

Tubbutec TR-6oh6

User Guide

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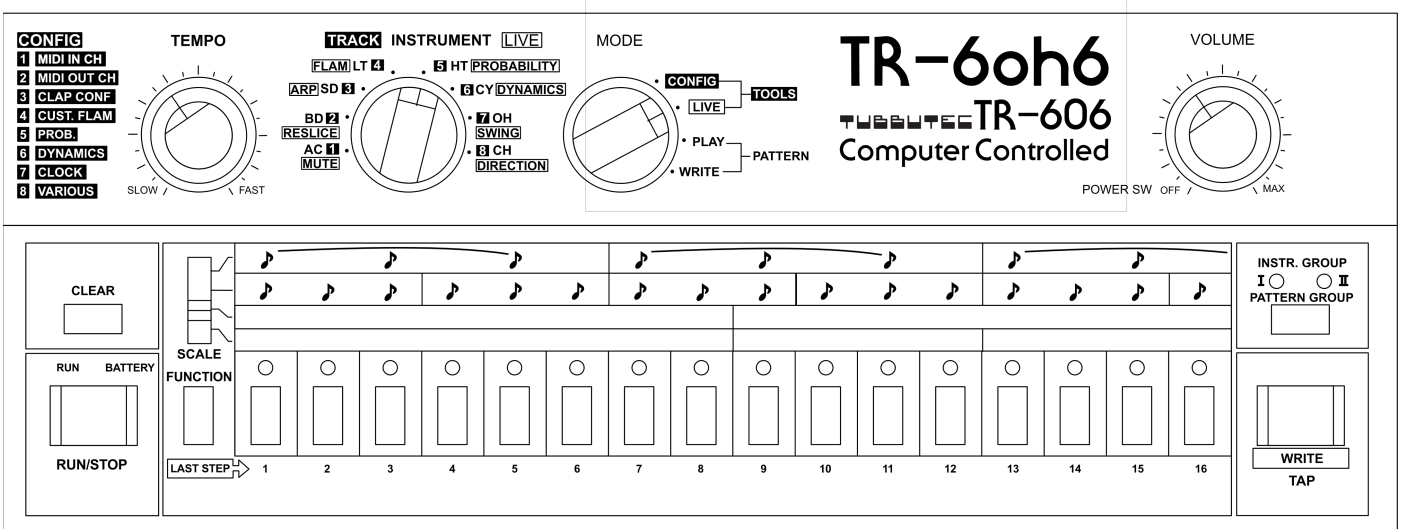


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Features

- Replacement processor for TR-606 with extended features
- Nine additional drum sounds including a clap
- Dynamic levels for all instruments
- MIDI input and output
- Improved sequencer but true to the original:
 - Edit patterns while another one is playing
- 32 patterns that can be chained into a track with up to 32 patterns
 - 8 tracks can be saved and recalled at any time
 - A new track can be programmed on the fly
 - Four dynamic levels per step and instrument
 - And/or four probability levels per step and instrument
 - Copy, paste and clear patterns easily
 - Tap recording and clear like in the original
- A pattern generator with eight different styles
- Six live effects:
 - Instrument muting
 - Beat reslicer
 - Arpeggiator (live drum sequencer)
 - Ratchet / Flam with 8 different modes
 - Play directions (forward, backward, ping-pong, random)
 - Swing with adjustable amount
- Cymbal and open hihat decay control via MIDI
- Legacy mode: The same features as the original, but with MIDI
- Built-in configuration menu to quickly set many additional parameters
- Easy to install, no case drilling needed
- Firmware update via MIDI sysex

The TR-6oh6 kit

The 6oh6 kit includes:

- Drop in replacement micro controller
- MIDI DIN or TRS in connector with cable
- MIDI out TRS connector with cable
- 10 pole connector with breakout cables (for extra triggers and decay control)
- 42 pin DIP socket
- 4 stickers with new menu functions

The MIDI input connection of the 6oh6 can be installed with either the TRS MIDI connector or the DIN socket already present on the original case of the TR-606. For details, please see the install guide.

Introduction

Tubbutec TR-6oh6 is a drop in replacement for the microcontroller of the Roland TR-606 drum machine. It preserves great features of the original firmware and adds several new and essential features for a modern live performance and expands the sound palette with extra triggers. It can also run in a legacy mode with the same features as the original firmware, adding only a MIDI option.

The TR-6oh6 is optimised for live performance and allows quick programming and editing of drum patterns. Drums can be played from the built-in sequencer or via MIDI. The sequencer can also output MIDI messages to trigger other drum machines.

The 6oh6 has 16 instrument channels and is pattern-based. Each pattern can have up to 16 steps, and 16 different patterns can be programmed in each pattern group, for a total of 32 patterns.

Multiple patterns can be chained to a 'track'. Each track consists of up to 32 patterns; a single pattern can occur multiple times in a track, regardless of which pattern group it belongs to.

Many features exist to ease pattern programming and live performance: The user can mute and unmute instruments with the press of a button and even over MIDI.

Multiple play directions can be selected, including a musically meaningful random mode.

A dedicated FLAM instrument triggers flam or ratcheting of other instruments. Every step has a parameter that can be used to define the probability of the step and/or the level of the instrument.

Just as in the original firmware, steps can be recorded by tapping and cleared while playing.

You can record a new track while another is playing and start it in sync. This allows very flexible and intuitive live performances.

Patterns can also be copied and pasted, allowing quick programming of variations. Patterns and tracks can be saved and will be available the next time you power on the drum machine removing the need for batteries to preserve memory.

More features are accessible via a config menu where you can define MIDI channels, shape the clap sound, set pulse lengths, probability, clock mode and more.

This manual contains a detailed description of all features, followed by a short 'cheat sheet.'

Coming from the original

You are probably already used to program the TR-606.

With the TR-6oh6 upgrade, the PATTERN WRITE mode will behave pretty much identical to the original, just with some added features. You should feel right at home.

The PATTERN PLAY mode also behaves similarly – you can chain patterns the same way as before.

However, we included many new features here and turned PATTERN PLAY into a complete track programming mode. Unless you were using advanced features of track programming, such as setting the repeat point (D.S.), you probably won't miss any track programming features.

This frees up switch positions TRACK WRITE and TRACK PLAY. In the TR-6oh6, these are used for **LIVE TOOLS** and **CONFIG TOOLS** respectively.

If you do miss original features, you can use the TR-6oh6 *legacy mode*, which however does not include the **LIVE TOOLS** and **CONFIG TOOLS**.

Patterns and memory

In the original TR-606, patterns are saved even when the unit is powered off as long as batteries are installed.

The TR-6oh6 allows you to manually save patterns in non-volatile memory even without batteries. However, saving must be performed manually (with a simple shortcut). Otherwise patterns are lost, even *with* batteries installed.

(See Saving patterns and tracks)

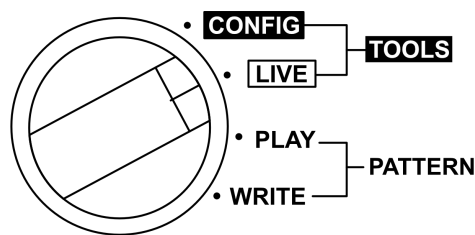
6oh6 user interface

The interaction with the user interface of the original TR-606 is modified to accommodate the new features in the simplest possible way. The stickers included in the 6oh6 kit will fit on the front plate and help you navigate the menu.

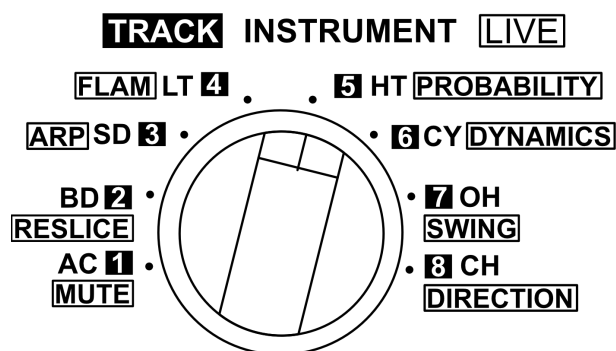
Selectors

The 6oh6 firmware expands upon the existing features in the PATTERN PLAY page and turns it into a complete track programming mode. This frees up two positions on the MODE SELECTOR, that were originally used for track programming (TRACK PLAY and TRACK WRITE).

In the 6oh6 these MODE selector positions are **LIVE TOOLS**, used to access live effects, and **CONFIG TOOLS** that gives access to additional settings.



With MODE set to **LIVE TOOLS**, the **TRACK INSTRUMENT** selector is used to select a specific **LIVE TOOL**, for example **MUTE**.



When the MODE SELECTOR is set to **CONFIG TOOLS**, eight configuration pages **1** – **8** can be accessed with the TOOL SELECTOR.

Throughout this document, we will refer to a specific menu page with the name of the MODE selector position followed by the number and the name of the TOOL selector position. For example:

CONFIG 7 CLOCK or **LIVE 2 RESLICE**.

LEDs

To display the steps and selected parameters the LEDs use signalisation like a full LED or a blinking LED. Blinking can happen in different ways: with even time on and off (50% duty cycle), with short pulses on, or with short pulses off.

Buttons

A SHORT PRESS of a button is usually used to activate the function behind it. Sometimes additional functions are accessible by a LONG PRESS (for about a second). For example a short press of **TAP** can be used to tap in the steps, while a long press of **TAP** can generate a whole instrument pattern.

Button combinations are also possible. For example holding the **FUNCTION** button and pressing a STEP can be used to change the pattern length. Throughout this document, we will refer to this method as **FUNCTION** + STEP.

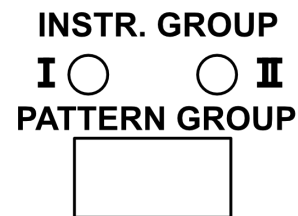
Instruments

The 6oh6 can trigger the original 7 instruments, Accent, 7 additional instruments (selected from 9 additional instruments total) and a FLAM trigger.

In PATTERN WRITE and some of the effect pages, the **GROUP** button switches between instrument groups I and II:

Instruments in **GROUP I** are the normal TR-606 instruments:

- 1 ACcent
- 2 BaseDrum
- 3 Snare Drum
- 4 LowTom
- 5 HighTom
- 6 CYmbal
- 7 OpenHihat
- 8 ClosedHihat



While in GROUP II the INSTRUMENT selector selects:

- 1 FLAM TRIGGER – A dedicated channel for triggering Flam/Ratchets
- 2 DEEP KICK: A deep 808-like kick
- 3 CLAP: A clap constructed from parts of the snare. The clap parameters are freely configurable. You can also replace the clap with two more sounds: SNOISE, the noisy part of the snare, and CLOSED SNARE: a short version of the noisy snare
- 4 MID BASS DRUM: Another alternative bass drum sound, triggers the higher part of the bass drum
- 5 BRUSH: The filtered noise of the Toms can be triggered separately
- 6 FELT CYMBAL: One part of the cymbal is triggered, sounds like hitting a cymbal with a felt mallet.
- 7 CLOSED CYMBAL: Triggers the short part of the cymbal.
- 8 CLICK HAT: A click-like very short closed hi-hat

The volume knobs for the instruments in group I control also the volume of the instruments in group II:

- 1 ACcent
- 2 BaseDrum, DEEP KICK, MID BASS DRUM
- 3 Snare Drum, CLAP, SNOISE, CLOSED SNARE
- 4 LowTom, HighTom, BRUSH
- 6 Cymbal, FELT CYMBAL, CLOSED CYMBAL
- 7 OpenHihat, ClosedHihat, CLICK HAT

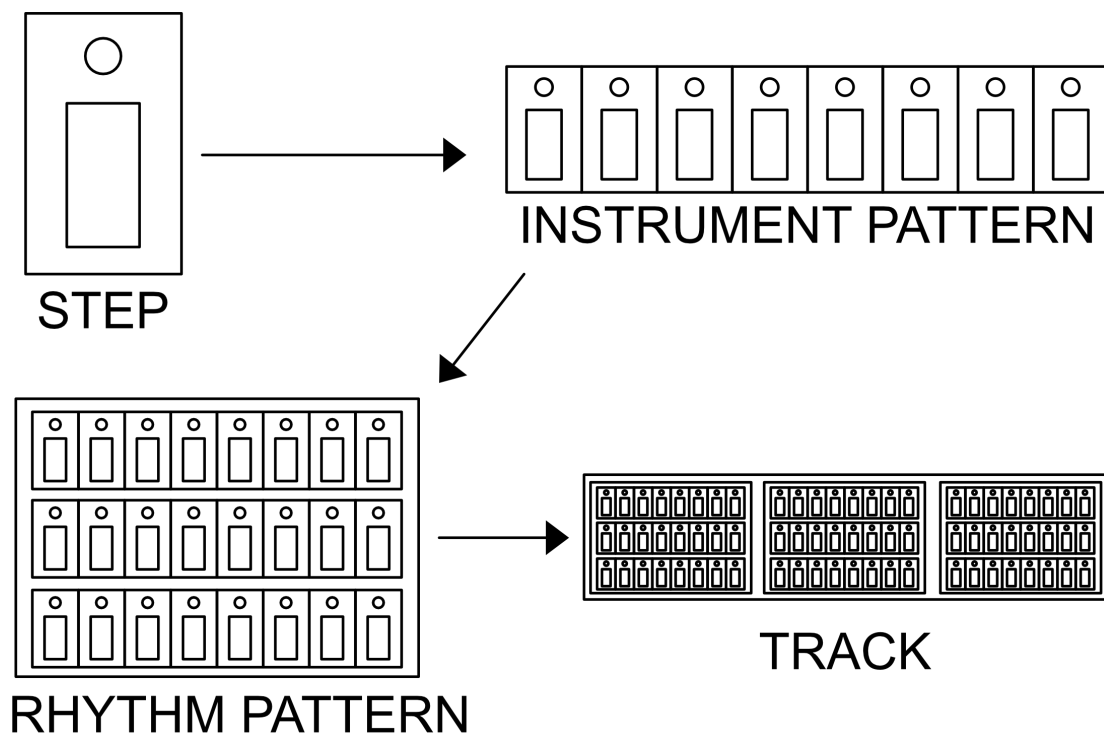
Steps, patterns and tracks

To understand the naming conventions in this user manual it is good to clarify the structure of the elements of the sequencer.

The smallest unit is a STEP. The duration of a step is defined by the selected SCALE. A sequence of steps of a single instrument form an INSTRUMENT PATTERN which can be up to 16 steps long.

All the instrument patterns that play at the same time create a RHYTHM PATTERN. A rhythm pattern thus has 16 instrument patterns and can be up to 16 steps long. All the instrument patterns within a rhythm pattern have the same length and the same clock divider.

A sequence of rhythm patterns creates a TRACK. A track can chain up to 32 rhythm patterns. The rhythm patterns within a track can have different lengths and different clock dividers.



PATTERN WRITE

With the MODE selector set to PATTERN WRITE it's possible to edit the single steps of an instrument pattern. Active steps have their LED turned on while inactive steps have the LED off.

When the sequencer is running, the current position is indicated by a short blink if the step is off, or alternatively, if a step is on, the LED briefly turns off.

Holding **FUNCTION** the quarter notes light up on the STEPs LEDs. The number of steps between the quarter notes defines the resolution of the rhythm pattern. (See Changing the clock divider)

Selecting the active instrument

The active instrument is indicated by the INSTRUMENT selector and the **GROUP** LEDs.

To change the instrument, select the instrument group I or II by pressing **GROUP**. Then turn the INSTRUMENT selector to the desired instrument. Once an instrument is selected, the active steps for that instrument are displayed on the STEPs LEDs.

Programming a pattern

To set or delete a single step, just press the corresponding STEP button. When a step is activated, the LED lights up.

CLEAR function

Hold the CLEAR button while the pattern is running to erase the steps of the active instrument. Clearing stops immediately when the **CLEAR** button is released.

Recording steps live (TAP)

While the sequencer is running, the **TAP** button can be used to record steps live. When hitting the TAP button, the active instrument plays and the current step in the instrument pattern is turned on.

If several patterns are connected in a track, recording can be performed over several patterns.

Note that a LONG PRESS **TAP** can generate a pattern for the current instrument, replacing all the steps in the pattern. (See Instrument pattern generation)

Step dynamics

You can select one of 4 different dynamic levels for each instrument and for each step.

To set the dynamics of a step hold the STEP button, and set the dynamic level with the **SCALE** selector.

By default, when **SCALE** is set to level 4 a sound with the highest volume is triggered and when the **SCALE** is set to 1 it will trigger the lowest.

For each instrument it is possible to enable (default) or disable the dynamics in the **LIVE** **6** **DYNAMICS** menu.

Furthermore, the dynamic levels for each position of the **SCALE** selector can be modified in the **CONFIG** **6** **DYNAMICS** menu. (See Config → Dynamics).

Step probability

The value set with the **SCALE** selector can also be used to set the probability of a step. It is necessary to enable probability on the specific instrument in the **LIVE** **5** **PROB.** menu. (See Live Tools → Probability)

To set the probability of a step, hold the STEP button and set the probability level with the **SCALE** selector. By default the probability of a newly set step is 100%.

SCALE set to 4 is the highest probability (100%) while the **SCALE** set to 1 is the lowest. The probability percentages for each position on the **SCALE** selector can be configured in the **CONFIG** **5** **PROB.** Menu. (See Config → Probability)

Quick edit of probability/dynamics

There are two methods to speed up the process of setting the probability or dynamics on multiple steps at the same time:

It is possible to select multiple steps and then switch the **SCALE** to a different value. To select the steps simply hold one STEP and press other STEPs one after the other. The selected STEPs will blink. While still holding one step switch the **SCALE** selector to edit the parameter. The same **SCALE** value will be saved on all the selected steps.

Another fast way to do it is to copy the **SCALE** value of one step simply by holding it while setting new steps. The same dynamic or probability value will be set in the new step. For example if the **SCALE** of step 1 is set to 3 and the same value is desired on empty steps 5, 9 and 13, then hold step 1 and press steps 5, 9 and 13.

Defining the length of a pattern

The length of a pattern can be defined by a 'first step' and a 'last step'.

The last step can be changed by holding **FUNCTION** and pressing one of the STEP buttons. When the step button is released, the first step is set to 1, and the last step is set to the released STEP button.

In order to set both, the first and last steps, hold **FUNCTION** while pressing two STEPS simultaneously. This sets both the first and the last step and only the section between the first and the last step will play.

Holding **FUNCTION** and pressing only one STEP always resets the first step to 1.

When holding the function button, the first and last steps will blink to indicate their position.

Changing the clock divider

Hold **FUNCTION** and change the **SCALE** switch to set the new clock divider of the main clock. The clock divider will become effective at the end of the playing pattern.

Instrument pattern generation

Hold **TAP** for one second to generate a pattern for the current instrument.

It is possible to enable or disable this function in the **CONFIG 8 VARIOUS** menu to prevent accidental pattern generation.

(See Config Tools → Various)

PATTERN PLAY

In PATTERN PLAY mode rhythm patterns can be chained to TRACKS, generated automatically, copied, pasted, and cleared completely.

It is also possible to select a pattern for independent editing, that is editing one pattern, while another one is playing.

A simple shortcut in pattern PLAY allows you to save all sequences in the non-volatile memory to make them available at the next power up.

LEDs in PATTERN PLAY

In PATTERN PLAY mode, each STEP and its corresponding LED represent one of the 16 PATTERNS from the current pattern group. Pressing **GROUP** will toggle between pattern group I and II allowing access to patterns 1-16 or 17-32. Patterns that are part of a track stay lit up all at the same time while the currently playing pattern blinks intermittently.

If the currently playing pattern is not in the selected pattern group, the LED will flash shortly instead of blinking.

Changing the playing pattern instantly

To instantly change the currently playing pattern, SHORT PRESS a PATTERN button. The pattern will change instantly after the PATTERN button is released, but will stay in sync, and will continue playing the new pattern on the same step (if both patterns have the same length). Changing the pattern this way, will replace any playing track (with multiple patterns) with a track with only one pattern.

This is identical to programming a track with only one pattern using Track programming method 1.

Change the playing pattern synchronised

To change the playing pattern or track at the end of the current pattern, first arm the new PATTERN with a LONG PRESS. The current pattern will stop blinking and only the new pattern lights up. The old pattern (or track) will continue playing until **FUNCTION** is pressed.

After pressing **FUNCTION**, the playing pattern will play until the end and then it will switch to the new pattern. If we don't want to switch to the new pattern but it's already been selected, press **CLEAR** to unselect it. The current pattern will start blinking again and the new pattern will turn off.

This is identical to programming a track with only one pattern using Track programming method 2.

TRACK programming

Tracks are chains of rhythm patterns that can be up to 32 patterns long. Tracks will always play in a loop – when the last step of the last pattern is played, the track starts again from the first step of the first pattern.

While a track is playing, you can simultaneously program another one. When track programming is finished, the new track starts after the current pattern finishes playing.

There are two ways to program new tracks:

Track programming method 1

To record a track, press a pattern and while holding it quickly press another one. These will be the first and second pattern in the track. While still holding down at least one pattern you can then enter more patterns. They will be added to the track in the order they are pressed, and a pattern can be added multiple times.

It is possible to switch the pattern group at any time and insert patterns from the other pattern group. Press **GROUP** while programming a track to switch between the two pattern groups and press a PATTERN to put it in the TRACK.

Once you release all PATTERN buttons, the new track will start after the current pattern is finished playing.

The PATTERNS used in the track light up, and the currently playing pattern's LED will be blinking. If the playing pattern is not from the currently selected pattern group it will flash shortly. By pressing GROUP you toggle between pattern group I and II to see which patterns belong to the track from each group.

Track programming method 2

An alternative track programming mode can be accessed by a long press of only one single PATTERN button for about one second.

The new PATTERN's LED will light up and the current pattern will stop blinking but will continue playing (if there was a track playing it will continue).

The long-pressed pattern is now the first pattern of the new track, and more patterns can be added by pressing them in order, without the need of holding a PATTERN.

Press GROUP to toggle between pattern group I and II to enter patterns from either group. The patterns used in the track are lit.

Press CLEAR to remove the last pattern entered in the track.

When the sequence of patterns added to the track is completed, press **FUNCTION** to exit track programming method 2. The currently playing pattern will continue running until the end, then the new track will start playing and the new playing PATTERN LED will start blinking.

Clear patterns

In order to clear complete rhythm patterns, press **CLEAR** + PATTERN whilst in PATTERN PLAY mode.

Highlighting a pattern

A single patterns can be highlighted and various features applied to this pattern.

A highlighted pattern

- Is copied and can be pasted
- can be edited independently
- can be used for pattern generation.

To highlight a pattern, press **FUNCTION** + PATTERN. The highlighted patterns will blink rapidly.

Press **FUNCTION** again to remove the highlight.

Copy and paste patterns

When in PATTERN PLAY mode, you can copy and paste patterns.

After highlighting a pattern (**FUNCTION** + PATTERN), press one or multiple other PATTERN buttons to paste the highlighted pattern into these. This will overwrite the existing rhythm pattern.

Independent pattern edit

Independent edit allows you to edit a pattern independently from the currently playing pattern or track.

Highlight a pattern with **FUNCTION** + PATTERN. While a pattern is highlighted, turn the MODE selector to PATTERN WRITE. You will see the highlighted pattern even if it is not the pattern that is currently playing. This allows you to program a pattern that is not running. In PATTERN WRITE, independent edit is visualized by all step LEDs turning off for a short moment every couple of seconds.

To exit this mode, switch back to PATTERN PLAY and press **FUNCTION**.

This will remove the highlight and the current track and/or playing pattern will be shown again.

Pattern generator

TR-6oh6 includes a rhythm generator with eight different styles. The styles range from a simpler four-to-the-floor type to more complex rhythms.

The style can be selected with the INSTRUMENT selector. Position 1 will generate simpler rhythms while every next position will add more complexity.

Highlight a pattern with **FUNCTION** + PATTERN and select the desired style with the INSTRUMENT selector. Finally, LONG PRESS **TAP** to generate a rhythm in the highlighted PATTERN. LONG PRESS **TAP** again to generate another rhythm. When finished, press **FUNCTION** again to exit highlight mode.

Tracks and track slots

Save a track to a track slot

It is possible to save a track into each of the 8 track slots of the **TRACK** selector. Set the **TRACK** switch to the desired position and with LONG PRESS **TAP** save the track that is currently playing and displayed. The LEDs will briefly turn off to show that the track was saved into the slot.

Load a track from a track slot

To load a track that was saved in one of the 8 positions of the **TRACK** selector, you need to hold **FUNCTION** and set the **TRACK** selector to that position. When the **FUNCTION** button is released, the current pattern will play until the end, and then the track will switch to the new one.

Copy a track from a slot to another

When a track from a track slot is loaded it is then possible to save it to a different slot simply by following the instructions of Save track to a track slot.

Saving patterns and tracks

If the TR-6oh6 is turned off, the currently programmed patterns and tracks are lost unless you save them manually.

To do so, simply press **FUNCTION** + **TAP** (long-press) in PATTERN PLAY.

Hold and wait until a progress bar appears on the 16 LEDs and shows that the data is saved when all LEDs are on.

Data can be saved while the sequencer is playing without performance issues.

When the TR-6oh6 is turned on, it will load the previously saved configuration, patterns, and track.

LIVE TOOLS

There are 8 live tools for mangling the sequences in a non destructive way (preserving the original sequence).

- 1 **MUTE** – Mute and unmute instruments
- 2 **RESLICE** – Beat skipping and repeat
- 3 **ARP** – Arpeggiator
- 4 **FLAM** – Trigger flam or ratcheting effects
- 5 **PROBABILITY** – enable/disable per instrument
- 6 **DYNAMICS** – enable/disable per instrument
- 7 **SWING** – Set swing amount
- 8 **DIRECTION** – 4 different play directions

These can be accessed by setting the MODE selector to **LIVE TOOLS** and then selecting the effect with the TOOL selector.

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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16			
1	MUTE	AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH		
2	RESLICE	8	4	2	1	1/4	1/3	1/2	1	2	3	4	5	1	3	2	1	3	2
		RANDOM JUMP (quantization)				BEAT REPEATER (steps)								AUTO RAND		AUTO REPEAT			
		AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH		
3	ARP	<input type="checkbox"/> EUCLIDIAN, OVERLAY <input type="checkbox"/> NORMAL, OVERLAY <input type="checkbox"/> EUCLIDIAN, REPLACING <input type="checkbox"/> NORMAL, REPLACING SCALE														<input type="checkbox"/> I <input type="checkbox"/> LATCH ON / OFF <input type="checkbox"/> I			
4	FLAM	AC	BD	SD	LT	HT	CY	OH	CH	(no flam)	32th	32th triplets	64th	16th triplets	8th triplets	8th quintuplet	custom		
5	PROB.	AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH		
6	DYNAMICS	AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH		
7	SWING	AMOUNT																	
8	DIRECTION	FWD	BCK	RND	P-P														

Mute

An essential performance tool is muting the instruments. Here you can activate and deactivate instruments while the sequencer is running and without modifying the patterns.

Mutes can be found in the **LIVE** **1** **MUTE** menu.

Here the 16 STEPs represent the 16 instruments. The LEDs are on when an instrument is active (not muted) and off if the instrument is muted. Pressing each of the instrument's buttons will switch between the muted and active states.

Whenever the instruments are triggered, the LEDs will shortly blink as additional optical feedback.

There are two mute groups that can be switched between with **GROUP**. To see this feature in action, after powering up go into **LIVE** **1** **MUTE** menu and first press **GROUP** to activate the mute group. Mute only the first 4 instruments and then press **GROUP** to load the other mute group. Now mute only the instruments 5-8.

Toggling the mute groups with **GROUP** will alternate the muted instruments.

Press CLEAR to mute all instruments at the same time.

Press TAP to unmute all instruments at the same time.

Exiting the MUTE page will keep the muted instruments silent. Check this page when you don't hear the triggered steps.

Muting acts on all patterns globally.

The mute groups will be saved in the non-volatile memory when exiting the **LIVE** **TOOLS** menu.

On power up all instruments are active, regardless of what is saved in the mute groups. Only after the first press of **GROUP** to change the mute group the state in the mute group will be applied. This behaviour is intentional to avoid confusion due to muted instruments.

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH

Muting instruments

Reslicer

The Reslicer is an effect that makes the reading head of the sequencer jump in a musical or glitchy way. It can be used to quickly add momentary variations to the pattern without modifying it permanently.

Access it in the **LIVE** 2 **RESLICE** menu. The running LED will show the movement of the reading head through the steps of the pattern giving a direct view of the applied effect. Pressing the STEP buttons in this menu will create different effects that can be grouped into 3 different zones: skipping steps (1-4), beat repeat (5-12) and auto skip/repeat (13-16).

Pressing STEPS 1-4 makes the play pointer jump and continue playing while it's being held. Releasing a button will move the play pointer back to where it would have been, had it not jumped.

- Step 1: Jump by 8 steps
- Step 2: Jump by a random multiple of 4 steps (0, 4, 8, 12)
- Step 3: Jump by a random multiple of 2 steps (0, 2, 4, 6, 8, 10, 12, 14, 16)
- Step 4: Randomly jump to any position

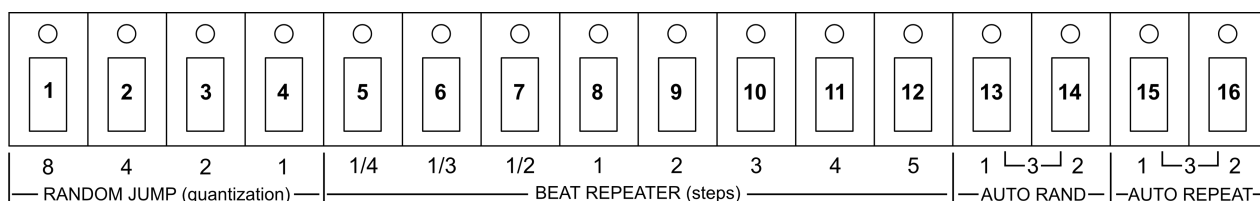
Holding one of the buttons 5-12 creates a beat repeat effect:

- Step 5: Repeat current step at a rate of $\frac{1}{4}$ step
- Step 6: Repeat current step at a rate of $\frac{1}{3}$ step
- Step 7: Repeat current step at a rate of $\frac{1}{2}$ step
- Step 8: Repeat current step at a rate of 1 step
- Step 9: Repeat 2 steps (the current and the next)
- Step 10: Repeat 3 consecutive steps
- Step 11: Repeat 4 consecutive steps
- Step 12: Repeat 5 consecutive steps

The last 4 buttons (13-16) turn on different levels of automatic randomisation and automatic beat repeat. The level defines the probability that the effect will be turned on on a step. A higher level triggers the effect more often. To turn the automatic mode off press the current level (where the LED is on).

- Step 13: set automatic randomiser to level 1
- Step 14: set automatic randomiser to level 2
- Steps 13+14: set automatic randomiser to level 3
- Step 15: set automatic beat repeater to level 1
- Step 16: set automatic beat repeater to level 2
- Steps 15+16: set automatic beat repeater to level 3

Live effects (buttons 1-12) are also applied if auto effects are turned on and will override their behaviour.



Arpeggiator

The arpeggio effect can be found in the **LIVE 3 ARP** menu. It is basically a little sequencer that plays the drum sounds repeatedly in the order they are entered. There are two arp kinds: normal and Euclidean. Furthermore for each of these kinds you can define if the arpeggiator should replace the currently playing pattern, or overlay drums on top of it.

These four modes can be selected with the **SCALE** selector:

- 1: Normal arp, replacing
- 2: Euclidian arp, replacing
- 3: Normal arp, overlaying
- 4: Euclidian arp, overlaying

The euclidian arp distributes the pressed (or latched) notes evenly across a fixed number of steps. The distribution is calculated using a Euclidian algorithm.

Adding notes to the arpeggio

In the **ARP** menu, the STEPS represent the 16 INSTRUMENTS. Hold an INSTRUMENT to add notes to the arpeggio. To enter the same instrument multiple times, at the beginning of the arpeggio first hold **FUNCTION** and then press the INSTRUMENT. Rests can be inserted by pressing **CLEAR**. Accents are not entered in the arpeggio since an accent doesn't produce any sound. It is instead added to the next instrument pressed after it.

The arpeggio is on as long as at least one INSTRUMENT, CLEAR or **FUNCTION** are held. When all buttons are released the sequencer continues playing in sync.

Latching the arpeggio

To keep the arpeggio running without holding down a button, it can be latched with the **GROUP** button. Pressing **GROUP** again unlatches the arpeggio.

Unlatching the arpeggio makes the current pattern continue playing in sync. The pattern group LED will show if latch is off (position I) or on (position II). When the arpeggio is latched, holding **FUNCTION** will allow to add new notes to the current arpeggio. If FUNCTION is not held, a new arpeggio will start at the press of an INSTRUMENT.

Save arpeggio to pattern

While an arpeggio is playing it's possible to copy it into the current pattern with a LONG PRESS on **WRITE**. If the arpeggio is longer than 16 notes it will be truncated. If the arpeggio fits in the pattern multiple times, the pattern length will be set in a way that will make the arpeggio loop seamlessly. For example if the arpeggio contains 3 notes, saving it to the pattern will set the pattern length to 15 steps. If the arpeggio contains 18 notes only the first 16 will be saved.

Flam / Ratchet

The **LIVE** **4** **FLAM** menu includes flam (or ratchet) effects that can be used to create subdivisions of steps as well as various kinds of tuplets, e.g. triplets or quintuplets.

The flam effect is triggered for every step that has a FLAM TRIGGER instrument set (See Instruments).

Enable flaming instruments

For each instrument it's possible to enable or disable the flam effect.

A flam enabled instrument will play as flammed whenever a FLAM TRIGGER is also set at the same step.

To enable the flam on an instrument, turn the **LIVE** selector to **4** **FLAM**.

The first 8 STEPS represent the INSTRUMENT, while the last 8 STEPS set the type of flam. Press **GROUP** to toggle between 2 instruments groups. The **GROUP** LED will show if the instruments displayed on the first 8 buttons are from the instrument group I (1-8) or instrument group II (9-16). Press an INSTRUMENT (STEPS 1-8) to enable or disable flam on the instrument from the selected group. The LED will turn on when flam is enabled.

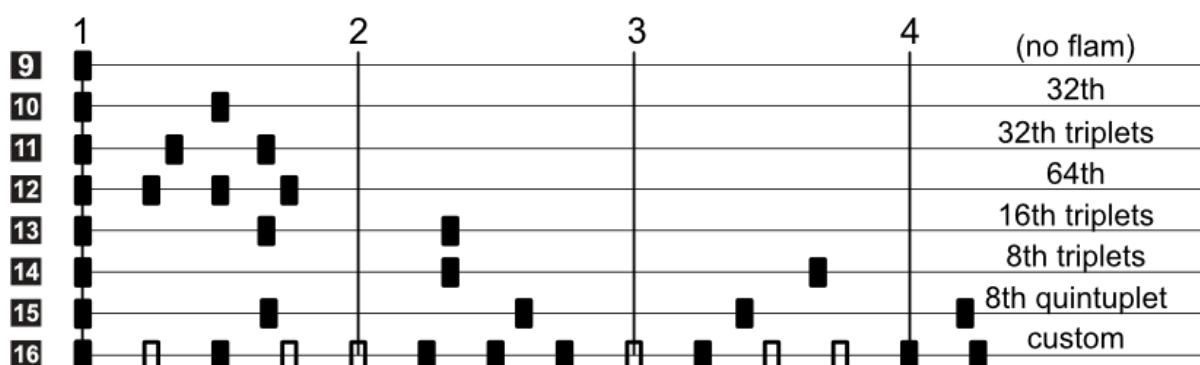
Select flam type

Multiple flam types are available. Three of them create subdivisions of a single step. Assuming a step to be a 16th note, these would be 2x 32nd, 3x 32nd triplets, and 4x 64th notes.

There are also three flam settings that span over multiple steps:

- 16th triplet (3 beats in the duration of 2 steps)
- 8th triplet (3 beats in the duration of 4 steps), and
- 8th quintuplet (5 beats in the duration of 4 steps).

Finally, there is a custom flam pattern you can define yourself.



A flam example

For example: setting a closed hihat at every second step, selecting 16th triplet as the flam type and triggering the flam with the FLAM TRIGGER instrument on the same steps as the hihat will result in a triplet hihat groove. It is also possible to trigger the effect only occasionally, which creates alternating 8th notes and 16ths triplet notes.

The FLAM TRIGGER instrument is also affected by MUTE and Probability. This allows sequences with flams or triplets triggered more or less sparsely.

Custom Flam

It is possible to program your own flam pattern in the **CONFIG 4 CUST. FLAM** menu. The STEPS define the flam pattern while the SCALE switch defines the duration of a step in the flam pattern:

SCALE 1: step is 32nd note

SCALE 2: step is 64th note

SCALE 3: a step is 32nd triplet note

SCALE 4: a step is 64th triplet note

To make it easier to shape the flam pattern let's first program a simple rhythm with a flammed instrument. For example:

1. Put a 4 on the floor BD for reference: in PATTERN WRITE set the INSTRUMENT switch to BD and INSTRUMENT GROUP to I, then turn on the STEPS 1, 5, 9, 13.
2. Select SD and turn on the STEPS 5 and 13.
3. Select the FLAM instrument by selecting the INSTRUMENT GROUP II and turn the INSTRUMENT switch to position AC **1** then turn on STEPS 5 and 13 so they match the SD steps that are on.
4. In **LIVE 4 FLAM** menu select INSTRUMENT GROUP I and enable FLAM for the SD by pressing STEP 3. Select the custom type of flam by pressing STEP 16.
5. Now enter the **CONFIG 4 CUST. FLAM** just by changing the MODE switch to **CONFIG TOOLS**. Set SCALE to 1 and turn on STEP 1 then press **RUN/STOP** to hear the programmed rhythm.
6. Add additional steps to the custom flam pattern by pressing STEP 5 and STEP 9
7. Switch the SCALE to other positions and set other steps to hear how it affects the flam pattern and adjust to taste.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
I AC	BD	SD	LT	HT	CY	OH	CH	(no flam)	32th	32th triplets	64th	16th triplets	8th triplets	8th quintuplet	custom
II	DK	CP	MBD	BS	FC	CCY	CLH								

Probability

There are four levels of probability that can be set per step on each instrument. Each level can be adjusted to a specific percentage in the **CONFIG 5 PROB.** menu. It is possible to enable or disable probability on an instrument in the **LIVE 5 PROBABILITY** menu. Note that the level set on each step is also used to set the dynamics per step (if dynamics are enabled for that instrument).

Set step probability

By default, when setting a step it will set its probability to 100%. To change the level on a step in PATTERN WRITE, move the **SCALE** selector while holding the step. To change the level on multiple steps hold one STEP and press on the other STEPs to select them. The STEPs will blink as long as at least one STEP is being held showing that they are selected. While the steps are selected move the **SCALE** selector to set the level on all the selected STEPs. Also see Step dynamics in the PATTERN WRITE chapter.

Enable probability per instrument

To enable or disable the probability feature on an instrument go to the **LIVE 5 PROBABILITY** menu. The STEPs represent the 16 INSTRUMENTS. Press an INSTRUMENT to enable or disable probability for that particular instrument. When the LED is turned on, the probability is enabled.

Set probability levels

By default, the probability percentage when **SCALE** is set to level 1 is 25%, level 2 is 33%, level 3 is 50% and level 4 is 100%. To change the probability percentage on each level go to **CONFIG 5 PROB.** Put the **SCALE** selector to the position you want to edit and set the percentage by pressing one of the STEPs. The **SCALE** level 4 is always 100% and cannot be changed. When **SCALE** is on any other position (1, 2 and 3) pressing a STEP will set the percentage to STEP number/16. For example set the **SCALE** selector to 3 then press button 11 to set the probability on level 3 to 11/16 which is approximately 69%. Switch the **SCALE** to 1 and press button 1 to set the probability of level 4 to 1/16 which is approximately 6%.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
AC	BD	SD	LT	HT	CY	OH	CH	FLAM	DK	CP	MBD	BS	FC	CCY	CLH

Probability on/off

Dynamics on/off

Dynamics

There are four levels of dynamics that can be set per step on each instrument. Changing the level on a step triggers an instrument with a different volume. Each level can be adjusted to a specific volume in the **CONFIG 6 TRIG LEN** menu. In the **LIVE 6 DYNAMICS** menu it can be defined which instruments will have the dynamics defined by the value set on a step with the **SCALE** selector. Toggle trigger length of each instrument on the respective 16 buttons. Note that the level set on each step is also used to set the probability per step (if probability is enabled for that same instrument).

Set a dynamic level per step

By default, when setting a step, it will put it to the same dynamic level as set by the original TR-606. This corresponds to level 4 in the 6oh6. To change the dynamics on a STEP move the **SCALE** selector while holding the STEP. If the **SCALE** selector is already on the wanted level, it is necessary to switch **SCALE** to a different position and back to register it.

To change the level on multiple steps, hold one STEP and press the other STEPS to select them. The STEPS LEDs will blink as long as at least one STEP is being held showing that they are selected. While the steps are selected, move the **SCALE** selector to set the level on all the selected steps.

It is also possible to copy/paste STEPS, by simply holding the STEP to be copied and pressing empty STEPS. The newly set steps will have the same level as the step being held. Also see Step dynamics in the PATTERN WRITE chapter.

Enable dynamics per instrument

To enable or disable the dynamics on an instrument go to the **LIVE 6 DYNAMICS** menu and press the button number of the respective instrument. When the LED turns on, it means the dynamics are enabled.

Setup different dynamic levels

To change the volume on each level of the **SCALE** selector go to **CONFIG 6 DYNAMICS** menu, put the **SCALE** selector to the position you want to edit and then set the volume by pressing on one of the 16 STEPS. By default the volume set on position 4 of the **SCALE** selector is set to 12. This is the same volume the instruments are triggered with on the original TR-606. The value on **SCALE** position 4 is locked to 12 and can't be edited. The default volume on position 3 is sets to 9, position 2 is set to 5 and position 1 is set to 1.

For example set the **SCALE** selector to 3 then press STEP 16 to set the dynamics to the maximum volume possible. Note that this level will exceed the original TR-606 level and the position 3 will set a higher volume than position 4.

Swing

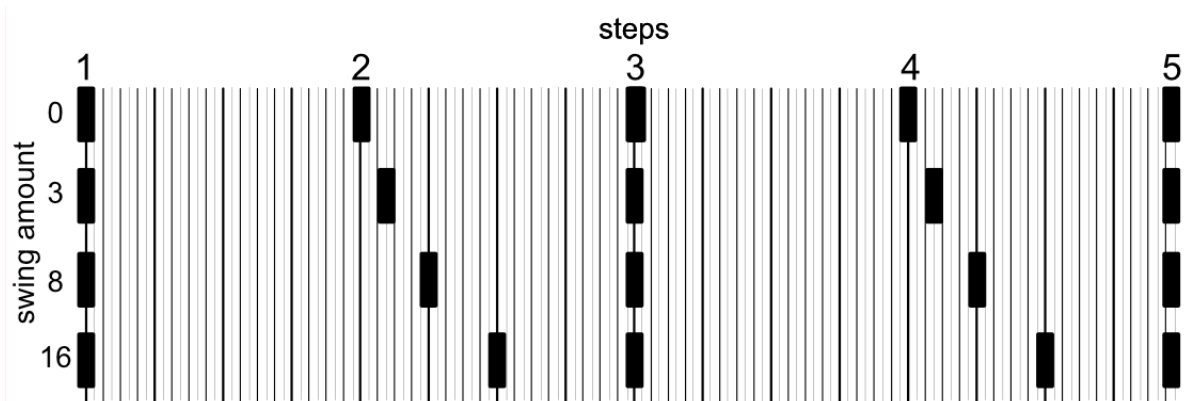
The 6oh6 includes a swing clock generator that works with the internal, external or MIDI clock.

When swing is activated, every second step is delayed by a time proportional to the step length. Fifteen swing amounts are possible, ranging from 1/32th to 16/32th.

The maximum setting of 16 results in a 3-to-1 rhythm, and a setting of 8 results in a 5-to-3 rhythm.

You can use one of the trigger outputs (LT or HT) to clock other gear, effectively converting a straight clock into a 'swung' clock.

Swing amount can be set in the **LIVE 7 SWING** menu. Press a STEP from 1-16 to set the swing amount, where 1 turns swing off while 16 sets it to maximum swing.



Play Direction

Four play directions are available: Forward, Backward, Random and Ping-Pong. In each case, the actual play position in a pattern is memorised, so switching between these modes will not cause the sequencer to get out of sync. Pattern changes in track mode also use this underlying position, so a pattern change always occurs correctly in sync.

Set play direction

To change the play direction, go to **LIVE 8 DIRECTION** menu and select between the direction by pressing one of the first four STEPS. A blinking LED will show which mode is selected, while on the last 8 LEDs an animation will show the type of play direction.

Forward and Backward modes are self-explanatory.

The Ping-Pong mode alternates between first playing the pattern forwards and then playing backwards. The first and last steps of a pattern are played twice to maintain the correct pattern length.

The Random play mode does not play the steps in completely random order but rather jumps in the pattern based on an algorithm that is optimized to produce interesting and rhythmically meaningful results.

The four play directions act on all patterns and are not saved.

○	○	○	○
1	2	3	4
FWD	BCK	RND	P-P

SD2/CLAP Configurator

The SD2 sound can be selected among three different sounds: CLAP, SNOISE or CLOSED SNARE. By default it is set to CLAP and it can be highly configured.

SNOISE is the noisy part of the snare, without the body.

CLOSED SNARE is a short version of the noisy snare.

The CLAP sound is constructed from parts of the snare. It consist of a repetition of a number of short CLOSED SNARES followed by a longer tail which is the SNOISE.

The CLAP sound can be shaped with these parameters:

- the number of CLOSED SNARES (short claps)
- the volume of CLOSED SNARES
- the time between the CLOSED SNARES
- the volume of the SNOISE (tail)
- randomization amount of the time between CLOSED SNARES

SD2 sound selection and Clap parameters

The SD2 sound and clap parameters can be configured in the **CONFIG 3 CLAP CONF** menu.

Hold **FUNCTION** to display the 6 possible parameters on the first 6 STEPS and press on one to select it. The currently selected parameter will blink.

After selecting the parameter, release **FUNCTION** and a number of LEDs will light up showing the value of the parameter.

If the parameter is overlapped by the blinking LED of the parameter, the blinking will be shorter.

Set the value by pressing on one of the STEPS. The parameters can be accessed on the first 6 STEPS in this order:

1. SD2 sound selection
 1. CLAP
 2. SNOISE
 3. CLOSED SNARE
2. Number of CLOSED SNARES in CLAP
from 1 to 16
3. Time between CLOSED SNARES in CLAP
from 1ms to 16ms
4. Volume of the CLOSED SNARES in CLAP
from 1 (quieter) to 16 (louder)
5. Volume of the tail in CLAP
from 1 (quieter) to 16 (louder)
6. Randomness of time between CLOSED SNARES IN CLAP from 1 (regular) to 16 (chaotic)

Sound selection

To select the SD2 sound first press FUNCTION + STEP 1 then press STEP 1 again to select the CLAP, STEP 2 to select the SNOISE or STEP 3 to select the CLOSED SNARE.

Shaping the Clap sound

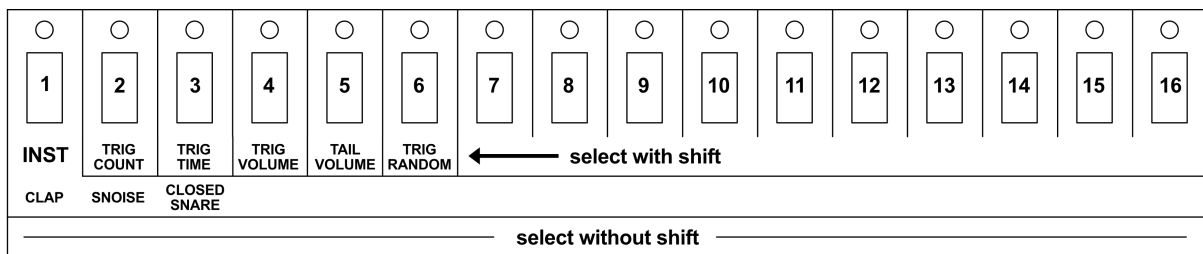
To set the number of CLOSED SNARES in the CLAP sound first select the parameter with **FUNCTION** + STEP 2 then set the number of CLOSED SNARES from 1-16 with the respective button.

To set the time between CLOSED SNARES in the CLAP press **FUNCTION** + STEP 3 then set the number of ms from 1-16 with the respective STEP.

To set the volume of the CLOSED SNARES in the CLAP press **FUNCTION** + STEP 4 then set the length of the CLOSED SNARES.

To set the volume of the tail in the CLAP press **FUNCTION** + STEP 5 then set the length of the CLOSED SNARES.

To randomize the CLAP sound press **FUNCTION** + STEP 6 then set a randomization amount by pressing one of the 16 buttons.



Custom Flam

It is possible to program your own flam pattern in the **CONFIG 4 CUST. FLAM** menu. The STEPS define the flam pattern while the SCALE switch defines the duration of a step in the flam pattern.

For a detailed explanation see LIVE TOOLS -> Custom Flam.

Probability

To change the probability percentage on each level go to **CONFIG 5 PROB.**

Put the **SCALE** selector to the position you want to edit and set the percentage by pressing one of the STEPS. The **SCALE** level 4 is always 100% and cannot be changed. When **SCALE** is on any other position (1, 2 and 3) pressing a STEP will set the percentage to STEP number/16. For example set the **SCALE** selector to 3 then press button 11 to set the probability on level 3 to 11/16 which is approximately 69%. Switch the **SCALE** to 1 and press button 1 to set the probability of level 4 to 1/16 which is approximately 6%.

In the **LIVE 5 PROBABILITY** menu it can be defined which instruments will have the probability defined by the value set on each step with the **SCALE** selector. See Probability chapter in LIVE TOOLS to set the probability on a step.

Dynamics

Setup different dynamic levels

To change the volume on each level of the **SCALE** selector go to **CONFIG 6 DYNAMICS** menu, put the **SCALE** selector to the position you want to edit and then set the volume by pressing on one of the 16 STEPS. By default the volume set on position 4 of the **SCALE** selector is set to 12. This is the same volume the instruments are triggered with on the original TR-606. The value on **SCALE** position 4 is locked to 12 and can't be edited. The default volume on position 3 is set to 9, position 2 is set to 5 and position 1 is set to 1.

For example set the **SCALE** selector to 3 then press STEP 16 to set the dynamics to the maximum volume possible. Note that this level will exceed the original TR-606 level and the position 3 will set a higher volume than position 4.

To learn more about how to set the dynamics per step see the Dynamics section in the LIVE TOOLS chapter of this manual.

Clock

In the **CONFIG 7 CLOCK** menu it is possible to select the clock source between INTERNAL or MIDI by pressing respectively STEP 1 or STEP 2. If set to MIDI clock the **START/STOP** button will be ignored and the machine will only respond to MIDI transport messages to start and stop. See the MIDI chapter for more details.

Various

In the **CONFIG 8 VARIOUS** menu it's possible to toggle various features and perform a factory reset:

STEP 1: Enable or disable MIDI NOTES IN

STEP 2: Enable or disable MIDI NOTES OUT

STEP 4: Enable or disable MIDI CLOCK OUT

STEP 8: Enable or disable LONG PRESS TAB to generate an instrument pattern.

A blinking LED shows that the feature is enabled.

Holding STEP 16 will display the firmware version encoded into the LEDs.

Factory reset

In the **CONFIG 8 VARIOUS** the factory reset feature is hidden by default and it will only become available while **FUNCTION** is held. Two separate resets are possible:

- Reset of the CONFIG TOOLS settings
- Reset of the LIVE TOOLS settings

While holding **FUNCTION**, the LEDs on STEP 13 and STEP 14 will blink fast. These two STEPS represent respectively the two reset options.

To reset the settings in the CONFIG TOOLS menu to factory defaults, hold the **FUNCTION** + STEP 13. STEP LEDs will start turning on like a progress bar from STEP 1 to STEP 16. Releasing the held button at any time before all LEDs are on will abort the reset and the settings will remain untouched. Only when the progress bar reaches the end all LEDs will go off and the factory reset will be completed.

To reset the settings in the LIVE TOOLS menu to factory defaults hold the **FUNCTION** + STEP 14. STEP LEDs will start turning on like a progress bar from STEP 1 to STEP 16. Releasing the held button at any time before all LEDs are on will abort the reset and the settings will remain untouched. Only when the progress bar reaches the end all LEDs will go off and the factory reset will be completed.

In the same manner it is also possible to reset both CONFIG TOOLS and LIVE TOOLS simultaneously. Simply hold **FUNCTION** + STEP 13 + STEP 14 until the end of the progress bar. Releasing any of the held button will stop the reset and leave the settings untouched.

MIDI

The TR-6oh6 can also be used via MIDI to trigger sounds and edit every parameter. This can simply be achieved by sending Note-On and Note-Off messages for the instruments or CC messages to edit the settings or editing FX parameters.

The normal instruments only react to Note-On messages. Certain instruments however have an alternative 'gate mode', which reacts to both Note-On and Note-Off messages.

Sending a note with maximum velocity (127) will also trigger the ACcent channel. All notes and CC messages can be remapped to other MIDI notes/CC through a web app.

MIDI TRS connectors

The TR-6oh6 comes with TRS MIDI connectors Type A (the MIDI 2.0 Standard). Adapters to DIN-Midi are available and use the following connections:

TRS	Tip	Ring	Sleeve
DIN	5	4	2

MIDI In

The TR-6oh6 accepts various MIDI messages.

For MIDI NOTES and CC messages it always listens only to the MIDI channel set in the **CONFIG 1 MIDI IN CH.**

MIDI CLOCK and transport MIDI messages (MIDI start and stop) are enabled if "Clock Source" is set to MIDI. To set the clock source to MIDI go to **CONFIG 7 CLOCK** menu and press STEP button 2. The LED will start blinking. If it blinks on and off with regular intervals it means that MIDI clock messages are being received at the MIDI input. If no MIDI clock is being sent to the MIDI in of the TR-6oh6 the LED will go off briefly.

Triggering the sounds with MIDI NOTE ON messages can enabled or disabled in **CONFIG 8 VARIOUS** by pressing STEP 1. A blinking LED shows that this feature is enabled (default).

MIDI CC messages are always considered, irrespective of the enabled or disabled MIDI NOTES IN. Only CC messages received on the selected MIDI IN channel will be considered.

MIDI note input

The TR-6oh6 reacts to Note On messages on the Midi-In channel with the following default notes. Since they can be changed using our web app, they might be different on your machine:

Normal trigger instruments (velocity sensitive)

INSTRUMENT	NOTE		INSTRUMENT	NOTE
ACcent	34		CLOSED SNARE	37
BaseDrum	35		DEEP KICK	36
Snare Drum	38		SNOISE	40
LowTom	45		MID BASS DRUM	41
HighTom	50		BRUSH	70
Cymbal	49		FELT CYMBAL	57
OpenHihat	46		CLOSED CYMBAL	55
ClosedHihat	42		CLICK HAT	44
			CLAP	39

Gated instruments (not velocity sensitive)

INSTRUMENT	NOTE		INSTRUMENT	NOTE
Gated Snare Drum	86		Gated SNOISE	88
Gated Cymbal	97		Gated BRUSH	118
Gated OpenHihat	94		Gated FELT CYMBAL	105
Gated ClosedHihat	90		Gated CLOSED CYMBAL	103
Gated FLAM FX	85		Gated CLICK HAT	92

These are the notes defined in the MIDI drum standard (with the exception of AC).

Reception of these notes will trigger the instruments.

In TAP record mode, these instruments will also be recorded in the current pattern.

Accent AC is also triggered when one of the other instruments receives velocity value 127 (the maximum volume).

The MIDI input channel can be set in the **CONFIG 1 MIDI IN CH** and is 10 by default.

MIDI Clock input

The TR-6oh6 can be synced via MIDI clock if configured accordingly. A clock divider for the MIDI clock can be set with the SCALE switch or via MIDI CC as shown below. By default, the TR-6oh6 clocks at 1/16th or follows the clock divider saved in the pattern playing.

MIDI note output

The TR-6oh6 outputs MIDI NOTE ON and NOTE OFF messages via its MIDI output. To enable or disable sending MIDI out go to **CONFIG 8 VARIOUS** and press STEP 2. A blinking LED shows that the feature is enabled (default). For steps without accent, the velocity sent is 80, steps with accent will send MIDI notes with velocity 127.

MIDI Clock output

When the internal clock generator is selected as clock source, the TR-6oh6 can also output a MIDI clock. To enable or disable sending the MIDI clock out messages, go to **CONFIG 8 VARIOUS** and press STEP 4. A blinking LED shows that the feature is enabled (default).

The MIDI output channel can be set in the **CONFIG 2 MIDI OUT CH** menu.

Appendix A: Cheat Sheets

PATTERN WRITE Cheat Sheet

Writing Steps	press STEP buttons
Instrument select	INSTRUMENT selector, GROUP I or II
Clear	Hold CLEAR while running
Tap recording	TAP current instrument
Last step	FUNCTION + STEP → last step
First + Last step	FUNCTION + 2 x STEP → range
Change scale	FUNCTION + SCALE selector
Set step levels	Hold step + SCALE selector (levels can be by dynamics, probability, or both)
Multiple step levels	Hold one STEP, select more, SCALE selector
Pattern generator	Long-press TAP → pattern for current instrument

PATTERN PLAY Cheat Sheet

Each STEP button is a PATTERN

Access pattern banks	press GROUP
Change pattern instantly	Press PATTERN
Change pattern in sync	Long-press PATTERN, press FUNCTION
Quick track programming	Press PATTERN, while holding, more PATTERN
Track programming	Long-press PATTERN, press more PATTERN, press FUNCTION when finished
Clear pattern	CLEAR + PATTERN
Highlight pattern	FUNCTION + PATTERN
Remove highlight	FUNCTION
Copy + paste	Highlight PATTERN, press other PATTERN to paste
Independent edit	Highlight PATTERN, MODE to PATTERN WRITE
Pattern generator	Select style with TRACK selector, Highlight PATTERN, Long-Press TAP
Save track to slot	Select TRACK, Long-press TAP
Load track from slot	Hold FUNCTION, Select TRACK

APPENDIX C: MIDI CC

Some parameters can also be controlled via MIDI CC.

The tables below show value ranges and the resulting parameter values. These changes are directly visible in the **LIVE** and **CONFIG TOOL** menus. In order to save these settings, enter and exit the menus, or save manually.

CLOCK SETTINGS	CC	Value
CLOCK SOURCE	16	0 – 63: internal clock 64 – 127: MIDI clock
PATTERN SCALE (Scale of current pattern is changed when finished playing)	17	0 – 31: divider = 6 (16th notes) 32 – 63: divider = 3 (32th notes) 64 – 95: divider = 8 (16th triplets) 96 – 127: divider = 4 (32nd triplets)
FX SETTINGS	CC	Value
SWING AMOUNT	21	0 – 127
Play DIRECTION	84	0 – 31: forward 32 – 63: backward 64 – 95: random 96 – 127: ping-pong
Set FLAM MODE	23	0 – 15 flam disabled 16 – 31 flam mode 1 32 – 47 flam mode 2 48 – 63 flam mode 3 64 – 79 flam mode 4 80 – 95 flam mode 5 96 – 111 flam mode 6 112 – 127 custom flam

FLAM SETTINGS	CC	Value
Set FLAMMING instrument	32 – 47	0 – 63: No flam 64 – 127: Flam
ACcent	32	"
BaseDrum	33	"
Snare Drum	34	"
LowTom	35	"
HighTom	36	"
Cymbal	37	"

FLAM SETTINGS	CC	Value
OpenHihat	38	"
ClosedHihat	39	"
DEEP KICK	41	"
CLOSED SNARE / SNOISE / CLAP	42	"
MID BASS DRUM	43	"
BRUSH	44	"
FELT CYMBAL	45	"
CLOSED CYMBAL	46	"
CLICK HAT	47	"

MUTE	CC	Value
MUTE instrument	48 – 63	0 – 63: Unmuted 64 – 127: Muted
ACcent	48	"
BaseDrum	49	"
Snare Drum	50	"
LowTom	51	"
HighTom	52	"
Cymbal	53	"
OpenHihat	54	"
ClosedHihat	55	"
FLAM FX	56	"
DEEP KICK	57	"
CLOSED SNARE / SNOISE / CLAP	58	"
MID BASS DRUM	59	"
BRUSH	60	"
FELT CYMBAL	61	"
CLOSED CYMBAL	62	"
CLICK HAT	63	"
MUTE all instruments	85	>= 64: mute all instruments
UNMUTE all instruments	86	>= 64: unmute all instruments

RESLICER	CC	Value
Select repetition rate	89	0 – 127 → Rate 64 th – 5 steps
Trigger selected repetition	90	When >= 64
Select Random offset	87	0 – 127 → 1 step – 8 steps
Trigger selected random offset	88	When >= 64
RANDOMIZER	69 – 72	
Random offset by multiple of 8	69	0-63: disable, 64-127: enable
Random offset by multiple of 4	70	"
Random offset by multiple of 2	71	"
Random offset by multiple of 1	72	"
BEAT REPEAT rate	73 – 80	
Repeat at a rate of 64th note	73	"
Repeat at a rate of 32th triplets	74	"
Repeat at a rate of 32th note	75	"
Repeat at a rate of 16th note	76	"
Repeat 2 steps	77	"
Repeat 3 consecutive steps	78	"
Repeat 4 consecutive steps	79	"
Repeat 5 consecutive steps	80	"
AUTO RANDOMIZER	81	0 – 31: disable 32 – 63: level 1 64 – 95: level 2 96 – 127: level 3
AUTO BEAT REPEATER	82	0-31: disable 32 – 63: level 1 64 – 95: level 2 96 – 127: level 3

CLAP shaping	CC	Value
Number of short claps	64	0-7: no short pulse 8-15: 1 pulse 16-23: 2 pulses ... 15 pulses
Time interval between short claps	65	0-7: 1ms 8-15: 2 ms 16-23: 3 ms ... 16 ms
Short clap level	66	0 - 127
Timing variation	67	0 - 127
level of clap tail	68	0 - 127

Voice decay	CC	Value
OH decay	24	0 – 127 decay can only be made shorter
CY decay	25	0 – 127 decay can only be made shorter

Manual version 1.0

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The most recent version of this manual can be found at tubbutec.de/TR-6oh6/

Thank you Tamo, Zora, Alex, Mitja, Tobi, Steph, Norman

All trademarks, service marks and company names are the property of their respective owners.

Disposal

Electronics can be repaired, please do not throw them away if defective.
But if you must:

This product is marked with the crossed-out wheeled bin symbol and must not be disposed of with household waste. Please take it to a designated collection point for recycling of electrical and electronic equipment. Proper disposal helps protect the environment and human health.



The packaging and manual are made of paper. Please dispose accordingly.



Questions? Suggestions? Complaints? Praise?
Please write to support@tubbutec.de
for other options, please visit: <https://tubbutec.de/contact/>



Product Safety Information

DIY Synthesizer Kit

Important Safety Information

This product is intended for experienced hobbyists aged **14 years and older** with basic knowledge of electronics. Improper assembly, handling, or usage may result in injury, damage, or malfunction. **Please read and follow all instructions carefully.**

General Warnings

- 1. Electrical Hazards:**
 - The kit contains electronic components that may involve exposure to low-voltage electricity.
 - Ensure the power supply does not exceed the voltage and current ratings specified in the assembly guide.
 - Avoid touching live circuits or connections while powered on.
 - When installing in a synthesizer, make sure it is unplugged. Some synthesizers may expose high voltage when the case is open.
- 2. Small Parts:**
 - Contains small parts that can pose a choking hazard. Keep out of reach of children under 3 years old.
- 3. Heat and Fire Risk:**
 - Some components may generate heat during operation. Do not leave the synthesizer unattended when powered on.
 - Use only components provided or specified by the manufacturer to avoid overheating or fire hazards.
- 4. Sharp Edges:**
 - Certain parts, such as leads or enclosures, may have sharp edges. Handle with care and use protective gloves if necessary.
- 5. Soldering:**
 - Soldering iron temperatures can exceed **400°C**. Use caution to avoid burns. Always solder in a well-ventilated area to avoid inhalation of fumes.

Usage and Assembly

- **Intended Use:** This kit is designed for hobbyist use to build a functional synthesizer. It is not a toy.
- **Assembly Guidance:** Follow the included step-by-step instructions. If any part is unclear, consult the manufacturer or seek advice from experienced individuals.
- **Testing and Operation:** Test the synthesizer only after all connections are secure and verified against the schematic provided.

Environmental Safety

- Dispose of electronic components, packaging materials, and soldering byproducts responsibly and in accordance with local regulations.

Maintenance

- Periodically inspect the synthesizer for wear, loose connections, or exposed wiring.
- Disconnect the power supply before performing any maintenance or adjustments.

Liability Disclaimer

- The manufacturer is not liable for injuries, damages, or malfunctions resulting from improper assembly, modification, or use of this product outside its intended purpose.

Contact Information

If you have any questions or require assistance, contact our support team at:

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