



# hapiNES L

## User Manual

May 5th 2019

Thanks for adapting hapiNes L

# 1 Quick Start

In this quick start guide we will cover the basics from selecting a voice to creating a pattern, step by step and real time.

The first 2 tracks (drums and triangle bass ) will be recorded with the sequencer stopped, step by step. Then will will record record some square waves in real time

First lets make sure that 3 voices we need are not muted.

Hold **rest** and press **triangle**, **drums** and **square1** until they are all lit.

## 1-1 Create a drum beat

-Select the drum channel (voice 2): hold **shift** and press **drums**

-tap some keys to create a 16 step drum loop.

Every time you hit a key it is recorded and the step advances to the next. If you reach the end of the pattern you will automatically loop back to step 1, so you can endlessly overwrite the pattern until you are happy with it.

## 1-2 Add a baseline

Now lets select triangle bass (voice 1). Hold **shift** and press **triangle**.

Now tap a sequence of keys to record a baseline.

Hit **run** and enjoy your first pattern!

Now that the sequencer is running we can still change the notes of our bass line, hold shift and use the **< step >** buttons to select a step, and press a key to change the note.

Here you can also change the octave of the selected step with the **oct+ oct-** buttons or make it **slide** or **rest**.

## 1-3 Record a square wave melody on top

Select square 1 by holding **shift** and pressing **square1**

With the sequencer still running we will now activate live record mode and add a melody on top of our drum and bass.

Hold **shift** and briefly press **run** without releasing shift

The piano keys will begin to flash, indicating that record mode is active.

Now you can play the keyboard in real time to add a square wave melody.

press **rest** to clear what you recorded if you wish to try again.

Press shift to exit record mode.

## 1-4 Record key changes

Lets add some variation to our song by recording some key changes.

Simply hold **run** and press a few piano keys without releasing **run**.

# 2 Voices

HapiNES has 4 voices: Triangle Bass, Drums, square1 and square2

## 2-1 Selecting a voice

Hold **shift** and press **triangle**, **drums**, **square1** or **square2** button to select the corresponding voice for editing.

## 2-2 Muting/un-muting a voice

Hold **rest** and press **triangle**, **drums**, **square1** or **square2** button to mute or un-mute the corresponding voice.

## 2-3 Voice Decay (triangle bass, and squares)

Use the decay knob to set the decay time of the selected voice.

## 2-4 Voice Volume (all voices)

Hold **shift** and use the decay knob to set the volume of the selected voice.

## 2-5 Drum Noise volume

With the drum voice selected use the decay knob to set the volume of the drum noise channel

## 2-6 Drum Noise pitch

With the drum voice selected use the pulse width knob to set the pitch of the drum noise channel

## 2-7 Pulse width (square waves only)

Use the pulse width knob to reshape the square waves. You can also use the mod wheel to change the pw of the current voice.

## 2-8 Vibrato (square waves only)

Hold shift and press **vibrato** to toggle the vibrato on or off for either square wave.

Turn the **vibrato** knob to increase the vibrato speed.

To set the vibrato depth hold **shift** and **vibrato** and adjust the **vibrato** knob

Note: The vibrato only happens on the decaying of a note and is reset every time the voice is triggered so you won't hear the vibrato if all the steps are triggering rapidly.

## 2-9 Arp (square waves only)

Hold shift and press **arp** to toggle the arpeggiator on or off for either square wave.

There are 16 types of arpeggiator with a range of notes and scales.

Use the **type** knob to change the arp type.

Use the **speed** knob to change the arp speed.

# 3 Patterns

HapiNES has 16 patterns. Each pattern can be up to 16 steps long. You can chain up to 16 patterns to create a song.

Patterns are automatically saved to memory shortly after the sequencer has been stopped  
**Please do not unpower the device immediately after use as you could lose your latest work!!!**

## 3-1 Creating patterns step by step (sequencer stopped)

With the sequencer stopped you can create a pattern simply by tapping a sequence of keys. The selected step will automatically advance and loop back to 1 when you reach the end of the pattern.

You can press **rest** to enter a rest (no sound will play on this step).

## 3-2 Editing patterns step by step (sequencer running)

With the sequencer running you can edit the note, octave, slide and rest status of each step in any order. First select a step using the < **step** > buttons. Then press a key to change the note.

## 3-3 Monitor mode

You can choose whether or not to hear the notes you are tapping when the sequencer is running by turning the monitor mode on or off.

To toggle the monitor mode on or off hold **rest** and press **run** without releasing **rest**.

Note: Monitor mode is saved to memory and recalled on power up.

## 3-4 Real time pattern recording

You can record patterns in real time by activating the record mode.

Hold **shift** and briefly press **run** without releasing shift

The piano keys will begin to flash, indicating that record mode is active.

Now you can play the keyboard in real time to add a square wave melody.  
press **rest** to clear what you recorded if you wish to try again.

Press shift to exit record mode.

## 3-5 Copy/Pasting a pattern

To copy the entire pattern of the selected voice hold **slide** and press **oct-**

To paste the copied pattern on top of the current pattern hold **slide** and press **oct+**

Example: if you wish to duplicate the baseline of pattern 1 to pattern 2:

- Hold **shift** and press **triangle** to select the triangle bass voice
- Go to pattern 1 by holding **shift** and pressing the **< pat >** buttons
- Copy the pattern by pressing **slide** and **oct-**
- hold **shift** and press **pat >** to go to pattern 2.
- Paste the pattern by pressing **slide** and **oct +**

## 3-6 Shortening patterns

You can shorten a pattern by making a step reset it.

Select a step by holding **shift** and pressing the **< step >** buttons

Hold **shift + run** then press **rest** to make the selected step reset the pattern.

Repeat the procedure on the same step to cancel the reset.

## 3-7 Switching and chaining patterns

Hold **shift** and press the < **pat** > buttons to change to another pattern, the pattern change occurs after the last step of the current pattern.

You can chain up to 16 patterns to form a song.

To do so simply hold **shift** and change the pattern multiple times with the < **pat** > buttons without releasing **shift**.

## 3-8 Transposing

Hold **run** and press any piano key to change the key of the playback (applies to bass, and squares)

Hold **run** and press multiple piano keys (without releasing **run**) to record a sequence of key changes (up to 16 are supported).

# 4 Tempo and Sync (master and slave)

## 4-1 Slave

You can slave hapiNes to another sequencer either by MIDI CLOCK (hardware MIDI or MIDI USB) or by 5V analog sync pulses (1 pulse for 2 beats) on the sync input jack (mono TS).

When you plug a mono mini jack into the sync input, the sequencer will automatically stop and wait for a trigger signal to appear on the tip of the jack.

## 4-2 Master

hapiNes transmits a 5V pulse on every 2 beats  
Via the sync output Jack (mono TS).

## 4-3 Tempo

hold **shift** and press **tempo** multiple times to change the tempo (only applies in master mode).

## 4-4 Swing

Add swing by holding **shift** and **tempo** and turning the **vibrato knob**. The swing increases as you turn the knob clockwise.



# 5 Tricks

Hold **run** and press **slide** to simulate a record spin down effect. You can use the vibrato knob to adjust the speed.

Hold **run** and press **rest** to activate the stutter effect. There are 3 stutter modes that can be changed using the **vibrato** knob. Below 40% the stutter plays only even steps, between 40% and 60% the sequencer repeats the same step endlessly, above 60% the sequencer plays only odd steps.

# 6 Midi Implementation

You can use MIDI CC to change the parameters of hapiNES according to the following chart:

PARAMETER	MIDI CC NUMBER
SLIDE >63 =ON <64=OFF	5
TRIANGLE BASS DECAY	23
SQUARE 1 DECAY	24
SQUARE 2 DECAY	25
VIBRATO RATE	20
VIBRATO DEPTH SQUARE1	12
VIBRATO DEPTH SQUARE2	13
ARP TYPE SQUARE 1	15
ARP TYPE SQUARE 2	16
ARP SPEED SQUARE 1	28
ARP SPEED SQUARE 2	31

DRUM NOISE VOLUME	27
DRUM NOISE PITCH	22
SLIDE RATE TRIANGLE BASS	40
SLIDE RATE SQUARE 1	41
SLIDE RATE SQUARE 2	42
SQUARE 1 PW	29
SQUARE 2 PW	30
MIDI CLOCK RATE 0=NORMAL 1=2X 2=4X	33
PW OF SELECTED VOICE (SQUARE1 OR 2)	1 (MOD WHEEL)
VIBRATO SQ1 ON/OFF 0=OFF >0=ON	82
VIBRATO SQ2 ON/OFF 0=OFF >0=ON	38
ARP SQ1 ON/OFF 0=OFF >0=ON	113
ARP SQ2 ON/OFF 0=OFF >0=ON	83
LOCK KNOBS (FOR CC MODULATION ONLY) 0=UNLOCKED >0=LOCKED	73

## 7 Firmware updates

While we strive to deliver a bug-free product, it is likely that firmware updates will become available over time.

Please follow the instructions on this web page for a detailed walkthrough:  
[www.twisted-electrons.com/update](http://www.twisted-electrons.com/update)

If you have ideas for new features or If you find bugs, feel free to report them and we will work on them ASAP.

[info@twisted-electrons.com](mailto:info@twisted-electrons.com)