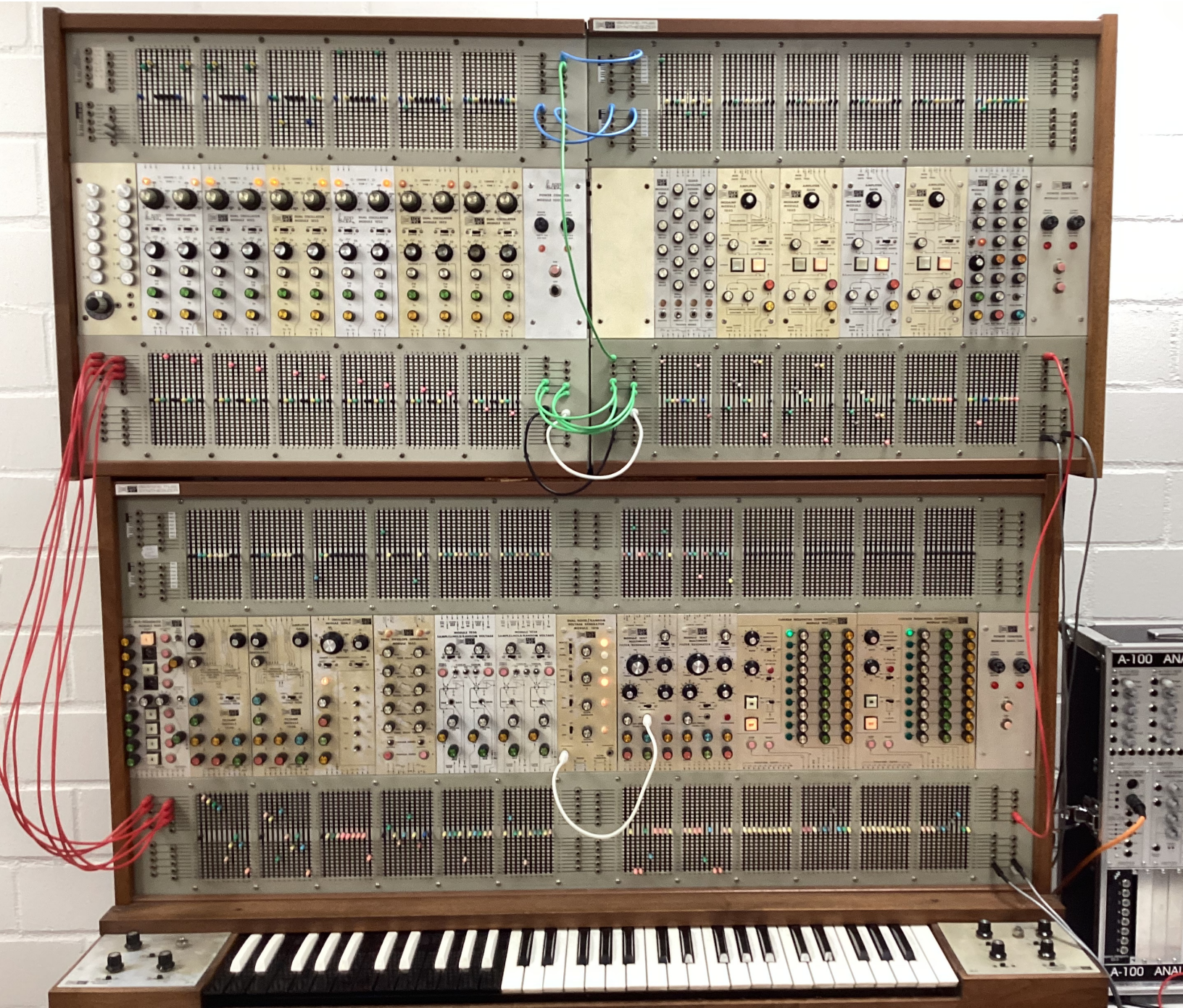


HfMt Köln Arp 2500 Manual

by Alexander Held



Introduction



The Arp 2500 is a Modular Synthesizer from the 1970s, designed for making music and creating sounds.

What makes it different from other Synthesizers from that time, is that it utilizes a patching Matrix to form the connections on the system.

Its main audio routing for all Voices are as follows

Oscillator -> Modamp / Filteramp -> Mixer

The main Control Routing is:

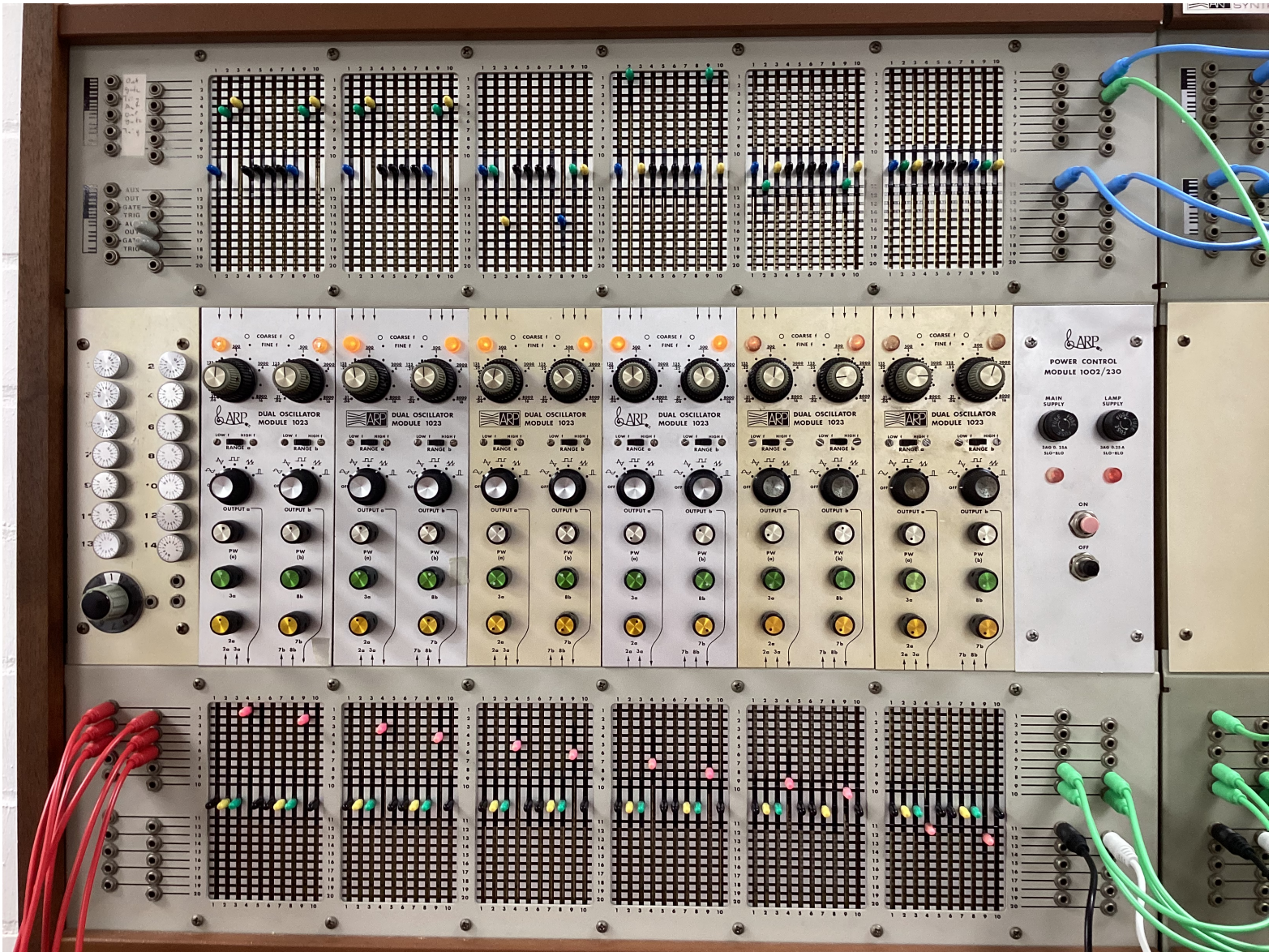
Keyboard CV -> Oscillator

Keyboard Gate -> Envelope Generator -> Modamp /Filteramp

In the following Pages, I am presenting the different sections of the Arp and how to use them.

I have installed a MASTER PATCH on this System, meaning that you just need to switch on the Instrument (no patching required). Please so not move any of the Matrix sliders (exception on the last page)

Oscillators



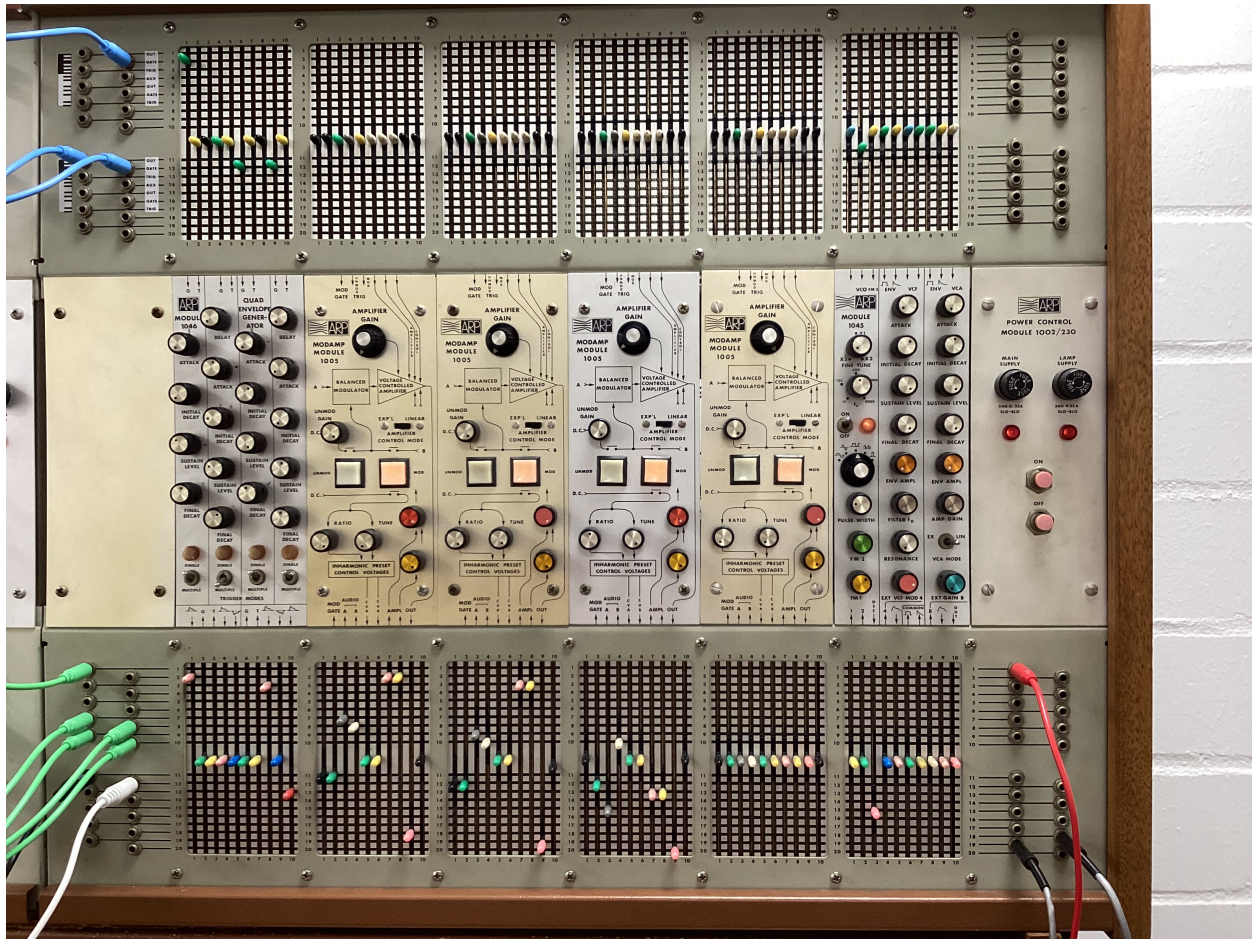
The Oscillators are the main Sound source for the ARP. In this Section we have a collection of 6 Dual Oscillators, making it 12 Oscillators in total.
Oscillators 1 - 4 are used for Voice 1 (Filteramp) / upper white Keyboard
Oscillators 5 and 6 are used for voice 2 (Filteramp + Noise) / lower white Keyboard
Oscillators 7 and 8 are used for voice 3 (Modamp 1) / upper black Keyboard
Oscillators 9 and 10 are used for voice 4 (Modamp 2) / lower black keyboard
Oscillators 11 and 12 are used as LFOs / Modulators for the Modamp voices

The Dual Oscillator



The dual Oscillator boosts fine tune and Coarse tuning, Low and high range, a selection of Wave shapes and PMW Modulation ins and FM in (3a)

Envelopes and Modamps



On the right are the 4 Envelope Generators, 4 Mod amps and a FM voice

From the Envelope generator Envelope 1 is used for the first Modamp and Envelope 3 is used for Modamp 2. The 4th Modamp is used for Modamp 3 in an alternative mode

To use this mode, switch either the row 18 or 19 switch to 20 and set the pink switch from the 3rd Modamp to 18 or 19. This setup also utilizes the LFOs, either for slow or Audio Modulation.

Filteramps, LFO, Envelopes and Sample & Hold



Below the oscillators are the 2 Filteramps, a single Oscillator, 2 Envelope generators and 2 Sample & Hold random Sources.

The 1st Filteramp is used for voice 1, processing 4 oscillators and is controlled with Envelope 1 (left side) using the upper white keyboard

The 2nd Filteramp processes 2 Oscillators and white noise and is controlled with Envelope 2 (right side) using the lower white keyboard

The oscillator is used as an LFO and is routed to modulate the filter of Filteramp 1
In High Frequency mode, it can be used as a 3rd oscillator for Filteramp 2

Activate by flipping over the Waveform switches to hear the results.

the Sample and Hold modules are only used in alternative mode

White Noise, Resonators and Sequencers



On the last quarter we see the Noise source, Resonators and Sequencers. The white noise for voice 2 can be regulated from the panel above the patchbay with the corresponding knob.

The resonators are only used in alternative mode

The right Sequencer is routed to Voice 1. By activating it a steady pulse becomes audible for the first voice.

The right Sequencer is routed to Voice 2. By activating it a steady pulse becomes audible for the second voice.

The CV outs are not connected to pitch, since the CVs are not being send out smoothly

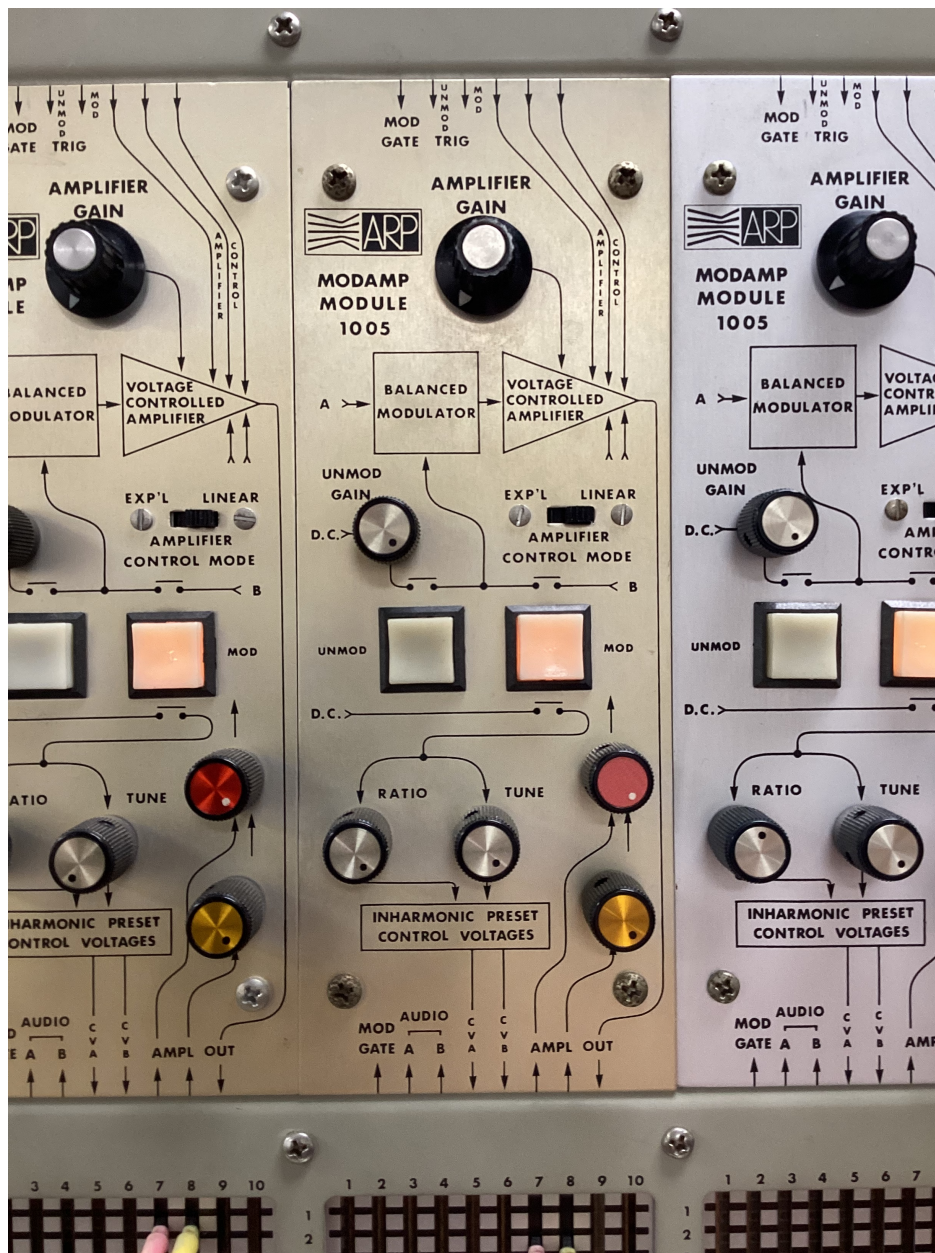
The keyboards



The main haptic interface to control the synthesizer

You can see what part of the keyboard is controlling what voice.

Mod Amp



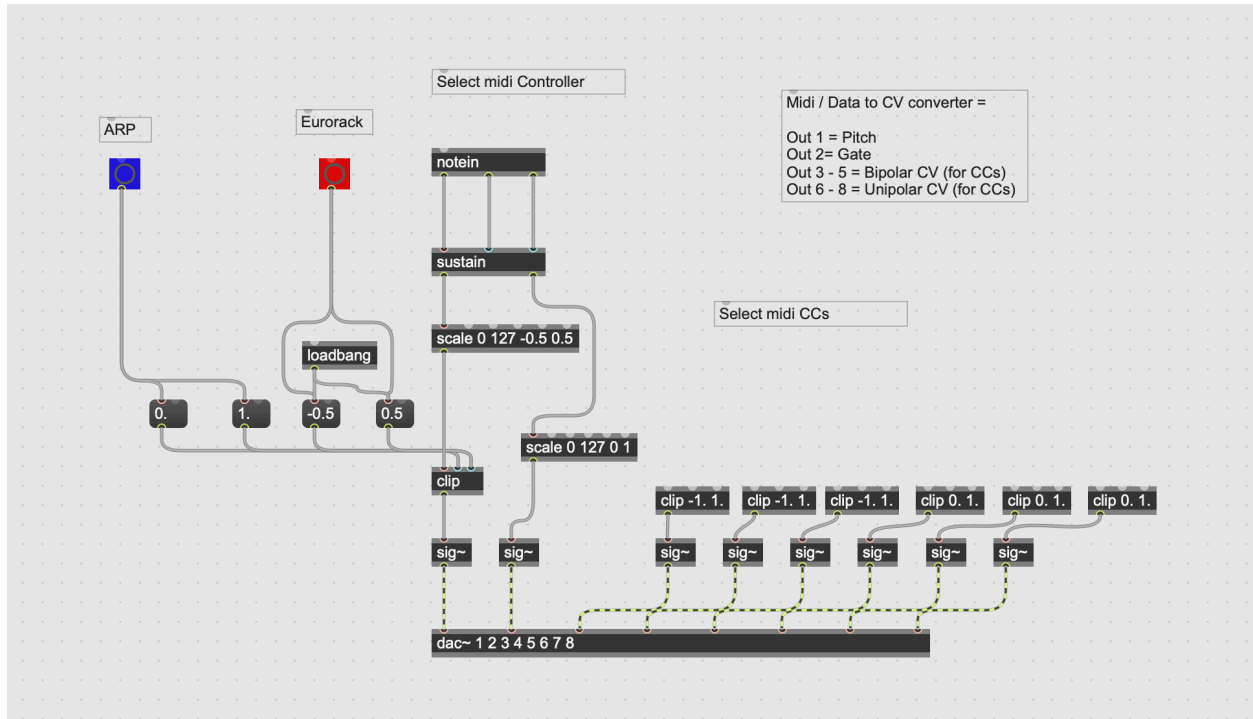
The mod Amp is a ring modulator with a built in VCA. You can turn the ring modulation to MOD to hear its effect or to UNMOD to just use it as a VCA. If set to UNMOD, you can use the LFOs (Oscillator 11 and 12) to switch between MOD and UNMOD. In order to use the LFOs, they need to be turned on (they are switched off by default)

Rhythmic Sequencer Triggering



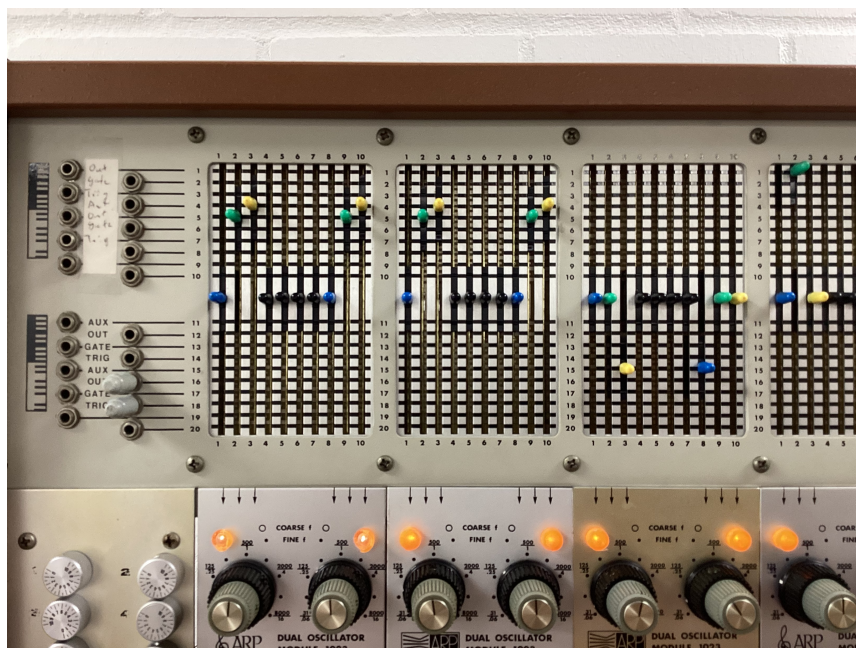
Using the position gates from the left sequencer, you can advance the right sequencer with selected steps to create diverse rhythmical patterns

Using the Arp with MAX/MSP



You can digitally control the Arp using a Midi to CV converter.

Select the Arp Bang and connect output 1 of the ES-8 to the upper row 4 of the oscillators and output 2 to the upper row 6 of the lower cabinet (Filteramps and LFO...)



Alternative modes:

If you look closely at the Arp, you can see that there are some switches on row 20 below the resonator. (Purple and Blue)

Row 20 shows that those switches are used, but are currently inactive.

If you want to enter alternative mode for the white keyboards, set the Pink switches below the Filteramp; indicated here with the green Arrow; to row 20 (Row 18 for voice 1 / high white keyboard. Row 19 for voice 2 low white keyboard)

Then set the first Resonator switch (Purple Arrow) to 18 and the second switch (Blue arrow) to 19.

Those two voices are sounding like percussive sine waves.

In this mode you can also activate the Sample and hold switch in order to randomize the pitches of the resonators

