VCV Rack Cheat-Sheet

VCV Rack Website: https://vcvrack.com/

Module actions:
- Right-click in empty space on the rack to add a new module
- Right-click a module to see options for that module
- Drag modules to move them

Patch lead actions:
- Click and drag between connectors to add a patch lead (patch leads **must** be between an input and an output)
- Control-click and drag to add an extra patch lead to an output (you can stack an unlimited number of patch leads on one output, but each input can only have one connection)
- Right-click a patch lead to remove it

Control knob actions:
- Click and drag vertically to adjust
- Right-click to reset

AUDIO Output

(Core->Audio)
Send audio signal to your speakers

NOTE:
Required for every synth (if you want to hear something!). Adjust menu options for your computer.
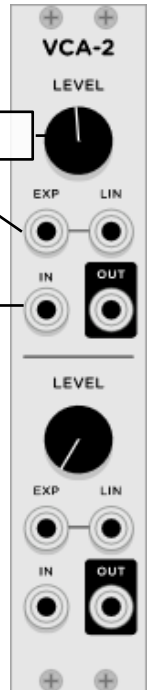
Use input 1 and 2 for stereo outputs

Core concepts and terms:
- Control Voltage (CV): Voltage to control a parameter
- Patching: Connecting modules together
- Chaining: Running a signal through several modules

Voltage Controlled Amplifier

(Fundamental -> VCA-2)
Control the level of an audio or CV signal

Master Level

CV Inputs to control the level:
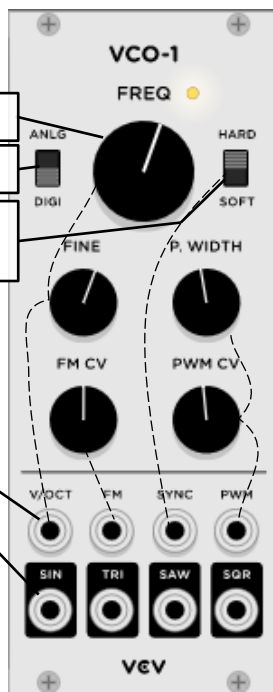- Exponential
- Linear

Signal in and out

NOTE:
Exponential is normally desirable for controlling audio volume (to match the human hearing response). Linear is normally appropriate for CV multiplication effects.

Voltage Controlled Oscillator

(Fundamental -> VCO-1)
Source of audio waveforms

Master frequency control

Analogue/Digital style waveforms

Soft or hard sync (only applies when Sync input is used)

CV Inputs:
- Frequency (1 Volt/Octave)
- Frequency Modulation
- Synchronization (with another VCO)
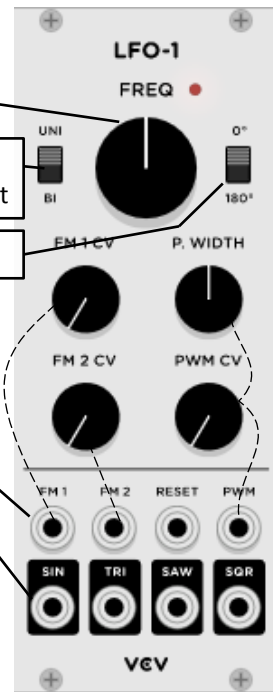- Pulse Width Modulation

Outputs:
- Sine
- Triangle
- Sawtooth
- Square

Low Frequency Oscillator

(Fundamental -> LFO-1)
Source of CV waveforms

Master frequency control

Unidirectional or Bidirectional voltage out

Phase of waveform

CV Inputs:
- Frequency Modulation 1
- Frequency Modulation 2
- Reset (start waveform again)
- Pulse Width Modulation
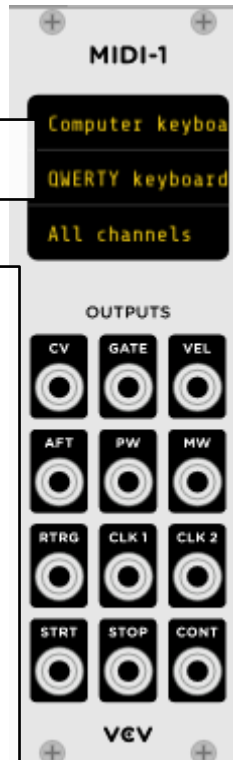
Outputs:
- Sine
- Triangle
- Sawtooth
- Square

Input (MIDI)

(Core-> MIDI-1)
Provide input for controller.

Choose your input type and device from the menus.

Computer keyboa
QWERTY keyboard
All channels

OUTPUTS

Outputs:
- CV (pitch of last note, 1Volt/Octave)
- Gate (on when note is held down)
- Velocity (how hard the note was played)
- After Touch
- Pitch Wheel
- Mod Wheel
- Retrigger Note
- Clock 1
- Clock 2
- Start
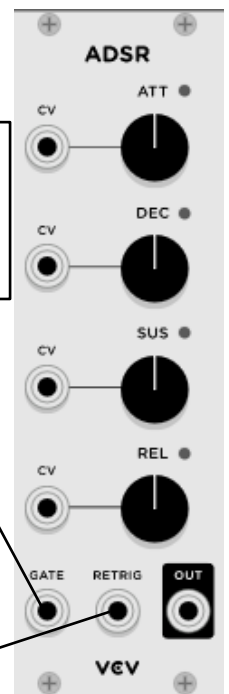- Stop
- Continue

Attack Decay Sustain Release

(Fundamental -> ADSR)
Generates "loudness" control CV for a note

Control (CV + manual)
- Attack Rate
- Decay Rate
- Sustain Level
- Release Rate

Set GATE input high while the note is playing

Set RETRIGer high to restart ADSR sequence

Unstabile - Voltage Controlled Filter

(Vult-Free -> Unstabile)
Filter for audio signals

CUTOFF – frequency where the filter takes effect.

RESONANCE – amount of resonance effect in the filter.

DRIVE – level of the signal input to the filter

SEMBLANCE – vary the SEM output between low pass and high pass

Outputs:
- Low Pass   - Band Pass
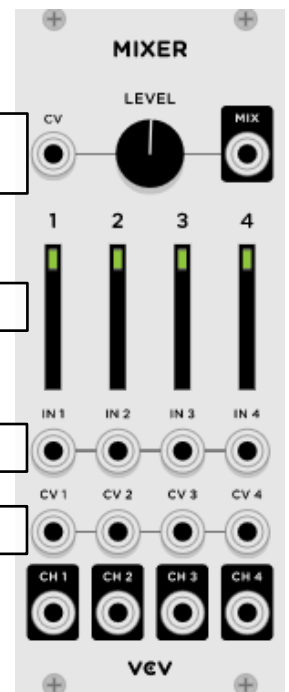- High Pass   - Semblance

Mixer

(Fundamental -> Mixer)
Add audio or CV signals

Master Level and Mix out (weighted sum of IN1-IN4)

Level control for each Input

IN1-IN4

CV to control mix levels

Attenuverter (1 channel)

(Fundamental -> 8VERT)
Change the level of a signal, or invert it.

Some other useful modules:
- Fundamental -> SEQ-3: Sequencer
- Fundamental -> Scope: Oscilloscope to view signals
- Fundamental -> VCF: Default Voltage Controlled Filter (Boring, but works)
- Fundamental -> Delay: Delay/Echo effect