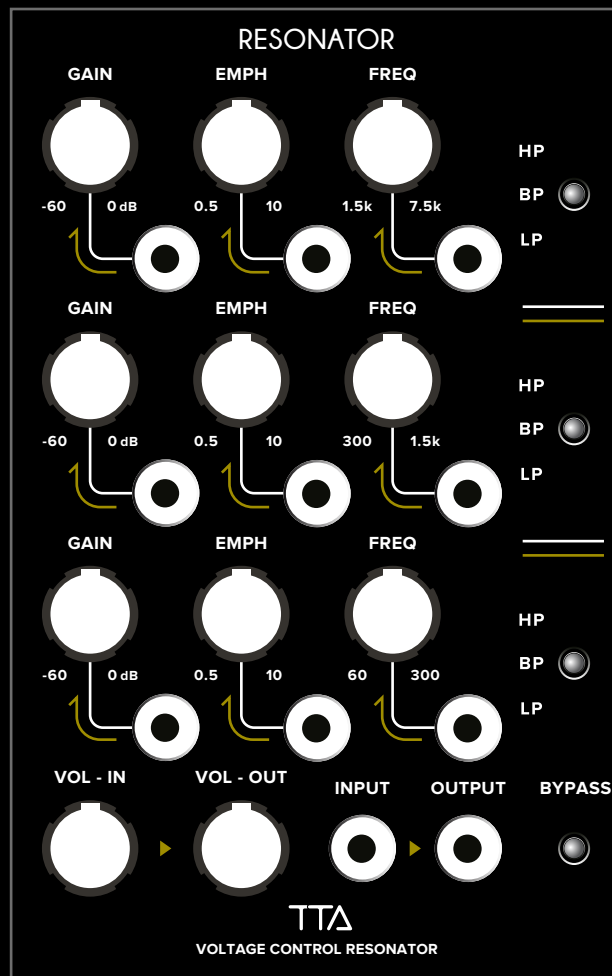


TTA RESONATOR

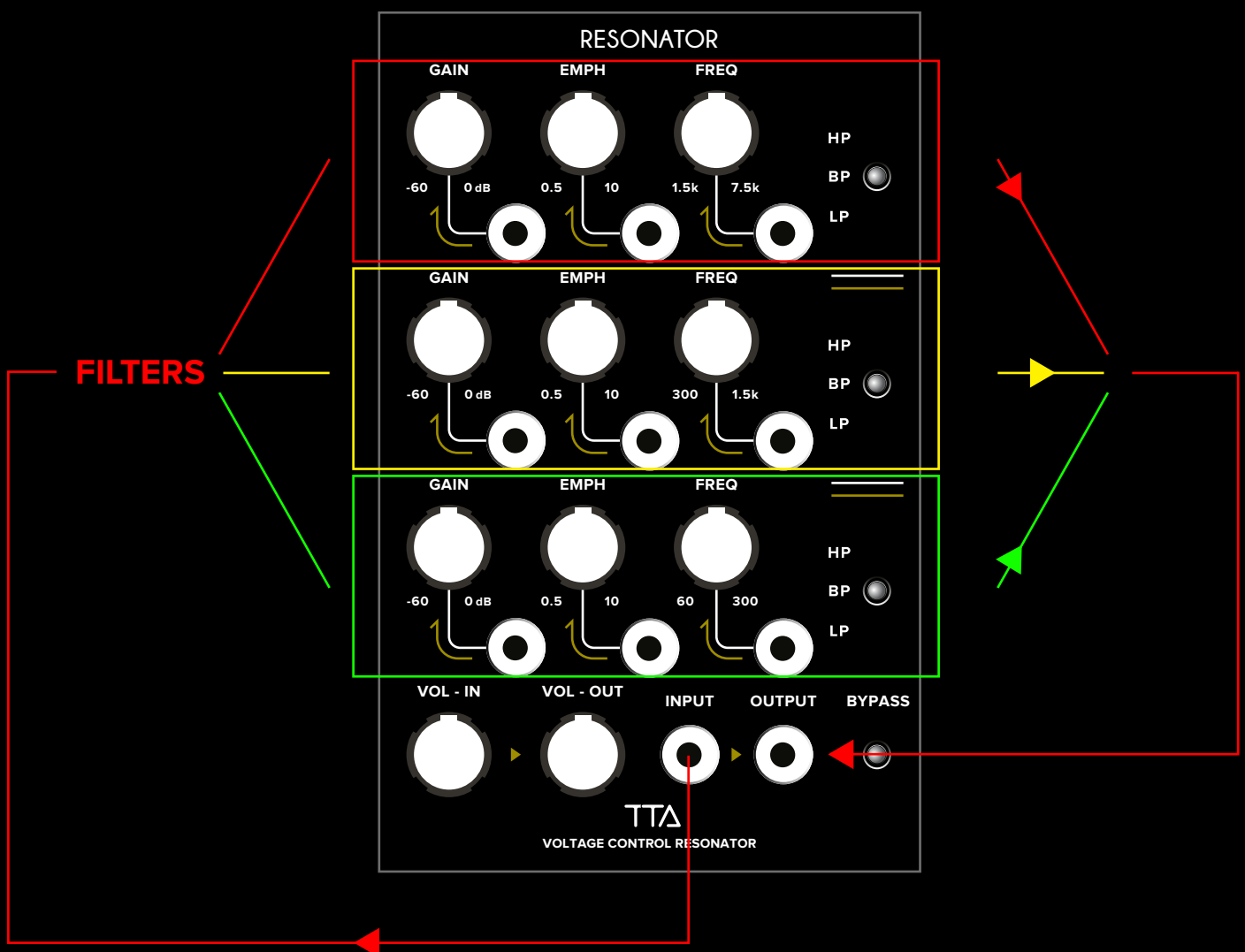
VOLTAGE CONTROL RESONATOR



VOLTAGE CONTROL RESONATOR

The Resonator module amplifies certain frequencies; basically, it resonates (vibrates) strongly at specific pitches while damping others. This special effect has multiple uses in processing a variety of sounds. This resonator design is inspired by the resonator section of the vintage Polymoog synthesizer from 1975.

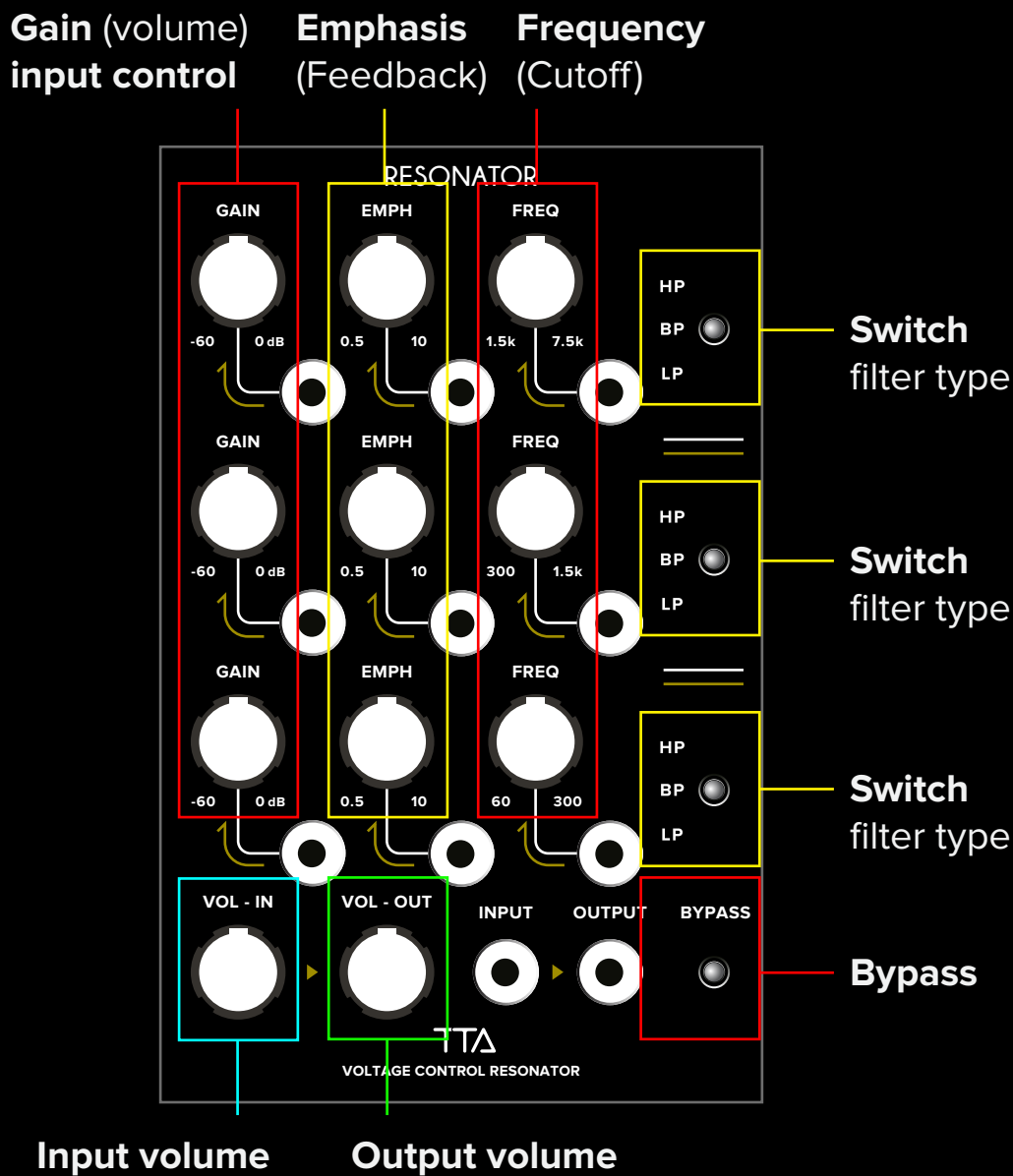
Using the resonator is fairly easy, the signal path is as follows: audio coming in is fed in parallel into three filters. These can be seen horizontally from top to bottom and their outputs are mixed and sent to the module's output.



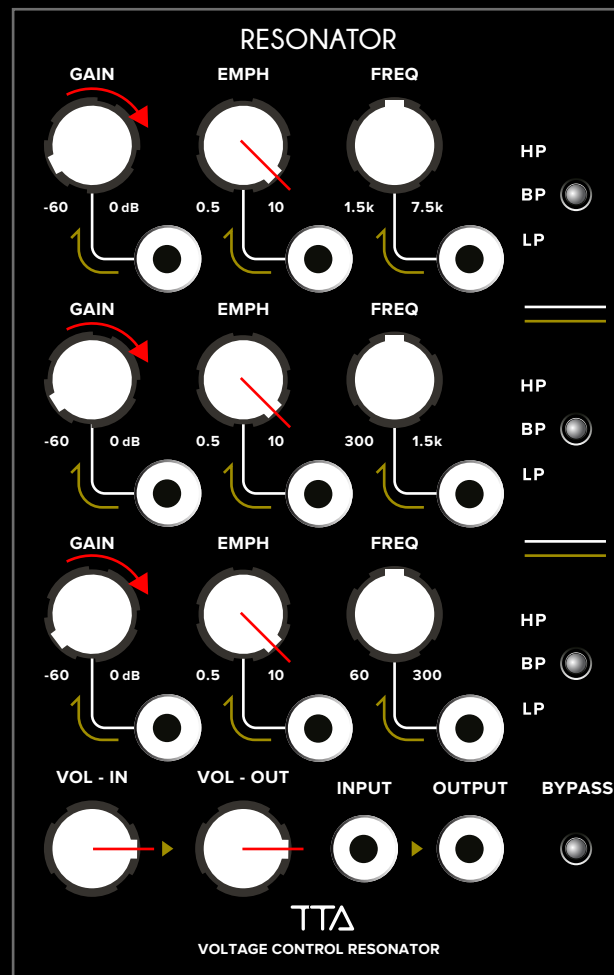
Each filter has its own **gain** (volume) **input control**, its own **Emphasis** (Feedback) control, a **Frequency** (Cutoff) knob, and a **switch** to define the filter type.

In addition, there is an **input volume knob** and an **output volume knob**. This results in five gain stages in total between input and output, allowing you to dial in sounds and avoid clipping at any stage through the audio path. This is a critical feature because resonators have a large dynamic range and can clip easily, so it maximizes the resonator's capabilities.

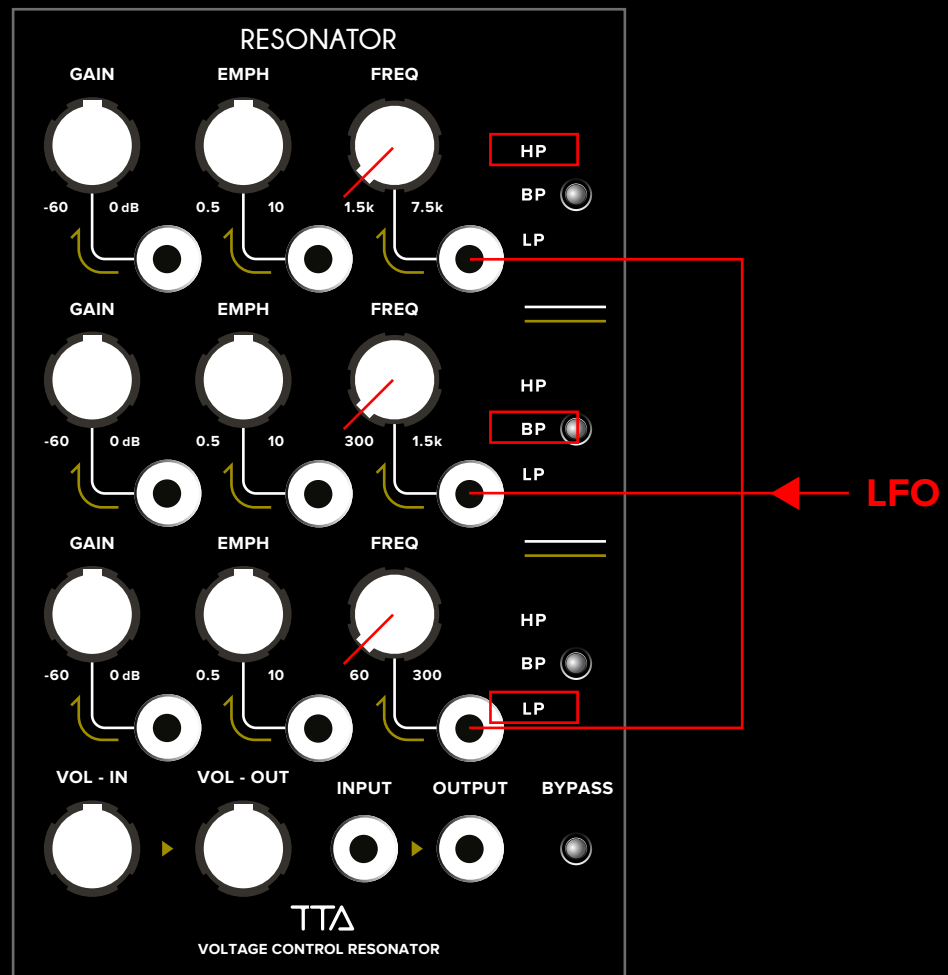
The **Bypass** switch lets you compare the raw audio with the resonator's output. It also allows you to keep the resonator patched and turn it on only when required.



To get started, set the Bypass switch down and feed the resonator input with audio. We recommend trying a pad or drone from Traix8 saw waves or another harmonically rich sound. Set VOL-IN to about 80 percent, set VOL-OUT to about 80 percent, and patch the output to your speakers or through a digital effect. Some reverb can be nice. Now slowly turn on the gain knob of the upper resonator first, set EMPH to maximum, play with the frequency knob, and listen to the effect. Experiment with the HP/BP/LP switch to hear the changes. Next, start opening the GAIN of the middle resonator, play with its controls, and hear how it blends with the upper resonator. Finally, do the same with the lower resonator.



To set the frequency range like the **Polymoog**, set the **upper switch to HP**, the **middle switch to BP**, and the **lower switch to LP**. The CV inputs take in 0–5 V CV, and the knob acts as an offset to the incoming CV. With the knob at minimum, a 0–5 V CV will cover the full range. Using a Stackcable, patch a **slow modulation source** to all three **FREQ CV inputs**. This is the classic use of the resonator. The resonator is great on pads, drones, drums, and even complete mixes. It filter resonate and creat phase cancelations, that is what make it sound so wonderful. Experiment and explore.



Audio input: 10Vp.p
CV Inputs: 0 - 5V
Size: 16HP
Depth: 40mm
Power: +12 75mA / -12V 70mA