

# Moarus

## What is it?

Moarus is a chorus. It is not a torus. It is not meant to bore us. It is not named Horace. It is Moarus. It is a chorus.

## What is a chorus?

A copy of the input signal is sent through a delay that is modulated by an LFO. This results in pitch changes. If you mix the original signal back in, you get a chorus. If you don't, you have a vibrato. If you don't use either signal you have silence.

## Architecture

There are two channels of input. Each input feeds five chorus voices. A voice can be thought of as a modulated delay. Each voice can feed one or both output channels. The unaffected signal is blended with the voices on the way out and the familiar (or not so familiar depending on the settings) sounds of a chorus are realized.

## Overall controls

Rate

The frequency of the LFOs controlling modulation for all voices.

## Channel controls

Min

The minimum delay time for the modulated delays of voices in this channel.

Depth

The length of the sweep of the modulated delays of voices in this channel. The full delay range for modulation is Min to Min + Depth.

Shape

The waveform of the LFOs used to modulate the delay of voices in this channel. Either a triangle wave (left) or sine wave (right).

## Voice controls

Pre-Delay

Time in ms to delay input to the modulated delay for this voice.

Phase

The phase offset of the LFO used to modulate the delay for this voice.

Level (Lvl)

The output level of this voice.

Pan

The amount of output sent to either channel.

+/-

Inverts the polarity of this voice when activated.

## Output

Wet Level

The level of output for the summation of the voices in the specified channel.

Dry Level

The level of output for the unaffected input in the specified channel.

*little square unlabeled buttons*

Inverts the polarity of the associated output when activated.

In addition to combined outputs, there are per channel outputs for Dry and Wet. This allows for an easy way to add more processing to the individual wet and dry signals should you want to.

## Modulation

When a control has a round jack and a little purple knob next to it or has an associated jack and color-matched knob in the section labelled Mod, the value can be modulated. The jacks expect a range of [-5, 5], with either side of 0 representing the full range of the control as either a positive or negative value. The knob next to the modulation jack sets the strength of modulation. Straight up is no modulation, all the way to the right uses the full value at the input jack, all the way to the left uses the negative of the full value, and the in-betweens follow accordingly.

## External LFOs

The jacks in the Ext LFO column allow for an external LFO to override the internal LFO for a specific voice. The input should be in the range [0, +5] to represent the entire sweep of the delay time. For example, +5 would indicate the maximum delay time of Min + Depth while 0 would represent the minimum of just Min. Note that the Rate and Phase knobs have no effect for a voice using an external LFO, as the frequency and phase are explicit in the waveform itself.

## Final thoughts

Moarus' inspirational ancestor is the Deca Chorus program on the Sony DPS-M7. It is not an emulation. I have no affiliation with Sony, etc. etc.

If you have suggestions, questions, criticisms, witticisms, exorcisms, absurdisms, this-isms or that-isms, my [Cherry Audio forum](#) is one place to express them.

## Thank you!

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