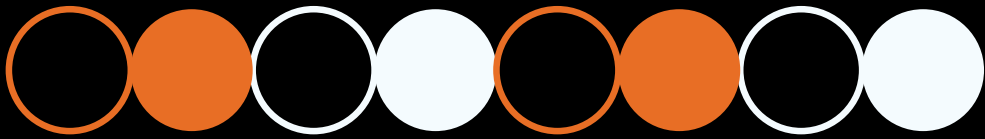


# SEQ12

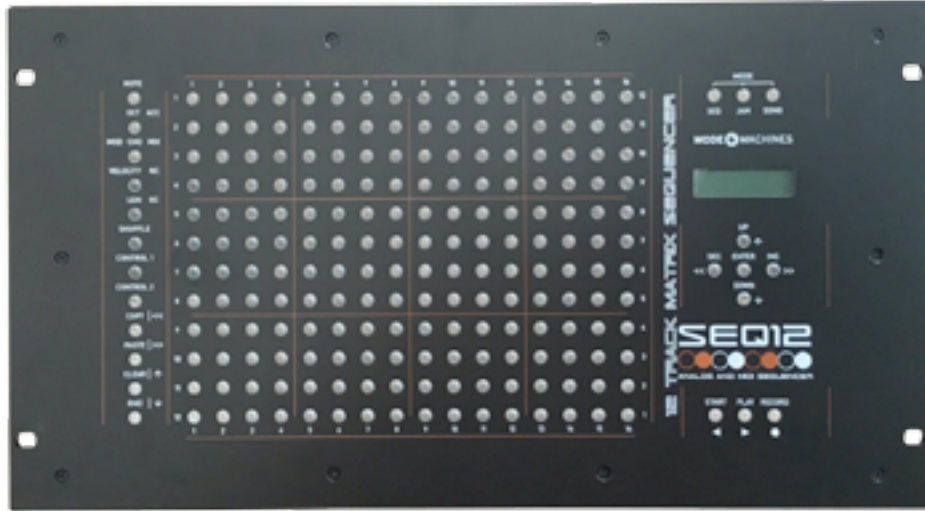


ANALOG AND MIDI SEQUENCER

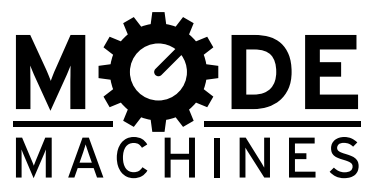
# USER MANUAL

MODE  MACHINES





# 12 TRACK MATRIX SEQUENCER



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# 1. INTRODUCTION

## 1.1. Quick overview

SEQ12 is a MIDI-step-sequencer. It uses a pattern based structure. Patterns, called sequences in this case, contain steps with MIDI-notes and MIDI-controller-data. Sequences form melodies, chord progressions or drum-patterns. These may be arranged in parallel tracks with individual MIDI-channels, resulting in complex sequences which can be manipulated in real time.

Therefore, SEQ12 is a live-capable tool to create and arrange pattern-based music. It lends itself to be used as a standalone sequencer, but may as well be perfectly combined with a DAW, to hugely expand whose possibilities.

1

## 1.2. About this manual

Despite its clearly laid out user-interface, not all functions of your SEQ12 are self-explanatory, naturally. Therefore we urgently recommend that you read and internalize this manual! Only like that, you will unlock the full potential of your new sequencer.

To organize this manual in a clear way, certain terms and sections are highlighted:

- This is how a control element during operation is indicated: „Select **MOD**“
- The matrix-buttons are described like this: (**X/Y**). X represents the horizontal position, Y the vertical position. Therefore, matrix-button (**4/2**) is the fourth button in track 2.
- This is how a display-text is indicated: „The display indicates *PATTERN*“
- This is how an important hint is indicated:



**IMPORTANT! Always and exclusively use the provided power supply!**

- This is how a tip for practical use is indicated:



**TIP: The TRIM-function can be used to perform.**

## 1.3. Unpacking

Carefully remove SEQ12 from its packaging. The box contains:

- your SEQ12 step-sequencer
- an external power supply (12 volts DC, 1000mA, pin = plus)
- this manual



**IMPORTANT! Keep the original box and the packaging material. In case, your SEQ12 has to be sent somewhere, the original box and packaging is the safest way to transport the unit.**

We're ready to go now – Mode Machines wishes you a good time!

## 2. CONNECTIONS

### 2.1. MIDI-connections

On its rear panel, SEQ12 offers connectors for MIDI-units. There are three outputs and one input. To ensure optimal timing, SEQ12 offers three MIDI-outputs. If possible use these outputs in parallel and avoid serial chaining of MIDI-units. Connect a suitable MIDI-unit to the MIDI-input, such as a master-keyboard.

### 2.2. Power supply

2

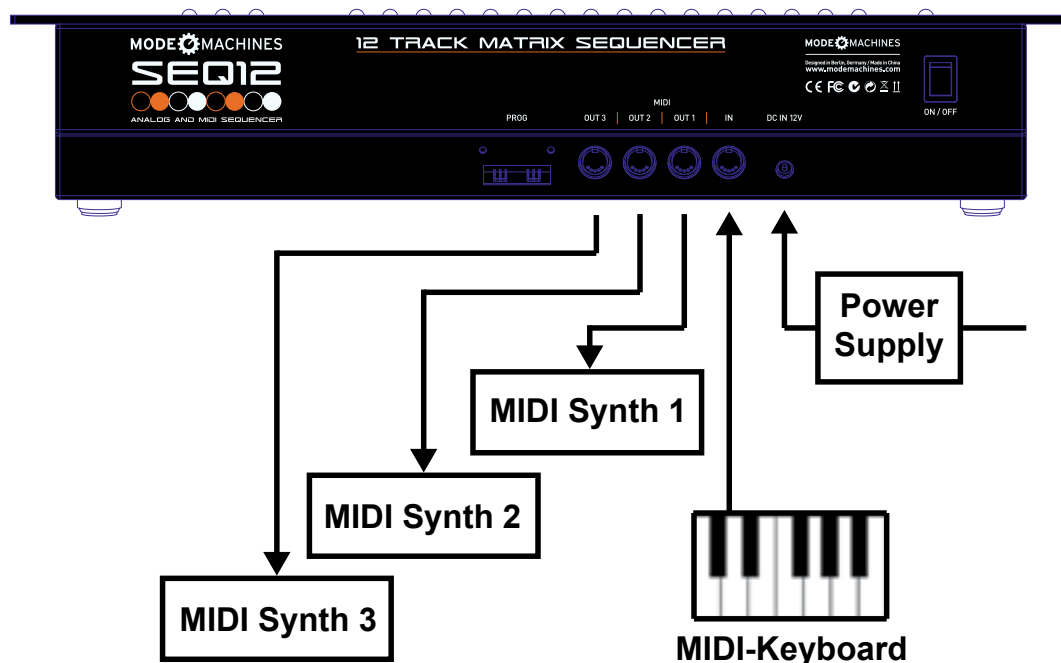
In addition, you will also find the connector for the supplied **power adapter** (12 volts DC, 1000mA). It is labeled **DC IN 12V**.



**IMPORTANT! Always and exclusively use the provided power supply! Using a power supply with wrong performance data may result in damage of the SEQ12. Mode Machines is not liable for damages resulting from wrong power supplies.**

### 2.3. Prog-Ports

The connectors **PROG 1** and **PROG 2** will allow the connection of programming units to carry out firmware updates.



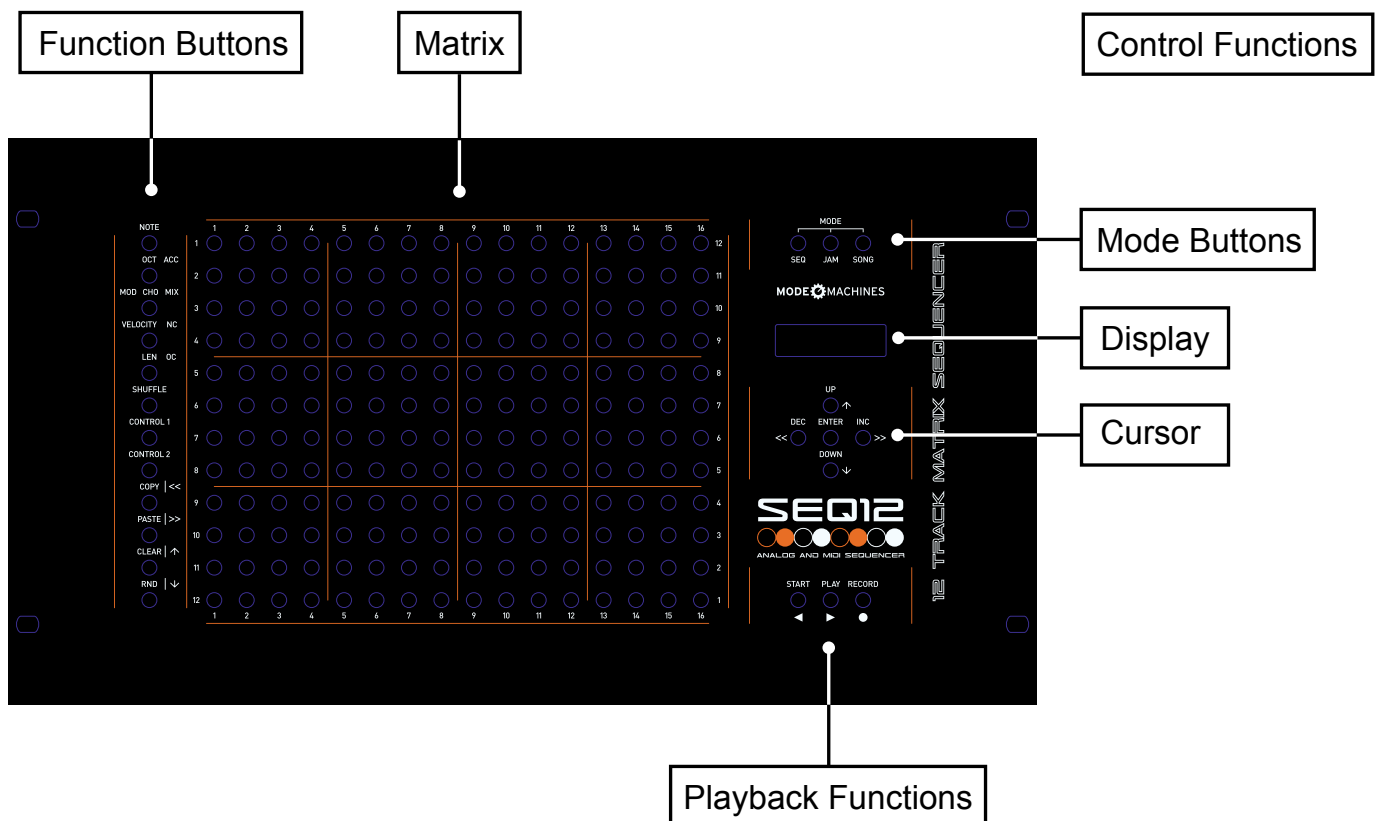
### 3. CONTROL ELEMENTS

The buttons of the user-interface are sorted by function into three sections. The **Matrix** claims the largest space. It consists of 12 lines and 16 columns. The matrix serves to program sequences and to display and edit different types of MIDI-data. Depending on the mode being selected, it may also display the progression of different sequences.

To the left of the matrix, 12 **function-buttons** are placed in vertical order. These serve different purposes, depending on the mode being selected: For example, you select, which MIDI-data are going to be displayed or edited. This may be notes, velocity- or controller-data for example. The four lowermost buttons may be assigned to carry out copy-functions. In certain modes, the function-buttons serve to select tracks or as mute-buttons for those.

On the right hand side, there are buttons to carry out **control-functions**. The topmost three buttons select the main view resp. the MODE. There is a MENU for each MODE. This contains additional parameters that can be edited using the navigation-cursor and that will be shown in the display.

The lowermost three buttons are used for **transport control**.



## 4. CONCEPT

As described earlier, SEQ12 is a pattern-based step-sequencer which creates MIDI-data. To illustrate the concept, we will explain a couple of important terms here:

### SEQUENCE

A sequence is the smallest unit within the SEQ12. It contains up to 16 steps, representing MIDI-data such as notes, controllers, shuffle etc.

### SEQ-mode

The SEQ-mode is used to **program a sequence** using the matrix or an external MIDI-input device (e.g. a master-keyboard).

In SEQ-mode, the matrix visualizes **steps** with certain MIDI-data of the corresponding sequence which can be selected using the **function-buttons 1 to 8** (notes, octave range, step-length, velocity, controller-values, shuffle etc.).

A progressing **locator-bar** moving from left to right indicates the current step-position.

**Parameter values** such as velocity, controllers or step-length are visualized as LED-bars in the matrix.

SEQ12 allows to store 16 sequences per track.

### TRACK

SEQ12 offers 12 tracks, arranged one below the other in the matrix. Each track addresses one of the three MIDI-outputs. Each track can additionally be assigned to one of three „track-types“. All of these are optimized regarding to their specific matrix visualization. In addition, they offer different functions. These are the track-types available:

- **MONO:** A monophonic track can only play one note per step and offers three controller-tracks.
- **POLY:** Polyphonic tracks allow to play multiple notes per step. This makes them suited for chords. Polyphonic tracks offer two controller-tracks.
- **DRUM:** Drum-tracks are optimized to address drum computers or similar units. The matrix forms a pattern where each line can be set to transmit a definable note. For example, you may set the bass drum to the lowest line, followed by the snare drum above and so on. This way, you can address up to twelve different drum sounds from a single track. Drum-tracks also offer two controller-tracks.

### JAM-mode

The JAM-mode is the performance mode of the SEQ12. In JAM-mode, the matrix displays **12 tracks** with **16 sequences** each. This way it is possible to directly select any of the 16 available sequences for each of the 12 tracks for immediate playback.

The function-buttons to the left activate respectively mute the 12 tracks.



Assuming the different tracks carry specific musical purposes (e.g. track 1 = melody, track 2 = bass line, track 3 = chords, track 4 = drums), it is possible to easily create a song „on the fly“ in JAM-mode.

It just requires two „clicks“ to switch from JAM-mode to SEQ-mode where, likewise, you can edit the selected sequences „on the fly“.

### SONG-mode

SONG-mode allows the creation and playback of longer and more complex arrangements or even full songs. Even here, it is possible to change the sequence-progress in real time. In SONG-mode, every track is given an individual series of up to 64 sequences which is called a **sequence-chain**.

### Part

The 12 sequence-chains of all tracks build a **part**. The SEQ12 can store up to eight parts. Parts may be changed while the sequencer is running. Given that parts could equal song-parts, you will have a choice of intro, verse, break, outro etc., which can all be called up to taste.

In this mode, the matrix serves to select parts as well as to display the sequence-chains of a selected track. In song-mode, the locator-bar moves from top to bottom!

### SETUP

The topmost hierarchic-level is the „**setup**“. A setup contains the settings of all data that can be changed by the user. This includes all parts, contained sequences and sequence-chains as well as the global settings. You may compare a „setup“ to a „song“. SEQ12 allows to store up to 32 setups.

## 5. DEFAULT-VALUES

After switching on the SEQ12, it will automatically enable JAM-mode with the following default-setup:

Tempo	: 126 BPM
Track 1	: monophonic, OUTPUT 1, MIDI-channel 1
...	
Track 2	: monophonic, OUTPUT 1, MIDI-channel 6
Track 7	: monophonic, OUTPUT 2, MIDI-channel 1
...	
Track 10	: monophonic, OUTPUT 2, MIDI-channel 4
Track 11	: Drum, OUTPUT 3, MIDI-channel 10 (preconfigured for JoMoX XBase 999)
Track 12	: Drum, OUTPUT 3, MIDI-channel 14 (preconfigured for Elektron Analog Rytm)



**TIP: Here's an example for a useful track assignment:**

**You may connect a drum-synthesizer to the third MIDI-output (tracks 11 and 12). Sequence 1 of track 11 is preset with note-assignments for the JoMox model XBase 999. The bass drum is set in the lowermost line, followed by the snare and so on ...**

**Equally, sequence 1 of track 12 is preset with note-assignments for the Elektron model Analog Rytm.**

**Tracks 1 to 6 are routed to a polyphonic synthesizer connected to MIDI-output.**

**Tracks 7 to 10 are routed to a unit connected to MIDI-output 2.**

## 6. QUICKSTART

To checkout your SEQ12, please read and follow this quickstart first. Even though not all functions are explained here, you will get a first impression of your SEQ12's workflow.

1. Connect a synthesizer to MIDI-output 1. The unit should be set to receive on MIDI-channel 1.
2. Switch on the SEQ12.
3. The unit now is in **JAM-mode**, With the default-setup being loaded. Only track 1 is active because only the topmost function-button to the left is lit. The first sequence of track 1 is active (see matrix: button 1/1 is lit). The first sequence is also selected in all other tracks (see matrix: buttons 1/2, 1/3, 1/4 etc. are lit).
4. Press **SEQ**. You are now in a **mode to select sequences**. The JAM- and SEQ-buttons are lit. The display shows *SELECT SEQUENCE IN MATRIX*.
5. Press the topmost left button (**1/1**) of the matrix to select the first sequence of the first track to be edited.
6. You are now in **SEQ-mode**. Here, the selected sequence can be programmed or edited. It is empty currently.
7. Start the sequencer by pressing **PLAY**. You should see the **locator-bar** advancing from left to right.  
The display shows the selection-windows for sequence (*S01*) and track (*T01*) as well as the currently select sequence-parameter (*NOTE*) and the track-type (*MONO*)

<i>MONO</i>	<i>PATTERN</i>
<i>T01 S01</i>	<i>NOTE</i>

8. Use the **function-buttons** (left) to select the sequence-parameter to be edited. Select **NOTE** (topmost function-button).
9. Define a few **notes** in the matrix using the **MATRIX-BUTTONS**. You should now hear a note-sequence.
10. Now, select **OCTAVE**. Change the octave for the notes by pressing **MATRIX-BUTTONS** on top or below a note being set.
11. Select **MOD**. Set a few **MIDI-controller-values** by pressing **MATRIX-BUTTONS** above the corresponding step. Per default, MOD sends out MIDI-controller-number 1, i.e. the modulation-wheel.
12. Change values for Velocity, Length or Shuffle resp. Control 1 and 2.

13. Press **ENTER** in the navigation-cursor. You are now in **edit-mode for the parameters of the sequence**. The display shows „*EDIT*“ and the active parameters below.

<i>MONO</i>	<i>EDIT</i>
<i>T01 S01</i>	<i>STEPS 16</i>

Repeatedly press **UP** resp. **DOWN** to toggle through the parameters. If desired, change values using **INC** and **DEC**. In case, **ENTER** flashes, the input has to be confirmed by pressing **ENTER**.

14. Press **ENTER** again. You are now back in the mode to select sequences. The display will show *PATTERN* (see 7.)
15. Press **INC**. You are now editing the second sequence of track 1. It is still empty, too.
16. Press the first function-button (**NOTE**) once more. Set a few notes or press **RND** (lower most function-button).  
**Please note:** So far, you still hear the first sequence!
17. Press **JAM**. **JAM-mode** is now re-enabled.

6

18. Press the second button in the first line (**2/1**) of the matrix to playback this (second) sequence.



**Please note:** After playing sequence 2 once, SEQ12 will jump back to the first sequence which will be played back in a loop because the corresponding default-settings of the sequence-chain are active for track 1. (Find more detail on page 33.)

19. Press **SONG**. You can now select the desired part (matrix-button **1-8/1**). Currently, only part 1 is occupied (1/1). Press **SONG** again.
20. The matrix shows the **sequence-chain** of track 1. It contains four steps (being displayed **one below the other (!)** – matrix-buttons 1/1, 1/2, 1/3, 1/4). Sequence 1 is selected for each step. Hence, you will hear sequence 1 four times. The locator-bar moves from **top to bottom** and indicates the current position within the sequence-chain.
21. Now change the **sequence-progression**. To do so, press the second button in the second line (**2/2**). The moving locator-bar still indicates the currently played step of the sequence-chain. Press **INC** or **DEC** to change the length of the sequence-chain.



**Please note:** You still solely work in track 1.

22. Change into **JAM-mode**. The matrix again displays all tracks (1–12), one below the other now. It displays the currently played sequences per track. Watch how the current sequence in the first track (line) changes corresponding to the edited sequence-chain (see 21.).
23. Press **FUNCTION-BUTTON 11** to activate track 11. Connect a drum computer to MIDI-output 3. Make sure it receives on MIDI-channel 10.
24. Press **SEQ** and matrix-button **1/11** to switch to **SEQ-mode** and select sequence 1 of track 11.
25. Now **edit** the first sequence of track 11. The triggers of the pattern's lowermost line transmit MIDI-note 36 which is often the bass drum of a drum-computer. The line above sends note 40, which often is the snare drum. This way, you can easily create a drum-pattern. Enjoy ...
26. Carefully read the following chapters.

## 7. JAM-MODE

The JAM-mode is the performance-mode of your SEQ12. Here, you can select sequences on the fly in all tracks as well as mute tracks. Also you can arrange your track or live-set in real time while the sequencer is running.

JAM-mode is automatically active when switching the unit on. Additionally, it can also be immediately activated by pressing the JAM-button.

The JAM-mode serves to

- select the sequence to be played back in a track:  
By pressing a **button in the matrix**, the active sequence (1–16) of a track (1–12) is being switched. The change is carried out immediately. There is not wait for the end of the bar. This allows sequence-recombinations by spontaneous switching.
- mute tracks:  
Pressing the **function-buttons** 1–12 (left side) will mute the corresponding tracks (LED off) or activate (LED on).
- select the tempo of a clock-source:  
The **menu** offers the corresponding parameters for tempo- and clock-source-adjustments. Here, you can also configure outputs 2 and 3 for the CV/Gate-module by Mode Machines to use a data-transmission-speed that is eight times faster.
- to store or load setups:  
Find the corresponding functions to load and save setups in the **menu**.

### 7

#### 7.1 Function of the matrix

In JAM-mode, each button of the matrix represents a sequence. The 16 buttons in a line correspond to the sequences of a track. This is why just one button per line is lit in JAM-mode – the active sequence. The 16 sequences of track 1 are displayed in the topmost line of the matrix, the sequences of track 2 below that etc. Each sequence can be activated/selected by pressing its button.

#### 7.2 Function-button assignments

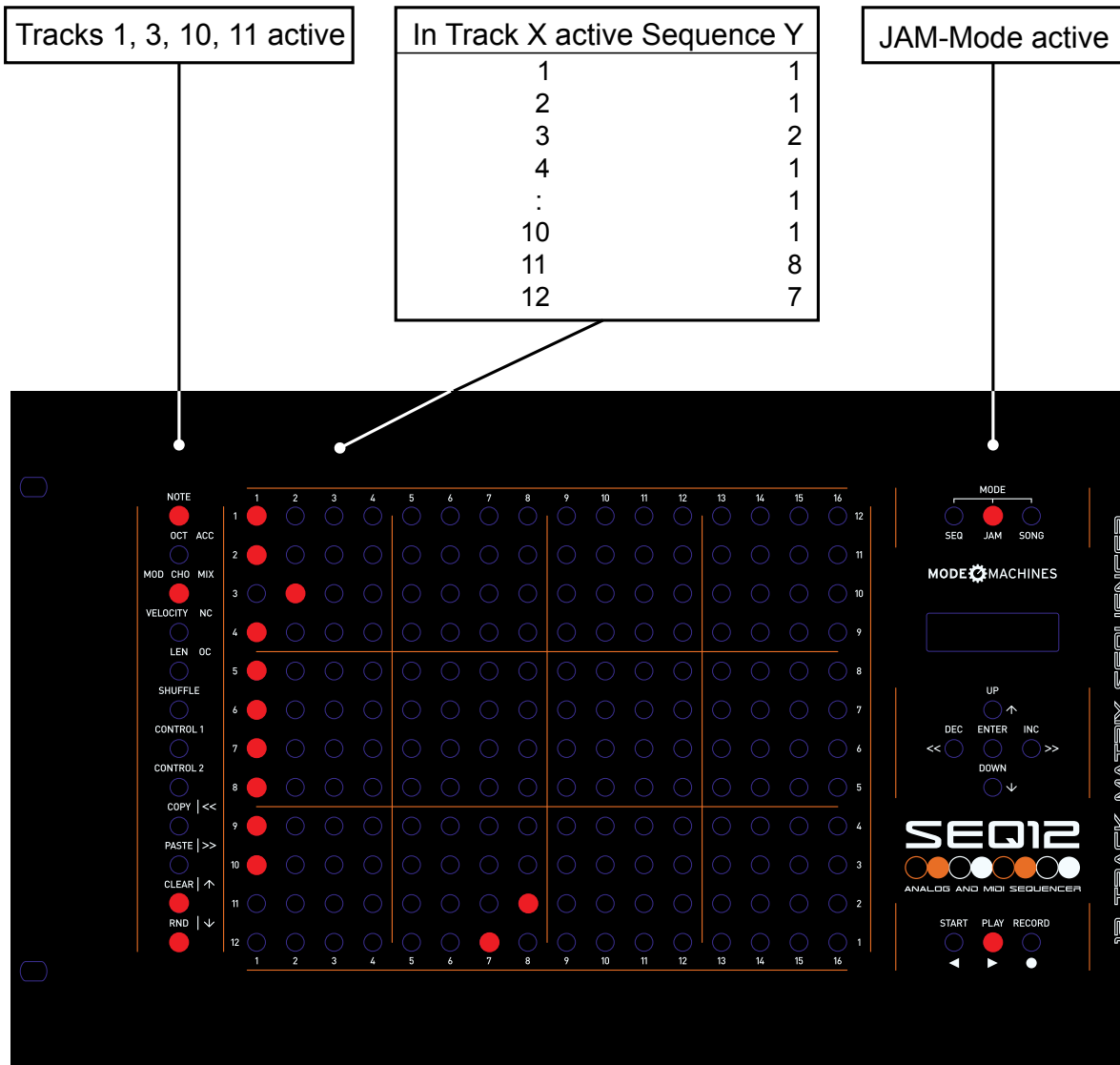
The function-buttons to the left are lit with the corresponding track being enabled, i.e. not muted. By pressing the corresponding button, the track is enabled/disabled.

The graphic to the right shows SEQ12 in JAM-mode. Tracks 1, 3, 11 and 12 are active. The function-buttons of these tracks are lit. In track 1 sequence 1 is active, in track 3 sequence 2, in track 11 sequence 8 and in track 12 sequence 7. They are all played simultaneously.



**TIP: You may assign different musical functions to the tracks such as a melody for track 1, a bass line for track 2, chords for track 3 and drums and percussions for tracks 11 and 12.**

**By changing between sequences and using the track-mute-function, you can create arrangements in real time.**



### 7.3 Menu-functions in JAM-mode

With JAM-mode being selected (press JAM), the display looks like this:



Use the **navigation-cursor** to navigate the menu in JAM-mode. Use **UP / DOWN** and **ENTER** to select the functions.

Use **INC** and **DEC** to increase and decrease values. Press and hold **INC** resp. **DEC** to carry out larger value edits.

The menu in JAM-mode offers functions to adjust the **tempo** as well as to load and save **setups**. A setup contains the settings of all data that can be edited by the user. This includes all sequences, parts as well as all global settings. You may compare a „setup“ to a „song“. SEQ12 can store up to 32 setups.

## JAM-MODE

---

The following menu-function are available in JAM-mode:

### TEMPO

Set the tempo using the **INC** and **DEC** buttons.

By pressing **ENTER** When set to *EXTERN*, SEQ12 will sync to a received MIDI-clock. SEQ12 always transmits MIDI-clock and MIDI-start- and -stop-commands.

```
SETUP TEMPO
default 126 bpm
```

```
CLOCK
intern
```

### (SETUP) LOAD

Here, you can load SETUP-data. SEQ12 offers 32 memory locations for setups. Use **INC** and **DEC** to select and **ENTER** to load.

```
LOAD
0
```



**Please note: Loading setups will overwrite all current settings of the SEQ12. This is irrevocable!**

### (SETUP) SAVE

You can save your setups here. Select the memory location using INC and DEC. Press ENTER to activate the save routine.

7

```
SAVE
0
```

A safety mechanism hinders you from accidentally overwriting data: After selecting a memory location and pressing **ENTER**, you need to subsequently press **YES/ADD** (flashing) to carry out the save process.

To cancel the save procedure, simply press the **JAM**-mode button.



**Please note: Setups that have been accidentally overwritten end up in data-nirvana beyond recall!**

### CVGATE FASTMODE

This mode allows adjustment of settings to connect to the CV/Gate-Interface by Mode Machines. To enable changed settings, you will need to switch the SEQ12 off and back on. In this state, other MIDI-units cannot be operated at the corresponding port unless they support a MIDI-transfer-rate of 250 kBaud.



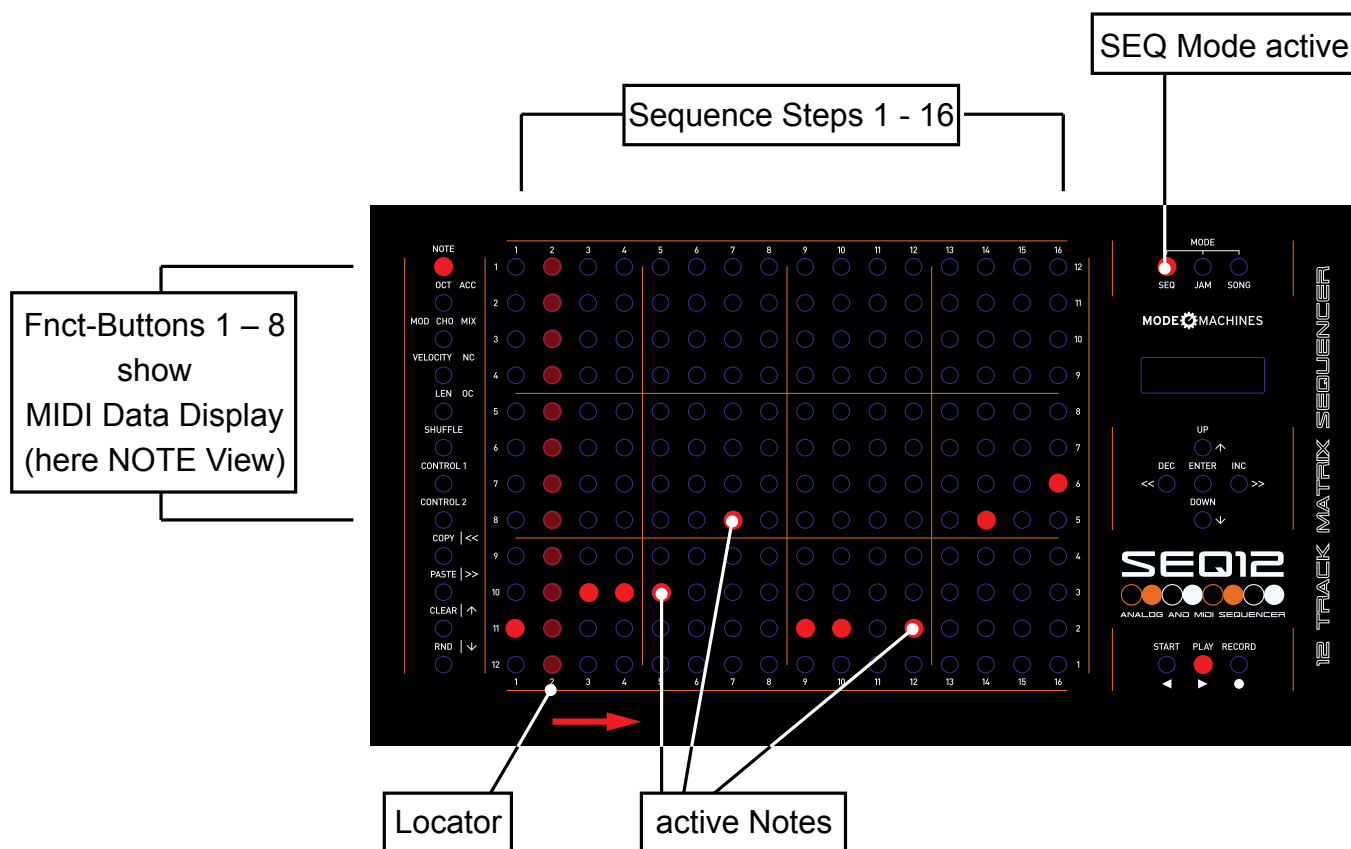
# 8. SEQ-MODE

The SEQ-mode is dedicated to program and edit sequences. Depending on the track-type being selected, the function-buttons call up different views of the matrix to enter the corresponding MIDI-data.

## 8.1 Matrix-function

In SEQ-mode, the matrix visualizes a single sequence. The **16 columns** of the matrix contain and represent the **steps** of a sequence.

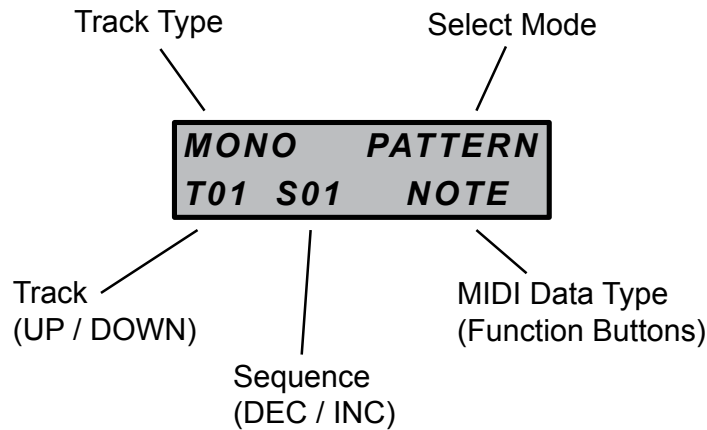
In SEQ-mode, the whole matrix is used to **visualize** the different **MIDI-data** which can be entered per step. This way, the vertical position of a step informs about the pitch of MIDI-notes. Other MIDI-data such as velocity, step-length or controllers are visualized by vertical or horizontal LED-bars.



## 8.2 Menu-functions and display

Some functions in SEQ-mode need to be adjusted using the display and the navigation-cursor.

With SEQ-mode being selected by pressing **SEQ**, the display shows the **sequence-selection-menu**. Select the sequence to be edited here.



- *S01* shows the current sequence (S01 to S16). Carry out the selection using **DEC** and **INC**.
- *T01* displays the track where the current sequence is located (T01 to T12). The selection is carried out using **UP** and **DOWN**.

In correspondence to the selection, the display will inform you about:

- the track-type (*MONO, POLY, DRUM*)
- the type of MIDI-data being generated (*NOTE, TRIG*)

8

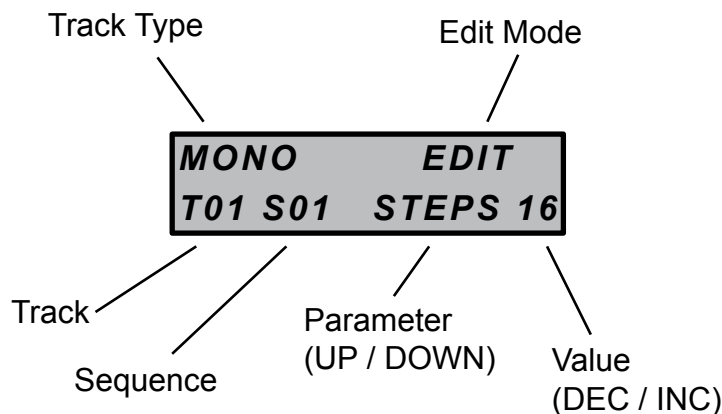


**Attention:** When changing from JAM-mode to SEQ-mode, both buttons are lit and the display will show:

SELECT SEQUENCE  
IN MATRIX

Now, select the desired sequence from the matrix and press SEQ again to open the menu for the sequence-selection (see page 19)

Pressing **ENTER** will open the **sequence-edit-menu**:



The left side of the display will still show the selected sequence, track and track-type. On the lower right side of the display, you will find a parameter selection. The individual parameters are listed below and will be described in detail later in this manual:

- Use **UP** and **DOWN** to select the parameter.
- Use **DEC** and **INC** to change or adjust the parameter value.

STEPS	: [1...16]	number of steps of a sequence
TRIM	: [0...64]	sequence-length in 1/16th notes
CLKDIV	: [1...32]	the clock divider of a sequence (multiplies the tempo of the sequence)
C1	: [0...127]	MIDI-controller-number of controller-track 1
C1 smo	: [0...1]	enables/disables smoothing of MIDI-controller-values
C2	: [0...127]	MIDI-controller-number of controller-track 2
C2 smo	: [0..1]	enables/disables a smoothing of MIDI-controller-values
C3	: [0...127]	MIDI-controller-number of controller-track 3 (only for track-type MONO)
C3 smo	: [0...1]	enables/disables smoothing of MIDI-controller-values
MIDI	: [1...3]	MIDI-output of track (valid for all sequences of the track)
CHAN	: [1...16]	MIDI-channel of track (valid for all sequences of the track)
TYP	: [mono, poly, drum]	track-type (valid for all sequences of the track)
THRU	: [on, off]	passes on received MIDI-notes and controller-data to the selected MIDI-output
LINEAR	: [LINEAR, RATCHET]	enables linear- or ratchet-mode



**IMPORTANT! Please note:**

- **The values for STEPS, TRIM and CLKDIV have to be confirmed by pressing ENTER and will only be active from the next cycle of the sequence. This way, the sequence always stays in sync.**
- **Changing the track-type also has to be confirmed by pressing ENTER.**

- When changing from track-type MONO to POLY, controller 3 is omitted. The notes remain as is.
- When changing from track-type POLY to MONO, chords are omitted. The lowest notes remain as is.
- When changing from or to track-type DRUM, all data are omitted.
- For all other parameters, the new values will immediately be executed.
- The settings C1, C2, C3, MIDI, CHAN, TYP and THRU are valid for all sequences of a track.

### 8.3 Track-types

Each track can be assigned to one of three track-types. All of these are optimized in regard to their specific matrix visualization. In addition, they offer different functions. The following track-types are available:

- *MONO*: A monophonic track can play **one note per step**, and offers **three controller-tracks**.
- *POLY*: Polyphonic tracks allow to playback **multiple notes per step**. This makes them suited for chords. Polyphonic tracks offer **two controller-tracks**.
- *DRUM*: Drum-tracks are optimized to **address drum computers** or similar units. The matrix forms a **pattern** where each line can be set to transmit a definable note. For example, you could use a bass drum in the lowermost line, a snare in the line above etc. This way, you can address twelve drum sounds from a single track. Drum-tracks also contain **two controller-tracks**.

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### 8.4 Function-buttons

The function-buttons 1 to 8 (left LED-column) are used to select the views for the different MIDI-data of a sequence. Depending on the track-type, different MIDI-data can be programmed for the sequence. The function-buttons 1 to 8 have the following assignments:

#### 8.4.1 Function-buttons with track-type MONO

##### NOTE

With **NOTE** being selected, 16 steps can be set. In addition, the matrix displays pitches on the vertical axis: The lowermost line represents the "C". The higher lines move up to "B" in twelve semitones (track 1). In short: One octave is being displayed.

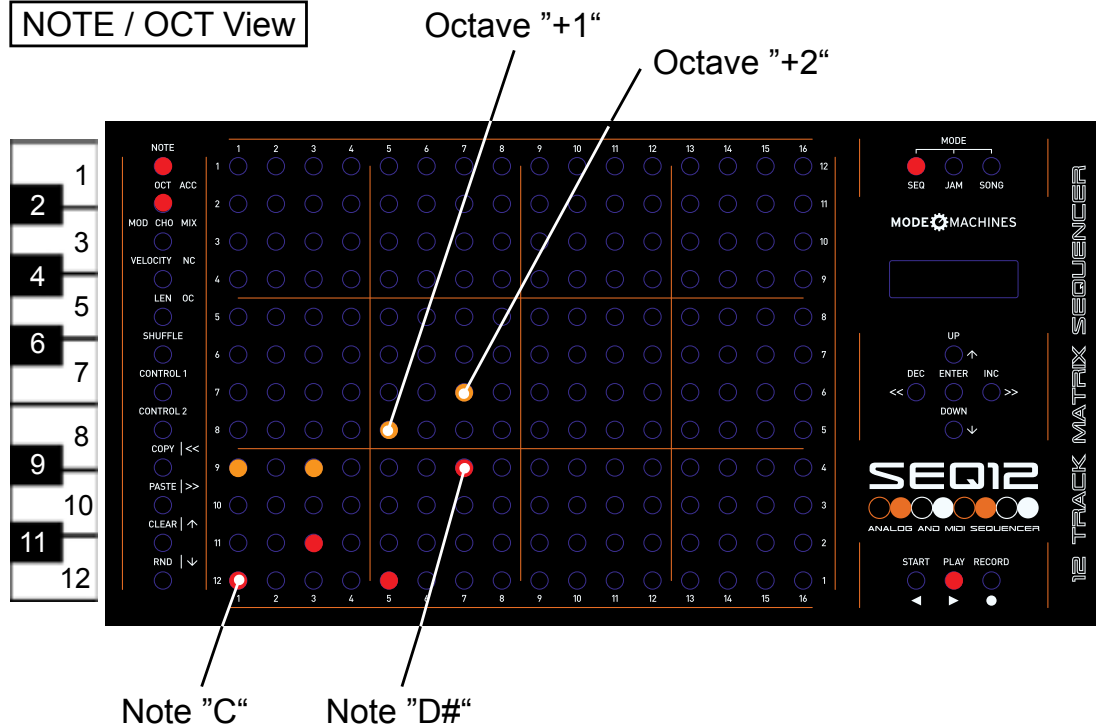
Pressing **NOTE** twice enables **follow-mode**. Here, the sequence-display will automatically switch to the next sequence of the chain, once completed. The display will read „F“.

##### OCTAVE

By selecting **OCTAVE**, the octave of the steps can be changed. To do so, press **MATRIX-BUTTONS** above and below any step.

Pressing **OCTAVE** twice will solo the currently selected track. This display will read „S“.

NOTE / OCT View



MOD

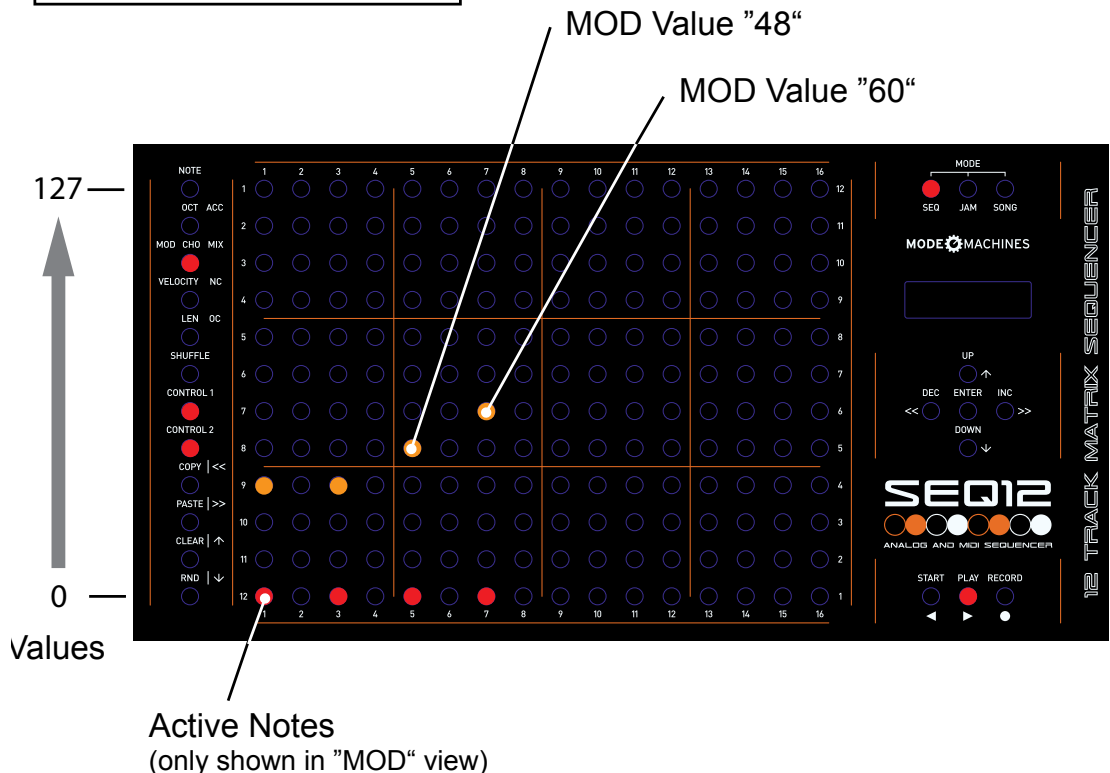
Besides CONTROL 1 and CONTROL 2, this is the third controller-track of a monophonic sequence. You can enter a **controller value** per active step. The lowermost line in the matrix equals controller-value 0. Each higher line increases the controller-value by „12“ (i.e. 0, 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 127 (maximum value).

By pressing **MOD** once more, **interim values** can be entered, i.e. 1–11, 13–23, 25–35 etc, based upon the previously selected base value. The visualization for both values is done by lit LEDs.

The corresponding **controller-numbers** for MOD and CONTROL 1 and 2 are entered in the sequence-edit-menu (see above). Here, you may also enable the smooth-function, which creates transitions between consecutive steps with different values.

8

MOD / Controller 1 / 2 View



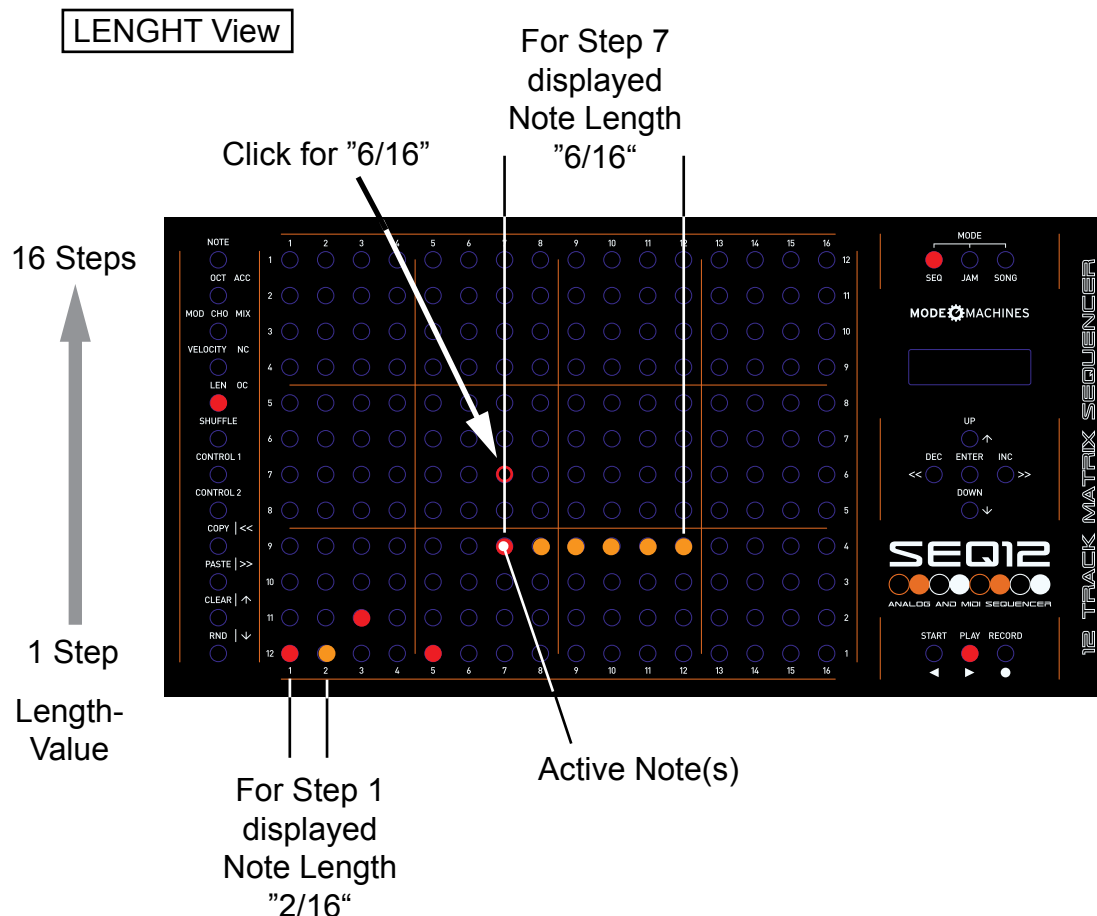
## SEQ-MODE

### VELOCITY

**Velocity** can also be transmitted via MIDI per active step. Entering data is identical to MOD. Data-values are visualized as vertical LED-bars (course) and as separately lit LEDs (fine).

### LENGTH

The **step-length** chains a number of steps to longer notes. The length is entered **above** the corresponding step. However, it is visualized by a **horizontal** bar of corresponding length. Possible values are (to be entered from bottom up) 1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 14 and 16 steps.

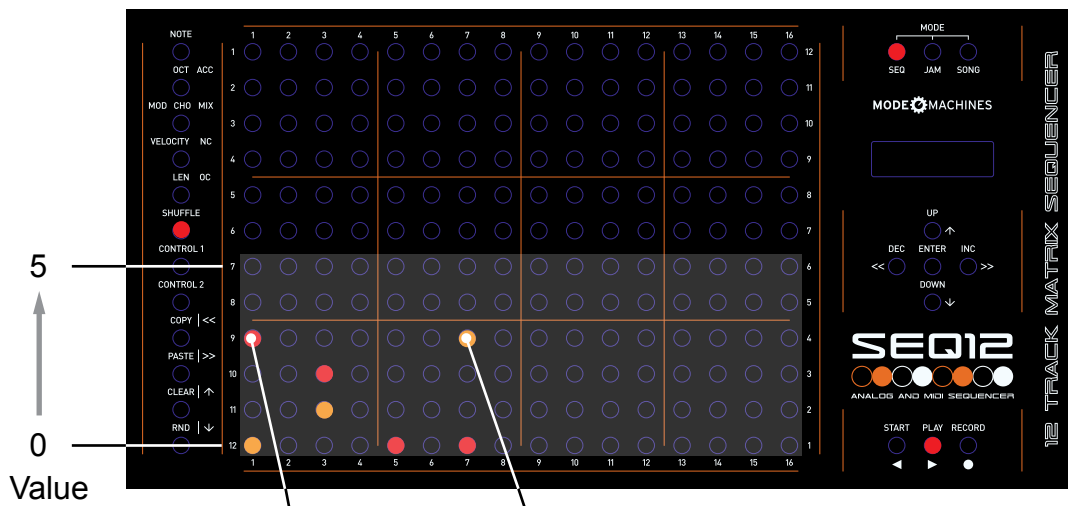


8

### SHUFFLE

Each sequence-step can be **delayed** by up to six micro-steps. The lowermost line equals a value of zero equaling no shuffle. The five lines above equal values 1 to 5 (see graphic on page 23).

SHUFFLE View



Shuffle-Value  
for Step 1 = "3"  
for Step 3 = "2"  
for Step 5 = "0"  
for Step 7 = "0"

CONTROL 1, 2

These functions generate **MIDI-controller**-data. The behavior is described under MOD (see page 21).

8.4.2 Function-buttons with track-type POLY

The track-type POLY differs from MONO by its ability to use function-button 3 „**CHO**“ (chord) to additionally layer chords on top of the selected notes. Controller 3 („MOD“) is not available.

The assignment of the function-buttons **NOTE**, **OCTAVE**, **VELOCITY**, **LENGTH**, **SHUFFLE**, **CONTROL 1** and **CONTROL 2** corresponds to a monophonic track.

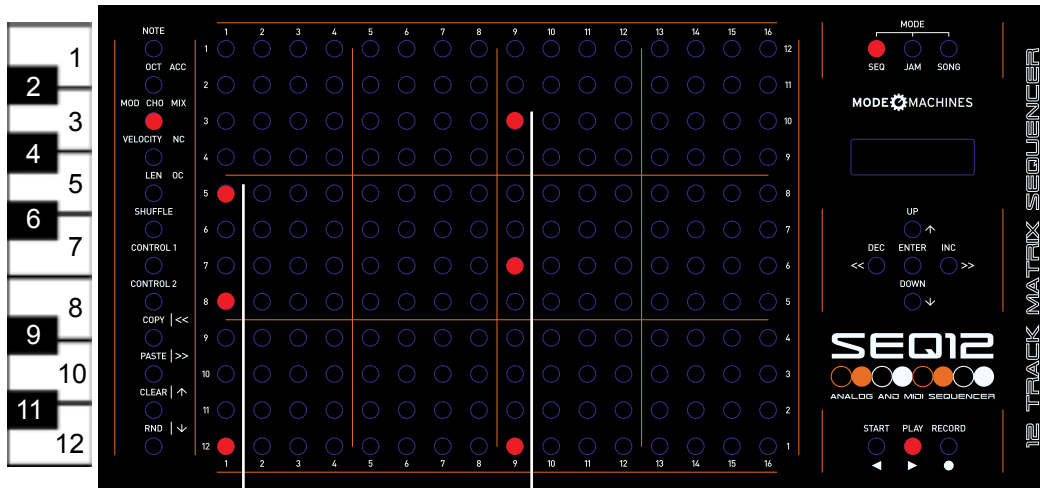
CHO

Enter chords here. Set the base notes for the chords in the NOTE and OCTAVE view (see page 20). By calling up **CHO**, you can now add up to to eleven additional notes per step. Please refer to the figure on the following page.



**Please note: All notes of a chord need to be within the range of one octave. Subsequently, the chord may be transposed using the octave-function.**

CHO(rd) View



C-Major Chord  
(C / E / G)

A-Major Chord  
(C / F / A)

### 8.4.3 Function-buttons with track-type DRUM

The track-type DRUM is especially suited to enter drum-patterns. Here, **every line in the matrix** works as a **sub-track** which can be assigned to a MIDI-note-number. Given that these correspond with a MIDI-sound-engine, you may for example use the lowermost line as a bass drum, the line above as a snare and so on.

All defined steps can additionally transmit **velocity**-data, adjustable per sub-track, or an accent (velocity = 127).

8

A drum-pattern also offers two controller-tracks, a shuffle-function as well as specific views to enter velocity and notes:

#### NOTE/OCT

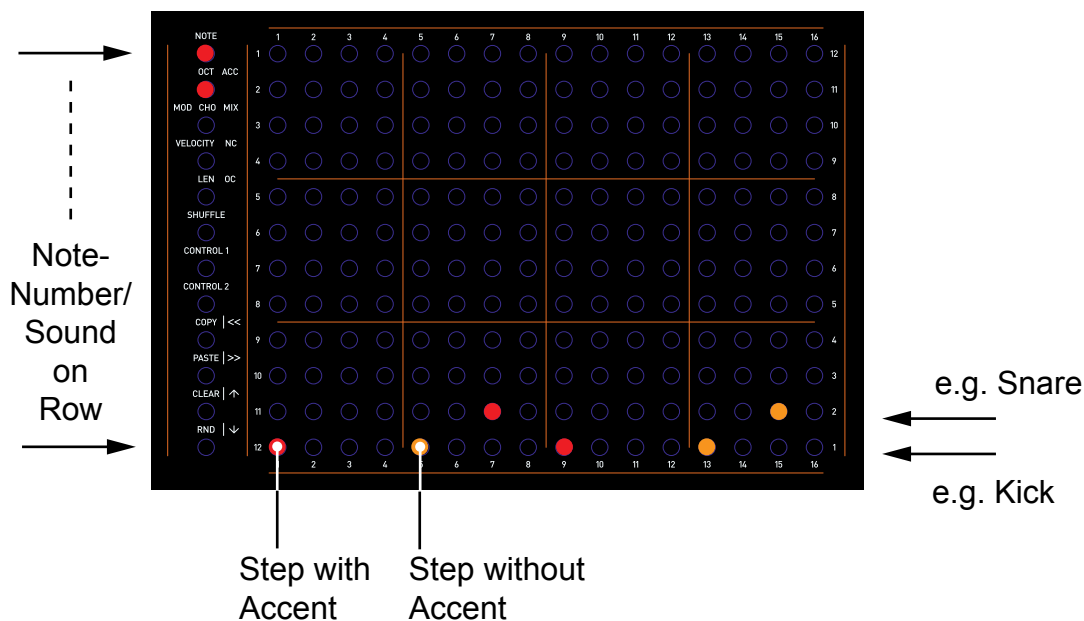
It is possible to set **steps** (triggers) here. Their LEDs are half-dimmed. A line represents a drum-sound (sub-track) such as the bass drum in the lowermost line, the snare above that and so on.

#### ACC

Here, you can set trigger-steps with full velocity (**accent** = velocity 127). Their LEDs are fully lit.



NOTE / ACC(ent) View



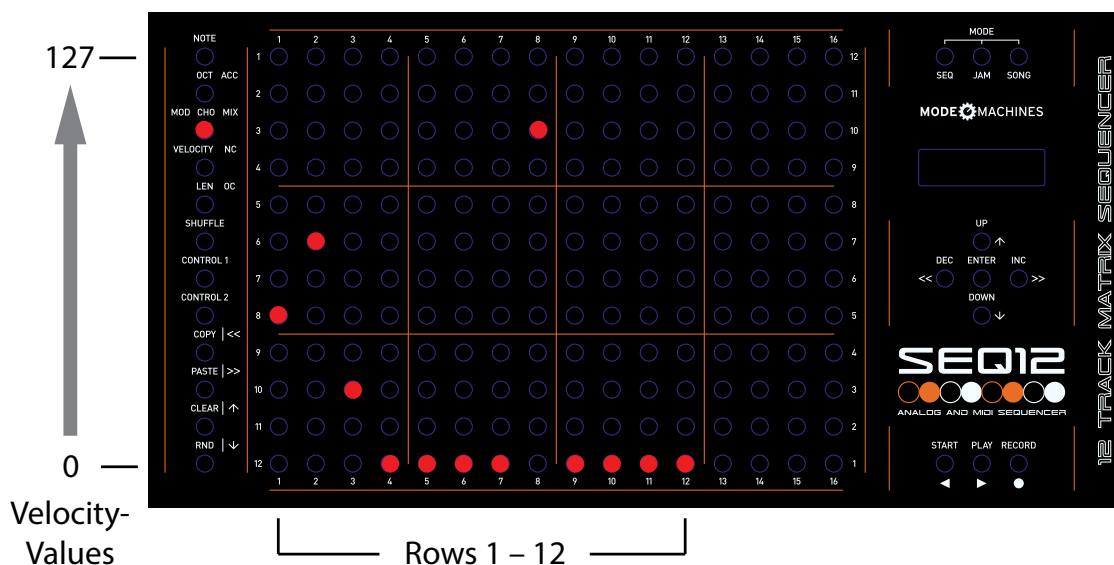
MIX

This function allows to set a **velocity** per line (sub-track). Column 1 is used to set the velocity for the triggers in the topmost line and so on. The view resembles a mixing console with twelve „channels“. Therefore it is possible to assign an individual velocity to each drum sound resp. each line/sub-track.

Steps that have been accentuated will not be excluded.

 **TIP: Although it is not possible to assign individual velocity-values to each step, you can still use the upper four lines/sub-tracks to define four velocity values for a dedicated drum-instrument to vary its dynamics.**

MIX View

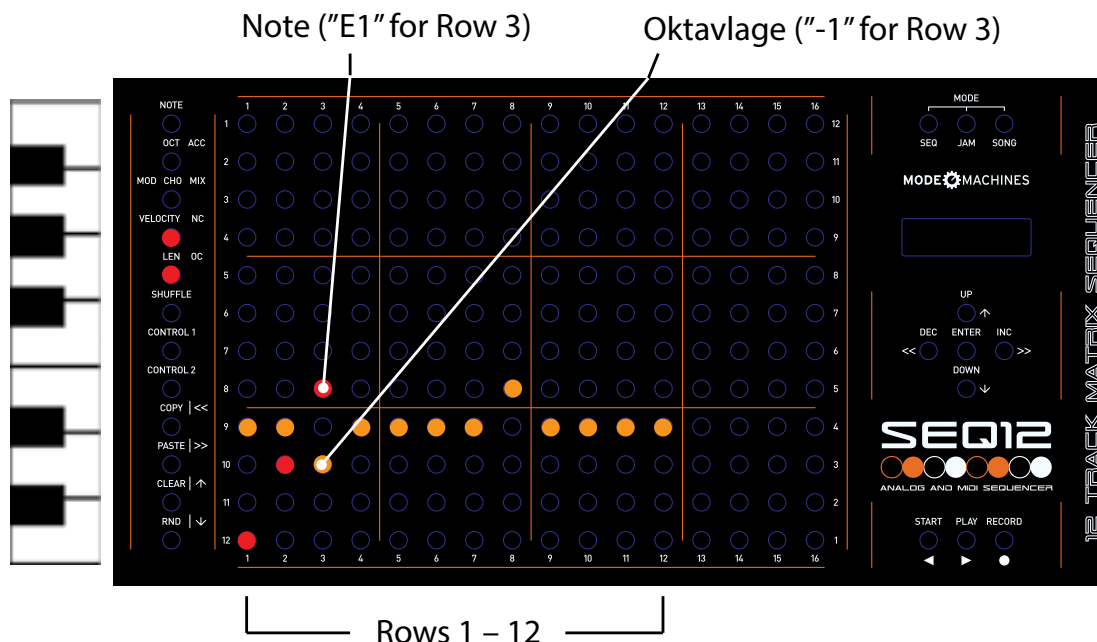


NC, OC

These functions adjust the **note** resp. the **octave** being transmitted for a step being set. This works exactly as described for track-type MONO.

However, the first twelve columns of the matrix represent the sub-track 1 to 12. Column 1 defines the transmitted note (note number) of the topmost line/sub-track, column 2 sets the note for line/sub-track 2 and so on...

## NC (Note) / OC (Octave) - View



SHUFFLE, CONTROL 1, CONTROL 2

8

These entries are carried out the same ways as in monophonic sequences.

## 8.5 Special functions in SEQ-mode for DRUM-PATTERNS

When programming patterns using track-type DRUM, there are a couple of useful functions available to edit the individual drum sounds in their lines:

- Random-function per line:  
Press **RND** with **RECORD** being enabled. Pressing a **FUNCTION-BUTTON** will now create a randomized trigger-sequence for the corresponding line.
- Clear-function per line:  
Press **CLEAR** with **RECORD** being enabled. Pressing a **FUNCTION-BUTTON** will now erase all notes and data in the corresponding line.

By switching off **RECORD** the line editing mode is disabled.

## 8.6 Odd-numbered sequence-lengths (STEP and TRIM) for all track-types

SEQ12 not only allows a selectable sequence-length of 1 to 16 steps, it is also possible to create longer sequences (up to 64 steps) that always run in sync with all other sequences. This is done by the TRIM function in interaction with the parameter STEP.

Find the functions *STEP* and *TRIM* (with **UP/DOWN**) in the **sequence-edit-menu** (press **ENTER**, see page 18) .

### STEP

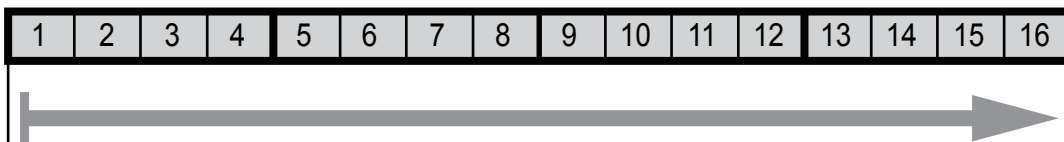
adjusts the length of the sequence (step number 1 to 16).

### TRIM

defines the number of steps that actually will be played for the sequence. The maximum value is 64. Now, how does this work?

With **TRIM = 0**, the sequence is simply played in its given length, defined by the **STEP** parameter.

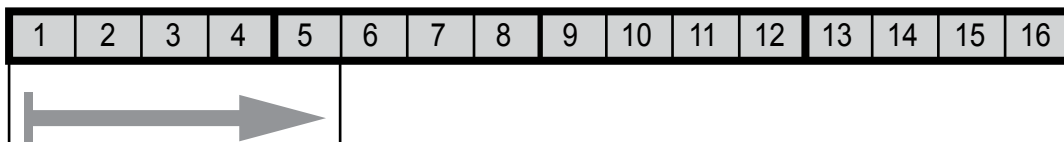
STEP = 16



TRIM = 0

With **TRIM ≤ STEP**, the sequence will only play the number of steps as being defined by TRIM and restarts from the beginning. With TRIM being set to 5, steps 1 to 5 are being played as a loop.

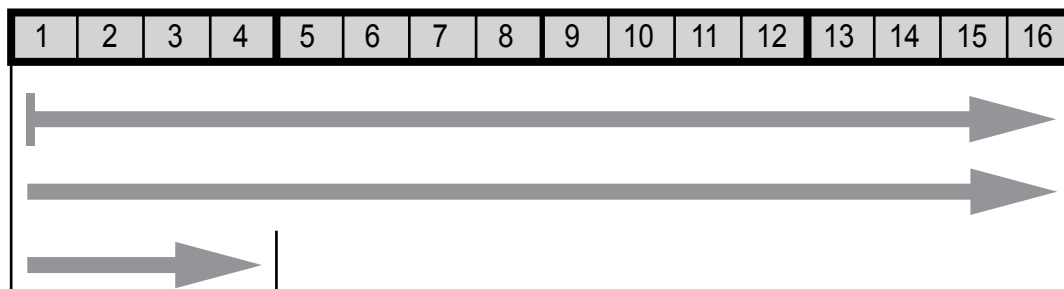
STEP = 16



TRIM = 5

With **TRIM ≥ STEP**, the sequence will be repeated if applicable before jumping back to the first step. With TRIM being set to e.g. 36, steps 1 to 16 will be repeated twice plus the following steps 1 to 4 (16 + 16 + 4 = 36). After that, the full sequence will restart from step 1.

STEP = 16



TRIM = 36



**Please note: Edits of STEPS and TRIM need to be confirmed by pressing ENTER. After pressing ENTER, the sequence will fully complete the previously defined course and will then commence with the next cycle.**

The parameter CLKDIV (clock-divider) multiplies the note-values of the sequence while the number of steps to be played will remain the same. Accordingly, the tempo of the sequence is slowed down by a factor being specified by CLKDIV.

Because of the parallel but synced processing of sequences with different lengths, you can create polyrhythmic figures of musical interest.



**TIP: The TRIM-function is suited for live-performances: To do so, change TRIM-values and as a result the sequence course during playback. For example, you can create bar-synced breaks and comparable events.**

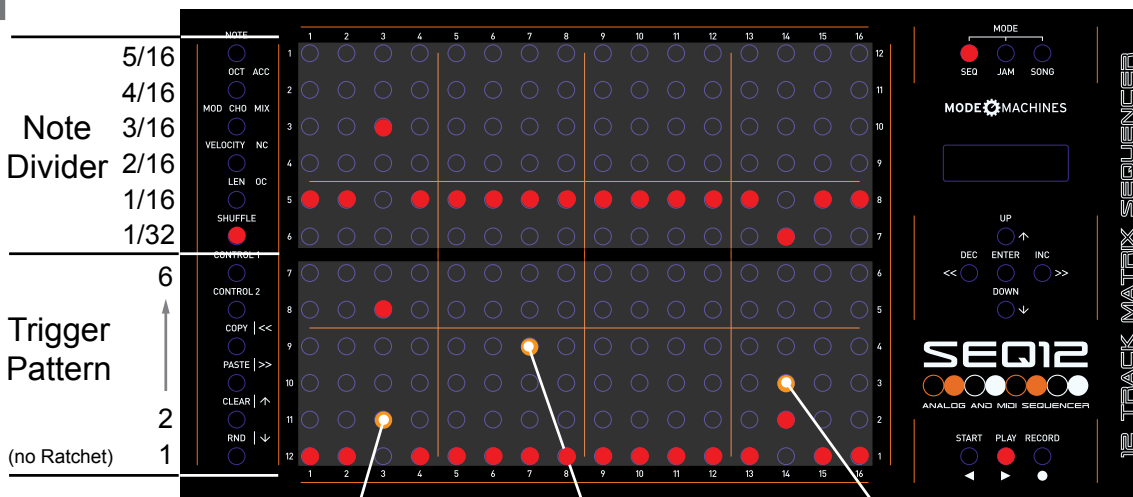
### 8.7 RATCHET function (for all track-types)

Even more complex rhythmical functions can be achieved by using the ratchet-function. The ratchet-function allows to output multiple triggers per step. This enables easy creation of rolls, flams and comparable effects. To do so, SEQ12 offers six selectable trigger-patterns and a note-value to adjust the length of the trigger-pattern.

- To enable the ratchet-function, change to the sequence-edit-menu (press **ENTER**, see page 18) and use **UP / DOWN** to select the function *LINEAR / RATCHET*.
- Press the function-button **SHUFFLE**. The matrix now displays the ratchet-view.

8

#### RATCHET View



Step 3:  
Trigger Pattern 5  
Note Divider 3/16

Active Note(s)  
without Ratchet, e.g.  
Trg-Patt 1, Div 1/16

Step 14:  
Trigger Pattern 2  
Note Divider 1/32

The lower six matrix lines serve to select the **trigger-pattern** (lowermost line = trigger-pattern 1 resp. "no ratcheting", lines 11-7 = trigger-patterns 2-6).

The topmost five lines serve to select the **note-divider**. Line 6 equals 1/16 notes which is the default value. The upper five lines offer the values 1/32, 2/16, 3/16, 4/16 and 5/16. The **clock-divider** of the sequence (*CLKDIV* in SEQ-menu) is also active and manifolds the step-duration if necessary.

Technical background: The trigger-patterns are binary trigger-sequences with six clock ticks per step ("1" = Trigger, "0" = no trigger):

Lowermost line	1	::	100000	::	regular trigger
2nd line	9	::	100100	::	dual trigger
3rd line	21	::	101010	::	triple trigger
4th line	3	::	110000	::	fast dual trigger
5th line	27	::	110110	::	fast double dual trigger
6th line	45	::	101101	::	pattern trigger



**TIP: By assigning different trigger-patterns and clock-dividers to the steps, you can come up with pretty unconventional sequences. When adjusting the reset of a sequence using TRIM, synchronicity of all sequences is still ensured.**



**TIP: Since the ratchet-function allows sequences with 1/32th notes, the timing resolution of the controller-values will also be increased in this case. Here, controller-values can be recorded and reproduced at a higher resolution.**

## 8.8 COPY / PASTE / CLEAR (for all track-types)

The lowermost four function-buttons offer the commands **COPY** and **PASTE** as well as a delete-function for sequences (**CLEAR**). Furthermore, options to move a sequence are available as secondary functions. These are available with **RECORD** being enabled.

### COPY / PASTE Sequence

This function allows copying MIDI-data of the currently active sequence to be pasted into another sequence of the same track.

- Open the sequence to be copied. The view does not matter.
- Press **COPY**. The full sequence (all MIDI-data) will be copied to the SEQ12's buffer-memory.
- Select the target sequence on the same track using **DEC / INC**.
- Press **PASTE**. The full sequence (all MIDI-data) will be pasted into the target-sequence.



**Attention: Possibly existing data in the target-sequence will be overwritten!**

### CLEAR Sequence

This function allows to delete all MIDI-data of the currently active sequence with „one click“. The result is an empty „default“-sequence.



**Attention: The delete command is carried out immediately and is irreversible!**

## SHIFT / PITCH SHIFT Sequence

The functions allows moving MIDI-data of the current sequence horizontally and vertically.

- Open the sequence to be copied[Ulf1]. The view does not matter. However, the NOTE-view makes most sense.
- Press **RECORD** to enable the second functions for the lowermost four function-buttons.
- Use << resp. >> to move the sequence-data stepwise to the left or right.
- Use ↑ resp. ↓ to move all notes of the current sequence chromatically up or down.

## 8.9 Random generator RND (for all track-types)

Function-button 12 offers a random-function. Press **FUNCTION-BUTTON 12** to randomize the MIDI-data of the current sequence:

<b>View</b>	<b>generates random values for</b>
NOTE:	notes and velocity
MOD, CONTROL1,2 :	controllers only
VELOCITY	velocity-data only
SHUFFLE	the shuffle-pattern resp. ratchet-pattern

## 8.10 MIDI-THRU

**8**

With the function „THRU“ being enabled for a sequence, received MIDI-controller-data will be passed on to the connected instrument. This makes sense, in case you use a master-keyboard with additional controls.

However, if you use a synthesizer with an integrated keyboard, the knob-movements will of course automatically be passed on internally in the instrument. The THRU-parameter of SEQ12 should then be switched off.

Several synthesizers offer a function called „local off“. It separates keyboard and controls from the sound-engine.

## 8.11 Recording notes and controllers using an external MIDI-keyboard

In alternative to the programming via the matrix, a MIDI-keyboard can be used to enter notes and MIDI-controller-data.

To do so, call up one of the controller-views „CONTROL 1“, „CONTROL 2“ or „MOD“ while in SEQ-mode and activate **RECORD**. Now, the next received controller will be recorded to the selected controller-track. This works with sequencer-playback being enabled or stopped.

- Recording of notes and controller-data with the sequencer running (**PLAY & RECORD**)  
In SEQ-mode, received MIDI-data of a connected keyboard will always be recorded to the track being currently visible.  
When in JAM- or in SONG-mode, recording will be to the last visible track.



**Important: To record incoming MIDI-controller-data, the corresponding controllers MOD, 1 or 2 need to be set upfront in the SEQ-edit-menu.**

- Recording of notes and controllers with the sequencer being stopped.  
Whenever **RECORD** is enabled while the sequencer is being stopped in SEQ-mode, it is possible to select sequence-steps using **DEC / INC** to record incoming notes. This also works for chords and controller-data.



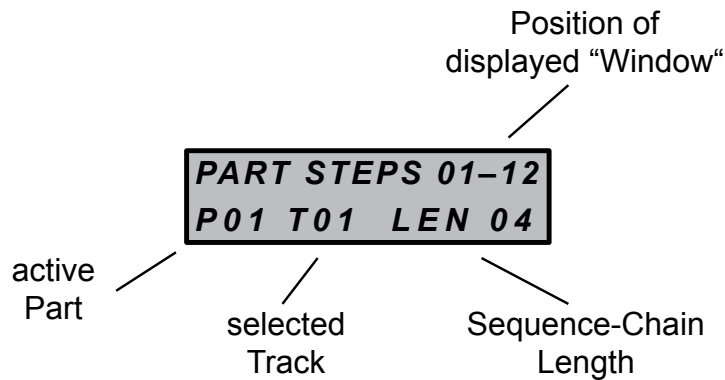
**TIP: In case three controllers are not sufficient and velocity has already been used, another track of the SEQ12 can be configured in a way that this track's controllers will also be routed to the targeted instrument. This second track may of course feature a different timing which again can lead to interesting effects.**

# 9. SONG-MODE

The SEQ12's song-mode allows chaining sequences to longer structures. It is possible to create a sequence-chain of up to 64 steps in length for each of the 12 tracks. For each step, one of the 16 sequences can be selected and played. Sequence-chains are programmed and played back in SONG-mode.

In addition, the song-mode allows arranging sequence-chains in parallel as so-called PARTS.

Press **SONG** until display and the matrix looks like this:



## SONG-Mode

9

Seq-chain Steps

Displayed Track

Locator-Bar

NOT

OCT ACC

MOD CHO MIX

VELOCITY NC

LEN OC

SHUFFLE

CONTROL 1

CONTROL 2

COPY <<

PASTE >>

CLEAR ↑

RND ↓

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

1 2 3 4 5 6 7 8 9 10 11 12

MODE

SEQ JAM SONG

MODE MACHINES

UP ↑

DEC ENTER INC

<< DOWN >>

DOWN ↓

SEQ12

ANALOG AND MIDI SEQUENCER

START PLAY RECORD

12 TRACK MATRIX SEQUENCER



## 9.1 Sequence-Chains

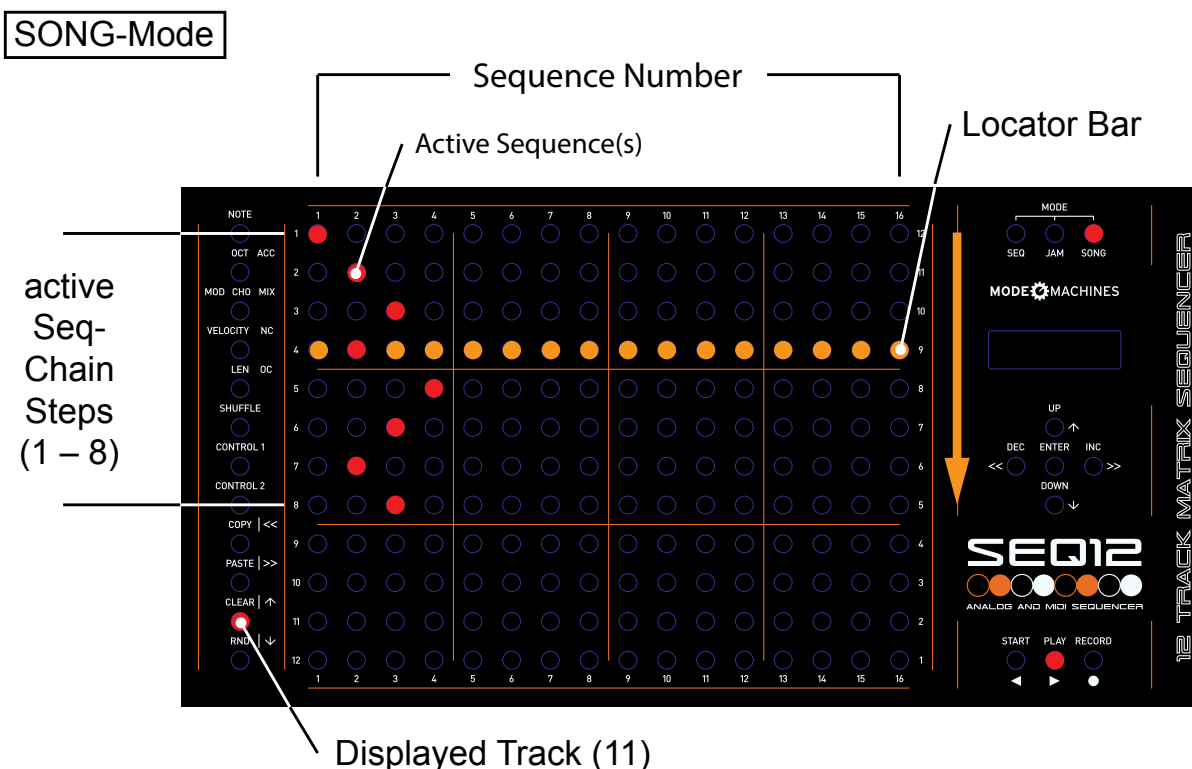
The **FUNCTION-BUTTONS** (left) select the current track. Also, the display shows the current track (e.g. *T01*).

Each matrix-**line (!)** now represents a step of the sequence-chain. Use matrix-buttons **1** to **16** to select the sequence to be played by this step.

Lines below each other form a **sequence-chain**. Their length (1 to 64 steps) is indicated by the LEDs in the first column (the graphic on page 32 displays four steps).

- Select the number of steps for the current sequence-chain using **DEC / INC**. You will see the changes by the length of the vertical LED-bar in column 1. The display will also show the number of steps (e.g. *LEN 04*).
- Press **PLAY** to playback the sequence-chain. The **locator** will move from top to below!

The following example visualizes the **sequence-chain of track 11**. It contains eight steps: Step 1 plays sequence 1, step 2 plays sequence 2, step 3 plays sequence 3, step 4 plays sequence 2, step 5 plays sequence 4, step 6 plays sequence 3, step 7 plays sequence 2 and step 8 calls up sequence 3.

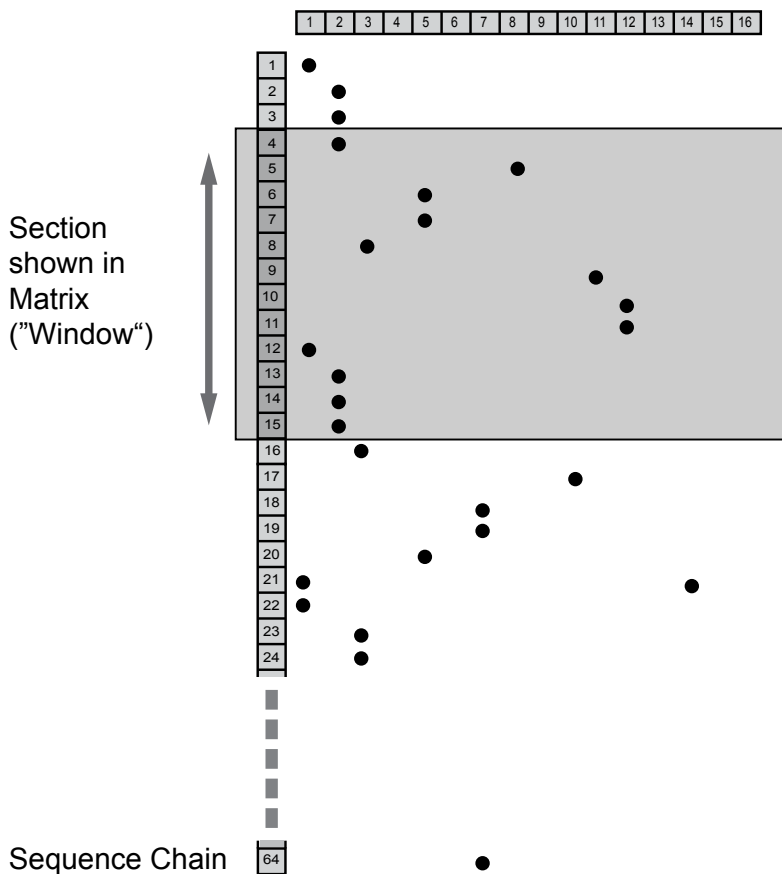


Of course, the matrix is only capable of displaying 12 of 64 possible steps of a sequence-chain. Therefore it serves as a „**window**“ which will always display a section of twelve steps which can be moved across the sequence-chain using the **UP** and **DOWN** buttons (see upper graphic on page 34).

The display will inform you about the position of the „window“ that can currently be seen in the matrix: STEPS 01-12 shows the beginning of each sequence-chain, STEPS 09-20 will display a corresponding later section within the chain. In this example, the matrix displays nothing, because the sequence-chain only contains of four steps.

Track X

Sequences



While a sequence-chain is played back, you can change into **JAM-mode** at any time. Here, you can start any sequence to your liking to modify the predetermined course. Once the selected sequence in JAM-mode has been completed, the SEQ12 will continue the course of the sequence-chain.



**PLEASE NOTE:** With the length of the sequence-chain being set to „0“, the selected sequence in JAM-mode will always be played.

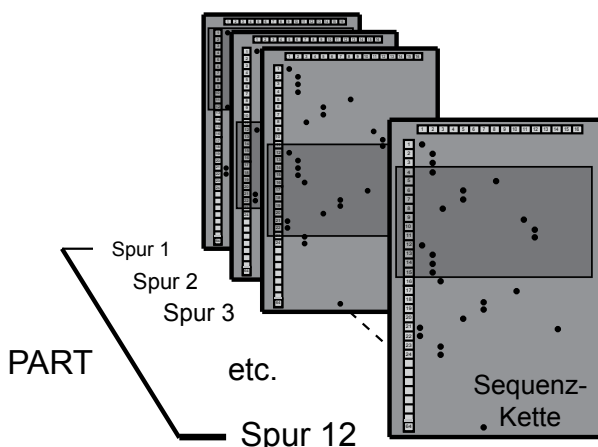
9



**TIP:** In case you switch to a sequence with a different length (trim-value), you might end up with interesting rhythmical shifts during playback.

## 9.2 PARTS

All sequence-chains of tracks 1 to 12 commonly form a **Part**. In other words: A part will play back the sequence-chains of all tracks simultaneously.

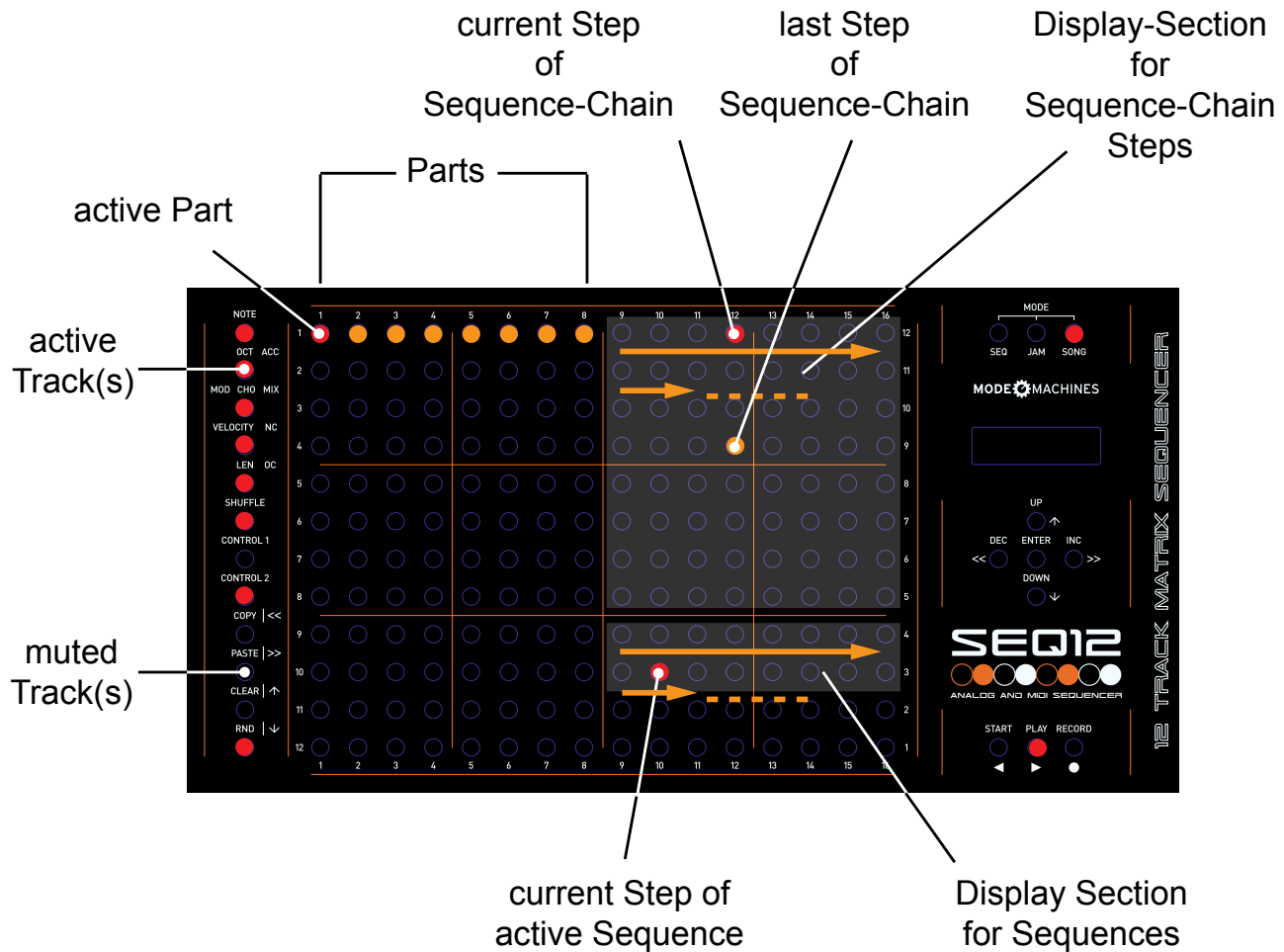


In **select-part-mode**, one out of eight save-able parts can be called up and played back. Given that parts could equal song-parts, you will have a choice of intro, verse, break or outro, which can all be called up to taste. Parts can additionally be switched „on the fly“. The changeover to the next selected part will be carried out after the sequence-chain of track 1 has been completed. The sequence-chain of track 1 is the timing-reference for such switching of parts.

**PLAYING PART**  
**1**

Continuously press SONG to the reach select-part-mode.

The matrix shows:



The **MATRIX-BUTTONS 1 to 8** of the first track are half-dimmed. They are assigned with the eight available **parts**. The button of the current part is fully lit.

In this view, the matrix also displays the progress of the sequence-chain (in this case track 1).

- Lines 1 to 8 of columns 9 to 16 represent the **64 steps** of the currently active **sequence-chain**.
- The area of lines 9-10 and columns 9-16 displays the current **step** of the sequence (track 1 which is the timing-reference)

In this example, part 1 is played back, currently step 4 of 28 sequence-chain-steps. Track 1 has reached step 10 within the current sequence.

Select Parts:

Press one of the **MATRIX-BUTTONS 1 to 8** to select the part. With the sequencer running, the change of the part will not be carried out until the sequence-chain in track 1 has been fully completed (because track 1 is the timing master).

While waiting for the sequence-chain to be completed, the corresponding part-button will flash.



**PLEASE NOTE: Switching parts will not be recorded or processed within a sequence.**



**TIP: While a sequence-chain is played back, it is possible to activate a different sequence in JAM-mode. The automatic „jump back“ into the sequence-chain ensures that you immediately move back into an ordered sequence- and note-structure. This way, it is possible to drop-in sequence-sections such as variations, fills or blend in percussions or bass lines during live improvisation. The corresponding lengths of the sequences being „inserted“ can influence the further course.**



**TIP: In case you do not want the predestined course of the PART to regain „control“ after the „improvised“ sequence has been completed, it is recommended to create an empty PART without any sequence-chains that can be used for improvisations. Here, you can freely improvise.**

Track-mutes

In **select-part-mode** (LCD shows „*PLAYING PART*“), the function-buttons serve as mute buttons. Active tracks light up fully, muted tracks are dark (please refer to page 35). In the figure, tracks 7, 9, 10 and 11 are muted.



**Muted tracks do not transfer MIDI-notes but controller-data. Sound manipulations by controllers will remain active this way.**

## 10. PLAYBACK-FUNCTIONS AND MIDI

The transport functions are selected by the three buttons to be found in the lower right of the SEQ12.

### START

starts the current part, the sequence-chain or the sequencer – depending on the mode being selected. In song-mode, all sequence-chains will be played back from the beginning. A MIDI-start-command is being transmitted.

### PLAY

lights up, if SEQ12 is running. This button is used to stop and restart the playback.

### RECORD

With the RECORD button enabled, received notes will be recorded to the currently selected sequence. This will overwrite existing data in the current sequence. This works in each of the modes.

The current sequence is the either the sequence being currently or last edited in SEQ-mode or the sequence being currently played back in JAM- or SONG-mode.

In SONG-mode, received MIDI-data will be channeled to the selected track.

External controller-data will be recorded if the received controller-data equal the controller-number as specified under CONTROL 1, 2 or MOD. Whenever RECORD is activated explicitly in any of the views „C1“, „C2“ or „MOD“, the received controller-numbers will be used.

Find more details in chapter 9. SEQ-Mode / 9.10 MIDI-THRU“ on page 30.



**PLEASE NOTE: The RECORD button is used as a 2nd-function-button for copy- and shift-functions in SEQ-mode.**

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# 11. RECAP: SUMMARY OF FUNCTIONS / BUTTON-ASSIGNMENTS

MODE	Function Buttons	Matrix	Display and Navigation-Cursor
SEQ	View Selection Copy Function Delete Function Randomgenerator	Sequence Data (Notes, Velocity, MIDI-Controller)	Sequence Parameter
JAM	Track Mute	Active Sequence	Tempo, Load, Store, Configuration
SONG	<b>Select Part View:</b> Mute <b>Sequence View:</b> current Track	<b>Select Part View:</b> current Part, next Part, current Playback Position of Track 1 (Timingmaster) <b>Sequence Chain View:</b> Sequence chain "Window"	<b>Select Part View:</b> Length of Sequence-Chain, Viewing-Section ("Window")

## 12. APPENDIX

### Terms of Warranty

Please find all service- and warranty-informationen on our webseite:

**[www.modemachines.com/imprint](http://www.modemachines.com/imprint)**

### CE norm & FCC information

1. Important notice: do not modify this unit! This product, when installed as indicated in the instructions contained in this manual, is compatible with the CE norm & FCC requirements
2. Important! When connecting this product to accessories and/or another product, use only high quality .shielded cables. Cables supplied with this product must be used. Follow all installation instructions. Failure to follow instructions could void your FCC authorisation to use this product in the USA.

Note: this product has been tested and found to comply with the requirements listed in FCC Regulations, Part 15 for Class B digital devices & in The European Standard EN 50081-1 on Electromagnetic Compatibility – Generic emission standard on residential, commercial and light industry. Compliance with these requirements provides a reasonable level of assurance that the use of this product in a residential environment will not result in harmful interference with other electronic devices.

### Disposal

This device complies to the EU guidelines and is manufactured RoHS conform without the use of led, mercury, cadmium and chrome. Still, this device is special waste and disposal in household waste is not permitted.

For disposal, please contact your dealer or:

MODE MACHINES c/o LOGATEC GmbH Logistik Technologie, Im Funkwerk 3, 99625 Koelled, Germany

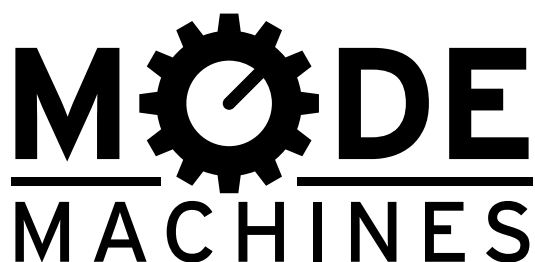
## **Imprint**

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English version by Ulf Kaiser, Berlin, Germany

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Specifications subject to change without notice.

Although the content of this owners manual has been thoroughly checked for errors, Mode Machines cannot guarantee that it is error-free throughout. Mode Machines cannot be held liable for any misleading or incorrect information within this guide.



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## Safety Instructions

Before using SEQ12, please follow the instructions for use of the instrument as this will warrant proper operation of the instrument. Due to the fact that these instructions touch on product liability, we recommend you reading them carefully. Any claim for defect will be rejected if one or more of the topics have not been observed. Ignoring the instructions can eventually void warranty.

- RISK OF ELECTRIC SHOCK! DO NOT OPEN OR MODIFY SEQ12.
- REFER SERVICING TO QUALIFIED SERVICE PERSONNEL ONLY.
- TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE.
- The instrument may only be operated at the voltage noted on the power input on the rear panel. Before plugging in SEQ12, always check for the correct voltage. Before using SEQ12 in a foreign country, check whether the mains voltage is compatible with the unit.
- When SEQ12 is not in use, disconnect the power supply from the power outlet. This will save energy (and keep your electric bill within reason).
- Never attempt to repair SEQ12 on your own. Never open the casing. For technical support, please get in touch with Mode Machines.
- The instrument is not to be operated outdoors (never ever!) but in dry, closed rooms only. Never use the instrument in a moist or wet environment or near flammable materials.
- No liquids or conductive materials must get into the instrument. If this happens to be the case, the instrument is to be disconnected from mains power immediately and examined, cleaned, and eventually repaired by a qualified person (that would be us).
- Never expose the instrument to temperatures above +50 °C or below -10 °C. Before powering up, the instrument should have a temperature of at least +10 °C. Do not place the instrument in direct sun light. Do not install the instrument near heat sources such as radiators, open fire places.

- Keep the top of the instrument clear in order to warrant proper ventilation, otherwise the instrument may overheat and malfunction. Never place heavy objects on the instrument.
- Before moving place with SEQ12, make sure the unit is disconnected from other devices (external controllers, mixers etc.). If not, watch for cables and other pitfalls. Funny films can be uploaded to the internet.
- Transport the instrument carefully, never let it drop or be rude to it. Make sure that, during transport and while in use, the instrument is properly supported (no pizza cartons or king-size buckets of chicken-wings) and cannot fall or slip from your (possibly greasy) fingers – people might get injured and, even worse, sue you for this.
- Never use the instrument in the immediate proximity of interfering electronic devices (e.g. computers and monitors, power supplies, speakers, flux compensators, or hadron colliders) since this might cause MAGMA to behave erratically – and may result in corrupted memory data as well.
- Before cleaning SEQ12, make sure the unit has been unplugged.  
Use a soft, dry cloth only to clean SEQ12. Never use any liquids, abrasive cleaners or cleaners containing solvents such as alcohol, turpentine, or other spirits (such as Scotch Single Malts in cask strength).
- The instrument is to be shipped in the original packaging only. Any instruments shipped to us for return, exchange, repairs covered under warranty, update or examination must be in their original packaging! Any other deliveries will be rejected. Therefore, you should keep the original packaging and this user documentation – if only as a doorstop.
- The instrument may only be used for the purpose described in this operating manual. Due to safety reasons, the instrument is never to be used for purposes other than musical (e. g. disintegrating neighbours, bending the space-time continuum, impressing girls etc.).

- When using the instrument in Germany, ACHTUNG: the appropriate VDE standards are to be obeyed. The following standards are of special and utmost importance: DIN VDE 0100 (Teil 300/11.85, Teil 410/11.83, Teil 481/10.87), DIN VDE 0532 (Teil 1/03.82), DIN VDE 0550 (Teil 1/12.69), DIN VDE 0551 (05.72), DIN VDE 0551e (06.75), DIN VDE 0700 (Teil 1/02.81, Teil 207/10.82), DIN VDE 0711 (Teil 500/10.89), DIN VDE 0860 (05.89), DIN VDE 0869 (01.85). VDE papers can be obtained from the VDE-Verlag GmbH, Berlin. German readers will know where to turn to, all others do not really need to bother.

**MODE  MACHINES**