Synthesis Recipe

TR-808 Cowbell

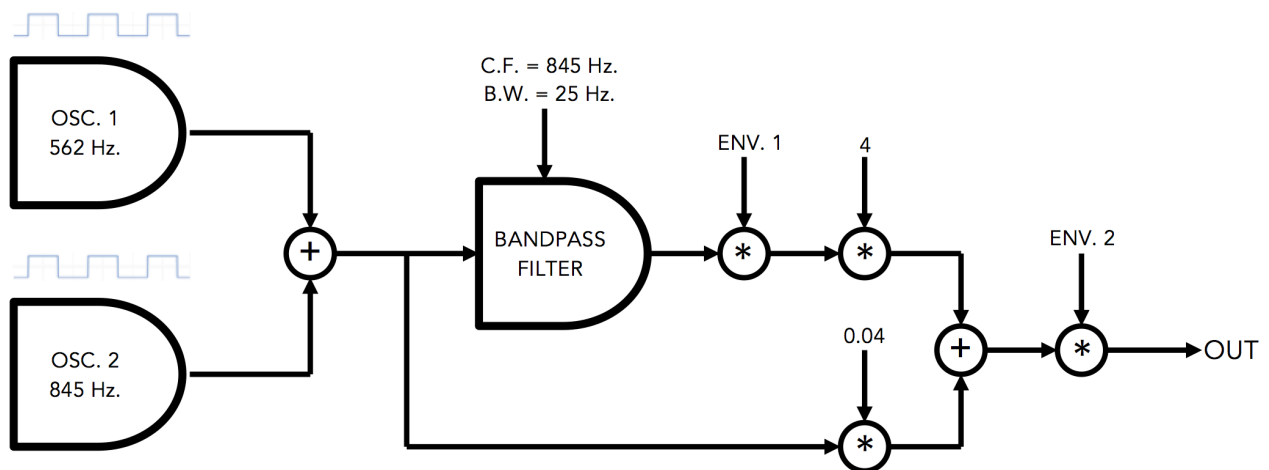The Roland TR-808 cowbell sound is based on two parallel square wave oscillators and a bandpass filter.

Figure 1: Flow diagram of TR808 cowbell sound.

Try to follow the schematic very carefully and accurately.

Wherever you see a '+', two signals are being added (mixed).

Wherever you see a '*', two signals, or a signal and a value, are being multiplied.

Two separate envelopes will need to be created, as shown in the schematic.
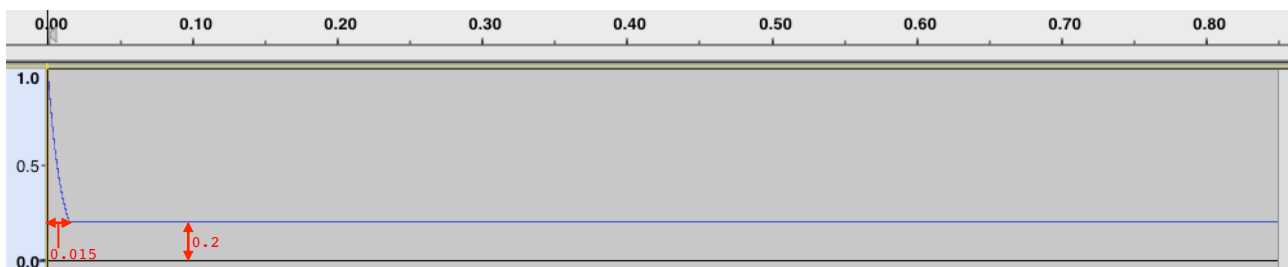

Figure 2: Env. 1

Envelope 1 uses exponential segments and starts with a value of 1.

After 0.015 seconds it has descended to a value of 0.2.

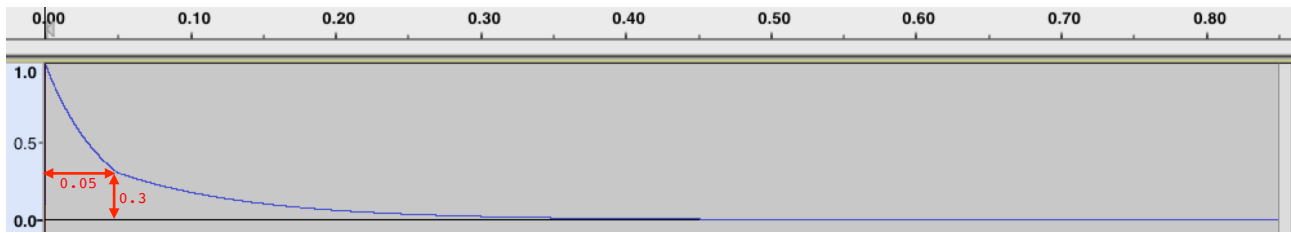For the remainder of the note duration it remains at a value of 0.2.

Figure 3: Env 2

Envelope 2 also uses exponential segments and starts with a value of 1.

After 0.05 seconds it descends to a value of 0.3.

Over the remainder of the note duration it descends to a value of 0.0001.

Further Experimentation

Experiment with different:

- Frequencies for the two oscillators
- Note duration
- Bandpass filter parameters (cutoff frequency and bandwidth).