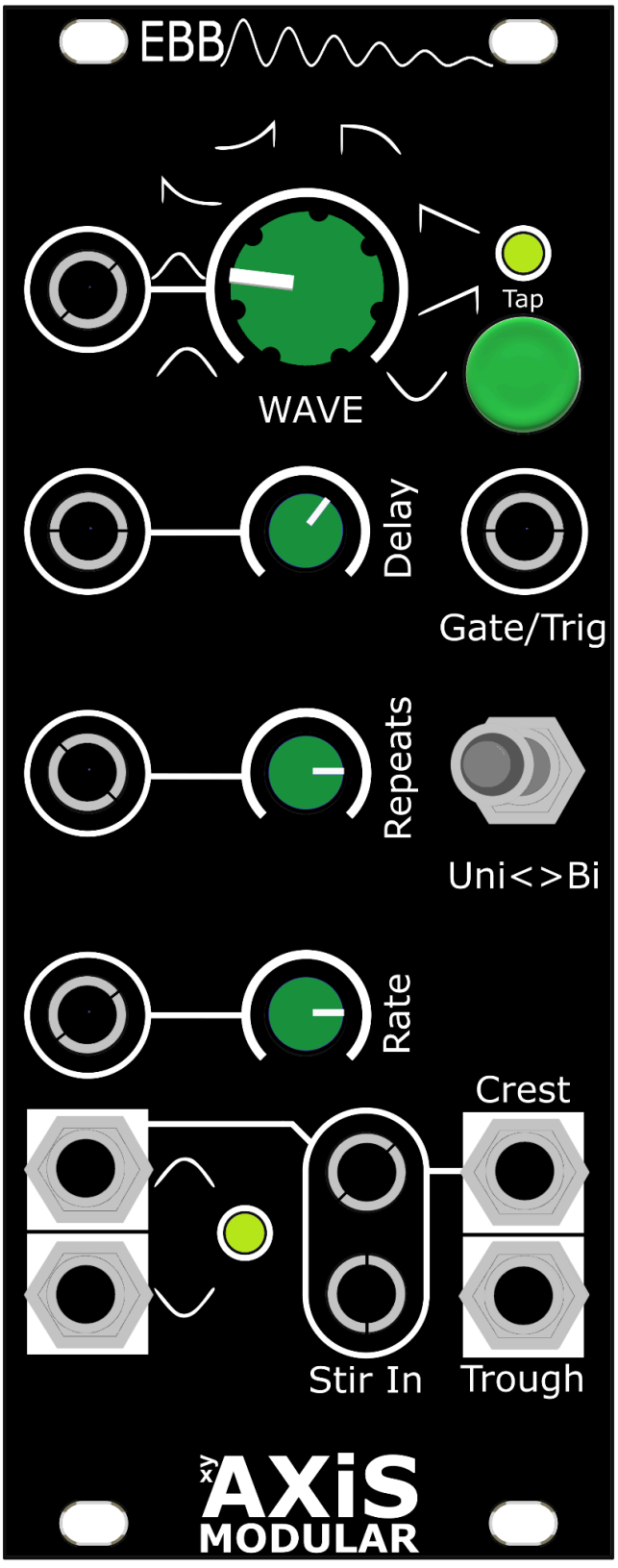
EBB Manual


EBB
Tap
WAVE
Delay
Gate/Trig
Repeats
Uni<>Bi
Rate
Crest
Stir In
Trough
xy
AXiS
MODULAR

About EBB:

EBB is an envelope generator with a difference, it creates interesting unipolar and bipolar waveforms to form a one-shot ‘ping’ envelope. With its added features such as the number of repeats, rate, and delay it can help create some interesting sounds in your Eurorack such as bouncing balls, or a scraping of a washboard or adding echos to your synth lead lines. You can even turn it into an LFO to add some variation into your filter movement or VCA’s.

Boing, Boing, Boing……

Features:

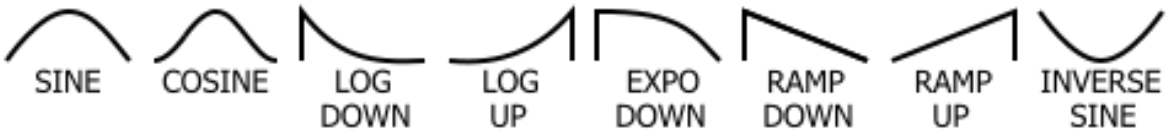
Tap oneshot button and gate/trigger input jack socket(0-5v pulse signal required).

The ping rate goes from 2.5 seconds up to as fast as 50 milliseconds. Given that you have multiple ‘pings’ from a single event you can have the envelope created last up to two and a half minutes using EBB’s controls.

CV and adjustment controls for:

- Waveform
- Delay
- Rate
- Repeats

Selectable Unipolar and Bipolar ‘ping’ waveforms:



16 available waveforms from the two main outputs(normal and inverted), they are:

Main Output:

- Sine
- Cosine
- Log down
- Log up
- Expo down
- Ramp down

- Ramp up
- Inverse sine

Inverted Output:

- Inverse sine
- Inverse cosine
- Inverse log down
- Inverse log up
- Inverse expo down
- Inverse ramp down
- Inverse ramp up
- Inverted inverse sine

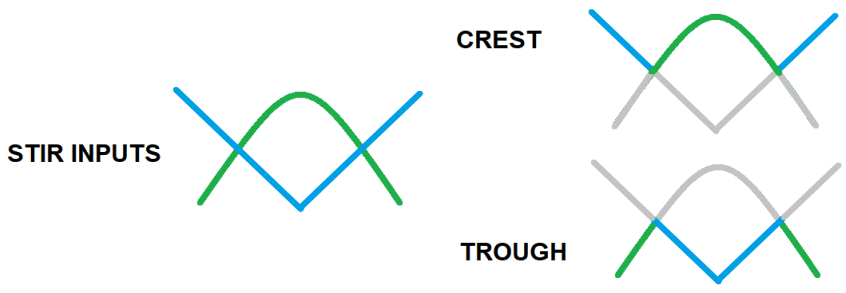
Two other available outputs are the Crest and Trough outputs.

- Crest is the Top half of the Waveform when EBB is switched to normal bipolar operation.
- Trough is the bottom half of the waveform when in bipolar mode. Note: nothing is output when in Unipolar unless something is patched into the stir inputs(see further in the manual).

Crest(actually an OR gate) and Trough(a AND gate) waveforms are the different outcomes of a Logic circuit.

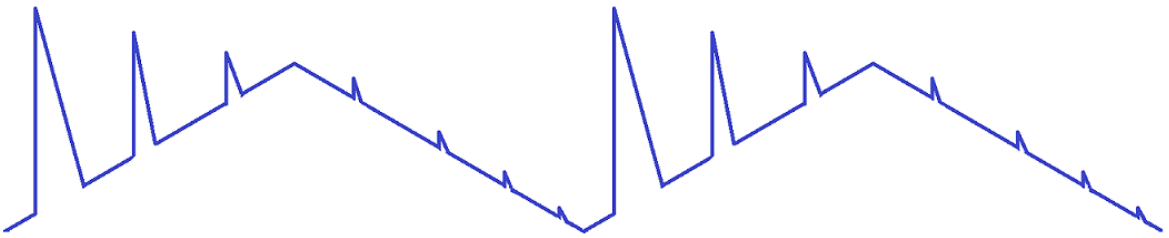
Crest(Max) is the OR gate which is normalled to the main output waveform so in Unipolar use it just repeats the same signal however, when switched to Bipolar it will only produce the top half of the current waveform.

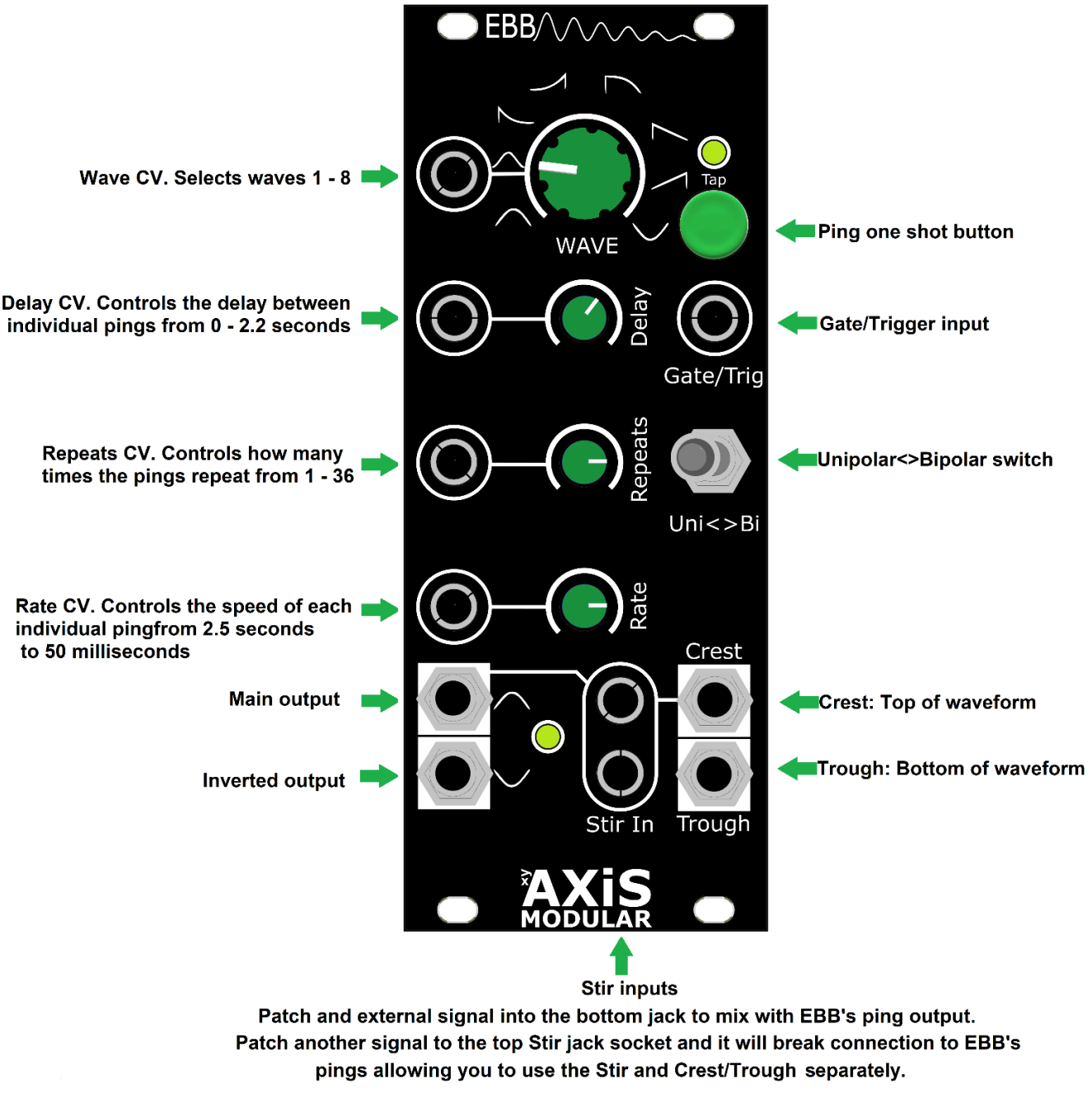
Trough(Min) is the AND output of the Logic signal. Note that nothing is output when EBB is set to Unipolar and nothing else is patched into the Stir inputs.



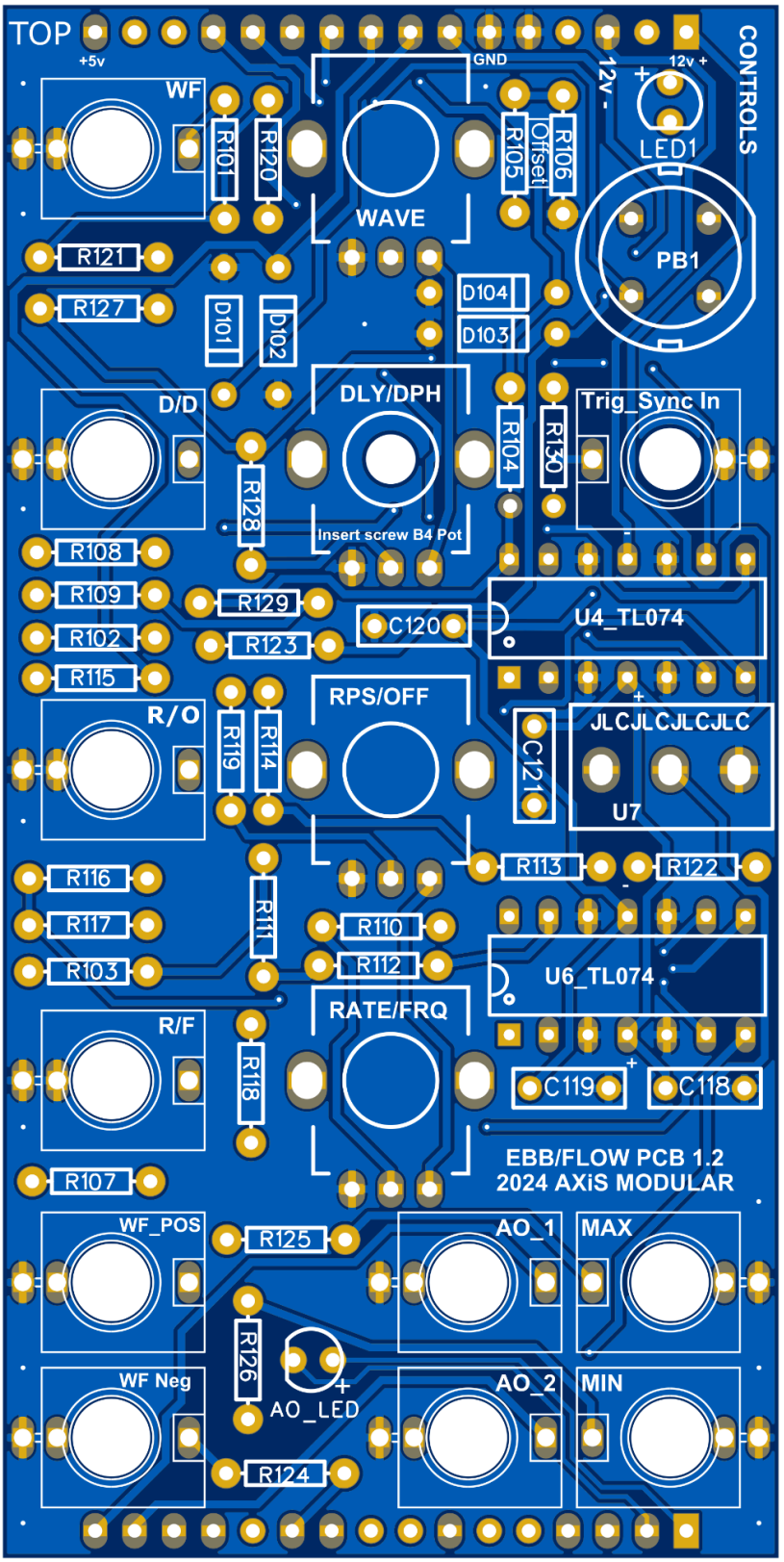
Stir is a two input mixer for any CV or audio signals. If you patch any other external signal into the bottom jack socket you will mix in that signal with EBB's waveform to produce two new sets of waveforms based on the internal one.

Diagram:Example of mixing a repeating envelope from EBB mixed in with an external LFO.

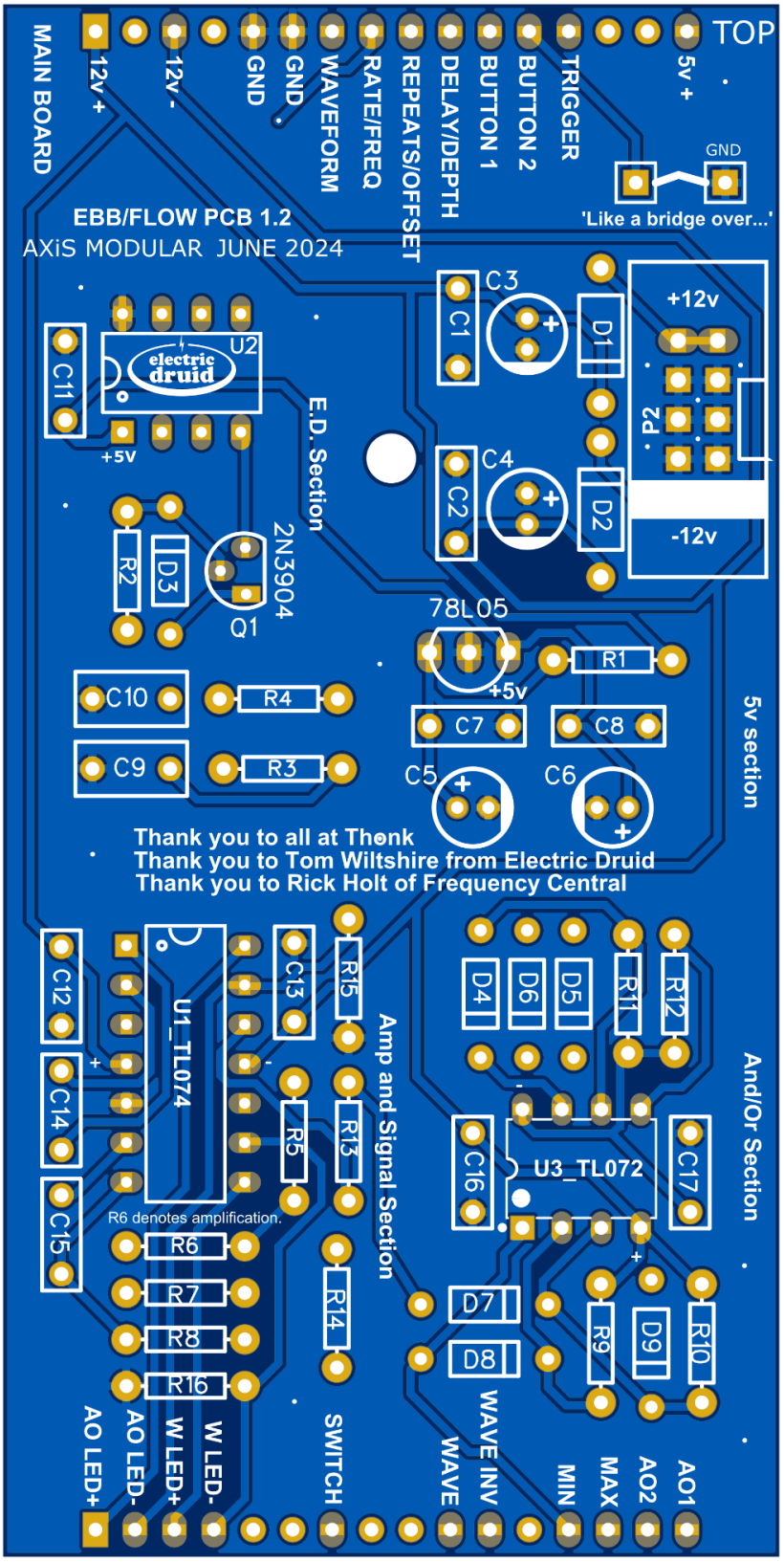




CONTROLS BOARD:



MAIN BOARD:


TOP
MAIN BOARD
12v +
12v -
GND
GND
WAVEFORM
RATE/FREQ
REPEATS/OFFSET
DELAY/DEPTH
BUTTON 1
BUTTON 2
TRIGGER
5v +
GND
'Like a bridge over...'
EBB/FLOW PCB 1.2
AXiS MODULAR JUNE 2024
+12v
-12v
P2
C1
C2
C3
C4
D1
D2
U2
electric druid
C11
+5V
E.D. Section
R2
D3
2N3904
Q1
78L05
+5v
R1
C7
C8
C5
C6
5v section
C10
C9
R4
R3
Thank you to all at Thonk
Thank you to Tom Wiltshire from Electric Druid
Thank you to Rick Holt of Frequency Central
C12
C14
C15
U1_TL074
C13
R15
R5
R13
R14
R6 denotes amplification.
R6
R7
R8
R16
Amp and Signal Section
D4
D6
D5
R11
R12
C16
U3_TL072
C17
D7
D8
R9
D9
R10
And/Or Section
AO LED+
AO LED-
W LED+
W LED-
SWITCH
WAVE
WAVE INV
MIN
MAX
AO2
AO1

I really hope you enjoy using EBB creatively in your Eurorack. I've spent around two years developing it into what I hope is a useful tool for you to have in your creative Eurorack setup, however big or small.

Thanks go to Tom Whiltshire from Electric Druid(He's the one behind the OneShot IC), Jack @Beepboop , Rick Holt(Frequency Central), Gaz Williams, Jason Jervis, Emilie Gillet, all at the Synth Shed, Thonk and lastly my family.

Features:

- Oneshot ‘pingable’ envelope generator using the Electric Druid Oneshot IC.
- 4 simultaneous outputs.
- Unipolar or Bipolar operation.
- 8 waveforms from main output and a further 8 inverted versions.
- Gate/Trigger input.
- And/OR CV/audio mixer section with Max/Min(Crest/Through) outputs.
- CV inputs and level controls for Waveform, Rate, Repeats, Delay.

Specs:

- Width: 10HP.
- Power Consumption: +12v 42ma, -12v 28ma.
- Depth: 44mm including cable.