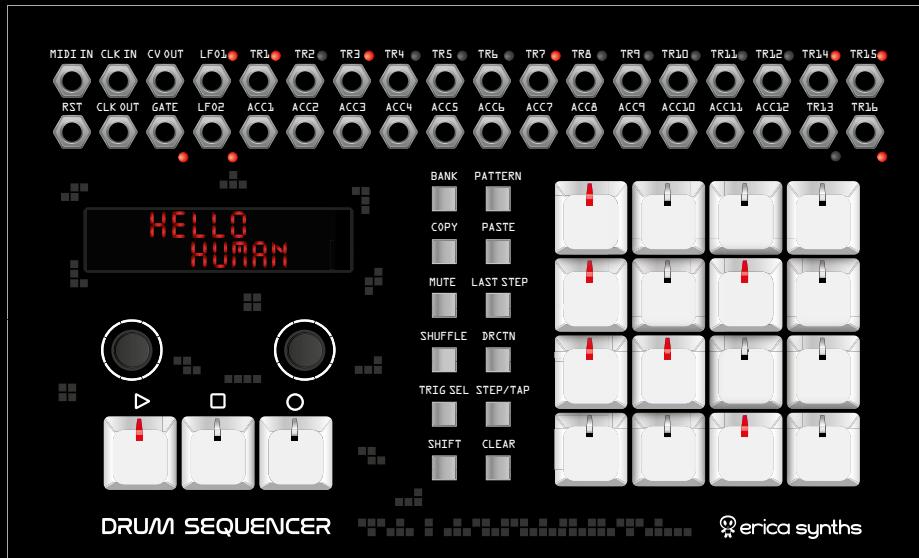


# DRUM SEQUENCER



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DRUM SEQUENCER!

We believe, this is the end of the history performance sequencer for modular drums and basslines. It's easy to use, classical, XOX style live performance oriented module that provides the ultimate control over your modular system.

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This is manual for the Drum Sequencer Firmware 1.047.  
For the latest firmware and manual please check:  
[www.ericasynths.lv](http://www.ericasynths.lv)

 erica synths

# erica synths DRUM SEQUENCER MODES & MENUS

1. All Underlined text in this document is hypertinked to relevant destinations

2. Menus, modes, or parameters are often herein worded in multiple ways or with extra words, so that you can easily search for what you want to do in your own words. Give it a try by pressing **Ctrl+F** (or **Cmd+F** on Mac) and describing what you would like to do on Drum Sequencer

3. Updated to firmware version 1.056

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### Change Logs





From Pattern Play Mode, While Sequence is ON:

1. Press ●(RECORD) to Save before Copying

2. To Copy & Paste Current Pattern While Playing:

Hold COPY + Press STEP KEY for Pattern to Copy (a "COPIED!" splash screen will appear)

Hold PASTE + Press STEP KEY for Destination Pattern Slot (as of firmware v. 1.056 a "PASTE" splash screen will appear)

3. If satisfied, Press ●(RECORD) Button to Save after Copying must save after copy/paste [just get in the habit of pressing ●(RECORD) a lot]

NOTE: Must stop the sequence in order to Paste Patterns into a different Bank. The above functionality only works within a single Bank.

### Clear Pattern

Hold STEP KEY + Press CLEAR Button from Pattern Play Mode

### Pattern Link

To chain a group of Patterns within the same Bank (played left-to-right, top-to-bottom, in order). Hold STEP KEY for starting Pattern + Press STEP KEY for the last Pattern in the chain

### Move All Pattern Steps

Move all Steps within all Tracks within a single Pattern

Move Steps Left:

Hold SHIFT + Press COPY (multiple presses of COPY while holding SHIFT to move >1 sequence slot to the left)

Move Steps Right:

Hold SHIFT + Press PASTE (multiple presses of PASTE while holding SHIFT to move >1 sequence slot to the right)

If satisfied, Press ●(RECORD) Button to Save

### PATTERN LAST STEP

#### Overview: Description

In Pattern Play Mode, sets the

Total Number of Steps in a Pattern, as a function of the Step Number that is chosen to be Last

Total Number of Bars in a Pattern

[Submenu Default: Bar = 1, Step = 16]

#### Overview: LEDs

LAST STEP Button LED is Solid ON when LAST STEP button is pressed and held in Pattern Play Mode

#### Overview: Access/Exit Method

To Access Pattern Last Step:

Hold LAST STEP Button in Pattern Play Mode

To Exit Pattern Last Step:

Release LAST STEP Button in Pattern Play Mode

### Step Key Function

Use STEP KEYS in this Submenu to Select Last Step value for the chosen on-screen Bar Number

#### Bar

Sets the Number of Bars for the Pattern by using ENC1 (Encoder 1) [1-4; Default: 1]

#### Step

Sets the Last Step value/Number of Steps for the Pattern either by:

ENC2 (Encoder 2) turn

STEP KEY press (dependent on current Bar length value) [1-64; Default: 16]

### PATTERN SHUFFLE (SWING)

#### Overview: Description

In Pattern Play Mode, sets the Shuffle (Swing) Amount for all Tracks in the currently selected Pattern

[Submenu Default: No Shuffle, a.k.a. 50% Swing]

#### Overview: LEDs

SHUFFLE LED is Solid ON for as long as the SHUFFLE Button is held in Pattern Play Mode

#### Overview: Access/Exit Method

To Access Pattern Shuffle:

Hold SHUFFLE Button in Pattern Play Mode

To Exit Pattern Shuffle:

Release SHUFFLE Button in Pattern Play Mode

#### Step Key Function

Use STEP KEYS in this Submenu to Change Current Pattern

#### Pattern Shuffle (Swing) Value

Represented in "ticks" along a horizontal axis, where

1st "tick" (far left) = No Shuffle

Last "tick" (far right) = Maximum Shuffle

Use ENC2 (Encoder 2) to change Shuffle Value

[1-7; Default: 1]

### PATTERN DIRECTION

#### Overview: Description

Sets the direction of step movement after starting a Pattern

[Submenu Default: FORWARD]

#### Overview: LEDs

DRCTN LED is Solid ON for as long as the DRCTN Button is held in Pattern Play Mode

#### Overview: Access/Exit Method

To Access Pattern Direction:

Hold DRCTN Button in Pattern Play Mode

To Exit Pattern Direction:

Release DRCTN Button in Pattern Play Mode

### Step Key Function

Use STEP KEYS in this Submenu to Change Current Pattern

#### Pattern Direction Value & Available Pattern Directions

Use ENC2 (Encoder 2) to change Pattern Direction

FORWARD: Steps progress in numerical order, and visually from Left-to-Right, Top-to-Bottom

BACKWARD: Steps progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top

PING-PONG: Steps progress in numerical order, and visually from Left-to-Right, Top-to-Bottom until the end of the sequence, where steps then progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top until Step 1

RANDOM: Steps progress in an aperiodic, unpredictable order, and visually from any STEP KEY LED to any other

[FORWARD, BACKWARD, PING-PONG, RANDOM; Default: FORWARD]

### PATTERN EDIT MODE

#### OVERVIEW

##### Description

The Default Mode loaded at Power ON, Pattern Edit Mode relates to parameters for a currently selected Track within a Pattern/Bank

##### LEDs

PATTERN LED Flashes ON

##### Access/Exit Method

To Access Pattern Edit Mode:

Press PATTERN Button once from any other mode, otherwise it is the Default Mode loaded at Power ON

To Exit Pattern Edit Mode:

Press PATTERN Button once to enter Pattern Play Mode, or enter another Mode or Submenu

#### MAIN PARAMETERS

##### Step Key Function

Use STEP KEYS in this Mode to Enter & Delete a Trigger(s) for currently selected Track, or add an Accent(s) (if enabled) to currently selected Trigger within a Track

##### Transport Controls

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

### ● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

### BAR

Selects from up to 4 sets of 16 trigger/accents slots per Track to be displayed by the STEP KEYS, where each Bar = 16 possible trigger/accents slots  
Displayed as [ # # ], where

left value shows Bar currently playing (or that will play when sequence is activated) and

right value shows Bar currently in view on the STEP KEY LEDs

Can enable Bar Auto Follow from this parameter

[1-4; Default: 1]

### LEN

Indicates the Length of a given Track represented by a value from 1-64, where each value represents one Trigger/Accent slot & one Step

Bar parameter values will automatically adjust to the chosen LEN value, where each group of 16 values represents another Bar

[1-64; Default: 16]

### SCL

Indicates the amount of time that each sequence step (whether Trigger, Accent, or Rest) will occupy, represented by a fraction of one clock pulse [1/4, 1/8, 1/16, 1/32; Default: 1/16]

### TRIG

Indicates the currently displayed Track (Tracks 1-16 or CV Track), represented by a number from 1-16 (corresponding to each of the 16 Trigger/Accent Tracks); OR, CV (corresponding to the CV/Gate Track)

[1-16, CV; Default: 1]

## ADDITIONAL PARAMETERS

### Change Track // Track Select

To quickly change track / select new track / choose new track

For Trigger Tracks (TR 1-16), from Pattern Edit Mode or Step Events Mode:

Hold TRIG SEL + Press Corresponding STEP KEY for Tracks 1-16; OR,

Use ENC1 (Encoder 1) to scroll to TRIG parameter + Use ENC2 (Encoder 2)

to scroll to desired Trigger (TR) Track

NOTE: Can use either of the above methods to access the Reset Out, if configured in place of Trigger Track 16 (TR16) in Settings

For CV/Gate Track (CV), from Pattern Edit Mode or Step Events Mode:

Hold TRIG SEL + Press ENC2 (Encoder 2)

Use ENC1 (Encoder 1) to scroll to TRIG parameter + Use ENC2 (Encoder 2)

to scroll to "CV"

### Copy Track & Paste Track

From Pattern Edit Mode:

1. Press ● (RECORD) Button to Save before Copying

2. To Copy a Track:

Press COPY Button in Pattern Edit Mode

3. To Paste:

Select destination Track via TRIG SEL (see Track Select) Button

Press PASTE Button

4. If satisfied, Press ● (RECORD) Button to Save after Pasting **must save after copy/paste** (just get in the habit of pressing ● (RECORD) a lot)

### Copy Track into Different Pattern & Paste Track into Different Pattern

From Pattern Edit Mode:

1. Press ● (RECORD) Button to Save before Copying

2. To Copy a Track:

Press COPY Button in Pattern Edit Mode

3. To Paste into a different Pattern:

Press PATTERN Button to enter Pattern Play Mode, select destination Pattern Hold TRIG SEL, or scroll in TRIG parameter to select destination Track  
Press PASTE Button

4. If satisfied, Press ● (RECORD) Button to Save after Pasting **must save after copy/paste** (just get in the habit of pressing ● (RECORD) a lot)

### Clear Track

To Clear a Track from Pattern Edit Mode:

Hold SHIFT + Press CLEAR Buttons to clear the whole track at once; OR, Hold CLEAR Button while the sequence is running to clear the track at the rate that the sequence progresses

i.e. Can remove sections trigger steps within a given Track, without having to clear the entire Track

### Step Entry [Add Step] & Step Delete [Remove Step]

To Enter a Step or Delete a Step from Pattern Edit Mode:

To Enter a Step: Press any STEP KEY, STEP KEY LED will turn Solid ON

To Delete a Step: Press any STEP KEY with an active Trigger enabled, STEP KEY LED will turn OFF

### Enable/Disable Accents

To Enable Accents or Disable Accents for a given Track, either:

Hold SHIFT + Press TRIG SEL from Pattern Edit Mode; OR,

Use ENC1 (Encoder 1) to scroll to TRIG parameter, then press ENC2 (Encoder 2)

TRIG Parameter will display a "+" after the Track number to indicate that Accents are enabled (inversely, if there is no "+" after the track number, Accents are not enabled)

NOTE: Accents are only available for Tracks 1-12 (Tracks 13-15 are Trigger only, and Track 16 is either Trigger only or CV/Gate)

### Accent Entry & Accent Delete

Once Accents are enabled:

To Enter Triggers without Accents: Single Tap STEP KEY

To Enter Triggers with Accents: Double Tap STEP KEY

LED for Triggers without Accents: 50% Brightness

LED for Triggers with Accents: 100% Brightness

To Remove an Accent (but retain the Trigger):

Double Tap STEP KEY for any step currently set to Accent

Remember to press ● (RECORD) Button **save your entries**, as switching Modes, Tracks, or Patterns will often erase changes made in other screens unless saved

NOTE: Accents are only available for Trigger Tracks 1-12

NOTE: Accent Outputs can be individually reduced from the default 10V to 5V via AC parameter in Settings

### Copy Step & Paste Step [from Step Events Mode]

Copy & Paste individual steps from Step Events Mode

Step will be copied with all parameters intact, including:

Whether it is a Trigger without Accent or Trigger with Accent  
Pattern Edit Mode parameter values

Step Event Mode parameter values

Note Edit Mode (CV/Gate Track only) parameter values

All other relevant parameters to Trigger or CV/Gate Track steps

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the Step that will be copied

2. Press COPY Button

To Paste a Step:

1. Press STEP KEY for the destination Step Slot

2. Press PASTE Button

3. If satisfied, Press ● (RECORD) Button to Save

### Copy Step & Paste Step into a Different Track [from Step Events Mode]

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the Step that will be copied

2. Press COPY Button

To Paste a Step:

1. Navigate to destination Track (whether it be TR 1-16 or CV/Gate Track)

2. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the destination Step in the destination Track

3. Press PASTE Button

4. If satisfied, Press ● (RECORD) Button to Save

### Clear Track Steps

To Clear Track Steps:

Hold SHIFT + Press CLEAR

Track will be reset to Default settings, except that Tracks Accent ON/OFF is retained:

Length (LEN): 16

Scaling (SCL): 1/16

All Triggers/Accents are removed

Step Events parameters reset to default

### Save

Press ● (RECORD) button to Save at any time

### Undo ("Pattern Reload")

To Undo or Recall to the Last Saved State of a Pattern:

Hold ENC1 (Encoder 1) + Press ENC2 (Encoder 2)

## **Move All Track Steps**

To Move all Steps within a single Track:

Move Steps Left:

Hold SHIFT + Press COPY (multiple presses of COPY while holding SHIFT to move >1 sequence slot to the left)

Move Steps Right:

Hold SHIFT + Press PASTE (multiple presses of PASTE while holding SHIFT to move >1 sequence slot to the right)

If satisfied, Press ●(RECORD) Button to Save

## **Bar Auto Follow**

Maintains the same value for the Bar in view and the Bar currently playing STEP KEY LEDs update in real time to show the Bar that is currently playing once the sequence is activated, LEDs "scroll" with the Track as it is playing Displayed as # → #, where Left value and Right value are always the same

## **Track Last Step**

To quickly set the Last Step – and therefore to quickly set the length – of a Track in Pattern Edit Mode or Step Events Mode:

1. If Track Last Step / Track Length >16, use ENC2 (Encoder 2) in BAR parameter of Pattern Edit Mode to scroll to the appropriate Bar  
Bar 2: Tracks 17-32 steps long  
Bar 3: Tracks 33-48 steps long  
Bar 4: Tracks 49-64 steps long

2. Hold LAST STEP + Press STEP KEY for desired last step in the Track [LEN value will change on OLED Screen in Pattern Edit mode]

3. If satisfied, Press ●(RECORD) Button to Save

## **Toggle Track 16 as Trigger or Toggle Track 16 as Reset Out**

See Settings page 2 under RST

## **TRACK SHUFFLE (SWING)**

### **Overview: Description**

In Pattern Edit Mode, sets the Shuffle (Swing) Amount for the currently selected Track

[Submenu Default: No Shuffle, a.k.a. 50% Swing]

### **Overview: LEDs**

SHUFFLE LED is Solid ON for as long as SHUFFLE Button is pressed in Pattern Edit Mode

### **Overview: Access/Exit Method**

To Access Track Shuffle:

Hold SHUFFLE Button in Pattern Edit Mode

To Exit Track Shuffle:

Release SHUFFLE Button in Pattern Edit Mode

### **Step Key Function**

Use STEP KEYS in this Submenu to Add or Remove Triggers/Accents

## **Track Shuffle (Swing) Value**

Represented in "ticks" along a horizontal axis, where

1st "tick" (far left) = No Shuffle

Last "tick" (far right) = Maximum Shuffle

Use ENC2 (Encoder 2) to change Shuffle Value

[1-7; Default: 1]

## **TRACK DIRECTION**

### **Overview: Description**

Sets the direction of step movement within a Track

[Submenu Default: FORWARD]

### **Overview: LEDs**

DRCTN LED will be Solid ON for as long as the DRCTN Button is held in Pattern Edit Mode

### **Overview: Access/Exit Method**

To Access Track Direction:

Hold DRCTN Button in Pattern Edit Mode

To Exit Track Direction:

Release DRCTN Button in Pattern Edit Mode

### **Step Key Function**

Use STEP KEYS in this Submenu to Add or Remove Triggers/Accents

## **Track Direction Value & Available Track Directions**

Use ENC2 (Encoder 2) to change Track Direction

FORWARD: Steps progress in numerical order, and visually from Left-to-Right, Top-to-Bottom

BACKWARD: Steps progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top

PING-PONG: Steps progress in numerical order, and visually from left-to-right, top-to-bottom until the end of the sequence, where steps then progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top until Step 1

RANDOM: Steps progress in an aperiodic, unpredictable order, and visually from any STEP KEY LED to any other

[FORWARD, BACKWARD, PING-PONG, RANDOM; Default: FORWARD]

## **MUTE MODE**

### **OVERVIEW**

#### **Description**

Use this mode to mute & solo tracks on command, including conditionally via arming

#### **LEDs**

MUTE LED is Solid ON

#### **Access/Exit Method**

To Access Mute Mode:

Press MUTE Button

To Exit Mute Mode:

Press MUTE Button (you will return to the previous mode, or Pattern Edit mode by Default)

## **MAIN PARAMETERS**

### **Step Key Function**

Use STEP KEYS in this Mode to Mute, Unmute, Solo (w/ SHIFT), or Unsolo (w/ SHIFT)

### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

### **LFO**

Press ENC1 (Encoder 1) to Mute or Unmute LFO Outputs via ON/OFF values

[On, Off; Default: On]

### **CV/Gate**

Press ENC2 (Encoder 2) to Mute or Unmute CV/Gate Outputs via ON/OFF values

[On, Off; Default: On]

## **ADDITIONAL PARAMETERS**

### **Track Mute & Track Unmute**

To Mute Trigger Tracks or Unmute Trigger Tracks:

Press STEP KEY for desired Trigger Track number

To Mute CV/Gate Track or Unmute CV/Gate Track:

Press ENC2 (Encoder 2)

### **Clear All Mutes**

To Clear All Mutes / Remove All Mutes:

Hold SHIFT Button + Press MUTE Button

### **Mute Arming**

Use this parameter to pre-select tracks that will Mute or Unmute at the user's discretion

To engage Mute Arming:

Hold MUTE Button + Press STEP KEYS to arm Trigger Tracks to Mute/Unmute and keep MUTE Button held, STEP KEY LEDs for armed Trigger Tracks will Flash ON/OFF

When ready, release MUTE Button to engage the armed Trigger Tracks

## **Trigger Track Solo & Trigger Track Un-Solo**

To Solo a Trigger Track:

Hold SHIFT + Press STEP KEY to Solo any given Trigger Track (TR1-TR16), all STEP KEY LEDs except the one for the Solo Track will turn Solid ON

To Un-Solo a Trigger Track:

Hold SHIFT + Press STEP KEY for the Solo Track, all STEP KEY LEDs will turn OFF

## **Accent Out Mute Behaviour**

Can configure Accent outputs to output voltage even when the corresponding Trigger Track (TR's 1-12) output is muted via MUT Parameter in Settings

### **Save**

Press ●(RECORD) button to Save at any time

### **Undo ("Pattern Reload")**

Undo or Recall from the Last Saved State of a Pattern:

Hold ENC1 (Encoder 1) + Press ENC2 (Encoder 2)

## **TAP (RECORD) MODE**

### **OVERVIEW**

#### **Description**

Aside from step programming via Pattern Edit Mode, another way to sequence tracks (or to simply audition a sound) is through Tap (Record) Mode. Record quantized trigger patterns in real time by performing them on the STEP KEYS

#### **LEDs**

STEP/TAP & PATTERN LEDs Flash ON/OFF when Tap (Record) Mode is engaged

#### **Access/Exit Method**

To Enter Tap (Record) Mode:

Press STEP/TAP Button once from any other mode

To Exit Tap (Record) Mode:

Press STEP/TAP Button again, LED will turn OFF

## **MAIN PARAMETERS**

### **Step Key Function**

Use STEP KEYS in this Submenu to Enter One Shot or Loop Recorded/Overdub Recorded Triggers to any of 16 Trigger Tracks

### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

### **● = Record**

Enables looped recording of steps performed on the STEP KEYS in real time  
Steps performed over an existing Trigger Track will overwrite (overdub) that Trigger Track

### **BAR**

Selects from up to 4 sets of 16 trigger/accent slots per Track to be displayed by the STEP KEYS, where each Bar = 16 possible trigger/accent slots  
Displayed as [# #], where left value shows Bar currently playing (or that will play when sequence is activated) and right value shows Bar currently in view on the STEP KEY LEDs

Can enable Bar Auto Follow from this parameter

[1-4; Default: 1]

### **LEN**

Indicates the Length of a given Track represented by a value from 1-64, where each value represents one Trigger/Accent slot & one Step  
Bar parameter values will automatically adjust to the chosen LEN value, where each group of 16 values represents another Bar  
[1/64; Default: 16]

### **SCL**

Indicates the amount of time that each sequence step (whether Trigger, Accent, or Rest) will occupy, represented by a fraction of one clock pulse  
[1/4, 1/8, 1/8t, 1/16, 1/16t, 1/32; Default: 1/16]

### **TRIG**

Indicates the currently displayed Track (Tracks 1-16 or CV Track), represented by a number from 1-16 (corresponding to each of the 16 Trigger/Accent Tracks); OR, CV [corresponding to the CV/Gate Track]  
[1/16, CV; Default: 1]

## **FILL SUBMENU**

### **Description**

Fill Submenu is used to "fill" in the sequence by adding streams of repeated triggers, which stop and start by user control

### **LEDs**

STEP/TAP & PATTERN LEDs Flash ON/OFF when Fill Submenu is engaged

#### **Access/Exit Method**

To Enter the Fill Submenu // To Enter a Fill:

Hold SHIFT + Press STEP/TAP Button from any other mode

To Exit the Fill Submenu

Press STEP/TAP Button again to return to Tap (Record) Mode, Press PATTERN Button to enter Pattern Edit Mode, or use appropriate combinations to enter other modes

### **Step Key Function**

Use STEP KEYS in this Submenu to Enter a Fill into any of the Trigger tracks (TR1-TR16)

NOTE: Can Enter a Fill anywhere from 1 to all 16 Trigger Tracks simultaneously

### **Fill Value**

Selects the rhythmic value/duration of each repeated fill trigger  
[1/16, 1/24, 1/32, 1/48, 1/64, 1/96, 1/128; Default: 1/16]

## **STEP EVENTS MODE**

### **OVERVIEW**

#### **Description**

Step Events Mode is used to access step-specific parameters related to step timing, trigger probability, and ratcheting (here called retrigger / retriggering)

### **LEDS**

STEP KEY LED for selected STEP KEY slot Flashes ON/OFF

#### **Access/Exit Method**

To Enter Step Events Mode:

Hold SHIFT + Press STEP KEY in Pattern Edit Mode (works with both Trigger and CV/Gate Tracks)

To Exit Step Events Mode:

Press PATTERN Button once to return to Pattern Edit Mode, Press STEP/TAP once to enter Tap (Record) Mode, or use appropriate combinations to enter other modes

## **MAIN PARAMETERS**

### **Step Key Function**

Use STEP KEYS in this Mode to Change selected Step slot for editing

### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

### **BAR**

Selects from up to 4 sets of 16 trigger/accent slots per Track to be displayed by the STEP KEYS, where each Bar = 16 possible trigger/accent slots  
Displayed as [# #], where left value shows Bar currently playing (or that will play when sequence is activated) and right value shows Bar currently in view on the STEP KEY LEDs

Can enable Bar Auto Follow from this parameter

[1-4; Default: 1]

## uTM

Micro Timing, a.k.a. "Nudge"/"Nudging": allows for user to move the timing of a given step forwards or backwards  
[-12 to +11; Default: +0]

## PRO

Trigger Ratio or Probability Percentage (depending on chosen value)

Indicates either:

1. The definite number of times a trigger will fire after a given number of repeats; OR

Ex. "1:4" means that the trigger will fire once for every 4 repeats (for all Ratios beginning with a "1", the trigger fires on the last repeat/iteration of the group of repeats)

Ex. "7:8" means that the trigger will fire 7 times for every 8 repeats (for all Ratios beginning with 2, 3, or 7, the trigger will fire in the first 2, 3, or 7 repeats)

2. The probability that the trigger will fire, expressed as a percentage [Off, 1/2, 1/3, 1/4, 1/5, 1/6, 1/7, 1/8, 2/3, 3/4, 7/8, 10%, 25%, 50%, 75%, 90%; Default: Off]

## RTG

Retrigger a.k.a. "Ratchet"/"Ratcheting": selects the number of times that a trigger will fire within a given step slot, which helps with creating Duplets and Triplets within a Step, as well as creating Rolls/Flams  
/128: Trigger plays eight times, evenly distributed (Duplet, as Octuplet)  
/96: Trigger plays six times, evenly distributed (Triplet, as Sextuplet)  
/64: Trigger plays four times, evenly distributed (Duplet, as Quadruplet)  
/48: Trigger plays thrice, evenly distributed (Triplet)  
/32: Trigger plays twice, evenly distributed (Duplet)

/24: Trigger plays twice, 66% & 33% (Triplet) (ex. Eighth note triplet with Quarter Note + Eighth Note)

[Off, /128, /96, /64, /48, /32, /24; Default: Off]

## ADDITIONAL PARAMETERS

### Copy Step & Paste Step

Copy & Paste individual steps from Step Events Mode

Step will be copied with all parameters intact, including:

Whether it is a Trigger without Accent or Trigger with Accent

Pattern Edit Mode parameter values

Step Event Mode parameter values

Note Edit Mode (CV/Gate Track only) parameter values

All other relevant parameters to Trigger or CV/Gate Track steps

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the Step that will be copied

2. Press COPY Button

To Paste a Step:

1. Press STEP KEY for the destination Step Slot

2. Press PASTE Button

3. If satisfied, Press ● (RECORD) Button to Save

### Copy Step & Paste Step into a Different Track

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the Step that will be copied

2. Press COPY Button

To Paste a Step:

1. Navigate to destination Track (whether it be TR 1-16 or CV/Gate Track)

2. Hold SHIFT + Press STEP KEY to enter Step Events Mode for the destination Step in the destination Track

3. Press PASTE Button

4. If satisfied, Press ● (RECORD) Button to Save

### Step Entry (Add Step) & Step Delete (Remove Step)

To Enter a Step from Step Events Mode:

Hold SHIFT + Press STEP KEY on any empty step slot

To Delete a Step from Step Events Mode:

Hold SHIFT + Press STEP KEY on any occupied step slot

NOTE: As well as adding a Trigger, for units using firmware v. 1.055 or earlier this will also change the selected step key (fixed in v. 1.056, May 22 2020 Release)

NOTE: If Accents are enabled on the Track then Steps entered through Step Events Mode will be Accented, cannot enter un-Accented steps from Step Events mode

### Save

Press ● (RECORD) button to Save at any time

### Undo ("Pattern Reload")

To Undo or Recall to the Last Saved State of a Pattern:

Hold ENC1 (Encoder 1) + Press ENC2 (Encoder 2)

### Move All Track Steps

To Move all Steps within a single Track:

Move Steps Left:

Hold SHIFT + Press COPY (multiple presses of COPY while holding SHIFT to move >1 sequence slot to the left)

Move Steps Right:

Hold SHIFT + Press PASTE (multiple presses of PASTE while holding SHIFT to move >1 sequence slot to the right)

If satisfied, Press ● (RECORD) Button to Save

## PATTERN EDIT MODE: CV/GATE TRACK

### OVERVIEW

#### Description

Full CV/Gate Track for programming melodic sequences with quantized voltages  
One CV/Gate Track per Pattern

### LEDs

PATTERN Button LED flashes ON/OFF (same as in Pattern Edit Mode within Trigger Tracks)

### Access/Exit Method

To Access CV/Gate Track within any given Pattern and Bank:

Hold TRIG SEL Button + Press ENC2 (Encoder 2) [Pattern Edit Mode will be displayed with CV/Gate Track selected under TRIG parameter]; OR, From Pattern Edit Mode, use ENC1 (Encoder 1) to scroll to TRIG parameter then use ENC2 (Encoder 2) to scroll to CV

## MAIN PARAMETERS

### Step Key Function

Use STEP KEYS in this Mode to Enter & Delete a Trigger(s) for currently selected Track

### Transport Controls

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

### BAR

Selects from up to 4 sets of 16 trigger/accents slots per Track to be displayed by the STEP KEYS, where each Bar = 16 possible trigger/accents slots

Displayed as [# #], where

left value shows Bar currently playing (or that will play when sequence is activated) and

right value shows Bar currently in view on the STEP KEY LEDs

Can enable Bar Auto Follow from this parameter

[1-4; Default: 1]

### LEN

Indicates the Length of a given Track represented by a value from 1-64, where each value represents one Trigger/Accent slot & one Step

Bar parameter values will automatically adjust to the chosen LEN value, where each group of 16 values represents another Bar

[1-64; Default: 16]

### SCL

Indicates the amount of time that each sequence step (whether Trigger, Accent, or Rest) will occupy, represented by a fraction of one clock pulse

[1/4, 1/8, 1/16, 1/32; Default: 1/16]

## TRIG

Indicates the currently displayed Track (Tracks 1-16 or CV Track), represented by a number from 1-16 (corresponding to each of the 16 Trigger/Accent Tracks); OR, CV (corresponding to the CV/Gate Track)  
[1-16, CV; Default: 1]

## ADDITIONAL PARAMETERS

### Copy CV/Gate Track into a Different Pattern & Paste CV/Gate Track into a Different Pattern

From Pattern Edit Mode within the CV/Gate Track:

1. Press RECORD Button to Save before Copying
2. To Copy: Press COPY Button in Pattern Edit Mode within the CV/Gate Track
3. To Paste into a Different Pattern:  
Press PATTERN to enter Pattern Play Mode, select destination Pattern Hold TRIG SEL + Press ENC2 [Encoder 2] to select the CV/Gate Track for the destination Pattern  
Press PASTE Button
4. Press RECORD Button to Save after Pasting **must save after copy / paste** [just get in the habit of pressing ●(RECORD) a lot]

### Clear Track

To Clear a Track from Pattern Edit Mode within the CV/Gate Track:  
Hold SHIFT + Press CLEAR Buttons to clear the whole track at once; OR, Hold CLEAR Button while the sequence is running to clear the track at the rate that the sequence progresses

I.e. Can remove sections trigger steps within a given Track, without having to clear the entire Track

### CV/Gate Step Entry (Add CV/Gate Step) & CV/Gate Step Delete (Remove CV/Gate Step)

To Enter a Step or Delete a Step from Pattern Edit Mode within the CV/Gate Track:

To Enter a Step: Press any STEP KEY, STEP KEY LED will turn Solid ON

To Delete a Step: Press any STEP KEY with an active Trigger enabled, STEP KEY LED will turn OFF

### Enable/Disable Accents

To Enable Accents or Disable Accents for a given Track, either:

Hold SHIFT + Press TRIG SEL from Pattern Edit Mode; OR,

Use ENC1 [Encoder 1] to scroll to TRIG parameter, then press ENC2 [Encoder 2]

TRIG Parameter will display a "+" after the Track number to indicate that Accents are enabled (versely, if there is no "+" after the Track number, Accents are not enabled)

NOTE: Accents are only available for Tracks 1-12 [Tracks 13-15 are Trigger only, and Track 16 is either Trigger only or CV/Gate]

### Copy Step & Paste Step (from Step Events Mode within the CV/Gate Track)

for units using firmware v. 1.055 or earlier, can only Copy & Paste individual CV/Gate steps from Step Events Mode within the CV/Gate Track Step will be copied with all parameters intact, including:  
Whether it is a Trigger without Accent or Trigger with Accent Pattern Edit Mode within the CV/Gate Track: CV/Gate Track parameter values

Step Events Mode within the CV/Gate Track: parameter values

Note Edit Mode (CV/Gate Track only) parameter values

All other relevant parameters to Trigger or CV/Gate Track steps

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode within the CV/Gate Track for the Step that will be copied
2. Press COPY Button

To Paste a Step:

1. Press STEP KEY for the destination Step Slot
2. Press PASTE Button
3. If satisfied, Press ●(RECORD) Button to Save

### Copy Step & Paste Step into a Different CV/Gate Track (from Step Events Mode within the CV/Gate Track)

To Copy a Step:

1. Hold SHIFT + Press STEP KEY to enter Step Events Mode within the CV/Gate Track for the Step that will be copied
2. Press COPY Button

To Paste a Step:

1. Navigate to destination CV/Gate Track
2. Hold SHIFT + Press STEP KEY to enter Step Events Mode within the CV/Gate Track for the destination Step in the destination Track
3. Press PASTE Button
4. If satisfied, Press ●(RECORD) Button to Save

### Clear CV/Gate Track Steps

To Clear CV/Gate Track Steps:

Hold SHIFT + Press CLEAR

Track will be reset to Default settings:

Length (LEN): 16

Scaling (SCL): 1/16

All Triggers are removed

CV/Gate Track Step Events parameters reset to default

### Save

Press ●(RECORD) button to Save at any time

### Undo ("Pattern Reload")

To Undo or Recall to the Last Saved State of a Pattern:

Hold ENC1 [Encoder 1] + Press ENC2 [Encoder 2]

### Move All CV/Gate Track Steps

To Move all Steps within the CV/Gate Track:

Move Steps Left:

Hold SHIFT + Press COPY (multiple presses of COPY while holding SHIFT to move >1 sequence slot to the left)

Move Steps Right:

Hold SHIFT + Press PASTE (multiple presses of PASTE while holding SHIFT to move >1 sequence slot to the right)

If satisfied, Press ●(RECORD) Button to Save

### Bar Auto Follow

Maintains the same value for the Bar in view and the Bar currently playing STEP KEY LEDs update in real time to show the Bar that is currently playing once the sequence is activated, LEDs "scroll" with the CV/Gate Track sequence as it is playing

Displayed as [# → #], where Left value and Right value are always the same

### CV/Gate Track Last Step

To quickly set the Last Step – and therefore to quickly set the length – of a Track in Pattern Edit Mode within the CV/Gate Track or Step Events Mode within the CV/Gate Track:

1. If Track Last Step / Track Length >16, use ENC2 [Encoder 2] in BAR parameter of Pattern Edit Mode within the CV/Gate Track to scroll to the appropriate Bar
  - Bar 2: Tracks 17-32 steps long
  - Bar 3: Tracks 33-48 steps long
  - Bar 4: Tracks 49-64 steps long
2. Hold LAST STEP + Press STEP KEY for desired last step in the CV/Gate Track (LEN value will change on OLED Screen in Pattern Edit Mode within the CV/Gate Track)
3. If satisfied, Press ●(RECORD) Button to Save

### CV/GATE TRACK SHUFFLE (SWING)

#### Overview: Description

In Pattern Edit Mode within the CV/Gate Track, sets the Shuffle (Swing) Amount for CV/Gate Track  
*(Submenu Default: No Shuffle, a.k.a. 50% Swing)*

#### Overview: LEDs

SHUFFLE LED is Solid ON for as long as SHUFFLE Button is pressed in Pattern Edit Mode within the CV/Gate Track

#### Overview: Access/Exit Method

To Access CV/Gate Track Shuffle:

Hold SHUFFLE Button in Pattern Edit Mode within the CV/Gate Track

To Exit CV/Gate Track Shuffle:

Release SHUFFLE Button in Pattern Edit Mode within the CV/Gate Track

#### Step Key Function

Use STEP KEYS in this Submenu to Add or Remove Triggers/Accents

## **CV/Gate Track Shuffle (Swing) Value**

Represented in "ticks" along a horizontal axis, where  
 1st "tick" (far left) = No Shuffle  
 Last "tick" (far right) = Maximum Shuffle  
 Use ENC2 (Encoder 2) to change Shuffle Value  
 [1-7; Default: 1]

## **CV/GATE TRACK DIRECTION**

### **Overview: Description**

Sets the direction of step movement within the CV/Gate Track  
 [Submenu Default: FORWARD]

### **Overview: LEDs**

DRCTN LED is Solid ON for as long as the DRCTN Button is held in Pattern Edit Mode within the CV/Gate Track

### **Overview: Access/Exit Method**

To Access CV/Gate Track Direction:  
 Hold DRCTN Button in Pattern Edit Mode within the CV/Gate Track  
 To Exit CV/Gate Track Direction:  
 Release DRCTN Button in Pattern Edit Mode within the CV/Gate Track

### **Step Key Function**

Use STEP KEYS in this Submenu to Add or Remove Triggers/Accents

### **Track Direction Value & Available CV/Gate Track Directions**

Use ENC2 (Encoder 2) to change CV/Gate Track Direction

FORWARD: Steps progress in numerical order, and visually from Left-to-Right, Top-to-Bottom

BACKWARD: Steps progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top

PING-PONG: Steps progress in numerical order, and visually from left-to-right, top-to-bottom until the end of the sequence, where steps then progress in backward numerical order, and visually from Right-to-Left, Bottom-to-Top until Step 1

RANDOM: Steps progress in an aperiodic, unpredictable order, and visually from any STEP KEY LED to any other

[FORWARD, BACKWARD, PING-PONG, RANDOM; Default: FORWARD]

## **CV/GATE TRACK PERFORM**

### **Description**

Use this submenu to send and loop record real-time Trigger and Pitch CV from the GATE and CV Output jacks by pressing the STEP KEYS

### **LEDs**

STEP/TAP & PATTERN LEDs Flash On/Off similarly to Tap (Record) Mode

### **Access/Exit Method**

To Access CV/Gate Track Perform:

Press STEP/TAP Button from Pattern Edit Mode with CV/Gate Track selected

### **To Exit CV/Gate Track Perform:**

Press PATTERN Button to exit to Pattern Edit Mode within the CV/Gate Track; OR,  
 Press ENC1 (Encoder 1) to exit to Note Edit Mode; OR,  
 Follow previous instructions to enter other Modes & Menus

### **Step Key Function**

If accessed from Pattern Edit Mode within the CV/Gate Track:  
 STEP KEYS output triggers from GATE jack and scale tones from CV jack,  
 use this to perform

If accessed from Note Edit Mode:  
 STEP KEYS select current step to be edited in Note Edit Mode

### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Record

Enables looped recording of steps performed on the STEP KEYS in real time  
 Steps performed over existing CV/Gate Track will overwrite (overdub) that CV/Gate Track

### **SCL**

Selects the quantized Scale (and therefore the available note values) of the CV/Gate Track

CHR = Chromatic

MAJ = Major

MIN = Minor

PEN = Major Pentatonic

DOR = Dorian

PHR = Phrygian

LYD = Lydian

MIX = Mixolydian

LOC = Locrian

[Default: CHR (Chromatic)]

### **ROO**

Selects the Root Note of the Scale of the CV/Gate track  
 [C to B, Default: C1]

### **OCT**

Selects the Octave of the Root Note of the Scale

Change OCT values by pressing COPY Button (decrease value) and PASTE Button (increase value)  
 [-3 to 4; Default: 0]

### **Keyboard Transpose (Octaves)**

Cycle between Octaves in CV/Gate Track Perform Mode:

Press COPY Button to decrease the Octave value

Press PASTE Button to increase the Octave value

## **NOTE EDIT MODE (WITH CV/SOUND SOURCE TUNING TIPS)**

### **Description**

Use this mode to adjust various parameters related to the CV/Gate Track, including per-step values and quantization (musical scales & modes)

### **LEDs**

PATTERN LED will turn OFF

STEP KEY LED for the currently selected step Flashes ON

### **Access/Exit Method**

To Access Note Edit Mode:

Press ENC1 (Encoder 1) from Pattern Edit Mode within the CV/Gate Track

To Exit Note Edit Mode:

Press ENC2 (Encoder 2) to return to Pattern Edit Mode within the CV/Gate Track instead; OR,

Press SHIFT+STEP KEY to enter Step Events Mode within the CV/Gate Track instead; OR,  
 Follow previous instructions to enter other Modes & Menus

### **Page 1: Main Parameters – Select a Step, BAR, NTE, OCT, LENG**

Select a Step

Use STEP KEYS to select a Step within the sequence to be edited

### **BAR**

Indicates the number of Bars in the Track, and the current Bar location in real-time, therefore it performs the same function as in Pattern Edit Mode

Press ENC2 (Encoder 2) to initiate Bar Auto Follow  
 [1/1, 1/2, 1/3, 1/4, 2/1, 2/2, 2/3, 2/4, 3/1, 3/2, 3/3, 3/4, 4/1, 4/2, 4/3, 4/4; Default: 1/1]

### **NTE**

Shows Note value for selected step  
 [C-3 to B+4, 7 octaves + 11 semitones, Default: C0]

### **Tuning Tips**

To Match the Tuning of a Sound Source with Drum Sequencer:

Select the CV/Gate Track in Pattern Edit Mode with TRIG SEL + ENC2 (Encoder 2)

Open Note Edit mode by pressing ENC1 (Encoder 1), ensure that NTE = C and OCT = 0 (Default values)

Open CV/Gate Track Perform mode by pressing STEP/TAP Button, ensure that NTE = C and OCT = 0 (Default values)

Connect 2 cables: one from the CV OUT jack to the 1v/oct input on a given sound source, and one from the sound source to the input of a tuner (ex. Mordax Data in Tuner mode)

Select/create the simplest possible waveform (i.e. with the least harmonic content, a Sine Wave is ideal for tuning) on the sound source  
 With the Default OCT value (0) selected on Drum Sequencer, press STEP KEY #13 (the bottom left STEP KEY) and observe the result on the connected Tuner (if there is no result, adjust the Frequency/coarse tuning knob on the sound source until a pitch is detectable by the tuner)

Adjust the Frequency/coarse tuning knob on a given sound source to correspond to the desired playable range (see below for tuning ranges to Basslines & Leads/Pads)

For Basslines: Tune the output of the target sound source to C3 (130.81Hz) with the simplest/east harmonically rich waveform available. Treat the Default C0 note value on Drum Sequencer like the C3 (130.81Hz) you have just tuned. This translates to a **playable/programmable range of C0 (16.35Hz) to B7 (3,951.07Hz, 3.95kHz)** for the given **Drum Sequencer range of C-3 to B+4**

For Leads/Pads: Tune the output of the target sound source to C6 (1,046.50Hz) with the simplest/least harmonically rich waveform available. Treat the Default C0 note value on Drum Sequencer like the C6 (1,046.50Hz) you have just tuned. This translates to a **playable/programmable range of C3 (130.81Hz) to B10 (31,608.53Hz, 31.61kHz)** for the given **Drum Sequencer range of C-3 to B+4**

#### OCT

Shows the selected Octave where the Note will sound  
[-3 to +4, 7 octaves, Default: 0]

#### LENG

Controls the Gate Length of each selected step  
[1-23+TIE, Default: 14]

### Page 2: Scale Selection – SCL, ROO, OCT, Octave Transpose

#### SCL

Selects the quantized Scale (and therefore the available note values) of the CV/Gate Track

CHR = Chromatic

MAJ = Major

Min = Minor

PEN = Major Pentatonic

DOR = Dorian

PHR = Phrygian

LYD = Lydian

MIX = Mixolydian

LOC = Locrian

[Default: CHR (Chromatic)]

#### ROO

Has no effect when this menu is accessed via Note Edit Mode (only when accessed via Pattern Edit Mode by pressing STEP/TAP Button)

#### OCT

Has no effect when this menu is accessed via Note Edit Mode (only when accessed via Pattern Edit Mode by pressing STEP/TAP Button)

#### Additional Parameters: Note Slide Entry & Slide Delete, CV Transpose

Note Slide Entry & Slide Delete

CV Transpose

## CV/GATE TRACK RANDOMIZATION

#### Description

Exclusive to the CV/Gate Track, use this submenu to randomize up to four parameters (note value, octave, step on/off, and gate length) according to selected probability values

NOTE: All CV Randomization parameters other than 0 can choose any parameter value regardless of the chosen probability value (i.e. CV Randomization probability values have no effect on modulation depth (i.e. how different the randomized value is from the original), only whether or not the change will/won't happen after pressing BANK button)

#### LEDs

All Button LEDs are OFF, STEP KEY LEDs indicate the currently active Steps for the selected Bar in the CV/Gate Track sequence

#### Access/Exit Method

To Access CV/Gate Track Randomization:

Hold SHIFT + Press SHUFFLE Button from either Pattern Edit Mode within the CV/Gate Track or Note Edit Mode

To Exit CV/Gate Track Randomization:

Press PATTERN Button to return to Pattern Edit Mode within the CV/Gate Track; OR,

Press STEP/TAP Button to enter CV/Gate Track Perform mode; OR, Follow previous instructions to enter other Modes & Menus

#### BANK Button Function

After entering desired probability values, press the BANK Button to randomize the NTE, OCT, STP, and LENG parameters

To maintain the new values on power off, press ●(RECORD) Button to Save Randomize as many times as desired, and – unless ●(RECORD) Button is pressed – revert to original values by pressing ENC1 + ENC2 (Encoder 1 + Encoder 2) to Undo

#### Step Key Function

STEP KEY LEDs indicate currently active steps, but as of firmware v. 1.056 pressing STEP KEYS has no effect

#### NTE

Note value randomization probability (values represent percentages)  
[0, 25, 50, 75, 100; Default: 0]

#### OCT

Octave value randomization probability (values represent percentages)  
[0, 25, 50, 75, 100; Default: 0]

#### STP

Step/Gate ON randomization probability (values represent percentages)  
[0, 25, 50, 75, 100; Default: 0]

#### LENG

Gate Length randomization probability (values represent percentages)  
[0, 25, 50, 75, 100; Default: 0]

## LFO MODE

#### OVERVIEW

#### Description

2 independent, programmable Low Frequency Oscillators (LFOs) are available for each Pattern

#### LEDs

Button LEDs are OFF, LED for STEP KEY 1 is Solid ON

#### Access/Exit Method

To access LFO Mode (both LFOs)

Hold TRIG SEL + Press ENC1 (Encoder 1)

To exit LFO Mode (both LFOs)

Press PATTERN Button to return to Pattern Edit Mode for the last selected Track

(TR1-16, CV/GATE, or RST); OR,

Press STEP/TAP Button to enter Tap (Record) Mode for the last selected Track (TR1-16, CV/GATE, or RST); OR,

Follow previous instructions to enter other Modes & Menus

## MAIN PARAMETERS

#### LFO

LFO1/LFO2 selection

[1, 2; Default: 1]

#### WAV

Waveform selection, with a choice of:

Sine (SIN)

Triangle (TRI)

Saw (SAW)

Square (SQU, 50% Pulse)

Sample & Hold (S&H, Random)

(SIN, TRI, SAW, SQU, S&H; Default: Varies by Pattern, A1 Default for LF01/2 is SIN)

#### FRO

LFO Frequency or Clock Sync subdivision

[Frequency Values: 1-255; Default: Varies by Pattern, A1 Default for LF01/2 is Tempo Sync value 1/4]

[Tempo Sync Values: x2, x1, 1/2, 1/4, 1/8, 1/16, 1/16; Default: Varies by Pattern, A1 Default for LF01/2 is tempo Sync value 1/4]

#### AMP

LFO Amplitude (LFO Depth)

For quick scrolling (larger scrolling intervals)

Hold SHIFT + Turn ENC2 with AMP parameter selected

[0-100, Default 100]

## ADDITIONAL PARAMETERS

### **Save**

Press ●(RECORD) button to Save at any time

### **Undo ("Pattern Reload")**

To Undo or Recall to the Last Saved State of a Pattern:  
Hold ENC1 (Encoder 1) + Press ENC2 (Encoder 2)

## SONG MODE

### OVERVIEW

#### **Description**

Song Mode (either Page 1: Song Write Mode or Page 2: Song Play Mode) enables the user to connect different patterns together at chosen lengths, and to arrange in larger forms

#### **LEDs**

BANK Button LED Flashes ON, STEP KEY LED for the selected Song number is Solid ON

#### **Access/Exit Method**

To Access Song Mode:

Hold SHIFT + Press BANK Button

To Exit Song Mode:

Press PATTERN Button to return to Pattern Edit Mode for the last selected Track

(TR1-16, CV/GATE, or RST); OR,

Press STEP/TAP Button to enter Tap (Record) Mode for the last selected Track (TR1-16, CV/GATE, or RST); OR,

Follow previous instructions to enter other Modes & Menus

## PAGE 1: SONG WRITE MODE

### **Step Key Function**

STEP KEY Buttons are used to quickly select between Songs 1-16

#### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

#### **SN**

Song Number Selection, store up to 16 Songs at a time  
[1-16; Default: 1]

## POS

Position of a given Pattern in the Song, press and turn ENC2 (Encoder 2) for quick scrolling (larger scrolling intervals)  
[1-500; Default: 1]

## PTR

### **Pattern Selection**

[128 total available patterns; 16 x A-H {8}; Default: currently selected Pattern in Pattern Play Mode]

## LEN

Song Length Selection (number of Patterns in a given Song)  
[1-500; Default: 1]

## ADDITIONAL PARAMETERS

### **Pattern Arming**

Similar to Mute Arming, arm any pattern such that it will play at the beginning of next sequence iteration from when the user presses the ENC2 (Encoder 2) (setup a pattern ahead of time)

To Arm a Pattern in Song Write Mode:

1. While a Song is playing, Use ENC1 (Encoder 1) to highlight the PTR parameter and then use ENC2 (Encoder 2) to find and select the Pattern that will be armed
2. When ready, press ENC2 (Encoder 2) to lock that Pattern into place, it will play at the end of the currently playing Pattern

## PAGE 2: SONG PLAY MODE

### **Description**

Of Song Write & Song Play, this is the simpler of the two modes, responsible only for displaying the current Song number, Position, and Pattern Song Play Mode functions as a Submenu (layer) of Song Write Mode

#### **LEDs**

BANK Button LED is Solid ON, STEP KEY LED for the selected Song number is Solid ON

#### **Access/Exit Method**

To Access Song Play Mode:

Hold SHIFT + Press BANK Button from Song Write Mode; OR,  
Hold SHIFT + Press BANK Button + Hold SHIFT + Press BANK Button from any other Mode

To Exit Song Play Mode:

Hold SHIFT + Press BANK Button to return to Song Write Mode; OR,  
Press PATTERN Button to return to Pattern Edit Mode for the last selected Track

(TR1-16, CV/GATE, or RST); OR,

Press STEP/TAP Button to enter Tap (Record) Mode for the last selected Track (TR1-16, CV/GATE, or RST); OR,

Follow previous instructions to enter other Modes & Menus

## Step Key Function

STEP KEY Buttons are used to quickly select between Songs 1-16

## Pos

In Song Play Mode, Pos is not a parameter but merely an on-screen indication of the current Song Position (possible values ranging 1-500)

## PTR

In Song Play Mode, Ptrn is not a parameter but merely an on-screen indication of the Pattern associated with the current Song Position

## Jump to Song Position 1

While a Sequence is Stopped:

From Song Play Mode only: Press CLEAR Button to quickly jump to Song Position 1

While a Sequence is Playing:

From Song Play Mode only: Press CLEAR Button to jump to Song Position 1 at the end of the current Song Position

## SETTINGS

### OVERVIEW

#### **Description**

Use this Mode (two page screens in total) to adjust various Global characteristics of the Drum Sequencer

#### **LEDS**

All Button & STEP KEY LEDs are OFF in Settings Mode

#### **Access/Exit Method**

To Access Settings:

Hold SHIFT + Press ► = Play Button

To Exit Settings:

Press PATTERN Button to return to Pattern Edit Mode for the last selected Track

(TR1-16, CV/GATE, or RST); OR,

Press STEP/TAP Button to enter Tap (Record) Mode for the last selected Track (TR1-16, CV/GATE, or RST); OR,

Follow previous instructions to enter other Modes & Menus

#### **Transport Controls**

► = Play

When sequence is stopped PLAY LED Flashes ON, when sequence is playing PLAY LED is Solid ON

■ = Stop, or double press to Play

When sequence is stopped STOP LED is Solid ON, when sequence is playing STOP LED is Solid OFF

● = Global Save

SAVE LED Flashes when there is new and unsaved information in the buffer, SAVE LED is OFF when there is no new information in the buffer

## PAGE 1

### Step Key Function

STEP KEYS serve no function in Page 1 of the Settings

### SYN

Tempo Synchronization: Determines the Global Clock source, with the options

MST: Primary (Master) (self-coded, 30-250 BPM)

Clock is determined by the module itself

MID: MIDI In (via 3.5-mm MIDI IN jack & included 3.5-mm to 5-pin DIN adapter)

Clock is determined by incoming MIDI Clock pulses

CLK: Clock Pulse In (via 3.5-mm CLK IN jack)

Clock is determined by incoming Clock Trigger pulses at 16 ticks per beat, otherwise known as 4PPQN

[MST, MID, CLK; Default: MST]

### BPM

Sets the Default (unsaved) Global BPM at power up

[30-250; Default: 120]

### PUL

Pulse Width control for Trigger Outputs, in milliseconds (ms)

This determines the duration (length of time from start to finish) for each Trigger voltage that is sent from the TR output jacks

This setting is especially useful since

Analog drum modules and drum machines typically respond better with shorter clock triggers

Digital drum modules and drum machines do not typically require short clock triggers, and (depending on the model) can sometimes respond better with longer clock triggers

[2-10; Default: 10]

### CLK

Clock Output Rate including Divisions, Multiplications, and various PPON options

Translates the Primary clock (whether it is coming from the Drum Sequencer, MIDI, or Clock Trigger sources) into a division, multiplication, or different clocking standard

In this way, the Drum Sequencer can serve as a bridge for tempos between units that otherwise might not have been able to remain in-sync!

This setting is useful for clocking secondary synthesizers and drum machines of various types (computers, modules, vintage analog, etc.)

[2:1, 1:1, 1:2, 1:4, 12p, 24p, 48p; Default: 1:1]

## PAGE 2

### Access/Exit Method

To Access Settings Page 2:

Hold SHIFT + Press ► = Play Button from Settings Page 1

To Exit Settings Page 2:

Hold SHIFT + Press ► = Play Button to return to Settings Page 1

Press PATTERN Button to return to Pattern Edit Mode for the last selected Track [TR1-16, CV/GATE, or RST]; OR,

Press STEP/TAP Button to enter Tap (Record) Mode for the last selected Track [TR1-16, CV/GATE, or RST]; OR,

Follow previous instructions to enter other Modes & Menus

### Step Key Function

STEP KEYS only function when MUT or ACx parameters are selected

If so, STEP KEYS allow for the quick selection of AC values 1-12, corresponding to Accent outputs 1-12

### CPY

Bar Auto/Manual Copy: Determines whether a 1-bar sequence will be automatically [AUT] copied/duplicated when the length of the pattern is extended to a greater number of bars

In Manual [MAN], the user will have to copy the 1-bar sequence themselves to each subsequent bar in the pattern where the sequence is required [MAN, AUT; Default: AUT]

### RST

Determines the behaviour of TR16 (Trigger 16): whether as a standard Trigger, or a Reset Out

### MUT

Determines the behaviour of AC (Accent) Outputs while the Track is Muted. In the ON (default) state, steps with Accents will be muted when the Track is muted

In the OFF state, Tracks with Accents will output Accent voltage even when the Track is muted in Mute Mode

### ACx

Determines the voltage levels of gates sent through the AC (Accent) Outputs, whether 10V (default) or 5V

[5V, 10V; Default: 10V]

### FACTORY RESET

#### EEPROM Initialization

To clear all saved user data from Drum Sequencer and revert to factory settings, initialize the EEPROM (Electrically Erasable Programmable Read-Only Memory)

1. Turn off Drum Sequencer
2. Hold ► = Play + ■ = Stop buttons
3. While holding ► = Play + ■ = Stop, turn on Drum Sequencer
4. [initialization] text will appear on screen, and STEP KEYS will gradually turn Solid ON in order from 1 to 16 to indicate progress
5. Wait until complete, Drum Sequencer will return to Pattern A1, Track 1 in Pattern Edit Mode

## FIRMWARE UPDATES

### CURRENT FIRMWARE VERSION

To verify the currently installed firmware version on your Drum Sequencer, power up the unit and observe the first text on screen (it will disappear after 2-3 seconds)

Ex. Boot Screen for Firmware version 1.056



### UPDATE PROCEDURE: REQUIRED HARDWARE & SOFTWARE

#### Hardware

3.5-mm to 5-pin DIN (5-pin MIDI) adapter (included with your Drum Sequencer)

5-pin DIN (5-pin MIDI) cable

An Audio Interface with 5-pin MIDI Output and USB connection to a desktop (PC or Mac)

As of firmware v. 1.056, it is unclear if MIDI transmitted over a USB-to-DIN adapter (such as Roland UM-ONE, Art Pro Audio MCONNECT, or MIDI Sport UNO) will yield consistent results

As of firmware v. 1.056, MIDI Outputs from Focusrite audio interfaces seem to yield the most consistent results, but most audio interfaces with 5-pin MIDI out should work

#### Software

Download the latest firmware (choose the file in .syx format) for Drum Sequencer here

For Mac: Download and Install SysEx Librarian here

For PC: Download and Install MIDI-OX here or at [www.midiox.com](http://www.midiox.com)

### UPDATE PROCEDURE: WINDOWS PC

For a quick video on how to update your Drum Sequencer firmware using a Windows PC, visit YouTube here

NOTE: Video shows Software steps but does not show what happens on Drum Sequencer's screen (only describes it), for an in-depth explanation of how to update your firmware, see below

#### Step 1: Download & Install MIDI-OX

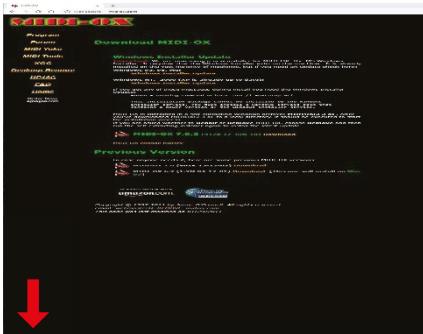
Download & Install MIDI-OX Software to your Windows PC here or at [www.midiox.com](http://www.midiox.com)

If you have obtained the file using the direct download link above, skip to part IV in Step 1. If you are downloading via [www.midiox.com](http://www.midiox.com), follow the steps below:

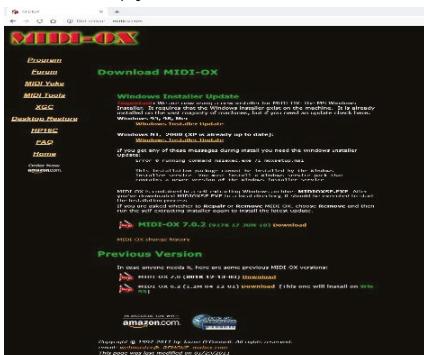
1. From a browser, visit [www.midiox.com](http://www.midiox.com) and click "Download: MIDI-OX 7.0.2" at the centre of the screen



3. Once the download has completed, open the .exe file at the bottom of your browser window (assuming you are using Chrome, Firefox, Microsoft Edge, or Internet Explorer)



2. At the download page, select "Download" next to "MIDI-OX 7.0.2"



4. Open the .exe file and progress through WinZip Self-Extractor by clicking "Setup" and following the steps on-screen

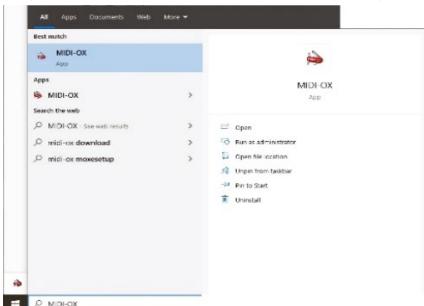


## Step 2: Open MIDI-OX

1. Press the Windows key labelled as "WIN", "Win" or



2. Type "MIDI-OX" in the search bar and click the link to open the program

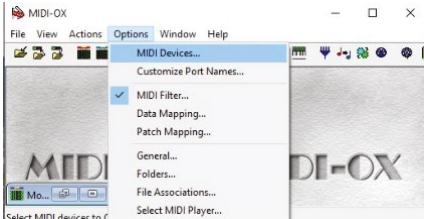


3. You should now see the MIDI-OX user interface



## Step 3: Configure MIDI Output Device

1. Configure your audio interface as a MIDI Output device in MIDI-OX. To do this, go to "Options > MIDI Devices..."



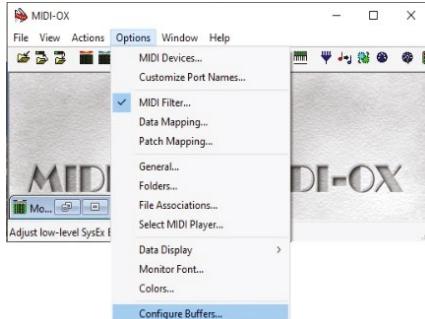
2. In the "MIDI Devices" MIDI I-O window, select the MIDI Output for your audio interface from the list in the bottom left-hand box. You should see your selection appear in the top right-hand box labelled "Port Mapping".

*(NOTE: If you do not see the MIDI Output for your audio interface in this list, check your USB connection between the interface and your computer, and update any USB drivers for your audio interface, as necessary)*

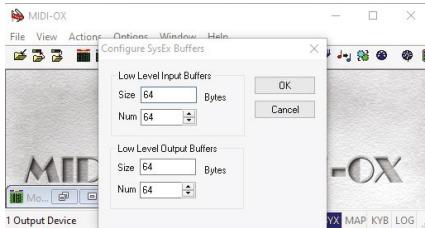


#### Step 4: Configure Buffers

1. Configure the correct input and output buffer sizes. To do this, go to "Options > Configure Buffers..." (see next page for further steps)



2. Select "64" for all 4 input fields then click "OK"

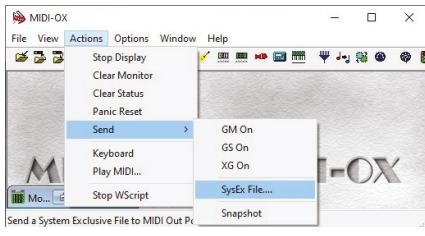


#### Step 5: Connect MIDI Cable & Adapter

1. Connect the 3.5-mm to 5-pin DIN (MIDI) adapter that was included with your Drum Sequencer to the MIDI IN jack
2. Connect one end of a 5-pin DIN (MIDI) cable to the other end of the adapter
3. Connect the other end of the 5-pin DIN (MIDI) cable to the 5-pin DIN (MIDI) Input on your audio interface (ensure that your audio interface is still connected in the same way it was when you configured your MIDI Output Device in Step 3)

#### Step 6: Prepare to send SysEx File

1. Send SysEx file over MIDI from your computer to Drum Sequencer. To do this, start by going to "Actions > Send > SysEx File...."



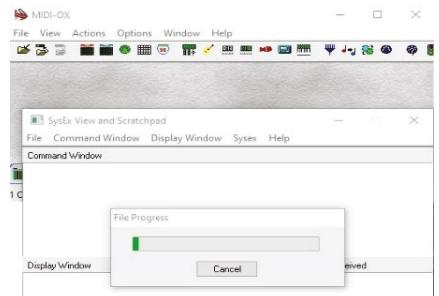
2. Next, find the SysEx (.syx) file downloaded earlier but **do not click "Open" yet.**



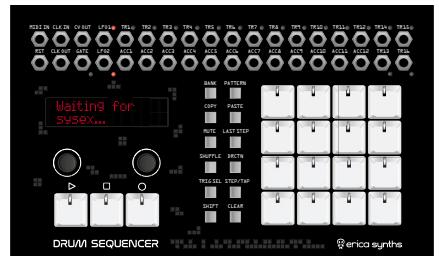
3. If not powered down already, turn off Drum Sequencer with all cables still connected.

#### Step 7: Send SysEx File

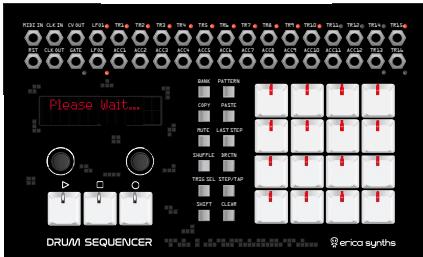
1. With the .syx file selected on your desktop, turn to your module and Hold STEP KEYS 1 & 4 then
2. Turn on the power to Drum Sequencer and immediately press Enter on your keyboard to send the SysEx File. It is especially important that there is as little time between sending power to the module and sending the SysEx file as possible.
3. On MIDI-OX you will see a progress view:



4. At first, Drum Sequencer will display a "Waiting for sysex..." screen



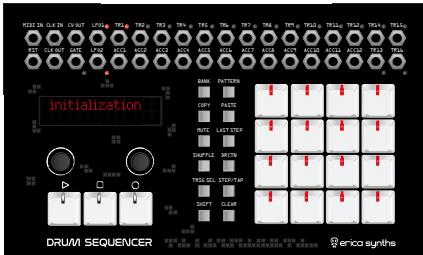
5. If the process continues successfully, you will progress to the following screen



6. From here, you will see the STEP KEY LEDs begin OFF then gradually turn ON in order from left-to-right, top-to-bottom. Once complete, the Drum Sequencer will return to the default Pattern Edit mode

#### Step 8: Initialize the Module (EEPROM)

1. After completing all firmware updates it is highly recommended that you initialize the on-board memory (EEPROM) to ensure the reliability of the instrument
2. To initialize the EEPROM (Electrically Erasable Programmable Read-Only Memory)  
Turn off Drum Sequencer  
Hold ▶ = Play + ■ = Stop buttons  
While holding ▶ = Play + ■ = Stop, turn on Drum Sequencer [initialization] text will appear on screen, and STEP KEYS will gradually turn Solid ON in order from 1 to 16 to indicate progress



Wait until complete, Drum Sequencer will return to Pattern A1, Track 1 in Pattern Edit Mode

## CHANGE LOGS

### VERSION 1.032

#### Fixes

- Shuffle not working in MUTE screen
- Encoder 2 not working in TAP mode
- Sequencer sometimes not stopping when external clock is stopped
- MIDI start/stop not working properly with some devices
- Sometimes first step was missed when clocked with external clock
- Pattern 10 "ghost" (sometimes would not load/save it properly)
- Chained pattern number display
- Issues with CV track (sometimes last step of track was not saved properly)

### VERSION 1.035

#### Fixes

- Issues with analog CLOCK IN
- Reset in sometimes not working correctly
- S&H LFO sync times displayed incorrectly

### VERSION 1.036

#### Fixes

- Issues with SHUFFLE
- Issues with low BPM external clock

### VERSION 1.038

#### Fixes

- More accurate master BPM calculation
- External clock in bug fix (Now works great as a slave to PNW)
- Fixed accent out bug in TAP mode when the sequencer was stopped
- Fixed trigger length dropping while in FULL mode
- Improved gate length stability for the CV track

#### Features

##### CV Slide

In CV track note edit menu press two step keys next to each other to enable slide from the left step to the right step. To remove note slide repeat the same procedure. Small "s" symbol at the length setting indicates that the slide is on

##### Gate Tie

In CV track note edit page scroll the ENC 2 on the length setting until you reach the TIE setting. The gate will be high until next note trigger is reached

##### Second Config Page (Settings Page 2)

To access it press SHIFT + PLAY two times while sequencer is stopped

##### Reset Out

Now you can configure the 16th trigger to work as reset out. It will send

out a trigger signal when the sequencer will be stopped. To enable it go to the master settings page 2 and set RST to ON

#### Bar Auto Copy

If you extend 1 bar sequence to example to 2 or 4 bars the first bar is automatically copied to the new bars. To enable this go to the second config page and set the CPY to AUT. Works by track and pattern

#### Add Triggers on Step Events Page

Now you can add or remove triggers on the STEP EVENTS page. To do so press SHIFT + STEP KEY of the trigger you want to turn on/off in the STEP EVENTS page

### VERSION 1.041

#### Fixes

- Unit randomly freezing for some users
- Drum Sequencer now boots up in "normal" mode instead of "Techno System" mode after update
- Enable/Disable accent with ENC2 is back
- Improved overall stability of the sequencer

#### Features

##### Accent Out Voltage Setting

In config 2nd page you can now set accent level for each of the accent out separately. When cursor is on AC1 select the channel you want to adjust with the regarding step key and then set the out level (5v or 10v) with ENC2

##### SONG MODE (beta)

To enter SONG WRITE press SHIFT + BANK once, to enter SONG PLAY press SHIFT + BANK twice. In SONG WRITE to preview the pattern press ENC2 while on PTR setting. To save a song press ENTER/REC

### VERSION 1.043

#### Fixes

- Random freezing for some users after 1.036
- Improved LFO sync
- LFO1 setting bug
- CV track TAP keyboard fixes

### VERSION 1.044

#### Fixes

- Improved LFO sync
- LFO settings now reload correctly when changing patterns
- BPM display now shows EXT instead of average clock when in CLK and MIDI modes
- Last step on CV track is now saved
- Mute screen when in MIDI mode now displays actual triggers
- Pattern linking now working when in MIDI mode
- Freezing for some users when changing clock modes

## **VERSION 1.048**

### **Fixes & Improvements**

Freezing for some users in CV track fixed  
 Freezing for some users when adjusting uTM fixed  
 Accents are now off when the track is muted  
 Track 7 shuffle bug fixed  
 STOP and PLAY buttons are now off in clock slave mode  
 Improved CV track BAR copy  
 Improved TAP record on CV track  
 Improved pattern sync change  
 Improved gate length when timing scale changed  
 Improved group pattern switch  
 Bunch of other minor bug fixes

### **Features**

Mute Arming  
 Hold down MUTE button and select the tracks which you want to arm for muting. As you release the MUTE button all selected tracks will be muted. To clear all mutes press SHIFT + MUTE

### **Pattern Reload**

Pattern reload allows you to reload previously saved state of the pattern. To do so press and hold ENC1 and then promptly press the ENC2

### **CV Track Randomization**

1. While in CV track press and hold SHIFT button + promptly press SHUFFLE button
2. Select the parameters with ENC1 and set the value with ENC2
3. For each of parameter you can set the probability percentage for these parameters NTE - note, OCT - octave, STP - step, LENG - length of step
4. To randomise track promptly press BANK button
5. To exit this mode press the Pattern button promptly

### **CV Track Transpose**

While in CV track NOTE EDIT menu with ENC1 set to NOTE edit press and hold SHIFT button + turn the ENCODER 2 to transpose notes. Hold SHIFT + TRIG SEL button while changing value to transpose only the selected BAR

## **VERSION 1.049**

### **Fixes**

Minor bug fixes  
 Freezing for some users in CV page

## **Features**

Accent Mute Setting  
 Now in second settings page you can change the behaviour of each accent out in MUTE screen. To do so select the MUT with ENC1 and then press the regarding trigger track buttons to choose the track for which you want to change the setting. Change the setting with ENC2. (Same as for accent voltage setting)  
 ON setting will mute the accent when MUTE is engaged on the corresponding track  
 OFF will leave the accent setting as it was in last step before mute was engaged

## **VERSION 1.054**

### **Fixes**

Improved MIDI sync  
 Fixed losing note on CV track when editing others bars  
 Fixed CV Tap Screen  
 Fixed Accent dropped to OV when sequencer is stopped  
 Minor bug fixes

### **Features**

New Clock Out Settings  
 12PPQ, 24PPQ and 48PPQ clock out settings added  
 Copy Pattern to a New Location While Playing  
 In pattern play mode press & hold the COPY key and choose the destination pattern with STEP KEYS. Copy of the current playing pattern will be saved to chosen destination. A [COPIED!] splash screen will appear  
 Copy a Step  
 In STEP EVENTS page hold COPY and then select the step you want to copy with STEP KEYS. Then press and hold the desired slot where you want to paste the copied step and press PASTE  
 "Octave" and "Root Note" Settings  
 These can now be accessed from the CV track SCALE screen and also the CV TAP mode  
 Keyboard Transpose in CV/Gate Track Perform Mode  
 Press COPY to decrease keyboard by -1 octave, press PASTE to increase keyboard by +1 octave.

## **VERSION 1.055**

### **Fixes**

Accent dropped to OV when sequencer is stopped (fixed for all units now)  
 In song mode press CLEAR to jump to position 1

## **VERSION 1.056 (CURRENT AS OF MAY 21ST, 2020)**

### **Fixes**

Clock out settings now saved (was broken in 1.055)  
 Auto copy now also works when step length is increased with encoder  
 In Step Events page when adding new steps with SHIFT key cursor stays on the selected step  
 Fixed accent dropouts occurring for some users  
 Improved instant pattern switching when module is in MIDI Slave mode  
 Improved LFO performance  
 Increased Clock Out accuracy in MIDI Slave mode  
 Splash screen for paste function added  
 Other minor bug fixes and overall stability improvements

# erica synths techno system

an ultimate tool for rhythm based music production, live performances and sound design





# SAFETY INSTRUCTIONS

Please follow the instructions for use of the Erica Synths module below, 'cause only this will guarantee proper operation of the module and ensure warranty from Erica Synths.



Water is lethal for most of the electric devices, unless they are made waterproof. This Erica Synths module is NOT intended for use in a humid or wet environment. No liquids or other conducting substances must get into the module. Should this happen, the module should be disconnected from mains power immediately, dried, examined and cleaned by a qualified technician.



Do not expose the module to temperatures above +50° C or below -20° C. If you have transported module in extreme low temperatures, leave it in room temperature for an hour before plugging it in.



Transport the instrument carefully, never let it drop or fall over. Warranty does not apply to modules with visual damages.



The module has to be shipped in the original packaging only. Any module shipped to us for return, exchange and/or warranty repair has to be in its original packaging. All other deliveries will be rejected and returned to you. Make sure you keep the original packaging and technical documentation.



This device complies to the EU guidelines and is manufactured RoHS conforming without use of lead, mercury, cadmium and chrome. Nevertheless, this device is special waste and disposal in household waste is not recommended.

You will find Erica Synths terms of warranty at [www.ericasynths.lv](http://www.ericasynths.lv)

Items for return, exchange and/or warranty repair have to be sent to:

Erica Synths  
Andrejostas Str. 43  
Riga  
Latvia  
LV-1045

User manual by Raivo Vainovskis@Erica Synths.

Design by Ineta Briede@Carre Branding.

Copying, distribution or any commercial use in any way is prohibited and needs the written permission by Erica Synths.

Specifications are subject to change without notice.

In case of any questions, feel free to contact us through [www.ericasynths.lv](http://www.ericasynths.lv) or via e-mail [info@ericasynths.lv](mailto:info@ericasynths.lv)