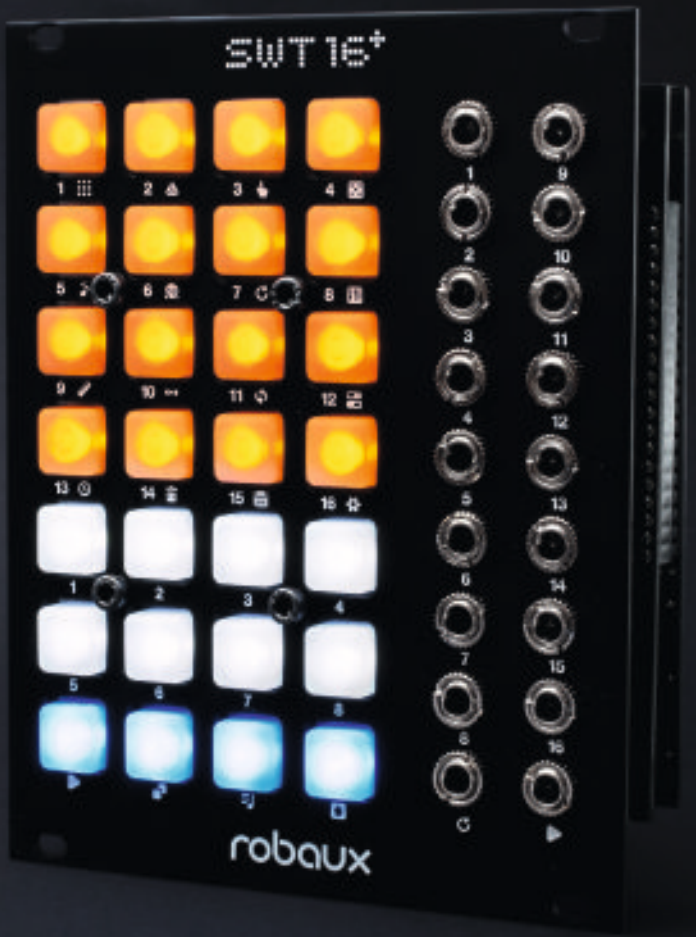

SWT16+
robaux

Panel Description

Buttons

The controls are divided into three parts which are characterized by three different illumination colors.

Ⓐ Orange

The orange buttons 1-16 are the main control elements.

Step
Classic step sequencing.

Euclidean
Let math create your beat.

Tap
Record with your fingertips.

Random
Randomly define your track.

Mute
Mute your tracks.

Fill
Add fills to your pattern.

Clock Reset
Reset your tracks.

Perform
Play with your pattern set.

Length
Set the duration of each track.

Offset
Shift your patterns.

Direction
Adjust the play direction.

Values
Set the parameters of your tracks.

Autoclock
External or internal clock.

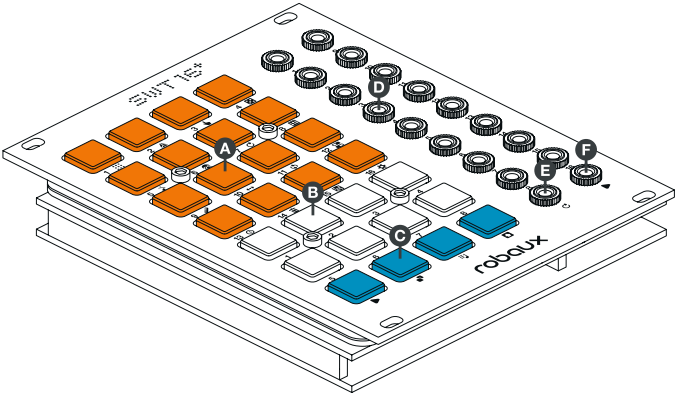
Delete
Delete everything.

Write
Freeze the current state.

Util
Useful adjustments for your setup.

Ⓑ White

The white buttons 1-8 support the operation in the edit modes. Here you can also select patterns 1-8 if the **shift button** is held at the same time.



C Blue
The blue buttons are the function keys of the sequencer.

Play
Starts or stops the sequencer.

Copy
Copy sequences or patterns.

Presets
Call, save or delete presets.

Modes/Patterns
Select modes or patterns.

Jacks

The connections of the SWT16+ are divided into two different sections.

D Track Outputs
The upper 16 jacks are assigned to the 16 different output tracks. Connect these outputs to the trigger inputs of your drum and modulation modules.

E Reset Input
The lower left socket is designed to receive a reset signal.

F Clock Input
The lower right socket is designed to receive a clock signal. Plug in any clock source like an LFO or another sequencer.

Create

In the upper row are all functions for editing patterns. Here you can program the patterns step by step, use the Euclidean rhythm generator, play it on the fly or generate random patterns.

Step
Classic step sequencing.

Euclidean
Let math create your beat.

Tap
Record with your fingertips.

Random
Randomly define your track.

Step

Switch to this mode by holding down the **shift button** while pressing the **step button**.

In step mode, you can program your trigger tracks like a classic drum computer. Select the track you want to edit by pressing one of the 16 orange buttons, you're then taken to the step editor.

Depending on the length of your track, you can use the orange buttons 1-16 to set the steps. If your track has more than one bar, you can use the white buttons 1-4 to switch between the bar. The flashing button indicates which bar you are in. If the sequencer is playing, the white keys 5-8 indicate which bar is currently played.

Press the **shift button** to get back to the track selection.

Select the bar you want to copy, hold down the **copy button** and press the bar where you want to copy the data.

Euclidean Rhythm Generator

Switch to this mode by holding down the **shift button** while pressing the **euclidean rhythm generator button**.

The Euclidean rhythm generator generates patterns on principle, which Euclid described for the first time around 300 B.C.

The generator overwrites the current track with the generated pattern - this means that you can then adapt the pattern to your own needs.


Steps 5
Offset 3
Length 12


Steps 4
Offset 1
Length 16


Steps 3
Offset 2
Length 10


Steps 6
Offset 1
Length 8

The algorithm uses the parameters steps, offset and length to arrange the steps. In the illustration above you can see how these parameters change the patterns. The settings can be selected via the white buttons 1-3.

Steps
Press the first white button and set the number of steps from 1-16 with the orange buttons.

Offset
Press the second white button and set the number of the offset from 1-16 with the orange keys.

Length
Press the thrid white button and use the orange keys to set the length of the pattern from 1-16.

Pattern View
Press the fourth white button to see how the algorithm changed your pattern.

Press the **shift button** to get back to the track selection.

Tap

Switch to this mode by holding down the **shift button** while pressing the **tap button**.

In Tap mode, you can program your patterns on the fly. Each of the 16 keys represents one track. Play the buttons while the sequencer is running to program your pattern. The tap inputs are automatically quantized to the clock. It takes some practice in the beginning, but it's a great way to program patterns. Use the white buttons 1-3 to access the following functions:

Record
Press the frist white button to play your track via the orange buttons 1-16 and to record at the same time.

Just Play
Press the second white button to play your track via the orange buttons 1-16, but not to record automatically.

Delete Track
Press the third white button to delete track 1-16 with the orange buttons. A confirmation prompt appears to make sure you do not accidentally delete anything. This prompt can be disabled in the **util** mode. Please note that the deletion process only takes place in Ram memory.
You have to **write** the preset to save your changes.

Random

Switch to this mode by holding down the **shift button** while pressing the **random button**.

In this mode, you can fill the sequencer memory with random patterns. Each button represents a track. Pressing a track key replaces the current track pattern with a random pattern.

You can use the white button 1-4 to influence the amount of randomness. Select the white button 1-4 to set the randomness from 25-100%.

Performance

In the second row, you can change the patterns temporarily. Here you can mute the patterns, make fills, reset the tracks or get a combination of many functions in the Performance Mode. You can also switch between the 8 patterns without using the **shift button**.

Select the pattern you want to copy, hold down the **copy button** and press the pattern where you want to copy the data.

Mute
Mute your tracks.

Fill
Add fills to your pattern.

Clock Reset
Reset your tracks.

Perform
Play with your pattern set.

Mute

Switch to this mode by holding down the **shift button** while pressing the **mute button**.

In mute mode, you can mute your tracks and unmute them. Each of the 16 buttons represents a trigger track that can be activated or deactivated when pressed.

Fill

Switch to this mode by holding down the **shift button** while pressing the **fill button**.

In fill mode, you can add continuous triggers. Each of the 16 keys represents a trigger track. Hold down the corresponding button to temporarily replace the current pattern with continuous triggers.

Clock Reset

Switch to this mode by holding down the **shift button** while pressing the **clock reset button**.

In clock reset mode, you can reset the clock of each track individually. Each of the 16 keys represents a trigger track. Hold the corresponding button to reset its clock.

Perform

Switch to this mode by holding down the **shift button** while pressing the **perform button**.

This mode combines many modes into one. Perfect for live situations. Here you have access to four tracks at once. Each column represents one track.

The screen shows four tracks side by side. Use the fourth row to switch between tracks 1-4, 5-8, 9-12, and 13-16.

The first row mutes a track. The second row temporarily replaces the pattern with continuous triggers.

The third row activates the record mode for the respective track. Tap-mode is located on the top row where you can play your patterns on the fly.

Did you miss a beat? While in record mode, you can delete a track using the button in the second row.

A confirmation prompt appears to make sure you do not accidentally delete anything. Press one of the white buttons if you really want to delete and one of the orange ones if you want to cancel. This prompt can be disabled in the **util** mode. Please note that the deletion process only takes place in Ram memory. You have to **write** the preset to save your changes.

To leave record mode, press the third row button.

Track Settings

In the third row, you can set the step length, clock divider, the pattern offset, play direction, step reset, gate type and so on.

Length
Set the duration of each track.

Offset
Shift your patterns.

Direction
Adjust the play direction.

Values
Set the parameters of your tracks.

Length

Switch to this mode by holding down the **shift button** while pressing the **length button**.

In this mode, you can set the length of each track individually. Choose a track by pressing the corresponding button. The orange buttons determine how many steps a bar should have. Choose between 1-16 steps.

Bar length

With the white buttons 1-4 you determine how many bars a pattern has. You create a classic 16-step pattern by choosing 16 steps and one bar. To use the full 64 steps, select 16 steps and four bars. If you extend the bars of a pattern, the existing bars are automatically copied.

Clock Divider

Use the white buttons 5-8 to set the track‘s individual clock divider from 1 to 4. By default, each track triggers when it reaches a new clock signal. By setting the clock divider for each track, you can extend your pattern up to 4 times to the master clock. If Length Reset is activated, the individual clock of the track will be restarted in the first step of the master clock.

Offset

Switch to this mode by holding down the **shift button** while pressing the **offset button**.

In offset mode, you can shift the steps of your track. Select the first white button to move the steps to the left. Select the second button to move the steps to the right. Then press on the orange keys 1-16 and the respective track should be shifted by one step. By repeatedly pressing, the patterns move further steps.

Direction

Switch to this mode by holding down the **shift button** while pressing the **direction button**.

In this mode, you can reverse the direction of your tracks. Press the orange buttons 1-16 to reverse the track.

Values

Switch to this mode by holding down the **shift button** while pressing the **values button**.

In this mode, you can change various parameters of each track. Use the white keys 1-8 to select the respective parameter.

1. Length Reset

Select the first white button to set the length reset. Activating the length reset restarts the pattern every first step of the master clock. Each of the 16 orange buttons represents a track. To toggle the length reset, select or deselect one of them.

2. Gate

Select the second white button to set the gate type. In this setting, you can choose to combine two or more consecutive steps into one long gate or retrigger them at each step. Each of the 16 orange buttons represents a track. To toggle the gate type, select or deselect one of them.

3. Invert Gate
Select the third white button for gate invert. If you have modules that require a dropping voltage as a trigger, you can make the appropriate setting here. Each of the 16 orange buttons represents a track. To toggle the Invert Gate, select or deselect one of them.

4. Coin
Select the fourth white button for the coin parameter. The coin function randomly decide at each step whether the step will be played or not - just like when throwing a coin. Each of the 16 orange buttons represents a track. To toggle the coin parameter, select or deselect one of the tracks.

5. Trigger Mod
Select the fifth white button to go to Trigger Modulation. With this function, a simple step becomes a short squarewave LFO, which triggers constantly as long as the step is played. The trigger modulator can be used to play flam-roll-like patterns. First, select a track with the orange buttons. Then choose the speed of the modulation between the keys 1 to 16. The value 1 is for a normal step while the values from 2 to 16 decrease the speed of the modulation. Press the **shift button** to get back to the track selection.

6. Output
Select the sixth white button to get to the output routing. This will allow you to route each track to an additional output that will be merged with the actual track. First, select a track with the orange buttons 1 to 16. The button that lights up is the fixed output. Use buttons 1-16 to select another output and the signal will be routed to it.

7. Values Reset (Track)
With the seventh white button, you can reset all values of a track. Select a track with the orange buttons 1 to 16 and the settings will be reset.

8. Values Reset (All)
Select the eighth white button to reset the settings of all tracks.

Sequencer settings

In the fourth row, you can change the parameters of the sequencer. Choose between internal or external clock, delete tracks and patterns, write to memory or select various functions in the util menu.

Autoclock
External or internal clock.

Delete
Delete everything.

Write
Freeze the current state.

Util
Useful adjustments for your setup.

Autoclock

Switch to this mode by holding down the **shift button** while pressing the **autoclock button**.

In autoclock mode, you can switch between internal and external clock.

When the first orange button flashes, the external clock is activated. Press the button to activate the internal clock.

If the internal clock is selected, the buttons form an orange plus symbol and a white minus symbol.

Use the orange plus symbol to increase the internal tempo. Use the white minus symbol to decrease the speed.

With the **play button** on the bottom left you can start or stop the internal clock.

Delete

Switch to this mode by holding down the **shift button** while pressing the **delete button**.

In delete mode you can delete individual tracks as well as patterns from the current preset. Press on a track or pattern to delete it.

A confirmation prompt appears to make sure you do not accidentally delete anything. Press one of the white buttons if you really want to delete and one of the orange ones if you want to cancel. This prompt can be disabled in the **util** mode. Please note that the deletion process only takes place in Ram memory. You have to **write** the preset to save your changes.

Write

Switch to this mode by holding down the **shift button** while pressing the **write button**.

Here you can write all current patterns of the sequencer to the memory so that the settings are not lost when you switch off your Modular System.

Util

Switch to this mode by holding down the **shift button** while pressing the **util button**.

In Util Mode you can make useful settings for your current setup. The settings are made globally.

Auto Reset
Use the first button to choose whether the sequencer should start again from step one, if there is no clock signal for some time.

Tap Play
Press the second button to set whether your taps sound in real time or quantized when recording in tap mode. This only applies to tapping, your steps are recorded quantized.

Low Latency Mode
Press the third button to set the latency of the sequencer. The sequencer needs about two milliseconds to calculate and output all steps. You can decrease this time to 0.45ms and enable a lookahead calculation.

AutoRun
With the fourth button you determine whether the sequencer should start when an external clock signal arrives, or whether you want to start the sequencer manually via the play button.

Confirm Delete
Press the fifth button to specify if you want a confirmation prompt before deleting something. This prevents a track, a pattern or a preset from accidentally being deleted.

Instant Pattern
Use Knob 6 to toggle whether a pattern change should be made directly or only after the current bar has passed.

Debug Mode
With debug mode, you can check if all triggers, buttons, and LEDs work. Press Button 13 and the sequencer stops. If you then press the buttons 1-16, the respective lamp lights up, and the corresponding trigger is triggered.
To exit this mode, hold down shift + button 13.


You can also use this to turn the sequencer into a 16-trigger pad.

Factory Reset
Press and hold the **presets button** in the Util Mode to execute a factory reset. A flashing F appears. Press the F to perform the reset. Please note that all data will be irrevocably deleted!

Presets

Switch to this mode by holding down the **presets button**.

The SWT16+ can store up to 16 presets. These presets contains all the patterns and settings of the 16 tracks as well as the sequencer settings. You can reach these presets by holding down the preset button. The orange buttons 1-16 are the memory locations. With the white buttons, you can load, save or delete these memory locations.

Load

Select the white button one to load presets. Then call the preset on the orange matrix to load it into main memory.

Write

Select the white button two to save a preset. Then select the preset on the orange matrix where you want to save the current state of the sequencer. If you want to save the current state of the sequencer in the current preset, you can also use the **shift button** and **write button**.

You can also use this feature to transfer a copy of an existing preset to another location. First, load the preset into main memory and save it to a new location.

Delete

You can also delete presets using the third white button and select a preset from 1-16 on the orange keys you want to delete.

A confirmation prompt appears to make sure you do not accidentally delete anything. Press one of the white buttons if you really want to delete and one of the orange ones if you want to cancel. This prompt can be disabled in the **util** mode.

About

The SWT16+ is a 16-track Eurorack step sequencer with up to 64 steps per track. The module makes it possible to create up to 8 different patterns which can stored in a total of 16 presets. Programmable like a classic TR machine, the SWT16 can be used not only for triggering drum sounds but also envelopes or other modulation sources. This manual gives an overview of the many ways in which the sequencer can create and influence rhythms.

Installation

The SWT16 requires a ±12V power supply (2x5-pin connector). The red strip of the ribbon cable (-12V side) must be oriented on the same side as the «Red Stripe» mark on the board. The module draws about 70mA from the +12V rail.

Rock

Disco

Hip Hop

Bossa Nova

Funk

Lambada

Robaux SWT16+ is designed, engineered and handmade in Hamburg, Germany.