# Tri-ger

Three Channel Pattern Recorder


QU-BIT

ELECTRONIX

## Description

Set yourself free from the tyranny of quantized rhythms. No more cold, lifeless patterns. Enter the world of push and pull that has been present in music since time immemorial.

Tri-ger is a 3 channel pattern recorder.

It is capable of recording and looping patterns up to 33 seconds in length, while providing a subdividable master clock output to keep the rest of the patch in time with the rhythms the user plays. Punch in record, play/pause, mute, and roll functions make the Tri-ger the best way to clock any patch in a musical fashion.

It uses bars and beats as units of measure, providing a quick and intuitive interface for the creation, arrangement, and performance of music.

The first of its kind in modular synthesis, the Tri-ger brings humanistic rhythms to the modular realm.

Made by Qu-Bit in Portland, OR

# Table of Contents

## Installation

To install, locate 14 HP of space in your Eurorack case and confirm the positive 12 volts and negative 12 volts sides of the power distribution lines. Plug the connector into the power distribution board of your case, keeping in mind that the red band corresponds to negative 12 volts. In most systems the negative 12 volt supply line is at the bottom. The power cable should be connected to the Tri-ger with the red band facing the bottom of the module.

## Specifications

**Format:** 14 HP Eurorack module

**Depth:** 40mm (Skiff Friendly)

**Max Current:** +12V = 160mA
-12V = 37mA

## Getting Started

**How the Tri-ger Records:**
The Tri-ger is record-enabled once the *rec button* is pressed, but will wait to record until the first *arcade button* is hit. To stop recording, press the *rec button* again and the Tri-ger will immediately start playing the recorded loop. The Tri-ger calculates a subdividable clock based on the length of the recorded pattern. This signal is output from the *clock out jack*.

**Note:** The Tri-ger will save patterns, play/pause state, playback position, mutes, and enabled rolls in between power cycles

**Recording New Loops:**
To record a new loop, hold down the *alt button* and then press the *rec button*. All *rec/mute indicators* will begin to blink red, showing that the Tri-ger is ready to record a new loop. Once the first *arcade button* is hit, all *rec/mute indicators* will stop blinking and illuminate red as the Tri-ger starts to record. Press the *rec button* once more to stop recording and the new loop will begin playing. When recording new loops, the *bar/beat indicators* will reflect the current length of the recording in relation to how much recording time is left. The *bar/beat indicators* will flash at an increasing rate as they approach the recording capacity.

**Punch In/Punch Out Recording**
To punch in record, press the *rec button* and start playing on the desired channel. The corresponding channel's *rec/mute indicator* will illuminate red, showing that the destructive over-dubbing of the desired channel is in progress. Press the *rec button* again to stop recording and the newly recorded pattern will play in time with the rest of the loop.

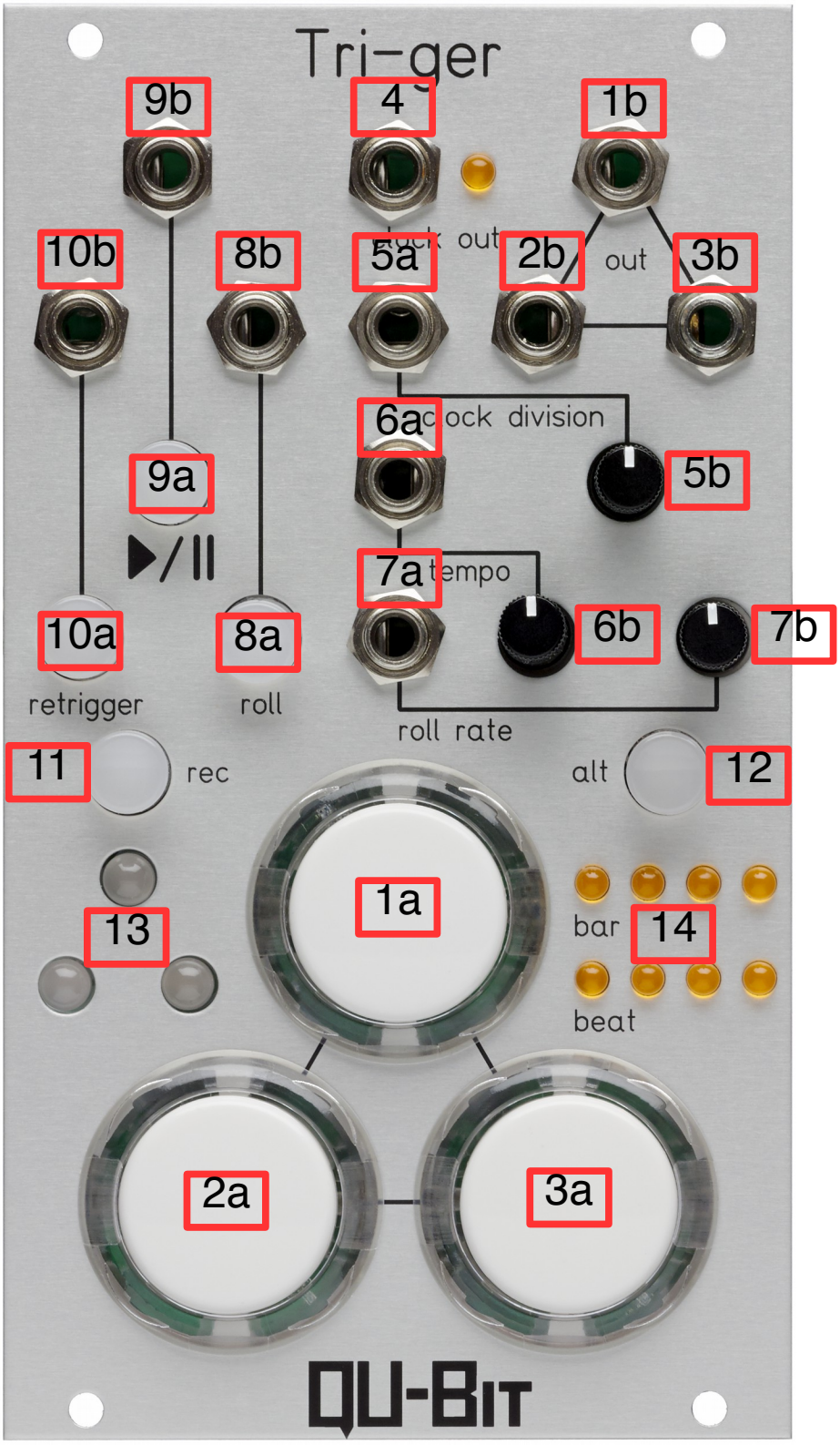
**Momentary Punch In Recording:**
To add extra notes to a specific channel without rerecording the channel's entire pattern, hold down the *rec button* and start adding the desired rhythms to an existing loop. Release the *rec button* and the Tri-ger will stop recording.

**Muting Specific Channels:**
To mute and unmute specific channels, hold down the *alt button* and then press the corresponding channel buttons. If all *rec/mute indicators* are illuminated green, then all channels are active. If all *rec/mute indicators* are unilluminated, then all channels are muted (See **11. Alt** for corresponding channel buttons). Manual gates will still function when the corresponding channel's pattern is muted.

**Erasing Patterns On Specific Channels:**
To erase patterns on specific channels, hold down the *rec button* and then double tap the button that corresponds with the desired channel (See **11. Alt** for corresponding channel buttons).

**Enabling/Disabling Drum Rolls On Specific Channels:**
By default, all channels have drum rolls enabled. To disable and enable drum rolls on specific channels, hold down the *alt button* and then double tap the button that corresponds with the desired channel (See **11. Alt** for corresponding channel buttons).

**Changing Clock Out Pulse Width:**
To change the width of the clock out signal, hold down the *alt button* while turning the *roll rate knob*. If the *roll rate knob* is far left, then the gates will be as narrow as possible. If the *roll rate knob* is far right, then the gates will be as wide as possible.


Tri-ger
9b
4
1b
10b
8b
5a
2b
out
3b
out
6a
clock division
5b
9a
7a
tempo
10a
8a
6b
7b
retrigger
roll
roll rate
11
rec
alt
12
1a
13
bar
14
beat
2a
3a
QU-BIT

## General Functions Overview

**1a. Arcade Button 1:**
For recording patterns and using as a manual gate on channel 1. Pressing an *arcade button* will send a gate signal from its corresponding output. If the surrounding LED is illuminated, then the gate is high. If the surrounding LED is unilluminated, then the gate is low.

**1b. Out 1:**
Outputs of recorded gate patterns and manual gate signals for channel 1.
Gates are 0V-10V.

**2a. Arcade Button 2:**
For recording patterns and using as a manual gate on channel 2. Pressing an *arcade button* will send a gate signal from its corresponding output. If the surrounding LED is unilluminated, then the gate is low.

**2b. Out 2:**
Outputs of recorded gate patterns and manual gate signals for channel 2.
Gates are 0V-10V.

**3a. Arcade Button 3:**
For recording patterns and using as a manual gate on channel 3. Pressing an *arcade button* will send a gate signal from its corresponding output. If the surrounding LED is unilluminated, then the gate is low.

**3b. Out 3:**
Outputs of recorded gate patterns and manual gate signals for channel 3.
Gates are 0V-10V.

**4. Clock Out:**
Subdividable clock output.
Clock rate is determined by the length of the recorded loop and the *clock division knob*. The calculated clock will start as soon as a newly recorded loop begins to play.
Gates are 0V-10V.

**5a. Clock Division:**
Control for clock division.
If the *clock division knob* is far left, the clock rate will be the largest possible rhythmic derivative of the master clock. If the *clock division knob* is far right, the clock rate will be the shortest possible rhythmic derivative of the master clock. These values are dependent on the length of the recorded loop.

**5b. Clock Division CV In:**
Unipolar positive control voltage input for *clock division*.
Control voltage is added to the current pot position.
Range is 0V-5V.

**6a. Tempo:**
Control for tempo.
The original tempo of the recorded pattern is found at the point marked by the *tempo knob* upon recording. If the *tempo knob* is far left, the pattern will be as slow as possible. If the *tempo knob* is far right, the pattern will be as fast as possible. To achieve the largest range of tempo expansion and compression, record a pattern with the *tempo knob* set to center.

**6b. Tempo CV In:**
Unipolar positive control voltage input for *tempo*.
Control voltage is added to the current pot position.
Range is 0V-5V.

**7a. Roll Rate:**
Control for roll rate.
If the *roll rate knob* is far left, the drum rolls will be as slow as possible. If the *roll rate knob* is far right, the drum rolls will be as fast as possible. The drum roll function is not quantized to the master clock and will not necessarily be rhythmically related.

**7b. Roll Rate CV In:**
Unipolar positive control voltage input for r*oll rate*.
Control voltage is added to the current pot position.
Range is 0V-5V.

**8a. Roll:**
Button that, when pressed, adds drum rolls to user-defined channels. Channels will only roll for the duration of the recorded gate.
(See **Getting Started: Enabling/Disabling Drum Rolls On Specific Channels** for more information).

**8b. Roll Gate In:**
Gate input for *roll*.
Threshold is 2.5V.

**9a. Retrigger:**
Button that, when pressed, will move the playback position to the beginning of the recorded loop.

**9b. Retrigger Gate In:**
Gate input for *retrigger*.
Threshold is 2.5V.

**10a. Play/Pause:**
Button that, when pressed, will either play or pause the recorded pattern based on the Tri-ger's current state.

**10b. Play/Pause Gate In:**
Gate input for *play/pause*.
Threshold is 2.5V.

**11. Rec:**
Button that, when pressed, will record-enable the Tri-ger. When it is held down, it will allow the user to punch in record. (See **Getting Started: Recording New Loops, Punch In/Punch Out Recording**, and **Momentary Punch In Recording** for more information).

**12. Alt:**
*Alternate* button that, when pressed, gives the Tri-ger's LED buttons a secondary and tertiary function.

Alt + Play/Pause = Trigger 1
Alt + Retrigger = Trigger 2
Alt + Roll = Trigger 3

**13. Rec/Mute Indicators:**
LED indicators that show the current state of specific channels (See **Getting Started: Muting Specific Channels** and **Enabling/Disabling Drum Rolls On Specific Channels** for more information).

**14. Bar/Beat Indicators:**
LED indicators that show the current location within a recorded loop. These indicators assume that the recorded pattern is in the 4/4 time signature.

## Banks

To access the Tri-ger's 8 banks, hold down the *alt* and *rec buttons* until all *bar/beat indicators* illuminate. Release buttons and a single *bar/beat indicator* will blink, showing which bank is currently active.

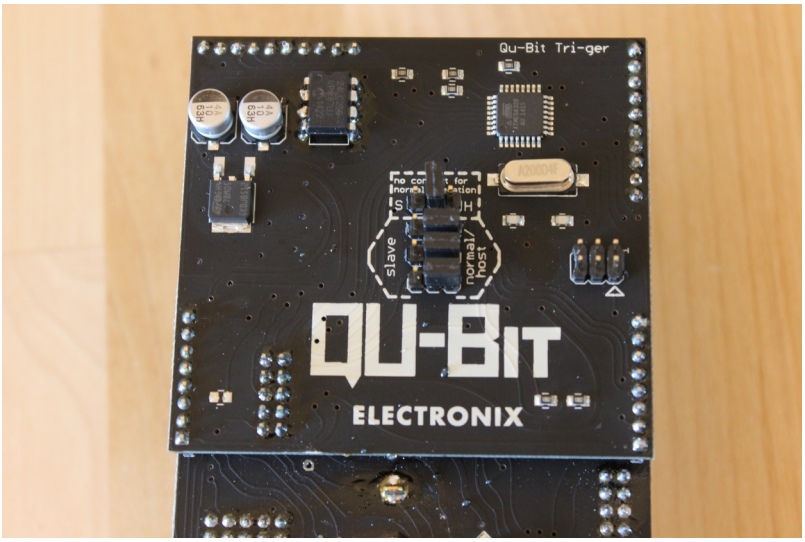
The *alt button* will cycle through each bank in numerical order.
The *rec button* will load the highlighted bank and exit the bank menu.
The *play/pause* button will exit the bank menu without loading a new bank.

If the *rec/mute indicators* are red when a bank is highlighted, the bank is full.
If the *rec/mute indicators* are green when a bank is highlighted, the bank is empty.

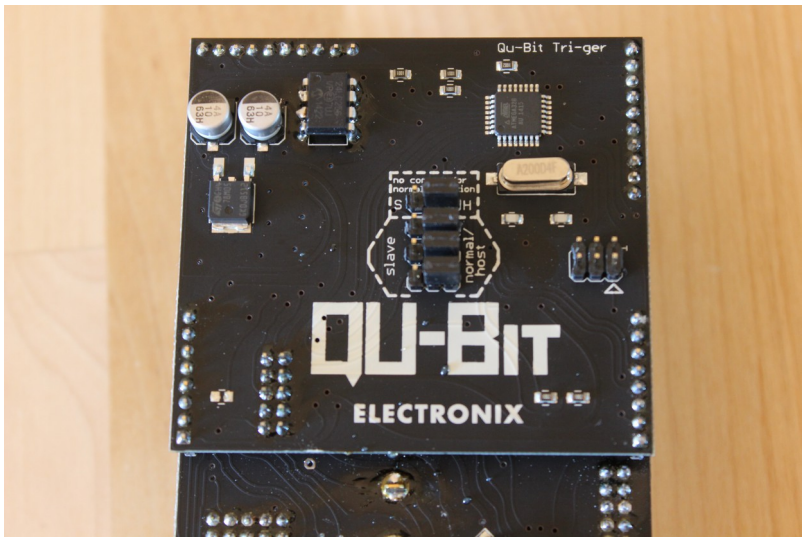
All empty banks will load the currently recorded pattern upon selection.
Each bank can be rewritten with entirely new patterns of different lengths.

## Daisy Chaining Multiple Tri-gers

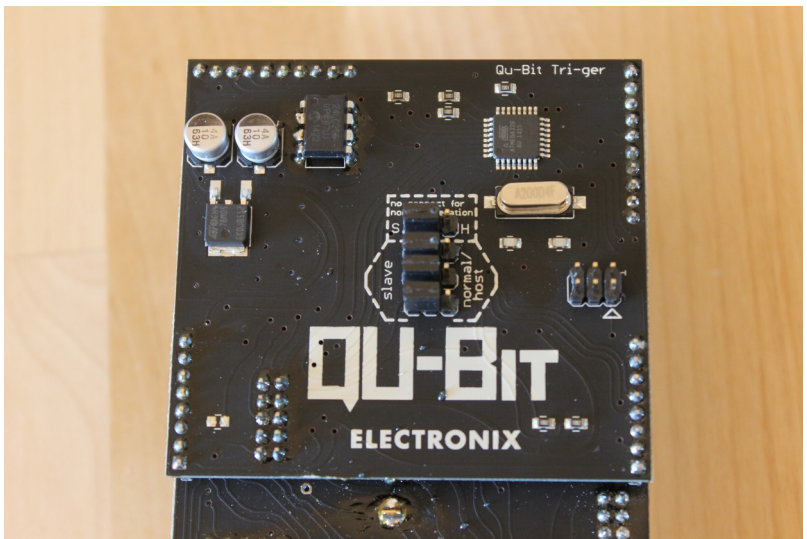
Multiple Tri-gers are infinitely chainable. When chained, the slave unit's loop duration, tempo, and playback state will be synced to the host unit. This allows for 3 more channels per every additional slave Tri-ger. This is done by reconfiguring jumpers and connecting a cable from the host unit to the slave unit on the back of each module.



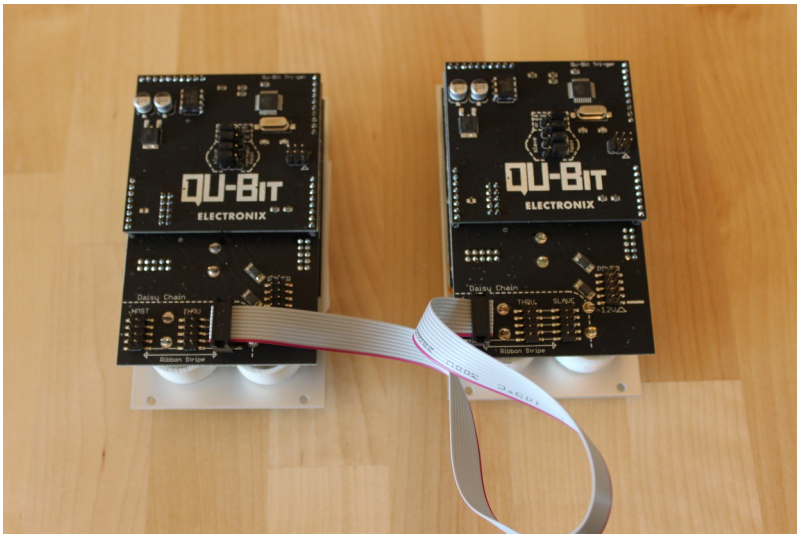

Normal Operation Configuration



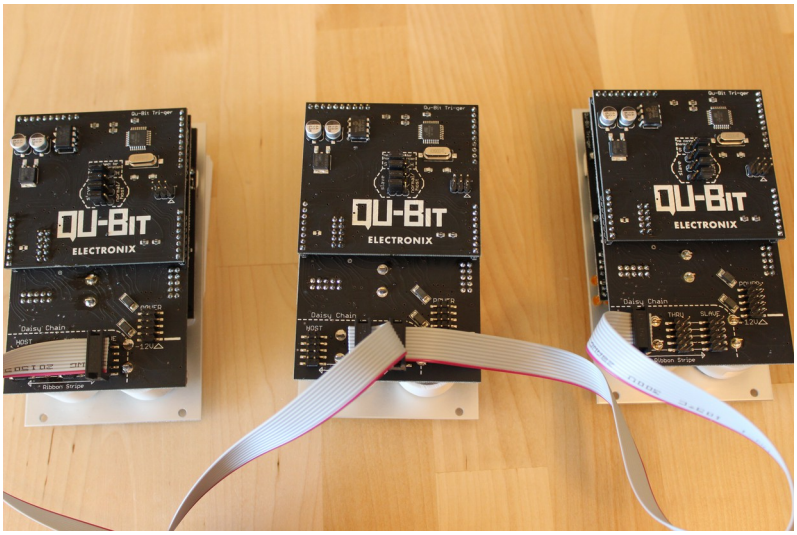

Host Configuration




Slave Configuration




Chaining two Tri-gers




Chaining three or more Tri-gers

**Note**: Channel 2 on all slave units cannot be muted or roll-disabled.

## Factory Reset

**A factory reset will erase enabled mutes, disabled rolls, the play/pause state, the playback position, and all existing patterns in all banks.** To reset the Tri-ger to factory settings, hold down the *alt* and *record buttons* when powering up. The *rec/mute indicators* will flash red one-by-one, illuminate solid red, illuminate green, and then all *bar/beat indicators* will light up one-by-one. Once the LED display has finished, release the *alt* and *rec buttons* and then **power cycle the Tri-ger**. If two or more Tri-gers are chained together, perform this process on the Host and all chained Tri-gers will be reset to factory settings.

Huge thanks to Baseck for his support during the development of the Tri-ger.

Manual written by Collin Russell

www.qubitelectronix.com