

Tadpole Sequencer Quick Start & Reference Guide

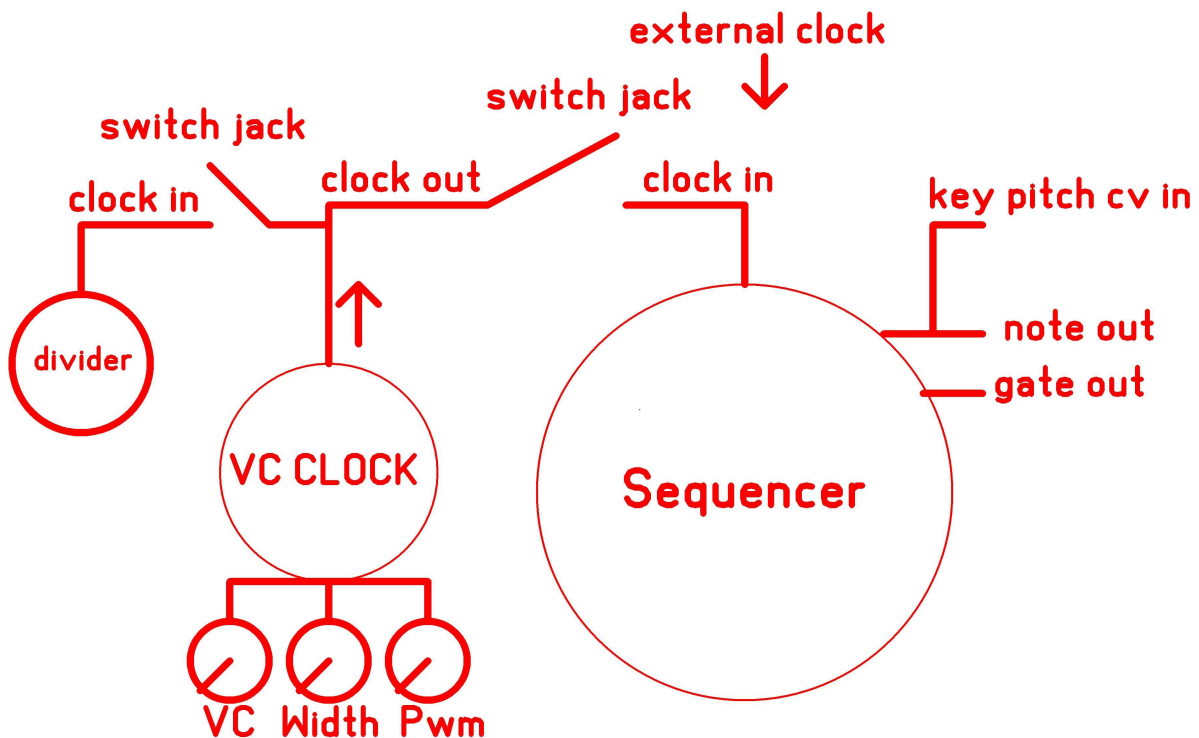
Thank you for your interest in Blue Lantern Modules. In this Reference Guide I will try to explain the various functions and workings of the Euro Tadpole 16 Step Sequencer.

In brief I will sum up what this module can do:

- 4, 8, and 16 step sequencing
- shuffle the sequence, randomize, and go into audio rate speed
- be a tone generator at audio rate
- be a master clock for other sequencers
- be clocked by an external clock instead of the internal clock.

****Here is the stuff it will not do: sequence in reverse, sequence in pendulum, or repeat steps like micro-stutter style. This sequencer only moves forward from left to right.

Here is a Block Chart to help you visualize how I internally setup this Module:

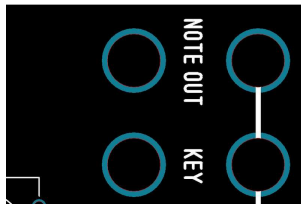


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The block diagram does not show every jack. I only wanted to show you the important switch jacks so that you can see where to insert external sources.

Because this sequencer has an internal clock generator there is really nothing to it, the module is plug and play. No other external patching is needed to get some led movement happening. All you need to do is move the 'speed' knob to control the rate.

*The most common patch you can do is patch from 'note out' on the sequencer to a direct CV input of one of your VCO's.

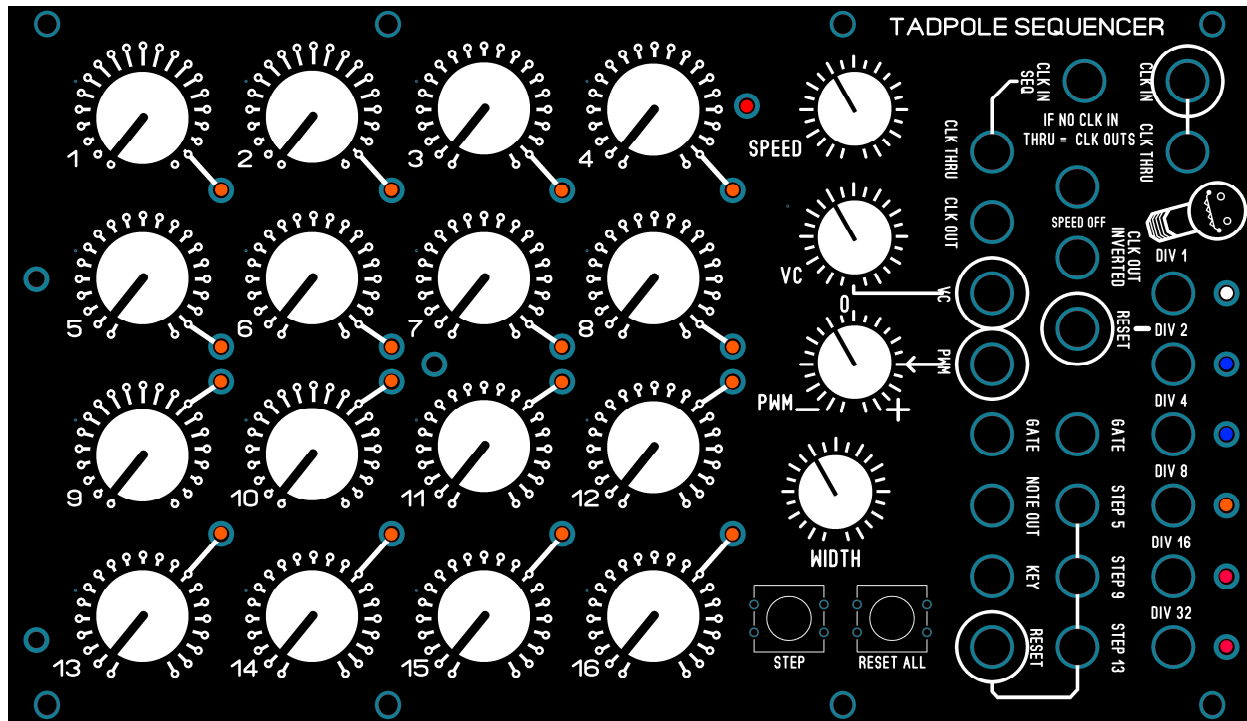


Now turn some knobs on the sequencer itself and you should here some melody happening.

*The key jack right below the 'note out' is for you to transpose the entire sequence with an external module. If you have a midi to cv converter, you can use a midi keyboard here. If you patch a slow lfo here it will also sound interesting.

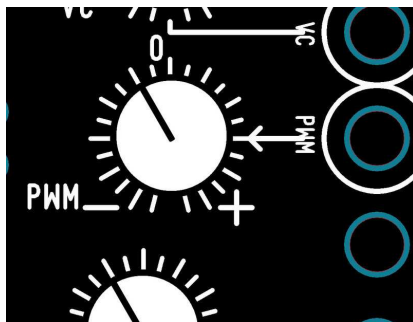
*This sequencer has an internal Gate Sequencer. By default all 16 steps have gate on. So on the 'gate' outputs jacks a 16 step pulse will output for Envelope generators, an Asteroid BD, etc. If you wish to control or mute each individual step you can do this with the external module I am working on which will add 16 toggle switches. On the back of the sequencer module there is the 20 pin header where the expansion module will connect. Each step is labeled from 1-16. To mute a gate it simply connects to ground. So for example to mute gate #3 at step #3, it contacts with ground with a toggle switch.

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Next I will explain how to setup for some of the cool techniques you can use.

*Randomizing the sequence.



To get the sequencer to pseudo randomize, turn the PWM knob fully counter clockwise into the negative side. You will see short led flickers on all 16 steps and see randomly bright leds bounce all over. Adjust the 'Width' to control the bounce or 'toss'. The effect is more visible at slower clock rates.

*Getting the Jazzy feel.

To get some cool shuffle going patch from the 'clock inverted' output and patch into the 'Clock Seq Input'. What you did is invert the master clock into the sequencer. Turning the 'width' knob will create some interesting shuffles. Try the 'pwm' knob and randomize.

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*Sequencing with trills.

Patch from one of the 'Divider' outs into the 'Clock Seq'. At slower rates of the clock you should hear the sequence notes move a little up and down or trill. It is similar to modulation from a square wave from an LFO. If you patch from the 'clock inverted' output and into the clock input for the divider, and finally from the one of the divider outputs into the 'clock seq', you will get some more variation.

*Shortening the Sequence loop.

To do this you patch from one of the 'Step 5, Step 9, Step 13' jacks into the 'reset' jack next to the 'reset all' button. The other reset jack is for the divider. When you press the 'reset all' button it does what it says and will reset the sequencer and divider.

*Holding a note while the sequence is running.

Simply use the 'STEP' button on the bottom to stop or hold the current step.

*Manually stepping along the sequencer.

In order for you to do this you must break the intern switch jack for the 'clock seq' input. Patch a cable into the 'clock seq' jack and leave it free floating (no patch on the other side). Now press the 'step' button to move along forward. This is great for fine adjusting the knobs.

*Using an External Clock Source.

Simply patch an lfo into the 'Clock seq' input. You will break the internal switch jack so that the internal Master clock disconnects. But does it really disconnect? Well, there is some nice very small bleed through from the internal clock. At slower rates of the internal clock you will here it 'modulate' each step note like an lfo modulating the pitch. It is a nice imperfect feature. If you simple must kill the cross talk, you have (2) options: use the toggle switch on the sequencer and toggle it to 'speed off', or turn the speed knob all the way clock wise, and turn the width knob fully counter clockwise. The first option totally stops the internal clock from oscillation.

On my prototype I did not have the toggle switch, so for those you have to do the 2nd option.

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*Using the sequencer as a tone generator

To do this turn the speed knob fully clockwise and you should see all the leds glow. Turning each sequencer step knob will effect the tone or 'draw' the wave. Use the 'note out' jack to hear the audio wave. If you feel you want to tone at faster frequency, then use an external vco as a clock source. If you clock too fast it will silence the effect and the led's will go dark.

*The Clock Thru, clock clone?

When nothing is patched into the 'clock seq' input, the jacks labeled 'clock thru' simple repeat or clone the internal clock output jacks. Multiple style.

If you patch an external source into the 'clock seq' input, it will repeat or clone that external source for you to share to other modules. So the 'Clock Thru' just passes a copy.

*****Servicing Notes:

There are (2) Trimmers on the back of the module.

Trimmer #1: Scaling 100k Trimmer. By default this is adjusted for 8.0v. This determines the cv sweep range for the sequencer. This can go as high as 11.5v. I think 8.0v is a good choice. This will give you 8 octaves of sequence range. You need to measure the 'note out' with a volt meter while the sequencer is stopped and not running. Turn the knob for the stopped step fully lockwise.

Trimmer #2: Pulse Width 100k Trimmer. This will adjust the Pulse width sweep knob. By default it is set to go square wave in the middle position and skinny pulse left or right.