

TENDERFOOT ELECTRONICS

TRIG SEQ 1 - TRIGGER SEQUENCER

MANUAL REV1 - 2023/9/7

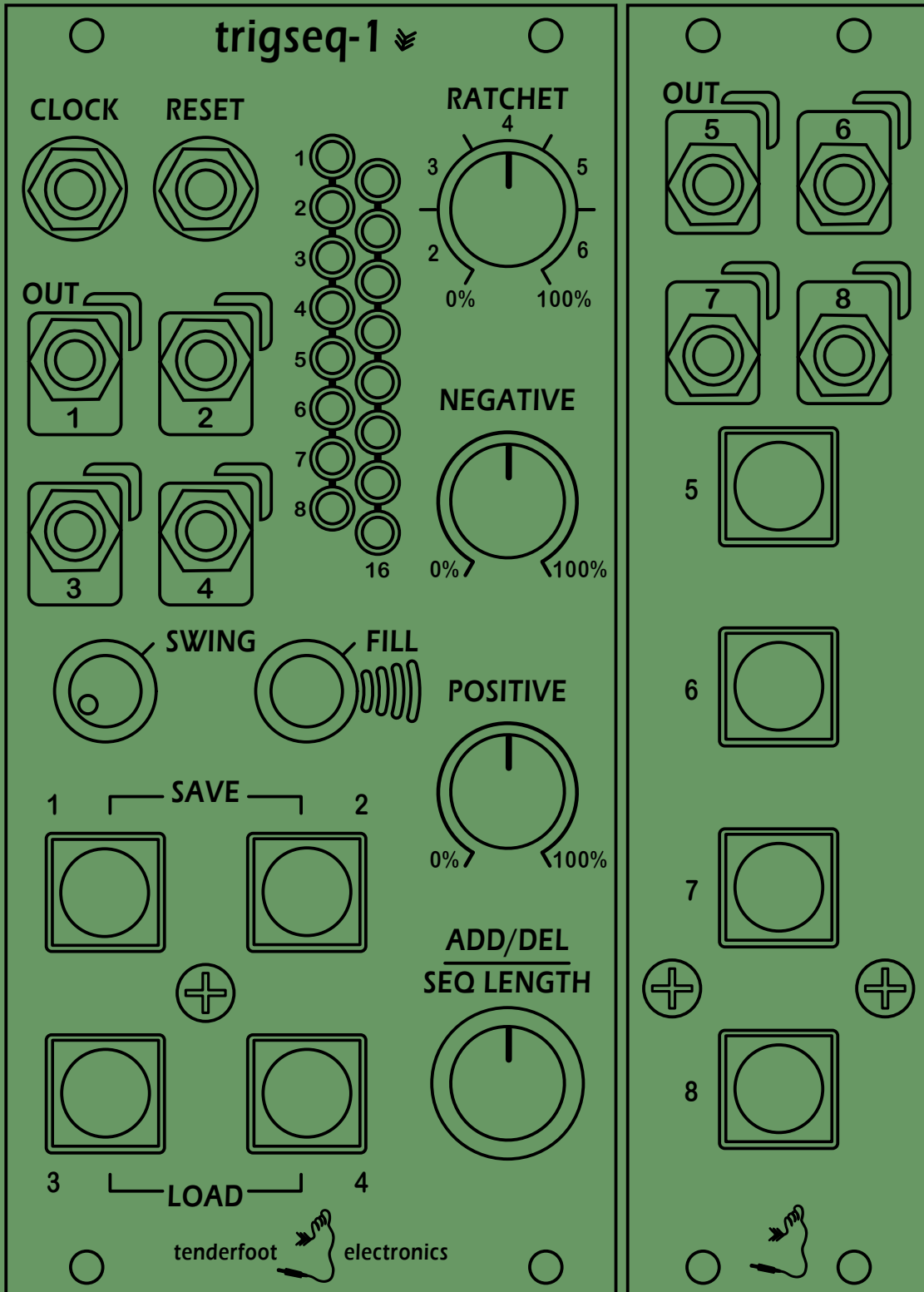


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INTRODUCTION

TrigSeq 1 is an 8-channel, 16-step, probability-influenced trigger sequencer with a rapid programming interface.

SPECIFICATIONS:

OMFG = 12HP ; CV EXPANDER = 6HP

Depth = 33mm

CURRENT DRAW:

+12V = 43mA

+5V = 0mA

-12V = 0mA

BEFORE STARTING

In order to use the TrigSeq-1, ensure the case you are installing it into uses a eurorack specification power supply and has enough available current to supply the module.

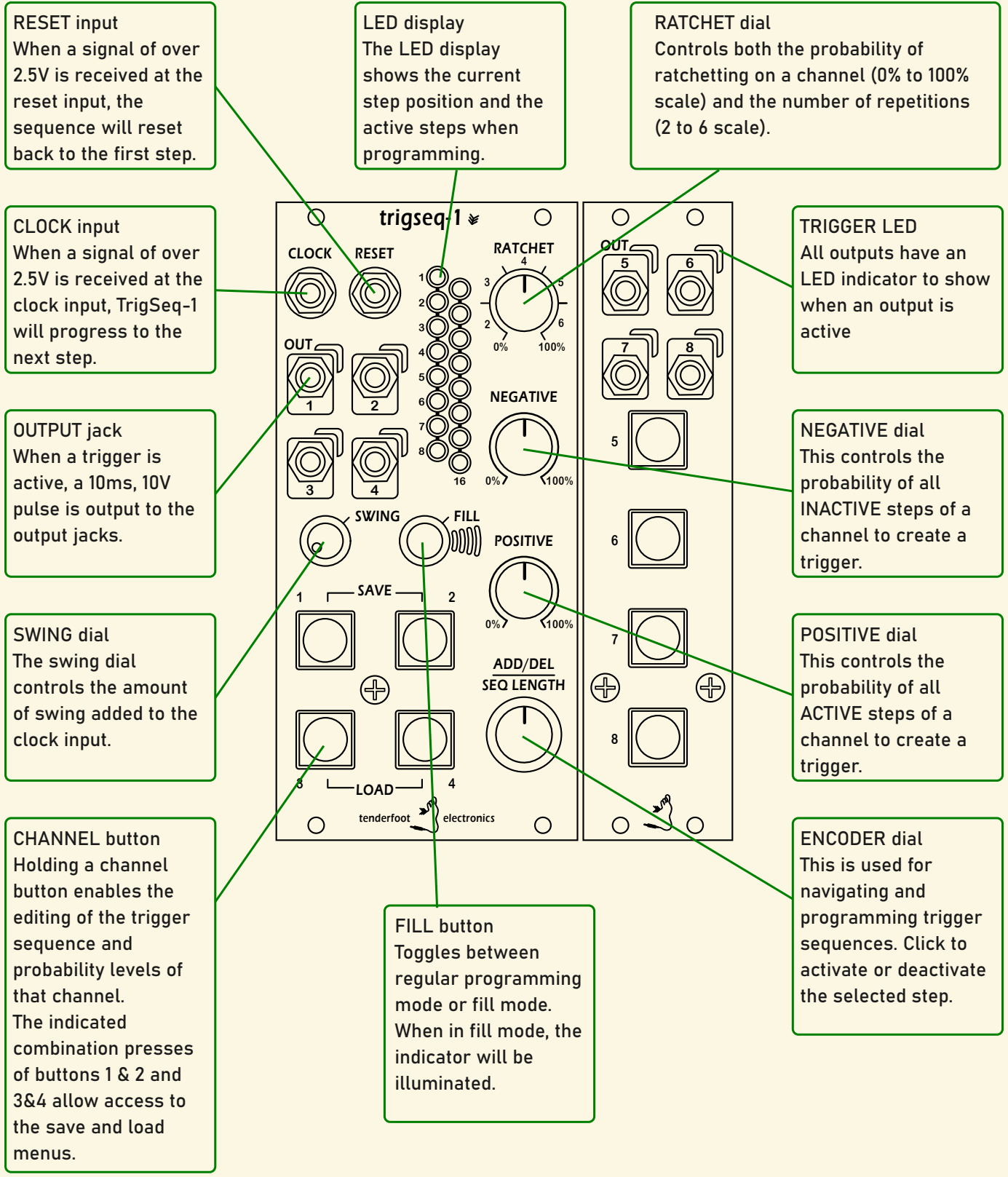
When connecting the 10-pin power cable, align the red stripe of the cable with the indicated -12V marker on the back of the module.

The Expander connects using the wider 16-channel cable provided, and once again requires that the red stripe of the cable aligns with the white indicator on the larger pin connector of the module.

PANEL LAYOUT

TrigSeq-1 & Expander

TrigSeq-1 has 8 trigger sequencer channels split between the main module and the expander, which is included with the main module at purchase. This gives the flexibility to have just 4 channels in a smaller footprint of 12HP, or to use all 8 channels in an 18HP footprint.



PROGRAMMING A SEQUENCE

1 - Press and hold the desired channel button

In order to program steps into the sequence of a channel, you need to press and hold down the appropriate channel button. While the channel button is depressed, the LED display will show the current pattern.

2 - Rotate and press encoder

While holding down the channel button, rotating the encoder will move the blinking indicator through the 16 display LEDs. Solidly illuminated LEDs are "active" steps and extinguished LEDs are "inactive". Pressing in the encoder dial will switch the state of a step from active to inactive and vice versa.

3 - Probability settings (optional)

The above 2 steps are enough to program a sequence for a single channel of the trigseq-1, and you can release the channel button. Alternatively, if you wish to add some variation to the sequence that you are editing, keep holding down the channel button and rotate one of the 3 probability controls. Each channel's probability can be set individually, and the probability values only change upon movement of the dial.

POSITIVE

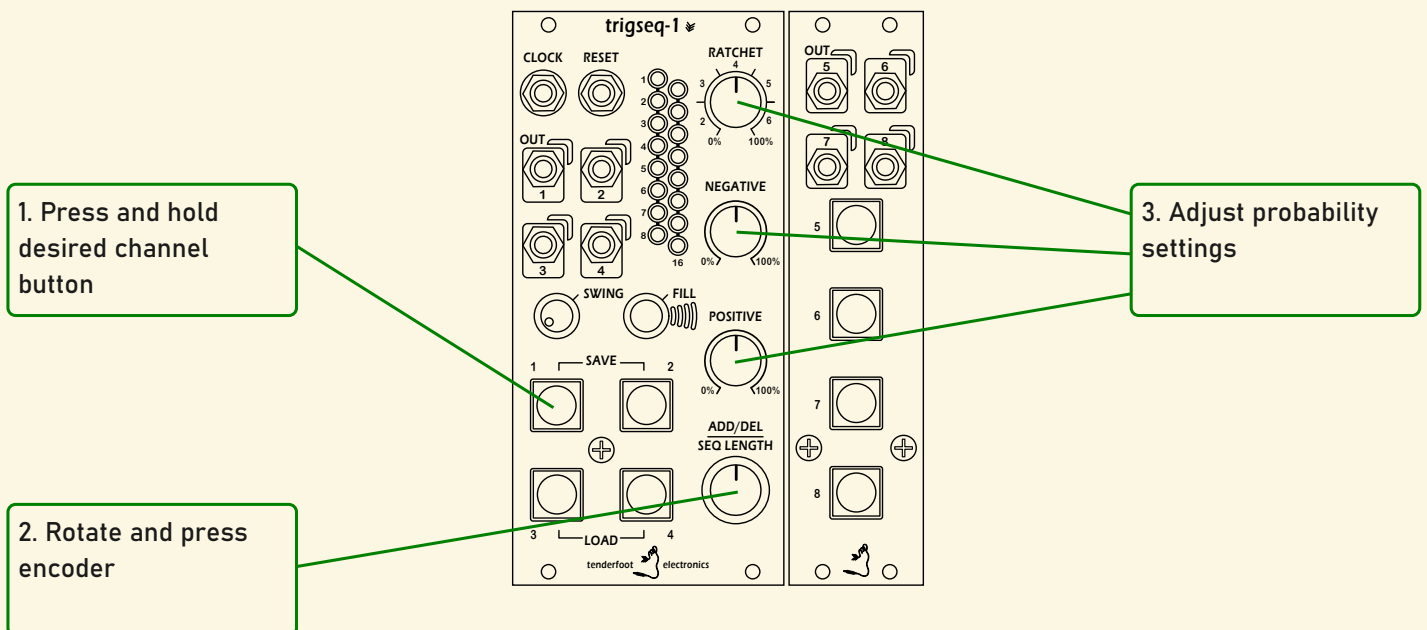
Adjusting the positive dial will affect the probability of an active step actually firing a trigger signal when it is reached. The standard setting for the positive control is to have it at 100% (fully clockwise): This will mean that every active step will produce a trigger.

NEGATIVE

Adjusting the negative dial will affect the probability of an inactive step firing a trigger signal when it is reached. The standard setting for the negative control is to have it at 0% (fully anti-clockwise): This will mean that no inactive steps will produce a trigger.

RATCHET

Adjusting the ratchet setting while holding down a channel button will affect the probability of an active step for that channel retriggering at a multiple of the current clock input speed. Selecting the number of repetitions is a global control (see fill-mode section for exception), and is adjusted without any of the channel buttons being held.



RUNNING THE SEQUENCER

1 - Patch a clock to the CLOCK input

TrigSeq-1 does not have an internal clock and requires a clock signal to be patched into the CLOCK input jack in order to run. A square wave or pulse is the most appropriate type of signal to input here, but any type of envelope or LFO/VCO wave exceeding 2.5V in amplitude should run the sequencer.

2 - Patch the output jacks to drums/EGs/other modules

TrigSeq-1 does not have an internal clock and requires a clock signal to be patched into the CLOCK input jack in order to run. A square wave or pulse is the most appropriate type of signal to input here, but any type of envelope or LFO/VCO wave exceeding 2.5V in amplitude should run the sequencer.

3 - Leaving all buttons unpressed

While all buttons are left unpressed, the current step of the sequencer is shown by the single illuminated LED. With every clock pulse send to the clock input, the LED will progress one step down from top to bottom of the first column, and then from top to bottom of the second column. With no adjustment to the total sequence length, the sequence will loop back around to the 1st step after the 16th step

4 - Adjusting sequence length (OPTIONAL)

While all buttons are left unpressed, moving and clicking the encoder will adjust the global sequence length. This is indicated on the standard display scene (no buttons pressed) as fully illuminated LEDs for all inactive steps. When the sequence progression indicator reaches the first of these fully illuminated LEDs, the sequence will reset back to step 1. This is illustrated in the below diagrams.

Illustration of step progression on detection of a clock input - 16 step sequence length

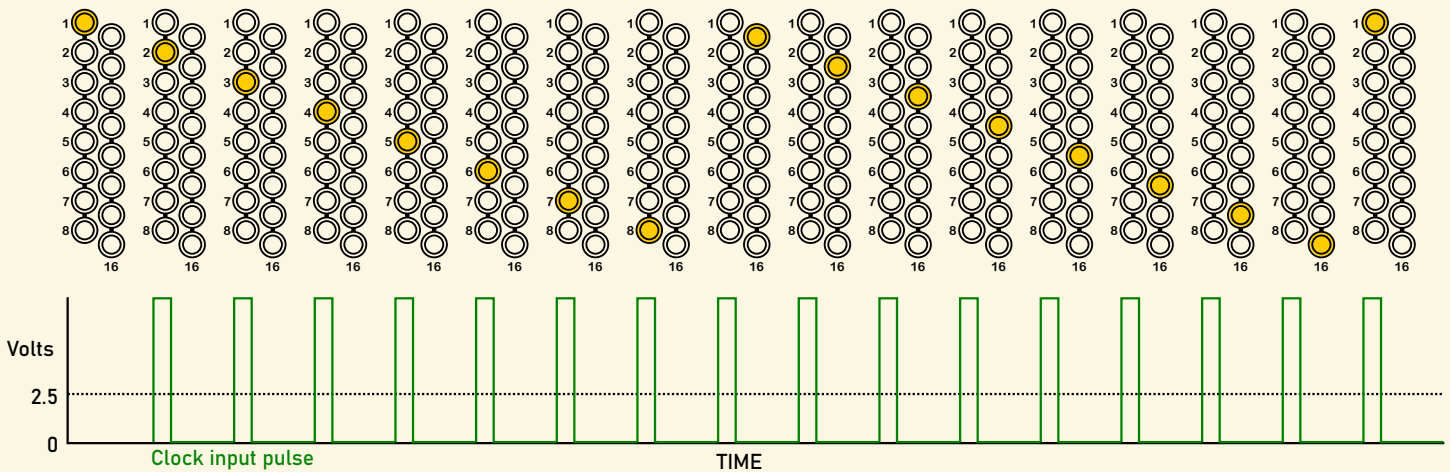
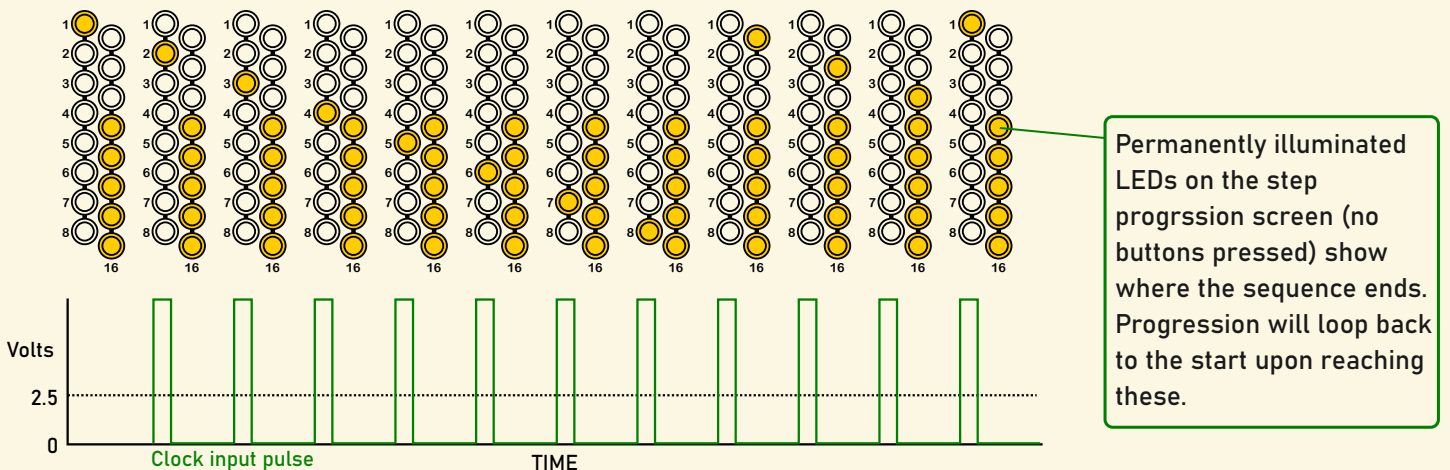
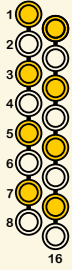


Illustration of step progression on detection of a clock input - 11 step sequence length



PROBABILITY CONTROL

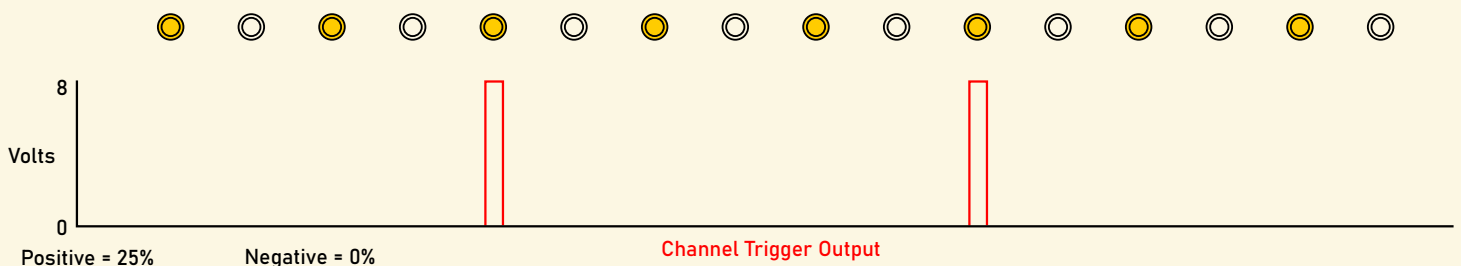
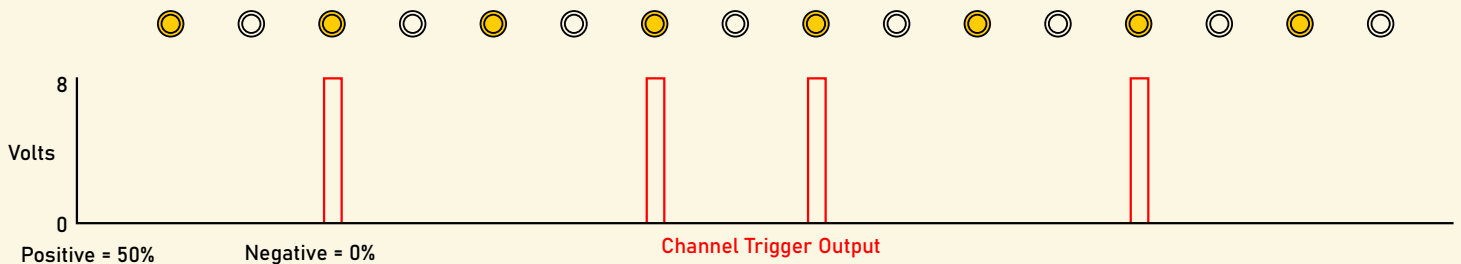
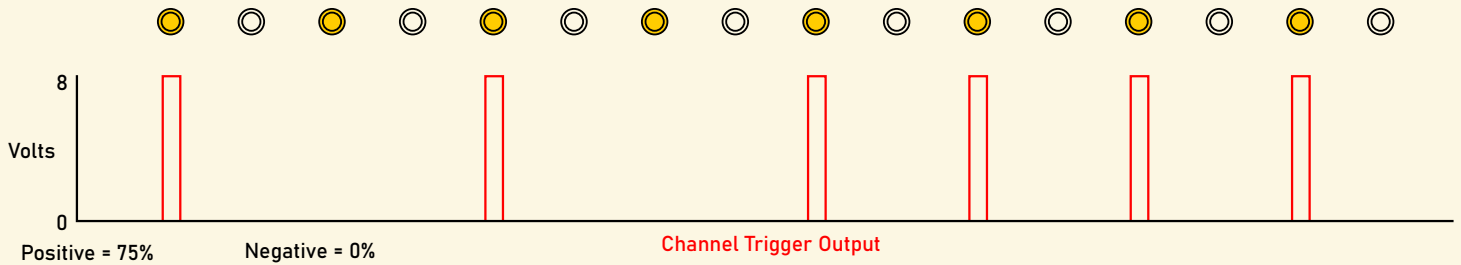
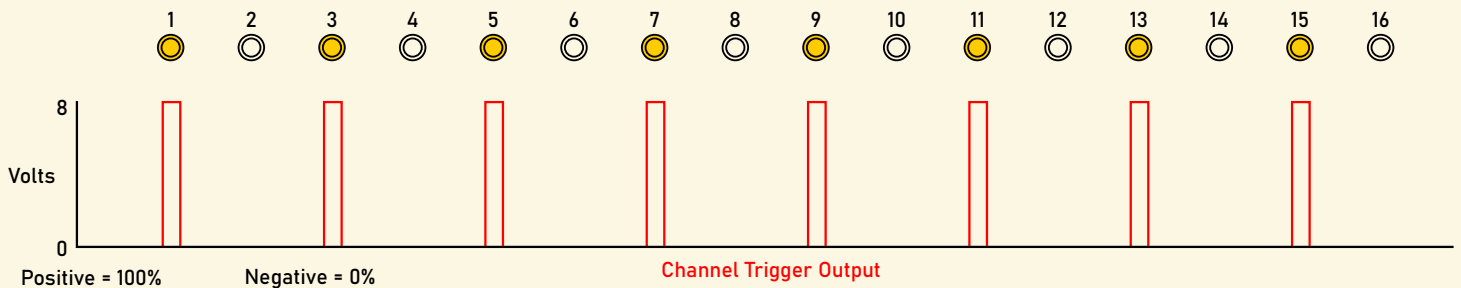
The probability controls of the TrigSeq-1 are a very fast way to add variation to your trigger patterns. In this section we will look more in-depth at how they work and exactly what it means for your sequences.



For this example, we will program a very basic pattern into a single channel. As you can see from the diagram, every other step is set to be active.

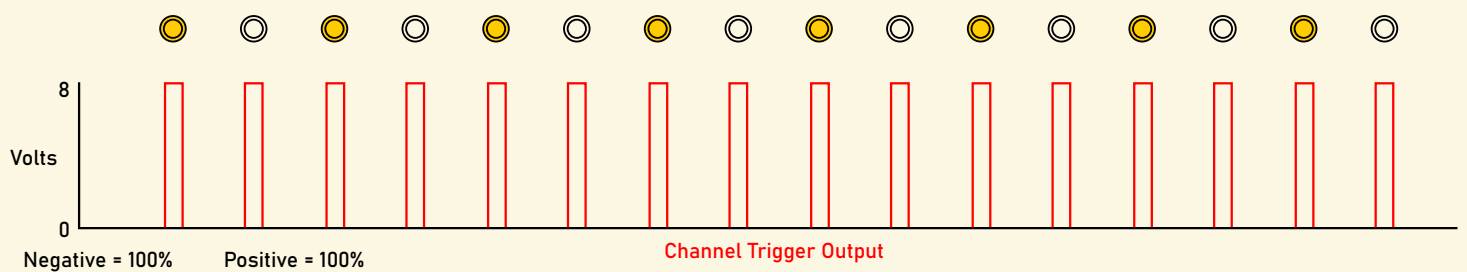
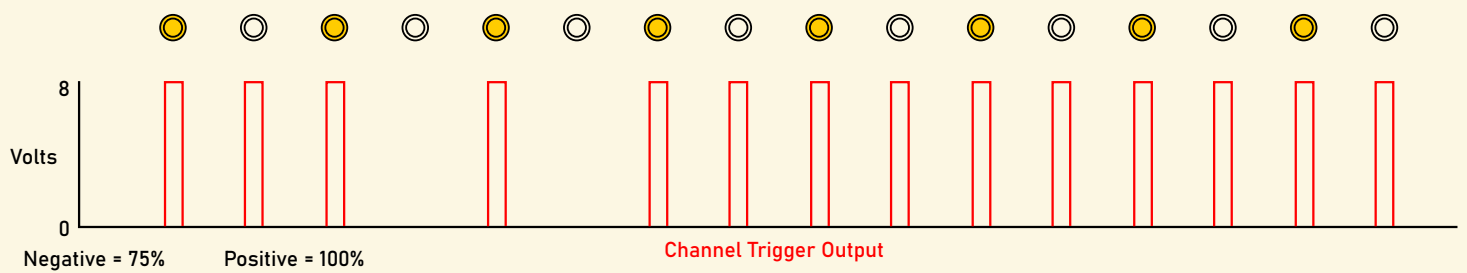
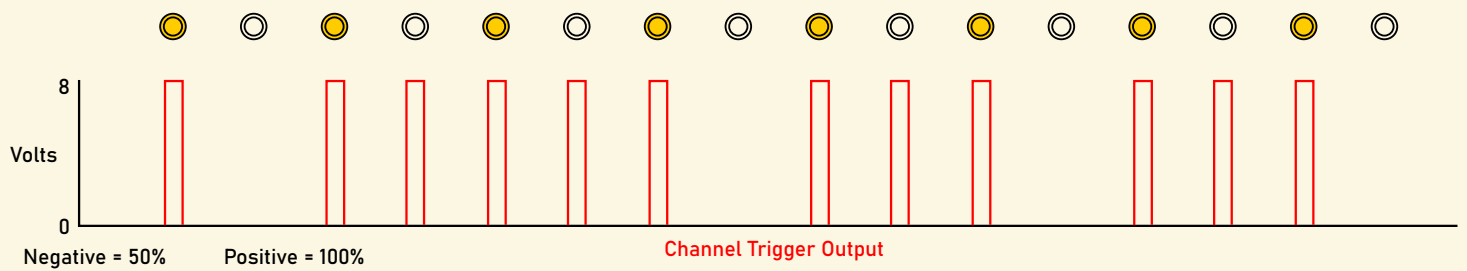
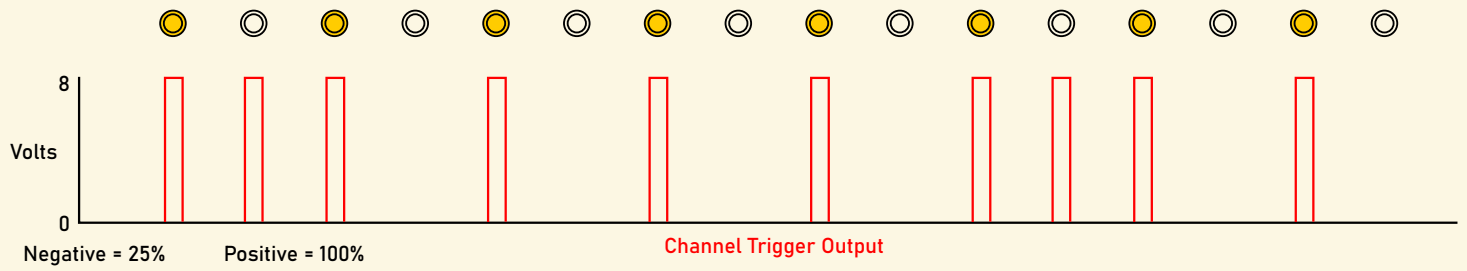
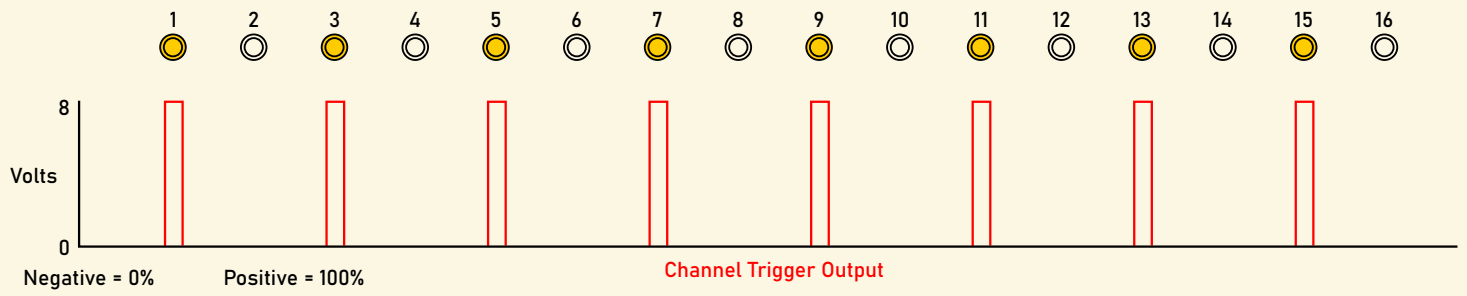
The next images represent what happens when you vary the probability controls and the effect on the signals output at the channel's output jack while the sequence is running. The probability dice roll occurs on every clock pulse, so it is not possible to predict exactly which steps will be added or removed.

Varying the positive probability



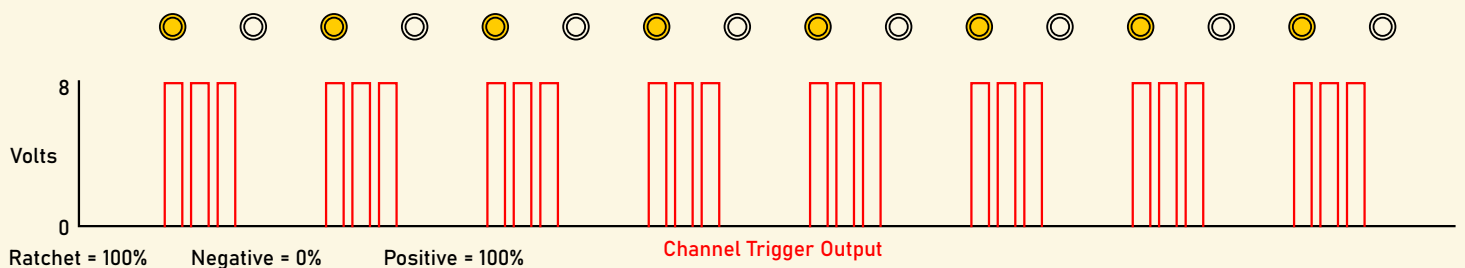
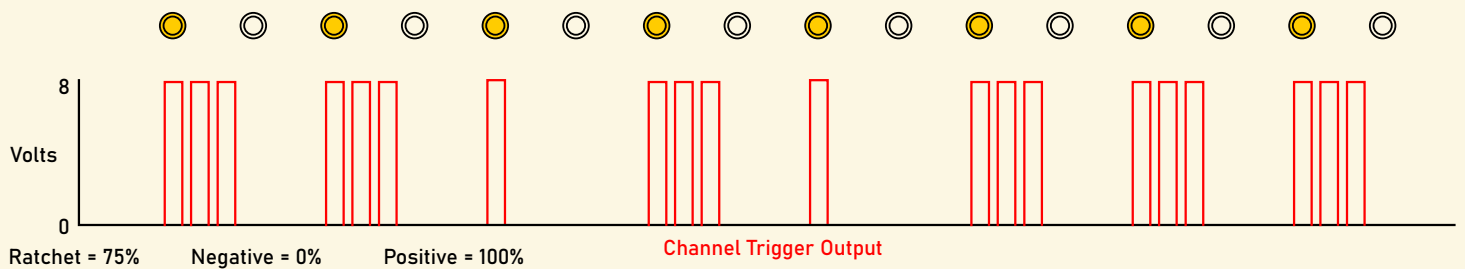
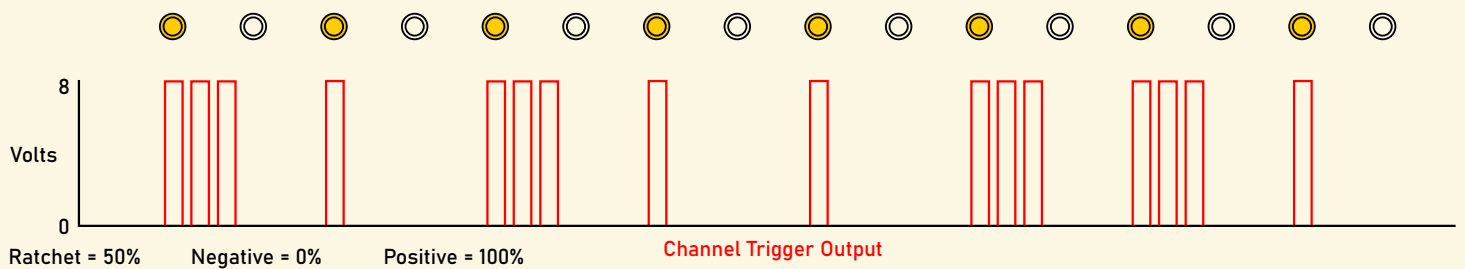
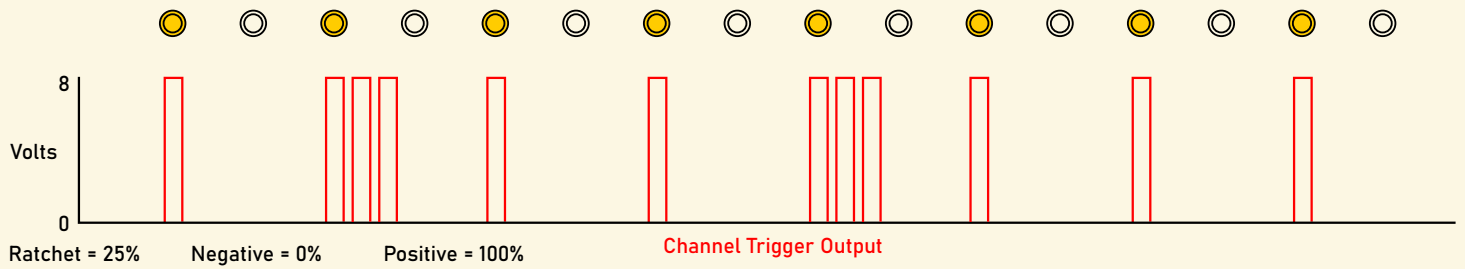
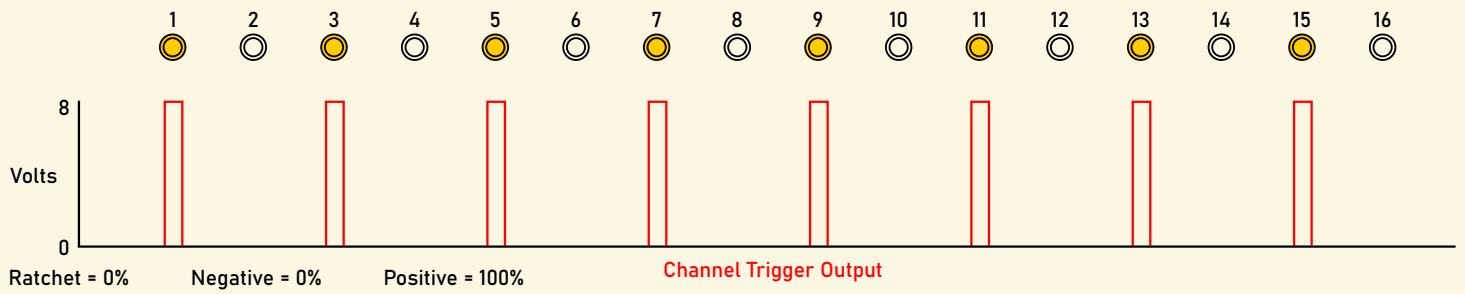
PROBABILITY CONTROL

Varying the negative probability



PROBABILITY CONTROL

Varying the ratchet probability - number of repetitions fixed to 3



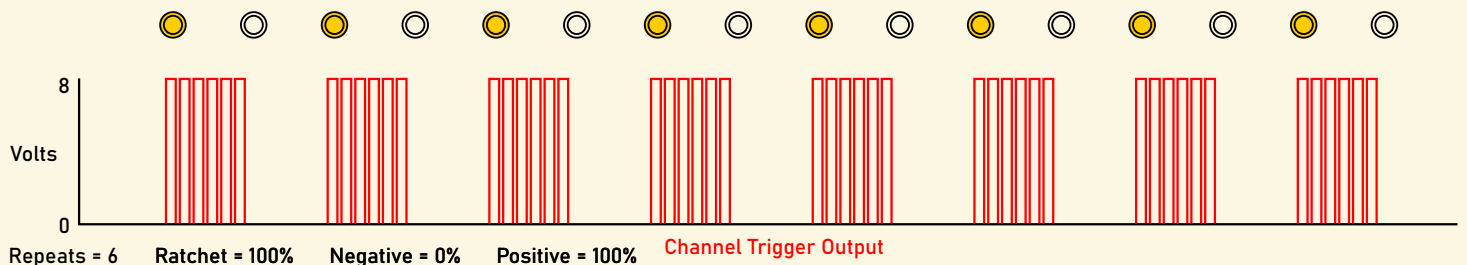
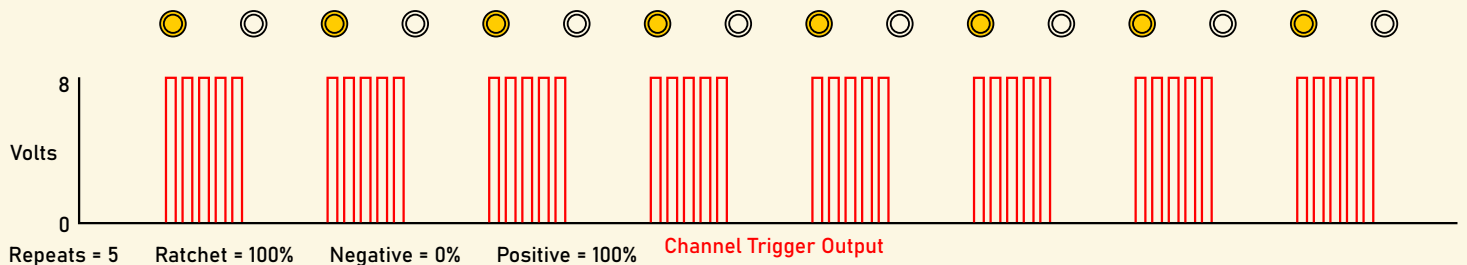
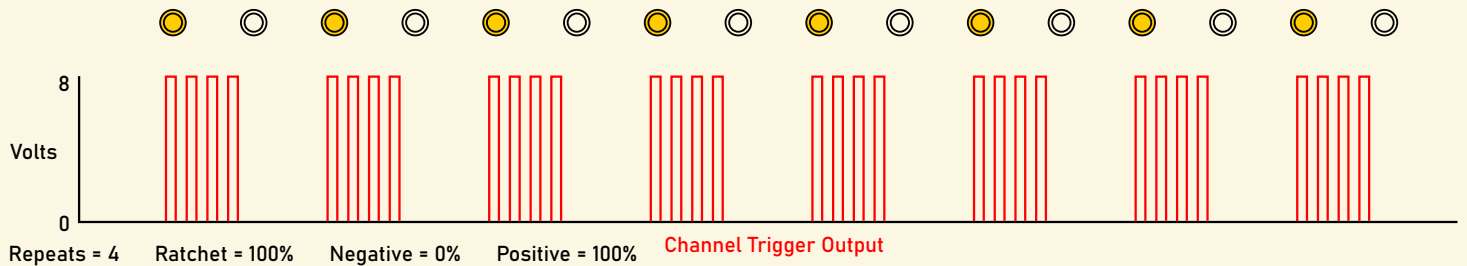
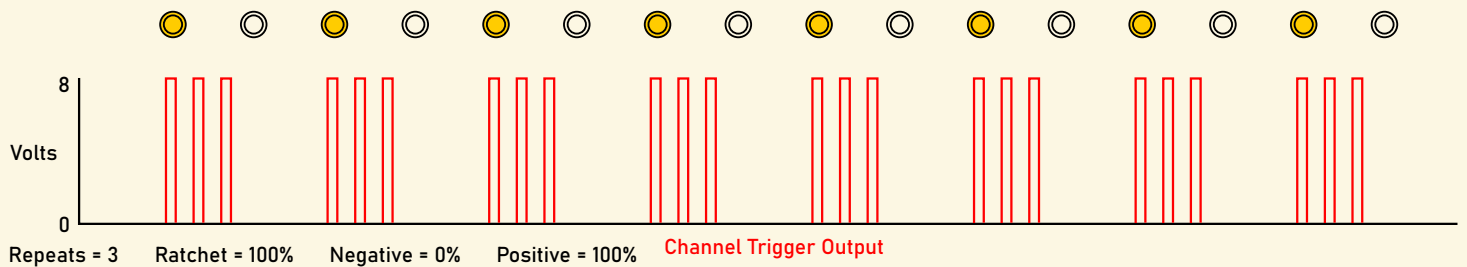
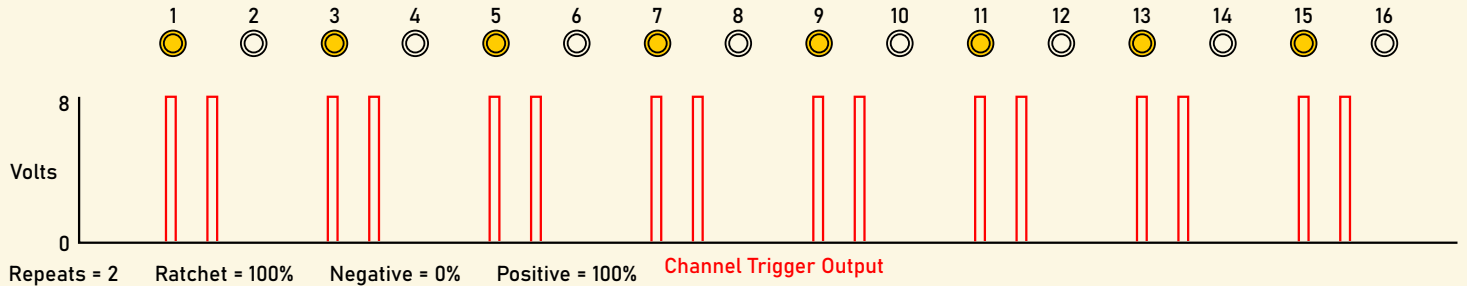
It needs to be noted that ratcheting can only affect steps that the user has assigned as "active" ie. the LED needs to be illuminated for a step to ratchet. Even if an inactive step is triggered via negative probability, these steps will never ratchet.

RATCHET REPETITIONS

Number of ratchet repetitions

The number of ratchets can be controlled globally by turning the ratchet dial while pressing none of the channel buttons. It is possible to set a different number of ratchet repetitions for individual channels by entering the fill mode, holding the channel button, and turning the ratchet dial. While in fill mode, it is impossible to edit the ratcheting probability for that channel.

Ratchets are repeated after the initial trigger of the step is fired, at a frequency of the last two measured clock input pulses, multiplied by the number of ratchets. To illustrate this the following diagrams represent a channel with 100% ratchet, 0% negative and 100% positive probabilities. For each image, the number of ratchets will be different.

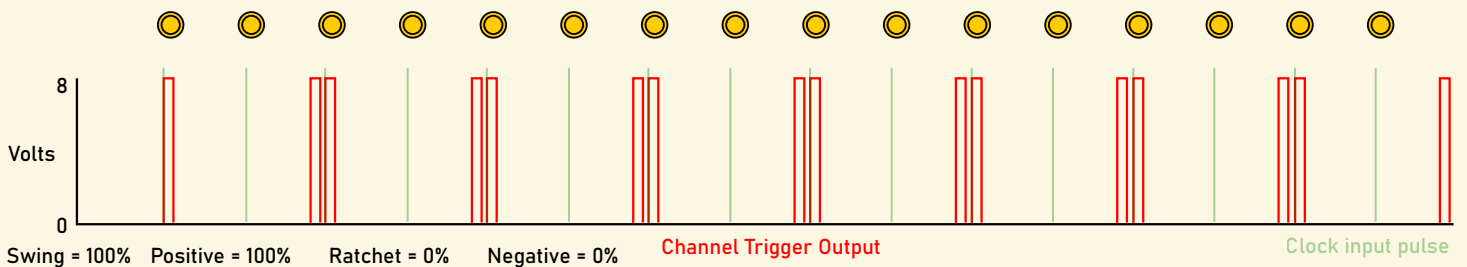
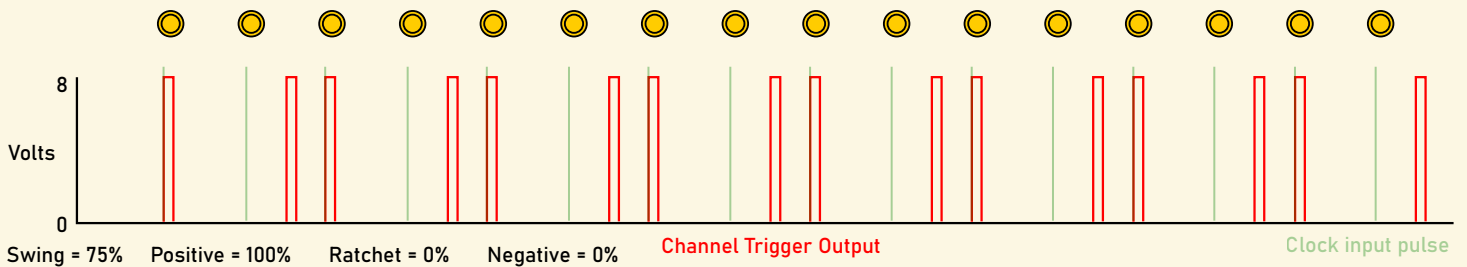
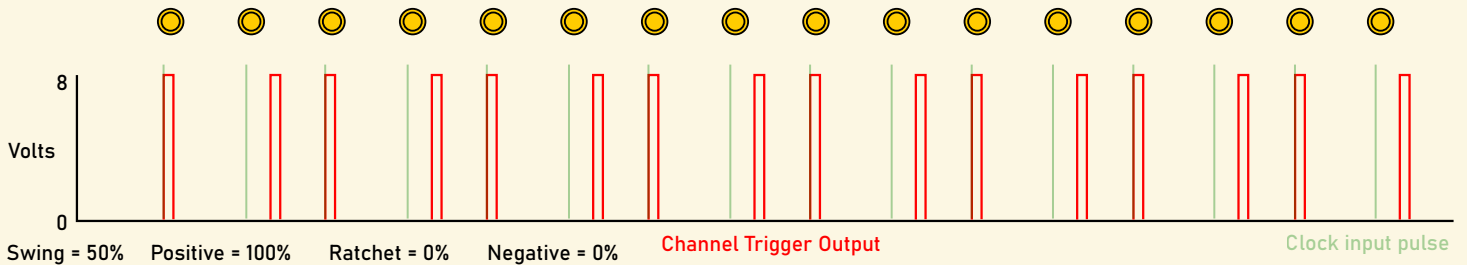
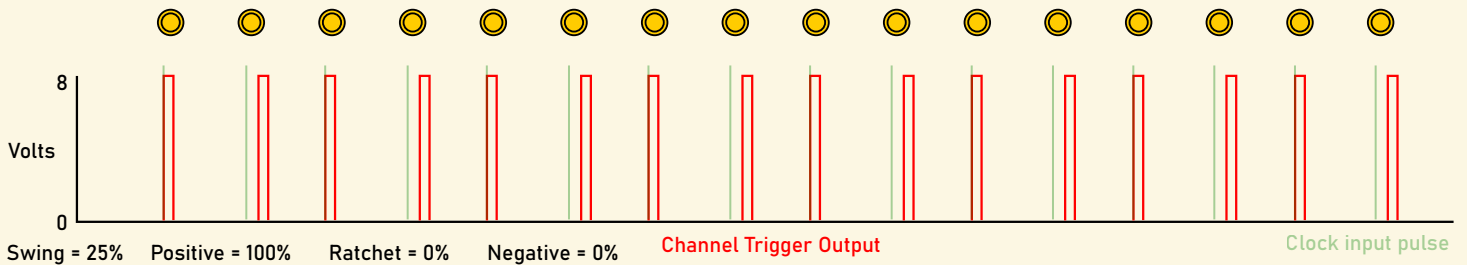
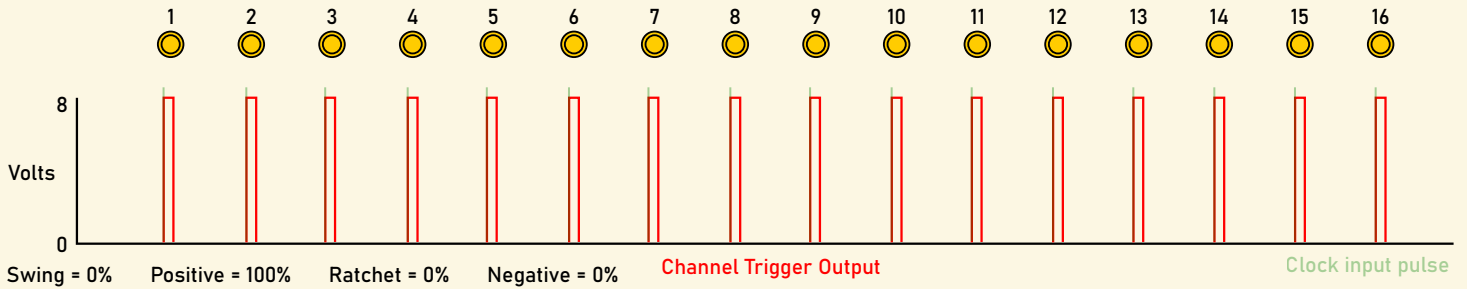


SWING CONTROL

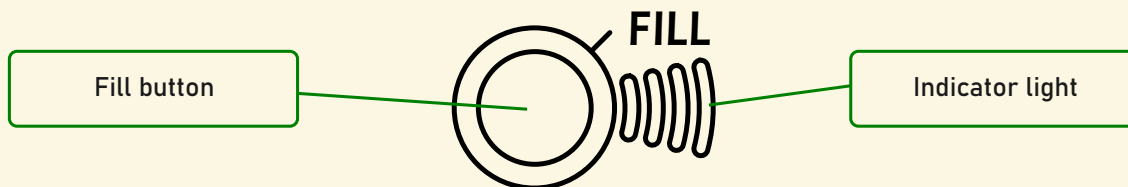
The swing dial

Adding swing to your current trigger pattern is as easy as turning the swing dial. When turned fully anti-clockwise, there is no swing added to your clock input. The more you turn the dial in the clockwise direction, the more swing is added. The following diagrams show how the swing moves each even step closer to the following odd step. If ratchets are turned on, they will only occur on odd-numbered steps.

For the following examples, every step will be active, with the standard probability settings.



FILL BUTTON



Standard mode - fill light off

The standard mode of operation for the TrigSeq-1 is for the fill light to be off. This allows you to program patterns, save and load, and set probabilities as normal. Pressing the fill button toggles between the standard mode and the fill mode.

Fill mode - fill light on

Putting the TrigSeq-1 into fill mode allows you to play the module more dynamically than in standard mode. While in fill mode, you cannot directly edit step sequences, you can still adjust probabilities.

Upon holding any of the channel buttons, when a clock signal is received, that channel's output will fire triggers in accordance with the number of ratchets set by turning the ratchet dial. While in fill mode, it is possible to set different ratchet rates for each channel by holding that channel's button down and turning the ratchet dial to the desired number of repeats.

It is important to note, that tapping the channel buttons between clock pulses or without the presence of any clock at the input will not produce any fills or triggers at the output.

Live recording mode - fill light flashing

To put the module into live record mode, hold down the fill button until the indicator light begins to flash.

When in live record mode, pressing a channel button will activate the current step for that channel. This makes it possible to record a pattern into the module while a clock input is running by tapping the channel button in the rhythm you wish to record. It is important to note that all patterns recorded in this way are quantized to the 16 steps available.

SAVE / LOAD

Saving a pattern

TrigSeq-1 gives you 16 save slots to store your trigger patterns. Each slot will store the patterns currently programmed into all 8 channels. Probabilities and ratcheting settings are not saved along with the pattern, meaning that whatever those parameters are set to before you load a new pattern, they will roll over to the new pattern being loaded.

To save a pattern, momentarily press both the channel 1 and channel 2 buttons at the same time while in the standard mode (fill light off). The LED display will illuminate all 16 LEDs to show you are in the save menu, at which point you can select the save slot (1 to 16) using the encoder. Press the encoder button to save.

Loading a pattern

To load a pattern, momentarily press both the channel 3 and channel 4 buttons at the same time while in the standard mode (fill light off). The LED display will illuminate all 16 LEDs to show you are in the load menu, at which point you can select the load slot (1 to 16) using the encoder. Press the encoder button to load.