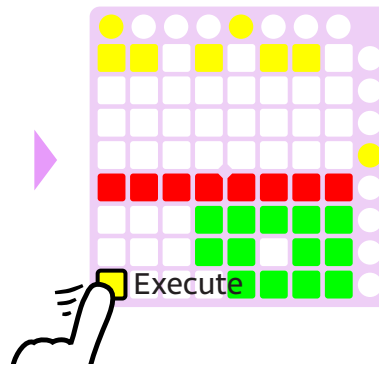**One-Shot Commands**
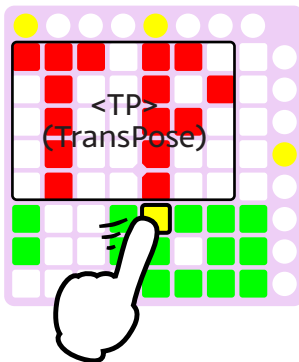
[C1] - [C7]
[C9] [C13]

2. Select a command.

<CP>
(CoPy)

3. Execute it.

Execute

The command is exited automatically.
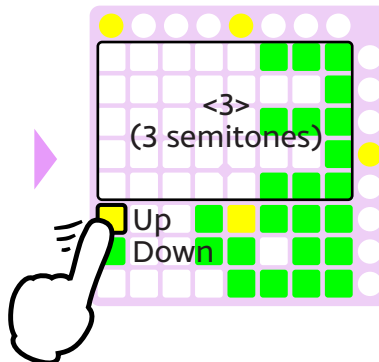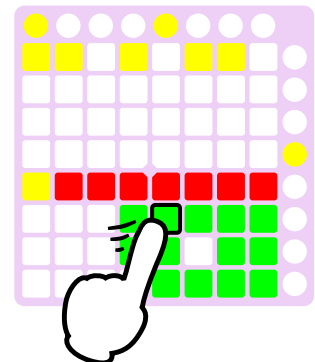
Up/Down Commands

[C10] [C11]
[C14]

2. Select a command.

<TP>
(TransPose)
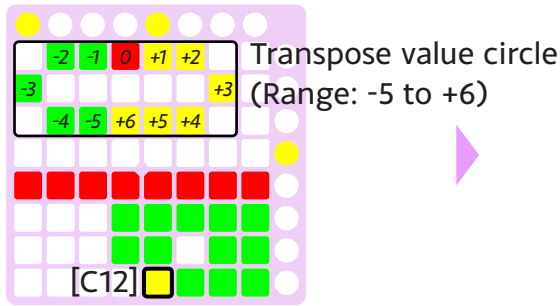
3. Change the value.

<3>
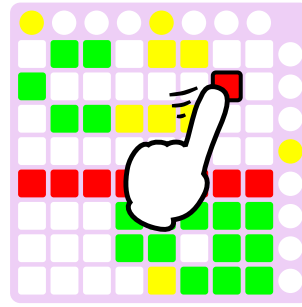(3 semitones)

Up
Down

4. Exit this command.

▍ Transpose commands won't work when no target notes exist in the selected steps.
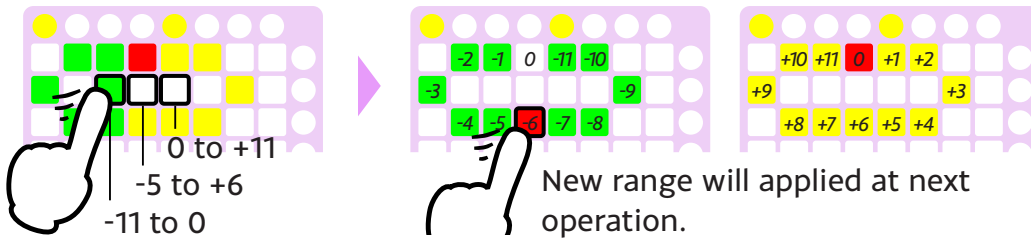
[C12] :
Transpose
(Circle)

2. Select this command then the transpose value circle appears.

Transpose value circle
(Range: -5 to +6)

[C12]

3. Select transpose value directly.

You can change the range of the transpose value circle.

0 to +11
-5 to +6
-11 to 0

New range will applied at next operation.

Ripple commands

Ripple commands result in the following state.

[C5] : Ripple Cut
[C6] : Ripple Delete
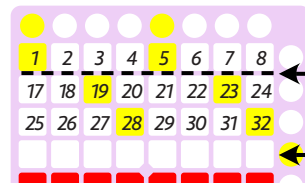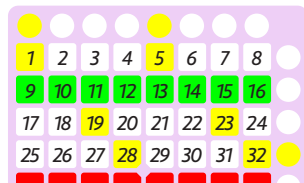
← Deleted

← Empty

[C7] : Ripple Paste
[C9] : Ripple Insert
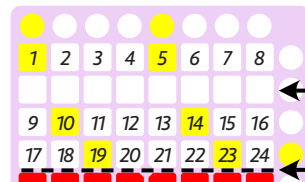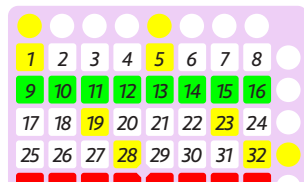
← Pasted (Inserted)

← Deleted

When selected steps stride over the end of steps, the ripple commands won't work.

Undo/Redo

This feature allows you to undo the changes made on Command Mode. If you want to cancel operations on Command Mode, execute Undo and exit Command Mode.

This feature uses only one buffer and can't keep change history data.

1. Enter Command Mode.

2. Execute some commands.

3. Press the undo pads to restore.

4. Press the redo pads to restore.
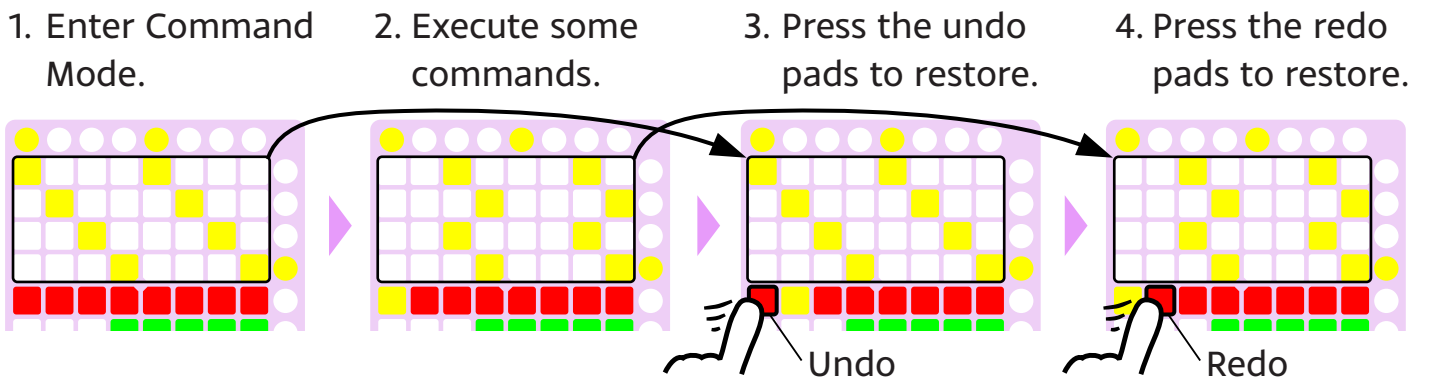
Undo

Redo

▌ When you exit Command Mode, the undo/redo buffer is cleared.

▌ Undo/redo will affect all tracks.

3.3. Scale Mode

You can select and edit scales that appear on the keyboard pads.

> Basically, operations on this mode will affect to the scale settings only, and won't affect to the sequence data.

Pad Layout

[A] [B]
Chromatic Circle

[L1] - [L4]
Scale Mode Menu

[K]
Keyboard pads

[M2] + [MD] :
Enter Scale Mode
[MD] is lit in amber in this mode.

[MD(Amber)] :
Return to Main Mode

Fit to scale
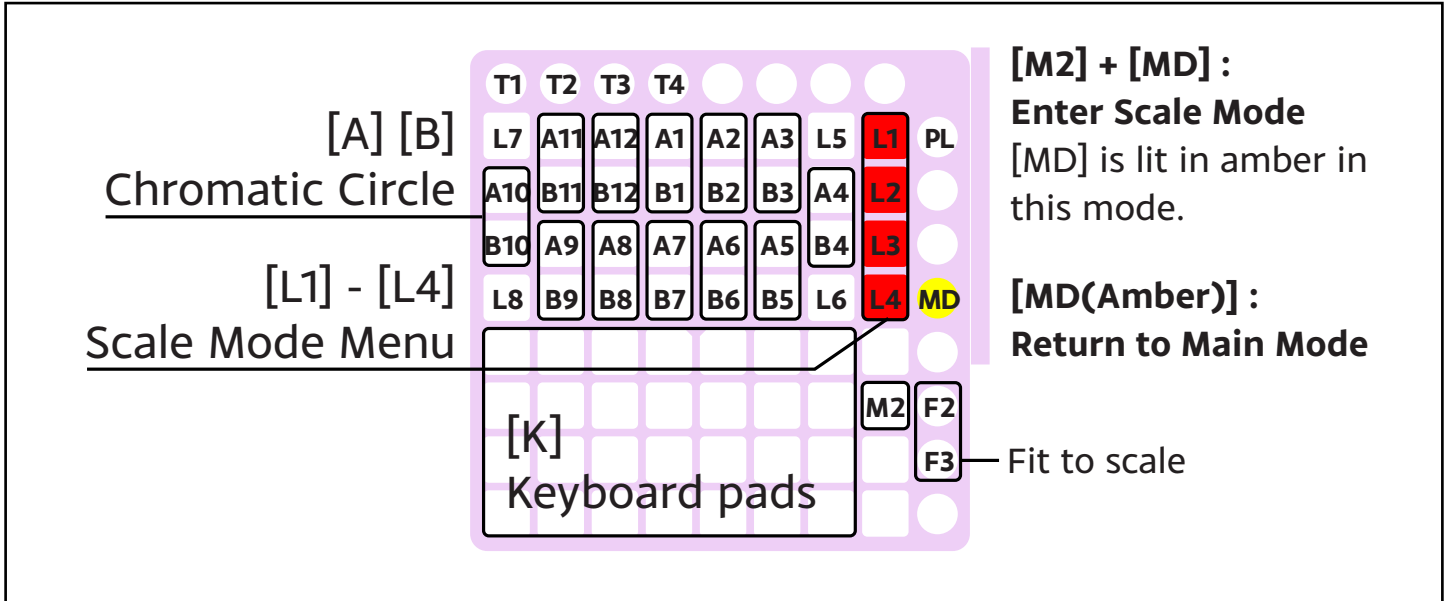
Chromatic Circle

Chromatic circle that contains 12 notes of an octave shows what notes the scale consists of. You can edit scales by using it.

🟨 : Scale note
🟩 : Non-scale note

Reflected in the Keyboard Pads

Only scale notes appear on the keyboard pads.
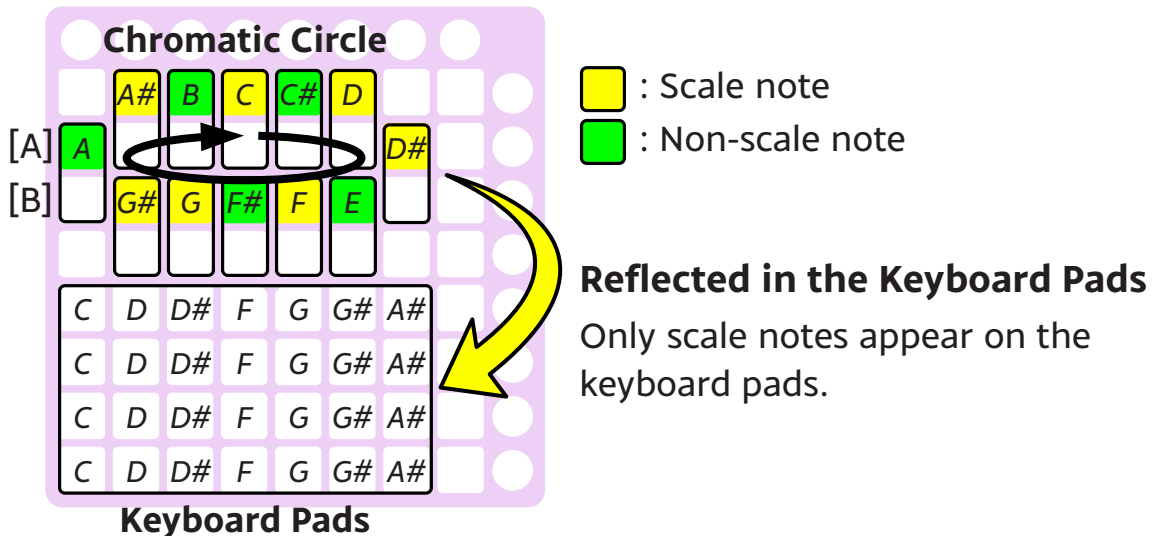
Scale Mode Menu

This mode allows you to operate the followings.

Scale Selection

- [L1] : Scale on the Keyboard Pads
- [L3] : Root Note on the Keyboard Pads

█ These items are also available on Property Mode.

Scale Editing

- [L2] : Saving an Edited Scale

Transpose

- [L4] : Root Note Selection with Total Transpose

Scale Selection

[L1] : Scale on the Keyboard Pads

1. Press [L1].

2. Select a scale from the following list.

[L7] : Next

[B10] : Previous

Though the keyboard pads are hidden, these can make sounds when pressed.
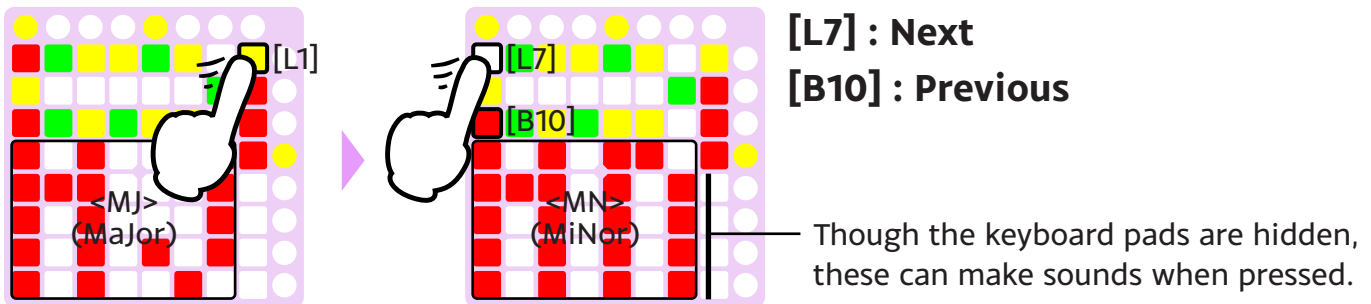
Scale List

= : Scale note

Category	Scale Name		Notes in an octave
Preset Scales	<CR>	Chromatic	= = = = = = = = = = = =
	<MJ>	Major	= _ = _ = = _ = _ = _ =
	<MN>	Minor	= _ = = _ = _ = = _ = _
	<HM>	Harmonic Minor	= _ = = _ = _ = = _ _ =
	<MP>	Major Pentatonic	= _ = _ = _ _ = _ = _ _
	<NP>	Minor Pentatonic	= _ _ = _ = _ = _ _ = _
	<BL>	Blues	= _ _ = _ = = = _ _ = _
	<JP>	Japanese	= _ = = _ _ _ = = _ = _
	<FG>	Freygish	= = _ _ = = _ = = _ = _
	<GS>	Gypsy	= _ = = _ _ = = = _ _ =
	<FM>	Flamenco	= = _ _ = = _ = = _ _ =
	<AT>	Altered	= = _ = = _ = _ = _ = _

Category	Scale Name		Notes in an octave
Preset Scales	<WL>	Whole Tone	= _ = _ = _ = _ = _ = _
	<HW>	Half-Whole Diminished	= = _ = = _ = = _ = = _
	<WH>	Whole-Half Diminished	= _ = = _ = = _ = = _ =
User Scales	<U1>	User Scale 1 (up to 10)	It's up to you.
	<<>>	User Scale Buffer	

[L3] : Root Note on the Keyboard Pads

1. Press [L3].   2. Select a root note.
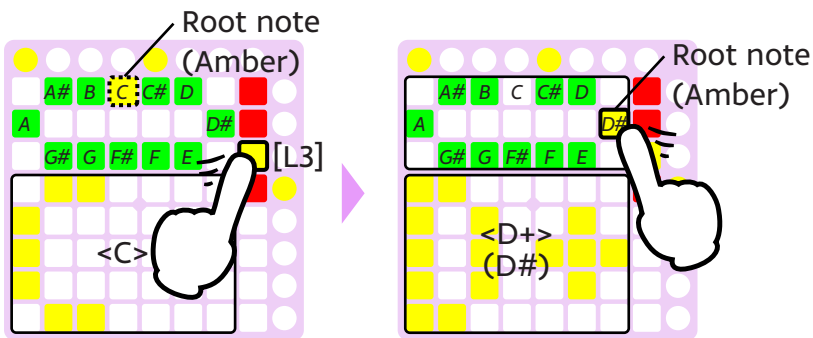
Scale Editing

You can edit scales with the chromatic circle and save them for future use.

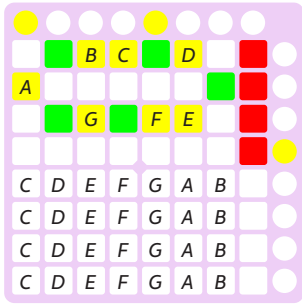## [B] : Playing the Chromatic Circle
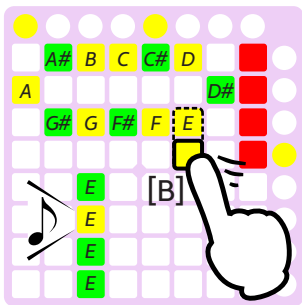
[A] : Adding/Removing a Note from the Scale (Editing)
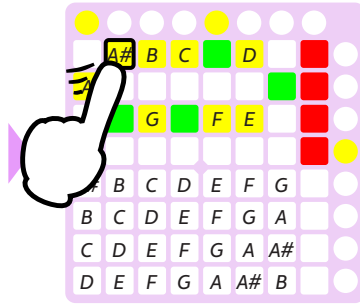
On the [A] pads, scale notes are shown in amber, and non-scale notes are shown in green. You can switch over from scale note to non-scale note, and vice versa.

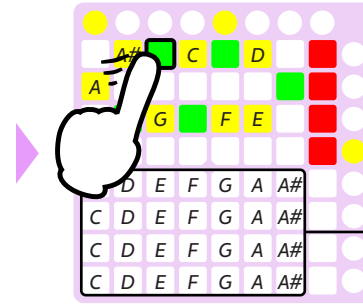▌ [A1] (root note) can't be switched to non-scale note.

1. Select C Major scale.

2. Add "A#" to the scale.

3. Remove "B" from the scale.

Pay attention to the keyboard pads.

Once a preset scale is edited, it is copied to the user scale buffer and current selected scale is switched to the user scale buffer automatically. (A preset scale itself won't be edited.)

[L2] : Saving an Edited Scale

Edited scale can be saved to one of the user scales. Once you saved it, it will be available on [L1] (Scale selection).

(Continued from the previous section.)

4. Press [L2].
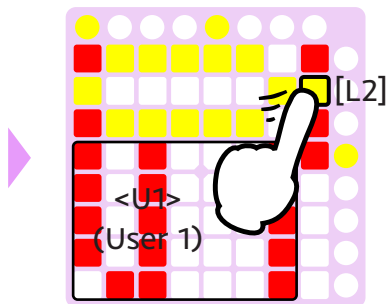
5. Select a destination to save to.

6. Press [B11] to execute saving.

[L2] is available only if current scale is edited one (the user scale buffer).

Number of the user scales (up to 10) can be changed at "Settings -> Preferences -> Scales".

[L5] / [L7] : Right/Left Rotation   (Editing)

1. Major scale.
   So-called "Ionian"

2. Left rotation.
   So-called "Dorian"

3. Once again.
   So-called "Phrigian"
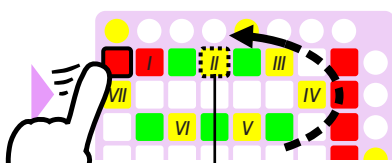
Root

Former "II" moves to
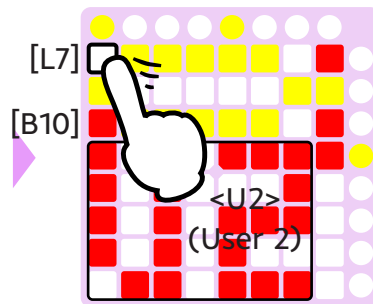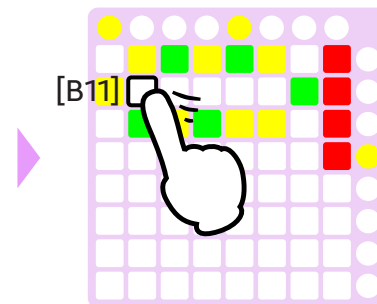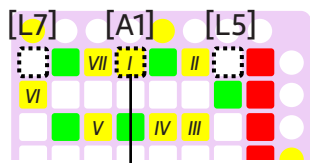the root position.
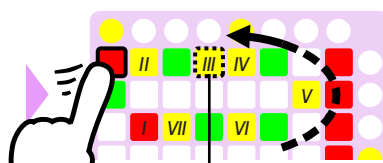
Former "III" moves to
the root position.

> **Mark of a former "I" (root)**
>
> - Former "I" is lit in red while [L5]/[L7] is pressed.
> - Press [A1] to reset the mark.

Transpose

> This operation will affect to the sequence data.

[L4]   : Root Note Selection with Total Transpose

Besides a root note selection, the whole sequence data will be transposed to fit to a selected root note.

1. Press [L4].

Root note
(Red)

[L4]

<C>

2. Select a root note.

Root note
(Red)

<D+>
(D#)
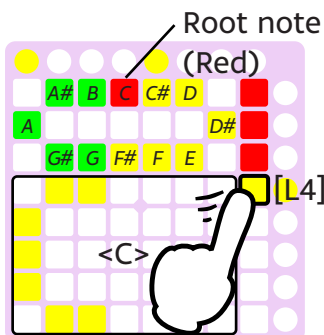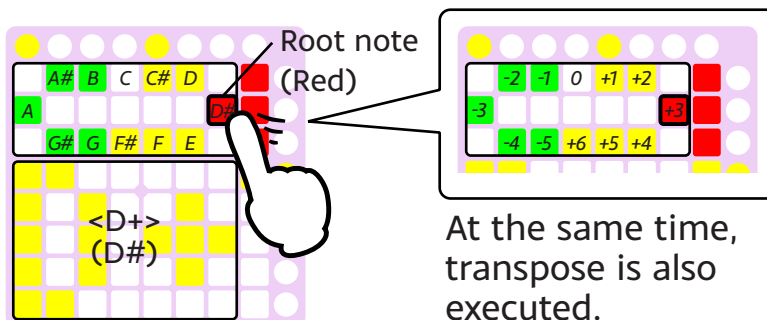
At the same time,
transpose is also
executed.

> You can customize the range that a transpose process affects at "Settings -> Preferences -> Scales".

Fit to Scale

This feature allows you to fit the sequence data to scale. Non-scale notes are shifted to nearby scale notes as follows.

How does it work? (When C Major scale is selected)

	Fit to Scale (Down)	Fit to Scale (Up)

Original: C C# D D# E F F# G G# A A# B   C C# D D# E F F# G G# A A# B

Result: C   D   E F   G   A   B   C   D   E F   G   A   B

Operation

[F2]

[F3]

[K1]
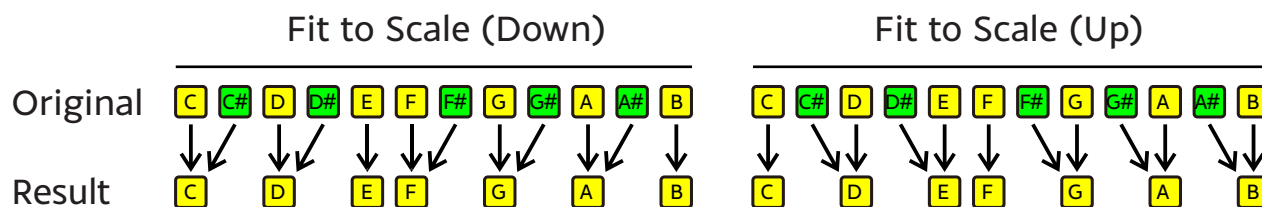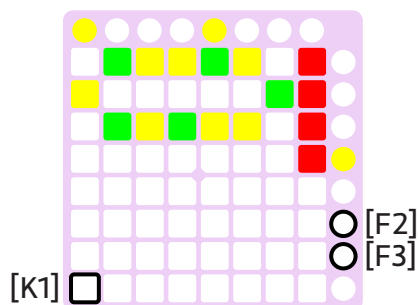
[F2]   : Fit to Scale (Up) - PREVIEW (Toggle)

[F3]   : Fit to Scale (Down) - PREVIEW (Toggle)

During playback, you can listen the result without affecting to the sequence data. Press these pads again to cancel PREVIEW.

> PREVIEW features are also valid after you exit Scale Mode.

[F2] + [K1]   : Fit to Scale (Up) - SAVE

[F3] + [K1]   : Fit to Scale (Down) - SAVE

> These operations will affect to the sequence data.

The result is saved to the sequence data (in all tracks, but without the snapshot).

4. Details of Sequence Data

4.1. Step Property

Most sequence data exists in each step individually, and these are called step properties as a whole.

Step Property List

> Though each step can contain up to six notes, properties except note number are common to all notes in the step.

> Step length and step status are a little complicated, so details are described later.

Note Numbers (Up to six notes per step)

Range: 0 -127, or "None"   Default: "None"

It's a note number on MIDI specification. (That is a pitch of sound.) Note number is set by step recording operation.

Velocity

Range: Level 0 - 3 (31, 63, 95, 127 [MIDI data])   Default: Level 2 (95 [MIDI data])

It's a velocity on MIDI specification. (That is a intensity of sound.) Velocity is set on Property Mode. See section "[P3] : Step Properties" in chapter "3.1. Property Mode" for details.

Step Length
- Step Time Magnification
  Range: 1 - 8, and some fractions   Default: 1
- Gate Time
  Range: Level 0 - 3 (25, 50, 75, 100 [%])   Default: Level 3 (100 [%])
- Swing Response
  Range: Lengthen, Shorten, Normal
  Default: Lengthen (Odd Steps), Shorten (Even Steps)

These properties determine a step length and how long the step produces a sound within its length. See chapter "4.4. Step Length" for details.

Step Status

- MUTE/TIE Status

Range: MUTE, TIE, "ON or OFF"   Default: "ON or OFF"

- SKIP Status

Range: SKIP, not SKIP   Default: not SKIP

Step status, a unique concept of PRACQ, determines how the step is played back. See chapter "4.3. Step Status" for details.

4.2. Long Note

By default, each step in a track has the same length (set by "Step Time" property on Property Mode) so each note you put has the same length too. When you want to put a longer note, the following two method are available.

Connecting Steps

♪ 𝄾 ➡ ♪‿♪ (=♩)
ON OFF   ON TIE

Prolonging Step Length

♪ ➡ ♩
x1   x2
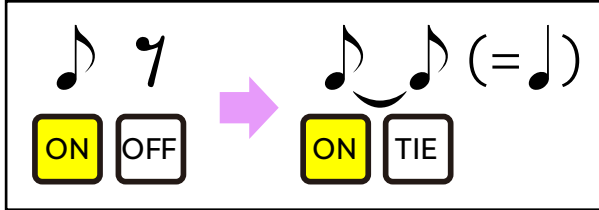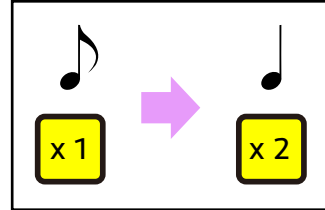
Connecting Steps

1. Press two [S] in order.

2. Release only the second pressed [S].

HOLD DOWN

3. Holding the first pressed [S] down, press [K].

HOLD DOWN

[K]

4. Release both pads.

Connected (TIE status)
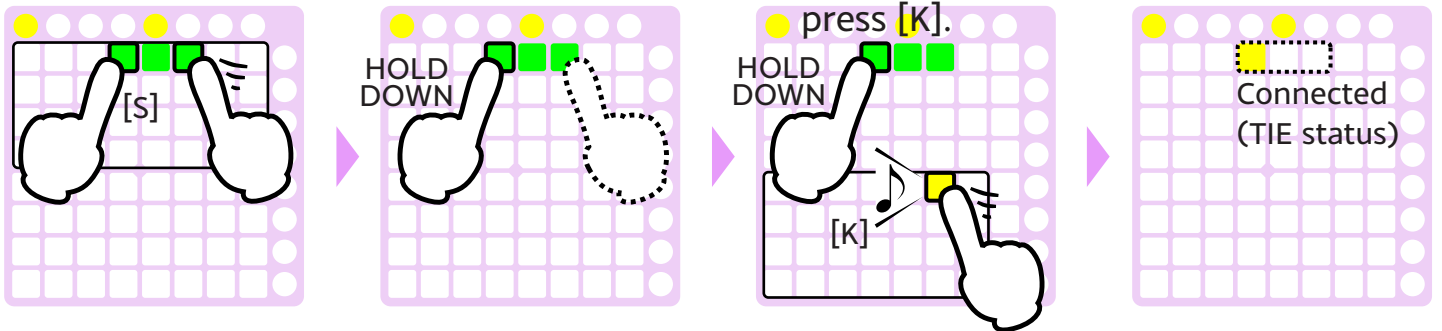
▌ See chapter "4.3. Step Status" for details.

Prolonging Step Length

1. Press [S].

Step Time Magnification

[T] 1 2 3 4 5 6 7 8 times

[S]

2. Holding [S] down, press one of [T].

HOLD DOWN

<3 >

3. Release both pads.

Three times longer
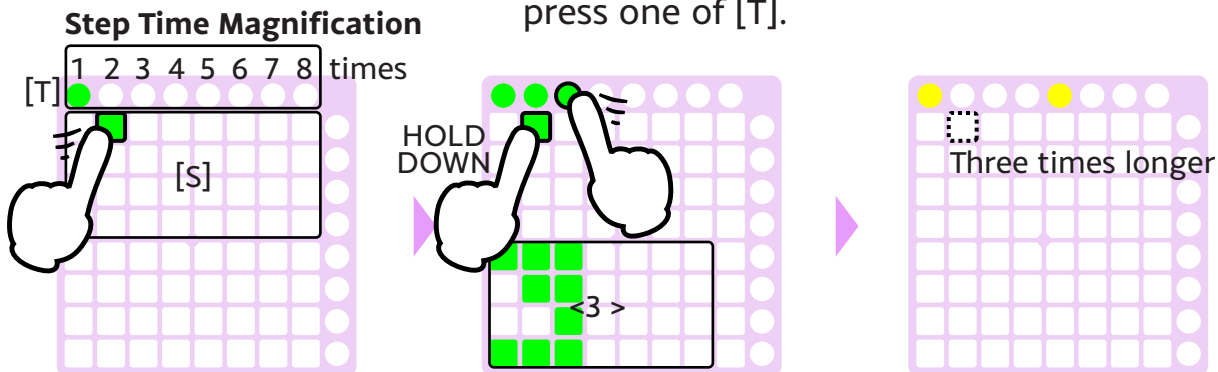
▌ See chapter "4.4. Step Length" for details.

4.3. Step Status

Each step is in one of the following status, and the status determines how the step is played back. PRACQ doesn't necessarily require you to be conscious of the step status though, it may be useful if you know it.

OFF   ON | MUTE   TIE   SKIP

ON/OFF Status

The operation of step recording switches these statuses.

OFF   Switch   ON
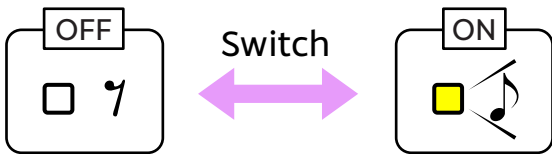
On Main Mode

[S] + [K]   : Adding/Removing a Note in the Step

1. At the beginning all the steps are OFF status.

2. Add a note into a step.

3. This step turns from OFF status to ON status.

4. When remove a note, this step turns to OFF.
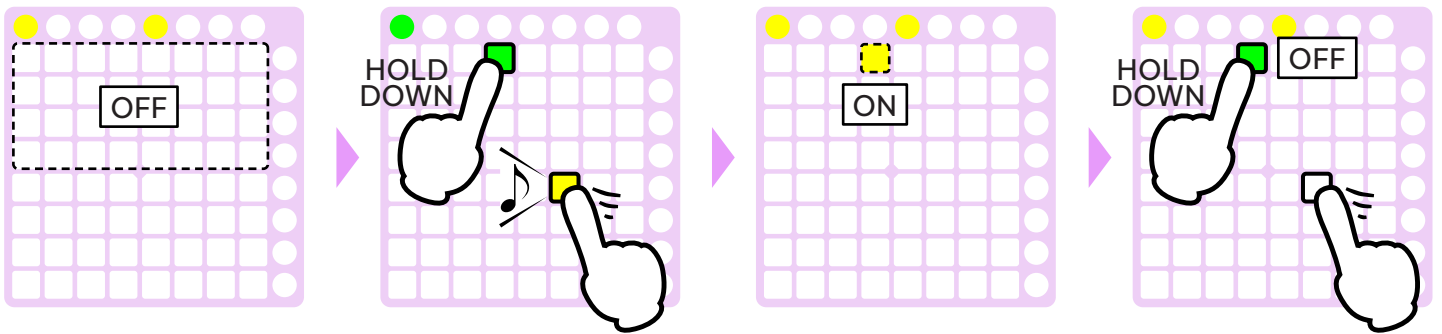
On Command Mode

[C2] : Cut, [C3] : Delete

Cut/delete commands make a step OFF Status.

MUTE Status

Steps in this status won't be played back, so you can mute steps temporarily without losing step data itself.
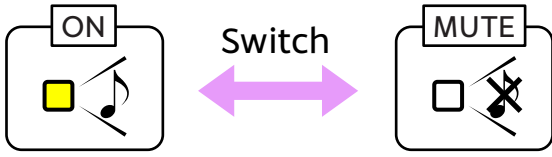
On Main Mode
[S] + [M3]　: Switching Step Status

1. Hold down a step in ON status.
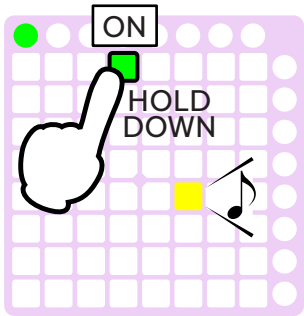
2. Press [M3] to mute this step.
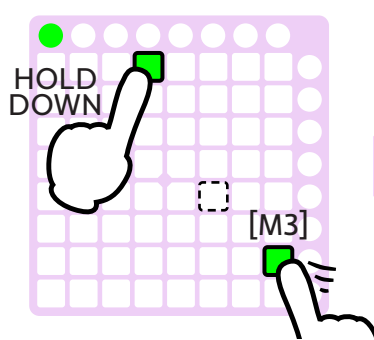
3. This step turns from ON to MUTE.

MUTE
(A step in MUTE status isn't lit.)
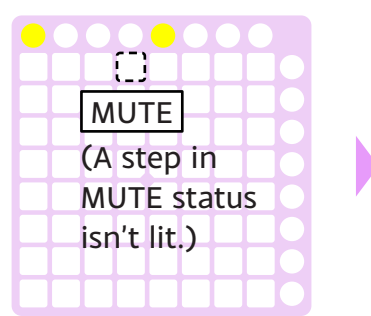
4. Press a step to check its status.

[M3] is lit in green to indicate MUTE status.
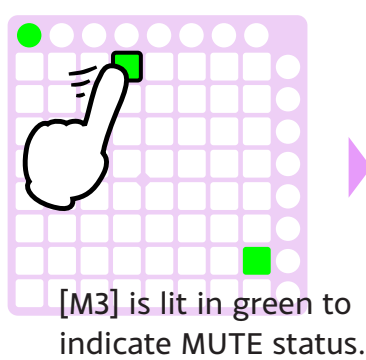
5. Press [M3] again to stop muting.

On Property Mode
[P3] : Step -> [P5] : MUTE/TIE Status

□ Off　　:　ON　or　OFF
　　　　　　　↕ Switch
■ Green :　MUTE　　　Switch
□ Amber :　　　　　　TIE
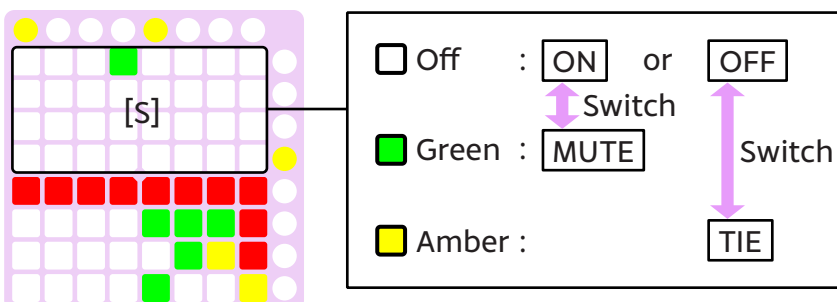
Press [S] to switch from ON to MUTE (or from MUTE to ON).

Distinguish ON and OFF in Main Mode.

TIE Status (Long Note)

This status allows you to prolong previous step's note.

OFF ⟷ Switch ⟷ TIE
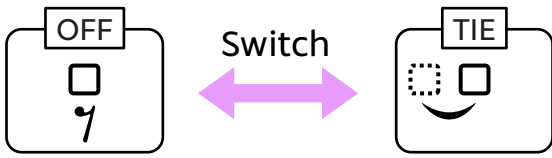
On Main Mode

(with Selected Steps) (The first [S] is held down) **[K]** **: Adding a Long Note**
[S] + [M3] **: Switching Step Status**

1. Press two [S] in order.
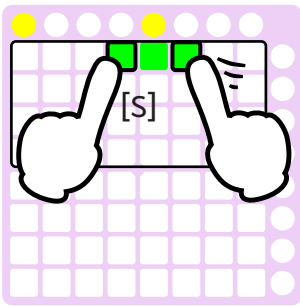
[S]

2. Release only the second pressed [S].

HOLD DOWN
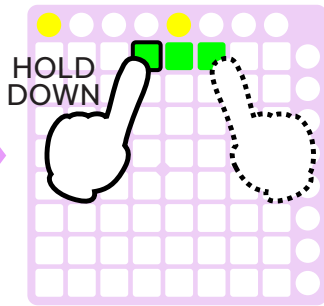
3. Holding the first pressed [S] down, press [K].

HOLD DOWN

[K]
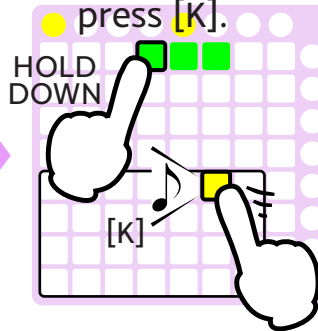
4. A long note appears here.

Long note

ON | TIE

(Step pads in TIE status aren't lit.)
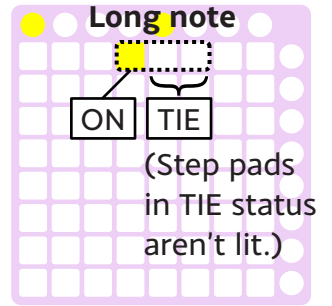
5. Press the last step of the long note to check its status.

[M3]

[M3] is lit in amber to indicate TIE status.
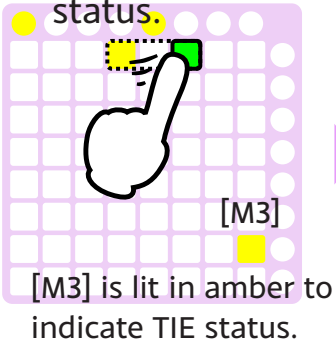
6. Hold down the last step of the long note and then press [M3].

HOLD DOWN
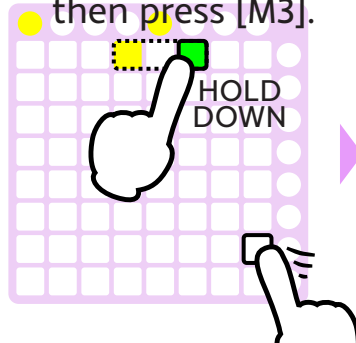
7. This long note is shortened.

Shortened long note

OFF

(Turns from TIE to OFF.)
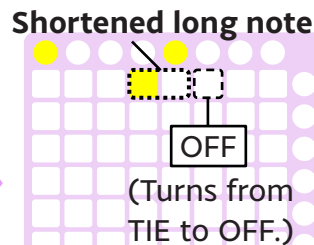
8. On the other hand, you can lengthen it, too.

TIE

HOLD DOWN

On Property Mode

[P3] : Step -> [P5] : MUTE/TIE Status

[S]

☐ Off : ON or OFF

↕ Switch

🟩 Green : MUTE

Switch

🟨 Amber : TIE
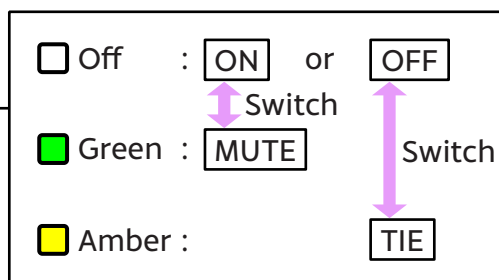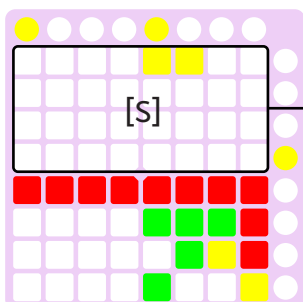
Press [S] to switch from OFF to TIE (or from TIE to OFF).

Distinguish ON and OFF in Main Mode.

SKIP Status

This status allows you to skip a step during playback.
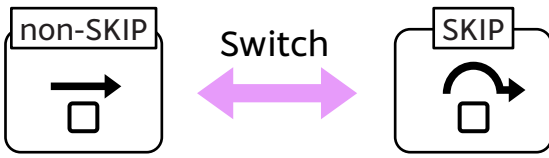
On Property Mode
[P3] : Step -> [P4] : SKIP Status
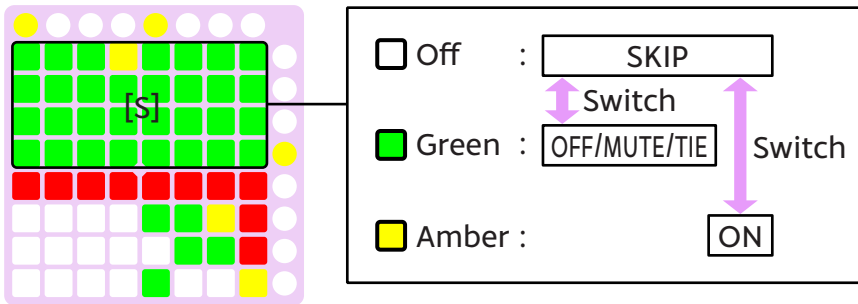
Press [S] to switch from non-SKIP to SKIP (or from SKIP to non-SKIP).

Status List

Status	Indicators on Main Mode		Description
OFF	-		No note will be played back.
TIE	[M3]	🟨 Amber : on step preview 🟥 Red : on playback	If notes in the previous step are played back, these notes will be prolonged on this step. Otherwise no note will be played back.
ON	[S]	🟨 Amber : always	Notes in this step will be played back.
	[K]	🟨 Amber : on step preview 🟥 Red : on playback	
MUTE	[M3]	🟩 Green : on step preview	No note will be played back, even though this step contains notes.
SKIP	-		This step will be skipped during playback.

Step Status appearing on [S] (Step Pads)

Color of [S]	Main Mode	Property Mode Step - MUTE/TIE status	Property Mode Step - SKIP status
☐ **Off**	OFF/MUTE/TIE/SKIP status	ON/OFF/SKIP status	**SKIP status**
🟩 **Green**	Selected steps	**MUTE status**	OFF/MUTE/TIE status
🟨 **Amber**	**ON status**	**TIE status**	**ON status**
🟥 **Red**	Playback position		

Status Transition

[S] + [?] : Switching Status

On Main Mode, press a following pad ([K], [M3] or [F4]) while a target step pad is held down.

"LONG press leads to a LONG note (TIE)."
(Long press)

The first selected step

ON

Non-SKIP

[K] [M3] [M3] [M3] *1 [K]

Selected steps + [K]

Lit [K] [K] **MUTE** **TIE**

The second and subsequent selected steps

(Long press)

(Long press) [M3] [M3]

OFF **Any Status**

[F4]
(Double tap)

*1: If the original status is ON, it returns to ON not OFF.

Actual Data Structure

(0 - 127) ── ON TIE

Note Number property **MUTE/TIE** property (Three-state)

("None") ── OFF MUTE

SKIP property (True/False)

SKIP
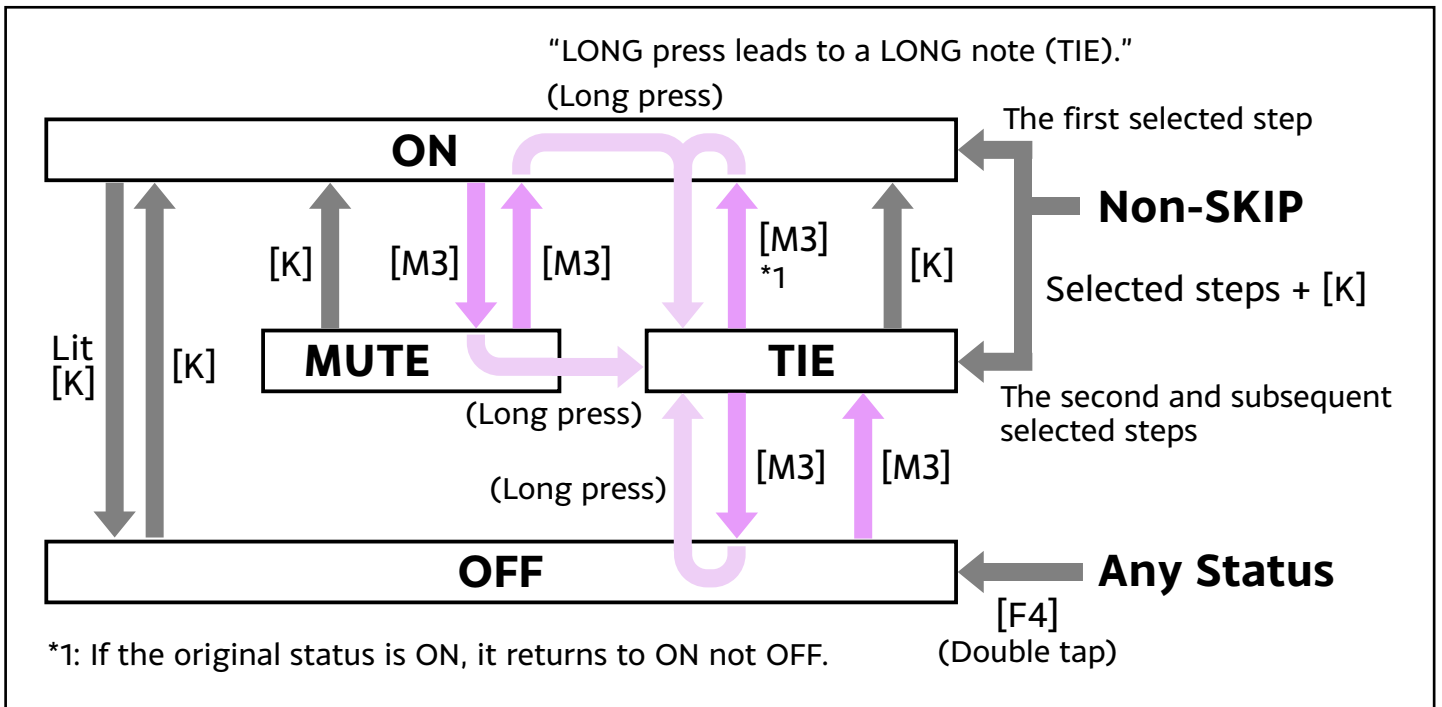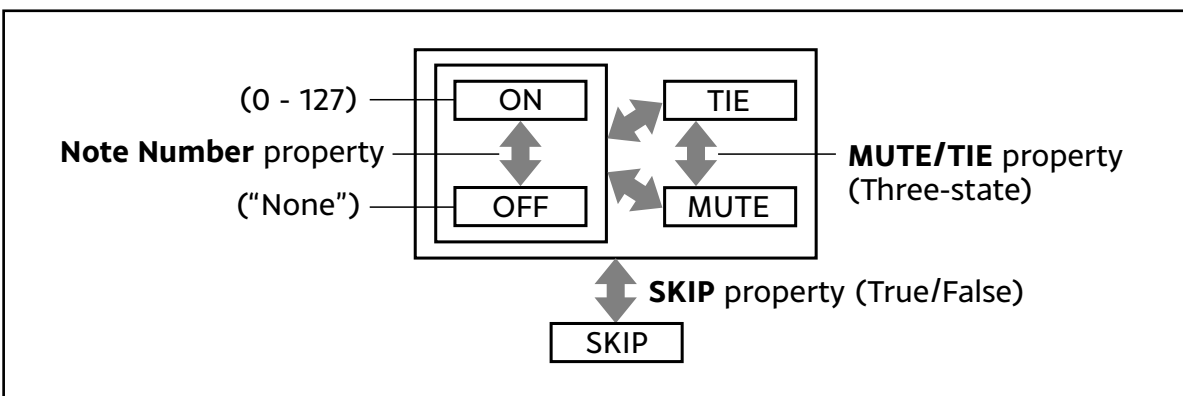
4.4. Step Length

By default, each step in a track has the same length (set by "Step Time" property on Property Mode), but you can change the length of each step by applying a magnification or a ratio like the following.

Step Time Magnification

×2 ×1/2 ×4/3 ×2/3

Swing

➡ 33%

Staccato

⬅ 50%
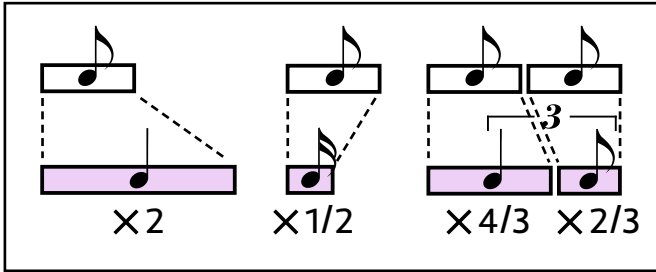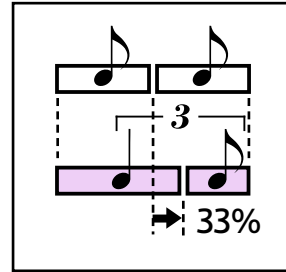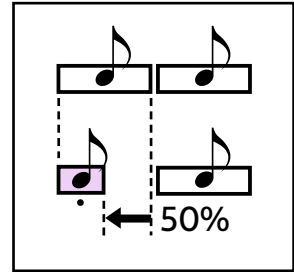
Step Time Magnification

On Main Mode

[S] + [T] : Step Time Magnification

1. Press [S].

Step Time Magnification

[T]
[S]

2. Holding [S] down, press one of [T].

HOLD DOWN
3
<3 >

3. Still holding [S] down, press the same [T] again.

HOLD DOWN
PRESS AGAIN
3/2
<3:2>

4. Release both pads.

One and a half length of original "Step Time"
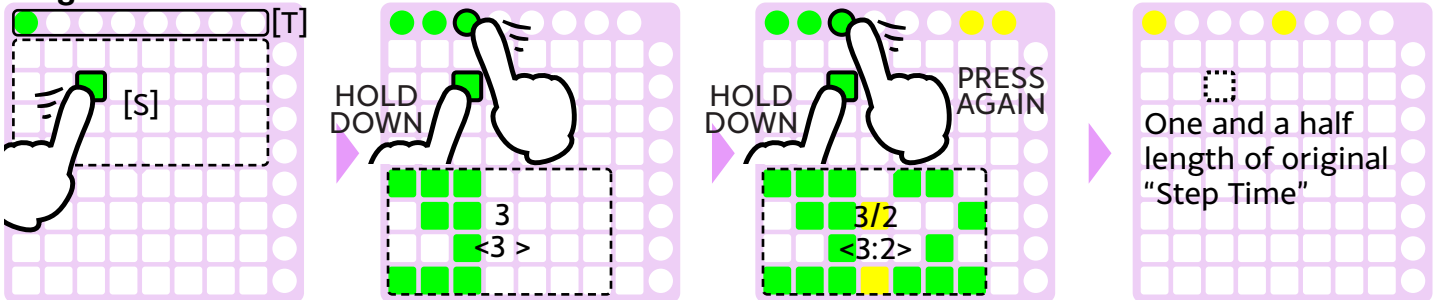
List of Magnification

[T] pads	Magnification
	1 <1 >
	2 <2 >
	3 <3 >
	4 <4 >
	5 <5 >
	6 <6 >
	7 <7 >
	8 <8 >

Press several times, then...

	1/2 <1:2>
	1/3 <1:3>
	1/4 <1:4>
	2/3 <2:3>
	3/2 <3:2>
	3/4 <3:4>
	4/3 <4:3>

5. Select steps, then...
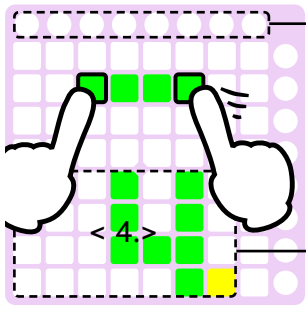
Magnification will be shown only If all selected steps have the same magnification.

Step Time Counter

The sum of magnifications of selected steps. Only if the value is not a integer, a decimal point (yellow) is shown.

 (< 4.> means the value is between 4 and 5.)

6. Select a magnification.

HOLD DOWN
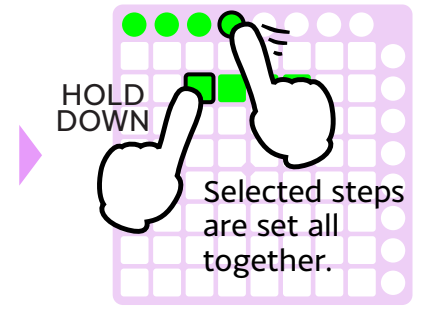
Selected steps are set all together.

Swing

Swing is processed by two items, "Swing Value" and "Swing Response."

On Property Mode

[P2] : Track -> [P10] : Swing Value

Set a boundary between odd and even steps as follows.

Swing Value (-100 to 100 [%])

-100   0   33   100 [%]   SET VALUE (RATIO TO STEP TIME)

0 [%] (Default)

STEP

33 [%]

Odd step (Amber)   Even step (Green) ←—— Swing Response
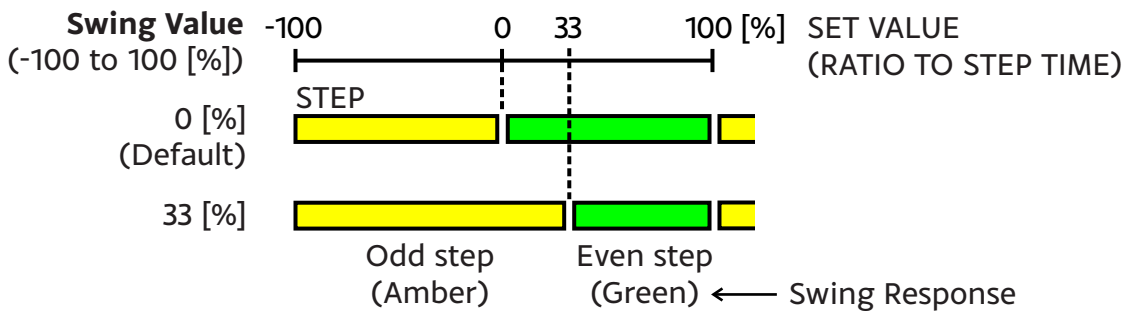
▌ Set values will be increased/decreased by two or three.

▌ If "100 [%]" is set, odd steps become double, while even steps disappear (are skipped).

[P3] : Step -> [P10] : Swing Response

Color of each step pad shows how Swing Value affects. By default, odd steps are amber and even steps are green.

Amber (Lengthened if Swing Value is over 0.)

Green (Shortened if Swing Value is over 0.)

Off (Not affected by Swing Value.)

[S]

Switching

[SF] + [S]

Amber ▢ ←——→ ▢ **Green**

[S] ↕   ↕ [S]

Off ▢   ▢ **Off**
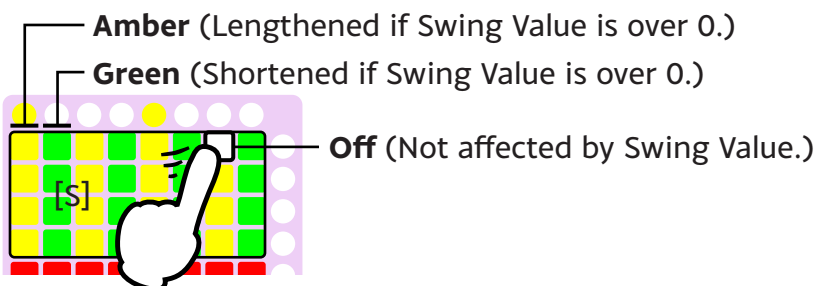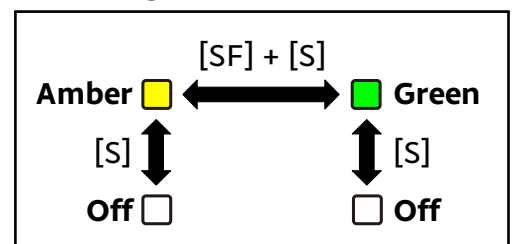
Staccato

On Property Mode

[P3] : Step -> [P12] : Gate Time (Staccato)

Set a level (0 to 3) for timing of note off as follows.

	0	1	2	3	SET LEVEL
Gate Time (0 to 3)					
	25	50	75	100 %	RATIO TO STEP TIME

STEP

3 (100 %)
(Default)

NOTE
OFF

1 (50 %)
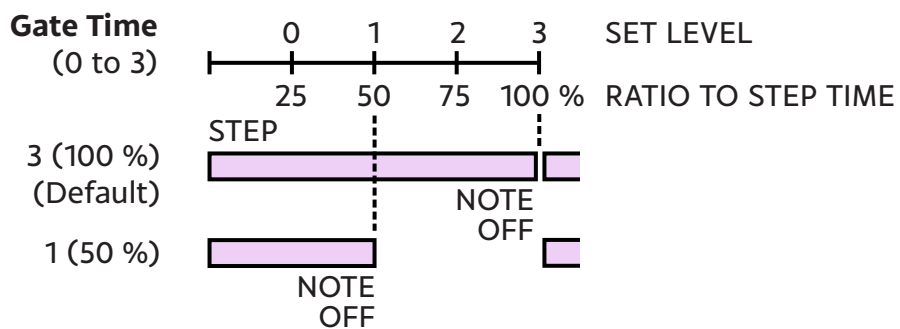
NOTE
OFF

4.5. Paste Filter

Regarding the paste command on Command Mode, you can apply Paste Filter. This feature allows you to select/deselect items (note number, step length, ...) to paste.
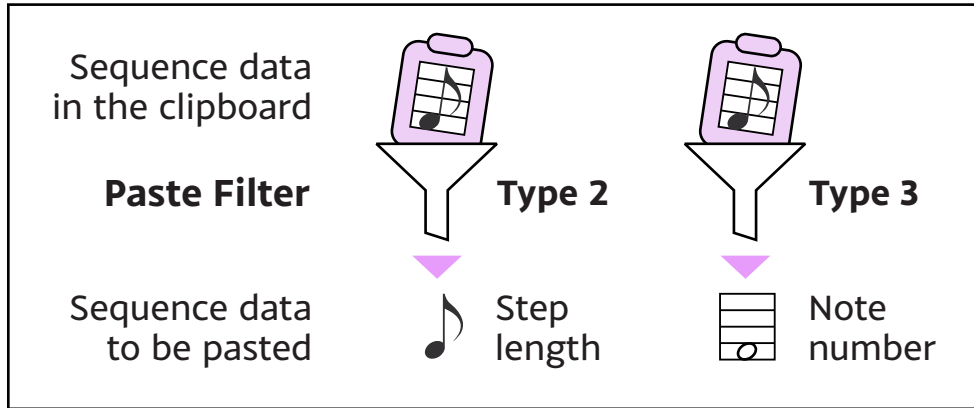
How to use

1. On "Settings -> Preferences -> Paste Filter", check the "On" checkbox. (If it is not checked, type 1 will be always applied.)

2. On Command Mode or Main Mode, select one of four types and then execute a paste command.
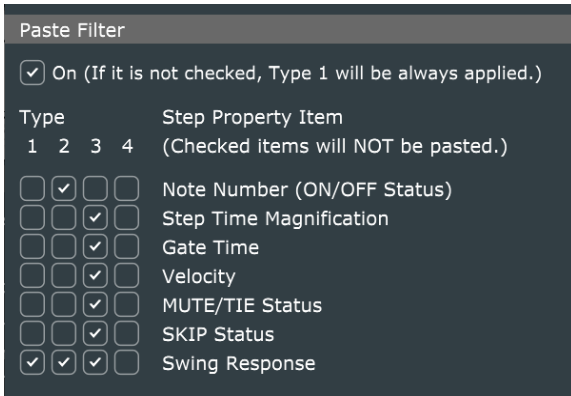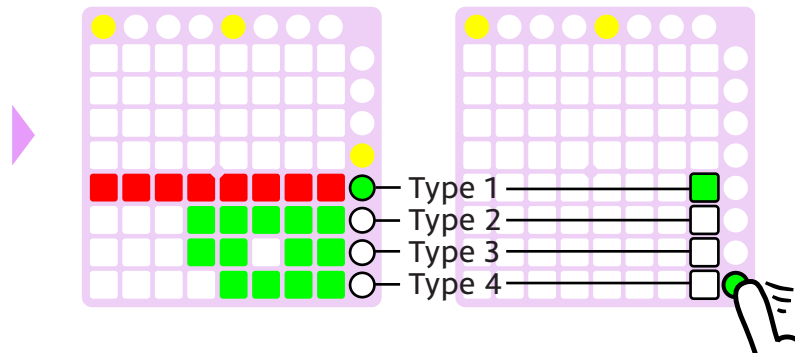
You can change the behavior of each type of Paste Filter. On "Settings -> Preferences -> Paste Filter", check the checkbox of each item that you don't want to paste. It seems better not to paste "Swing Response" because it depends on the step position (odd or even).

5. Advanced features

5.1. Function Pad

PRACQ has several optional features available on Main Mode. These features are executed by Function Pads.

How to Use

1. On "Settings -> Preferences -> Function Pad", assign a feature to each Function Pad.

2. On Main Mode, press each Function Pad when you want use it.

Function Pads [F]
(Main Mode)
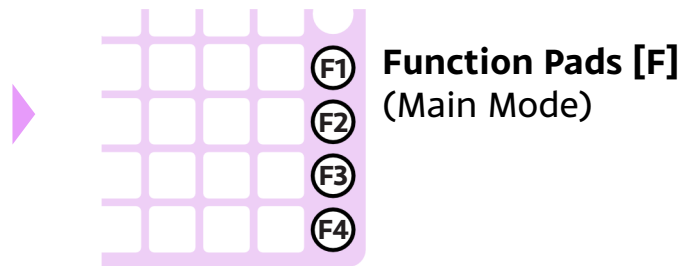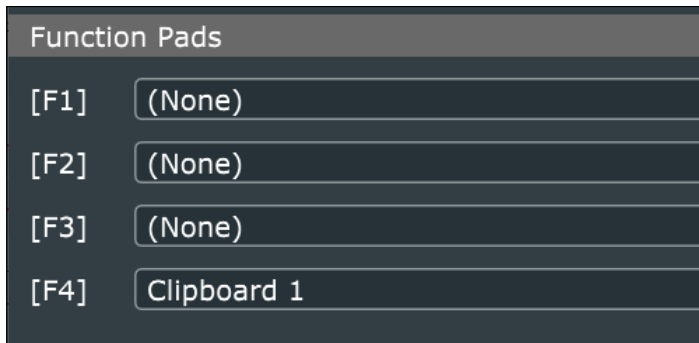
Feature List

Clipboard 1 - 4

> By default, Clipboard 1 has been assigned to [F4] beforehand.

Clipboard is a memory for copy, cut, and paste the sequence data. See section "Copy, Cut, and Paste (Clipboard)" in chapter "2.1. Basic Operation" for details.

> Clipboard 1 shares the memory with Command Mode, while Clipboard 2 - 4 have its own memory.

Alt. Step Pad (Proceed / Stay)

These are equivalent to the last blinking step pad. Pressing "Proceed" pad in succession makes blinking step pad proceed.

Snapshot

Snapshot is a feature that allows you to keep the whole track sequence data at that time. See chapter "5.2. Snapshot" for details.

Mute

While it is held down, playback of all tracks is muted.

Panic !

"All sound off" message is sent.

Fit to Scale (Up/Down)

See section "Fit to Scale" in chapter "3.3. Scale Mode" for details.

Cmd: ***

Some of the command items are available here, too. See chapter "3.2. Command Mode" for the command items.

JavaScript Event

See chapter "5.3. JavaScript Interpreter" for derails.

5.2. Snapshot

Snapshot is a feature that allows you to keep the whole track sequence data at that time. Keep several data that you see potential in, and then later select the best shot!
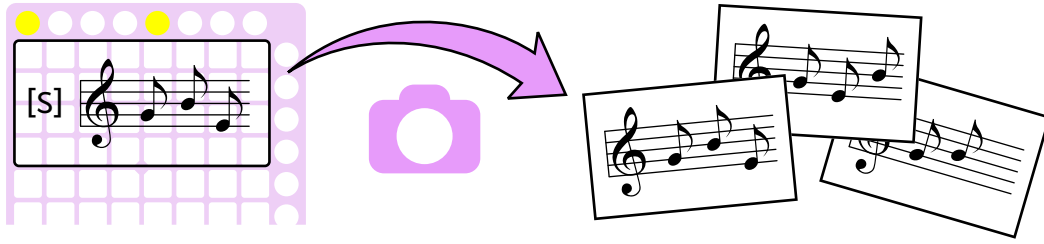
Overview

Snapshot works on each track individually. The whole track data is handled together and placed in "slot". There are one slot for the current data and seven slots for the kept data.

Snapshot has its own pad layout to operate the slots. By using the slots, you can keep the current data and recall the kept data.
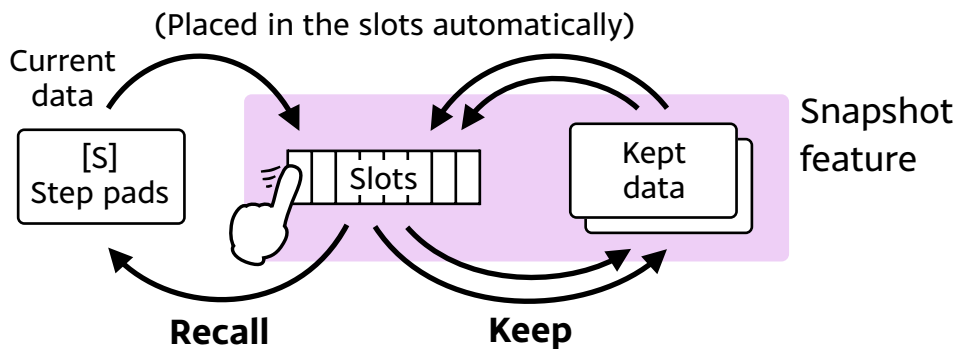
Preparation

Snapshot is called by the function pad, so first you need to assign this feature to one of the function pad. (See previous chapter.)

How to get into Snapshot

On Main Mode, press the function pad assigned to Snapshot to get into Snapshot. (The pad layout for Snapshot will be shown.)

Press the function pad again (or press [MD]) to get out of Snapshot.

Pad layout (for Snapshot)

Snapshot Slots 1 - 8

Slot 1 : Current data
Slot 2 - 8 : Kept data (2: Latest, 8: Earliest)

[A] Recaller

Select one of the eight slots you want to recall.

🟥 **Red :** Recalled (only one)
⬜ **Off :** Not recalled

[B] Keeper

Select slots you want to keep.

🟨 **Amber :** Intended to be kept
⬜ **Off :** Vacant or intended to be deleted

| T1 | T2 | T3 | T4 | T5 | T6 | T7 | T8 |

[S] Step pads
(Recalled data)

PL
SF
LP
MD
F1
F2
F3
F4

| A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 |
| B1 | B2 | B3 | B4 | B5 | B6 | B7 | B8 |

Slot 1 | Slot 2 | Slot 3 | Slot 4 | Slot 5 | Slot 6 | Slot 7 | Slot 8

How to Use

To utilize Snapshot, repeat the following round.

Edit Data

Get into Snapshot →

← Get out of Snapshot

Keep/Recall Data

Main Mode
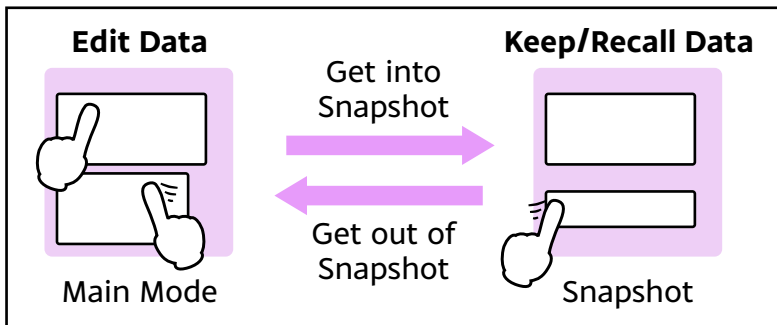
Snapshot

Keeping the Current Data

1. There is data you want to keep.

2. Press [F] to get into Snapshot.

Slot 1 (Current data)

[F]

3. Press [B1] to keep the current data.

[B1]

4. Press [F] again to get out of Snapshot.

By doing this, the current data is kept. When you get into Snapshot again, this kept data will appear on the slot 2.

You can keep the data up to seven times, and these data will appear on the slot 2 to 8 (2: Latest, 8: Earliest). When you keep the data eight times, the earliest kept data will be deleted.

Recalling the Kept Data

1. If you want to recall the kept data...

2. Press [F] to get into Snapshot.

3. Press [A2] to recall the kept data.

4. Press [F] again to get out of Snapshot.
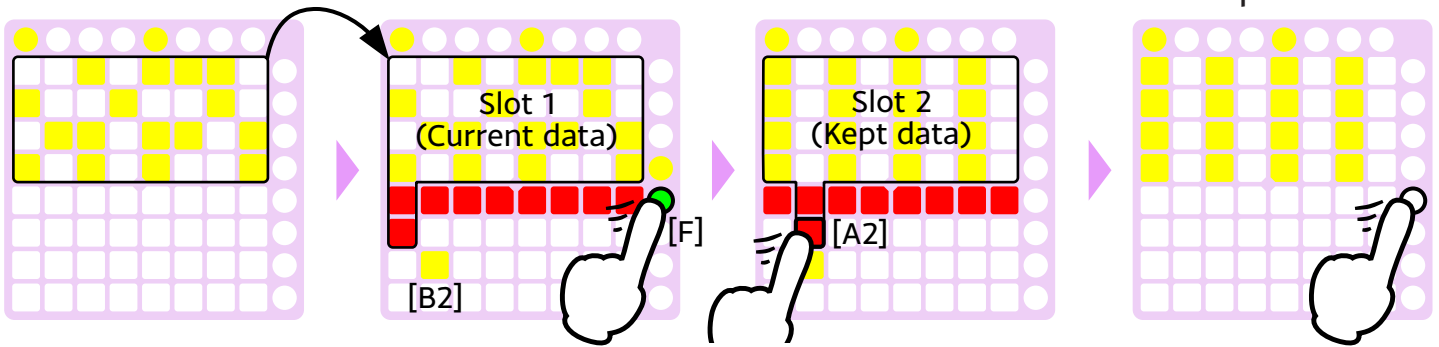
[B2] to [B8] are lit when the corresponding slot holds the kept data. You can recall the kept data by pressing [A2] to [A8].

Removing the Kept Data

1. Press [F] to get into Snapshot.

2. Press a lit [B] to remove the kept data.

3. Press [F] again to get out of Snapshot.

4. The next time, the kept data gather on the left side.
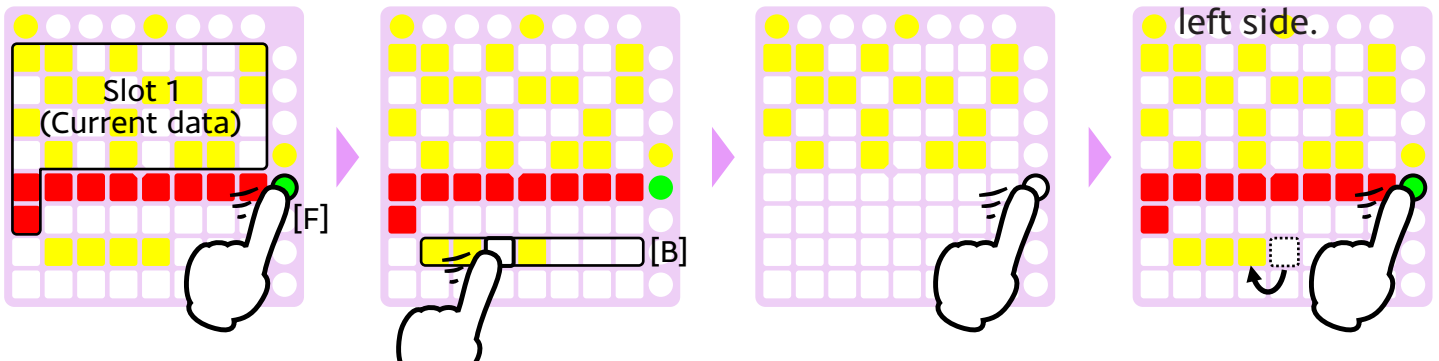
Keeping and Removing processing will be actually executed at a moment you get out of Snapshot.

5.3. JavaScript Interpreter

If you are familiar with JavaScript programming language, you can add features to PRACQ by using it.

Overview

PRACQ has an internal JavaScript interpreter implemented by JUCE framework. Further, PRACQ API (pracq class) is implemented so that you can access the internal process. A user's JavaScript code will be executed when one of designated events occurs. Therefore, you have to program just like a event handler.

Event dispatch	→	User's JavaScript code	→	JavaScript Interpreter	→	PRACQ API (pracq class)	→	Internal process

Interface

Press the JAVASCRIPT button on the main window to open the JavaScript Interpreter window. Input your code to the code editor. The console and the Test Run button are useful for debug. If you get an execution error, the error description will be shown in the console.

Console for string output

Code editor
(User's JavaScript code)

Test Run button
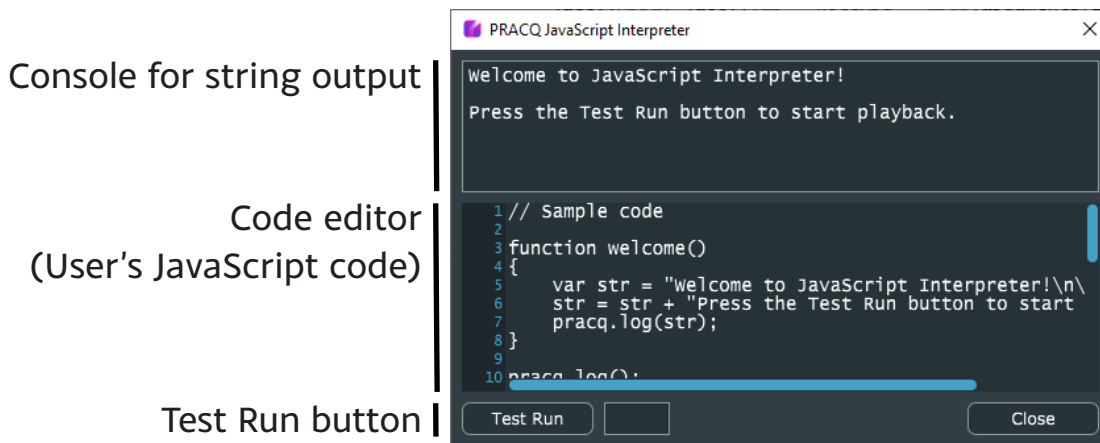
> If you rewrite a code on the code editor, it is saved and will be reloaded when you start PRACQ next time.

> Even when this window is not opened, this feature will work in the background.

Sample Code

When you open the JavaScript Interpreter window for the first time, the sample code is loaded on the code editor. This code enables the Test Run button to act like the playback pad [PL].

The following explanations take this code as an example.

```
 1: // Sample code
 2:
 3: function welcome()
 4: {
 5:     var str = "Welcome to JavaScript Interpreter!\n\n";
 6:     str = str + "Press the Test Run button to start playback.";
 7:     pracq.log(str);
 8: }
 9:
10: pracq.log();
11:
12: if(pracq.eventType == E_STARTUP)
13: {
14:     welcome();
15:     pracq.regEvents = E_PLAYBACK;
16: }
17: else if(pracq.eventType == E_TESTRUN)
18: {
19:     pracq.playback(1);
20: }
21: else if(pracq.eventType == E_PLAYBACK)
22: {
23:     if(pracq.eventMsg == 0) pracq.log("Stopped.");
24:     else                    pracq.log("Playing.");
25: }
```

Events

> Regarding events, the handling on PRACQ is different from one on JavaScript standard.

Whenever some event occurs, a user's JavaScript code will be executed. In other words, if a user's JavaScript code has been executed, it means some event has just occurred.

In that case, you can know what type of event has occurred and an additional information about the event.
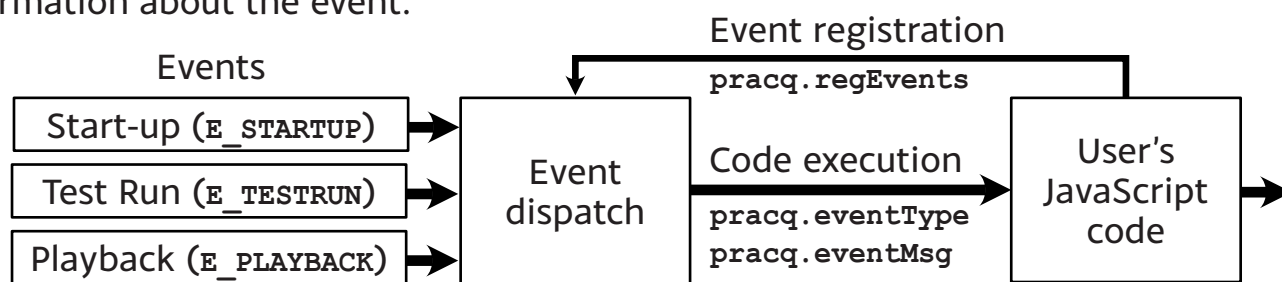
Event List

Events available on PRACQ are as follows. Each event is assigned as its own bits that is defined as `E_***`.

- Start-up (`E_STARTUP`)   : Occurs once when PRACQ is launched.
- Test Run (`E_TESTRUN`)   : Occurs when the Test Run button is pressed.
- Playback (`E_PLAYBACK`)   : Occurs when a playback starts or stops.
- MIDI input (`E_MIDIIN_CTRL`)   : Occurs when a MIDI message is received.
etc.

> See the document "JavaScript Reference" for a complete list of events.

How to handle events

To process depending on the event that has occurred, program like lines 12, 17, and 21 of the sample code. The event type will be stored in `pracq.eventType`.

Furthermore, an additional information about the event will be stored in `pracq.eventMsg`. For example, when the Playback event (`E_PLAYBACK`) has occurred, 0 (means playback stops) or 1 (means playback starts) will be stored in it. See line 23 of the sample code.

> See the document "JavaScript Reference" for `pracq.eventMsg` on the other events.

Event Registration

Actually, first of all you have to register events you want to use. A user's JavaScript code is executed only when one of the registered events occurs. However, as an exception, The Start-up and Test Run event have always been registered automatically, so you don't have to register them.

To register events, set events to `pracq.regEvents` like line 15 of the sample code. It is suitable to do it on the Start-up event.

> If you want to register two or more events, program like the following.
> ```
> pracq.regEvents = E_PLAYBACK | E_MIDIIN_CTRL;
> ```

PRACQ API (pracq class)

PRACQ API (pracq class) allows you to access the internal process. For example, the following methods are available.

- `pracq.log()`   : Clears the console. (Line 10 of the sample code)
- `pracq.log(object)` : Outputs a string to the console. (Line 7 of the sample code)
- `pracq.playback(1)` : Starts/stops the playback. (Line 19 of the sample code)
- `pracq.stepNotes(trackNo, stepNo, notes)` : Sets notes in the step.
etc.

> See the document "JavaScript Reference" for all of PRACQ API (pracq class).

Restriction on Programming

JavaScript interpreter is implemented by JUCE framework. It is compact and fast but compliant with only a part of JavaScript standard.

For example, `var` statement is available but `let` and `const` statements are not. It seems that objects like `String`, `Array`, `Math` and `Function` are available to some extent. If you get an execution error, there is a possibility that an object or statement you tried to use is not available.

6. Optional Settings

6.1. External Keyboard
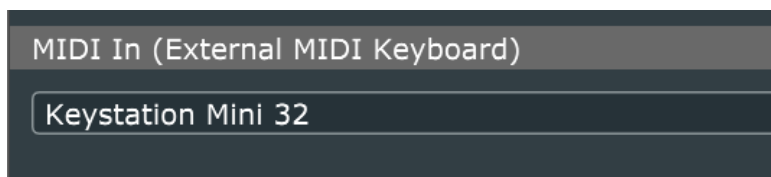
If 28-key keyboard is not very satisfactory to you, you can use your own MIDI keyboard instead.
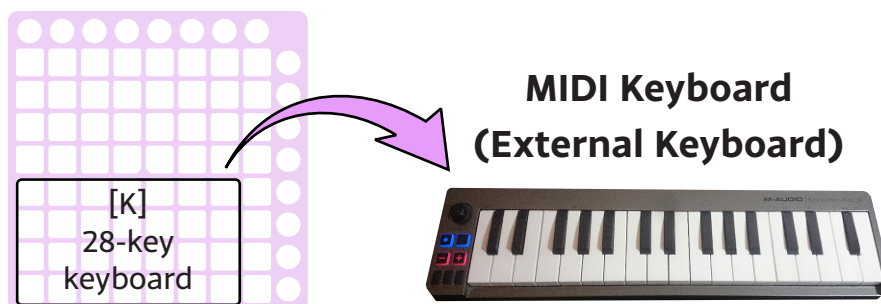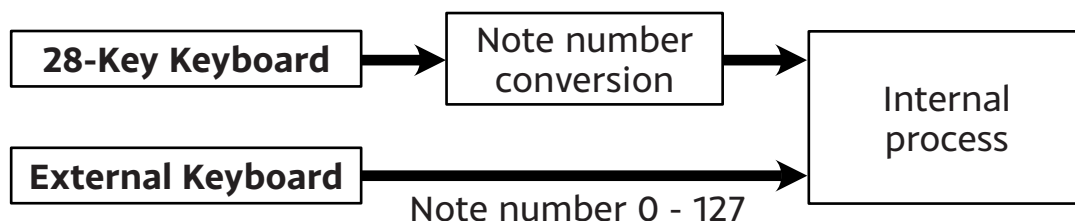

Setting

Connect your MIDI keyboard to your computer, and then select its MIDI device from "Settings -> Controller -> MIDI In (External MIDI Keyboard)".

How to Use

Just use the MIDI keyboard instead of 28-key Keyboard. Note number will be sent to the internal process directly.

6.2. General Controller

A controller that meets the requirements can also be used as a controller on PRACQ instead of the Novation Launchpad.

Controller Requirements

A controller should have 80 pads that act as follows regarding MIDI messages.

Pad# Table

64	65	66	67	68	69	70	71	
0	1	2	3	4	5	6	7	72
8	9	10	11	12	13	14	15	73
16	17	18	19	20	21	22	23	74
24	25	26	27	28	29	30	31	75
32	33	34	35	36	37	38	39	76
40	41	42	43	44	45	46	47	77
48	49	50	51	52	53	54	55	78
56	57	58	59	60	61	62	63	79

Output

- Output **"90h, Pad#, Non-0"** when a pad is **pressed**.
- Output **"90h, Pad#, 0"** when a pad is **released**.

Input

- Turn a pad **"OFF"** when **"90h, Pad#, (*1)"** is input.
- Turn a pad **"RED"** when **"90h, Pad#, (*2)"** is input.
- Turn a pad **"GREEN"** when **"90h, Pad#, (*3)"** is input.
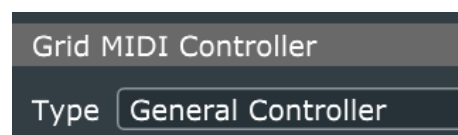- Turn a pad **"AMBER"** when **"90h, Pad#, (*4)"** is input.

> ***1 -*4 :** Set any values at "Settings -> Controller -> General Controller".

Setting

Connect your controller to your computer, and then set for it at "Settings -> Controller -> Grid MIDI Controller".

Grid MIDI Controller
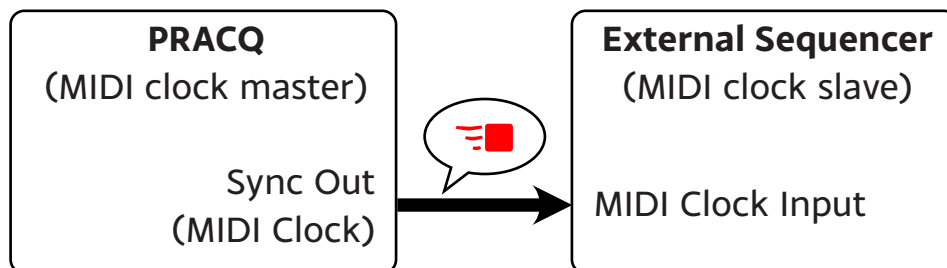Type [General Controller]

Type : Select "General Controller"
In, Out : Select a MIDI device of your controller

6.3. Sync with an External Sequencer

PRACQ can act as a MIDI clock master (outputs MIDI clock). So you can let an external sequencer follow PRACQ's transport (Start/Stop, Tempo, and Playback Position).

```
┌─────────────────────┐        ┌─────────────────────┐
│       PRACQ         │        │ External Sequencer  │
│ (MIDI clock master) │        │ (MIDI clock slave)  │
│                     │  ⟅▪→    │                     │
│    Sync Out         │───────→│  MIDI Clock Input   │
│   (MIDI Clock)      │        │                     │
└─────────────────────┘        └─────────────────────┘
```

▎ Playback Position is output based on sequence of track 1.

Settings

Settings are required on both the PRACQ and an external sequencer.

PRACQ

At "Settings -> Playback -> Sync Out (MIDI Clock)", check the "On" checkbox first. Next, select a MIDI device connected to an external sequencer from "Sync Out (MIDI Clock)" menu. If no device is selected, a "MIDI Out" device is used also for "Sync Out (MIDI Clock)".

```
Sync Out (MIDI Clock)
☑ On
loopMIDI Port 1
```
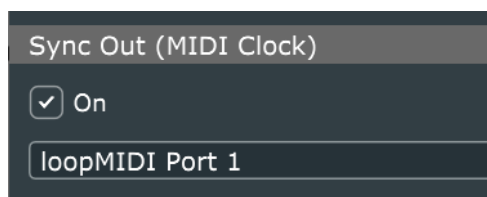
External Sequencer

Set up an external sequencer as a MIDI clock slave.

▎ If there is a timing deviation, try to tune with "Step Offset" in Property Mode.