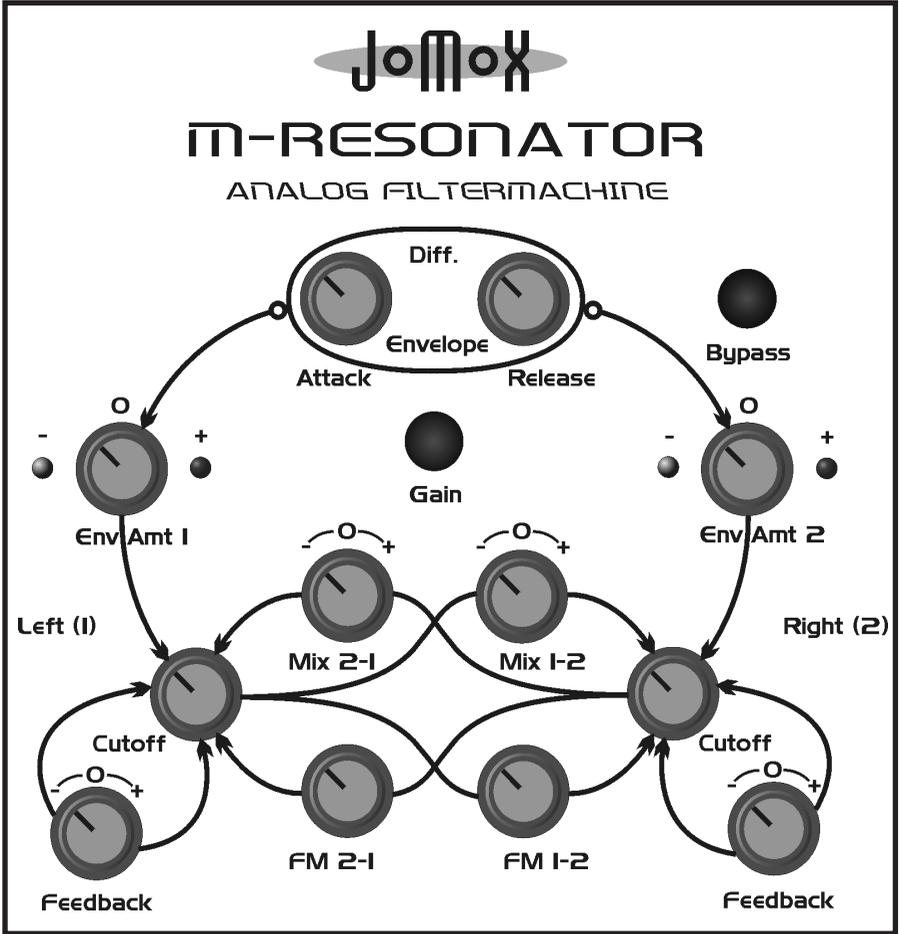


M - Resonator Manual



Thank you for using the JoMoX M-Resonator!

The M-Resonator is a stereo filter build up from true analog discreet circuitry with differential envelopes and lots of modulation capabilities. Thanks to a an advanced circuitry the envelope follower will respond independendly from input levels.

How to hook up the unit

Before connecting please turn all other devices off.

On the back panel of the M-Resonator you will find these connections:

On/Off	9V AC~	(Mono) L	Input R	L Output R
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Power supply

Please connect the provided wall wart adapter to the 9V AC~ power jack. If, for any reason, you cannot use the original wall wart adapter, please take care to use an alternate current power supply with 9V AC~ 300mA.

Never use an AC/DC adapter as the M-Resonator might get damaged!

Audio inputs

Please connect the audio signals to be processed here. If you only need a mono signal, please use the left input.

Audio outputs

The output signals of both filters are lead out here.

Description of user interface

Attack

Adjusts the rising time of the envelope follower.

Release

Adjusts the release time of the envelope follower.

Please note that you are adjusting the parameters of the referential envelope.

Inside there's 2 envelope followers: one original and one changeable. The actual envelope modulation signal is derived then by the original envelope divided by the changed envelope. Thus, you have a level independent envelope (within certain ranges). That means, you have to tweak and twiddle a bit to get the desired action. The resulting envelope action also strongly depends of the kind of the input signal.

Bypass

If this button is pressed, the processed signal is on the outputs. If it is released, the input is bypassed to the output.

Env Amt 1

This knob determines how the envelope signal modulates the cutoff frequency of the left filter (Envelope Amount). In center position, the cutoff of the filter is not changed. The more you turn it to the right, the more the filter cutoff gets opened, and the corresponding red LED lights up. If you turn it to the left, the filter gets closed in the rhythm of the envelope signal. In this case the green LED of the 2-color LED lights up.

Env Amt 2

Same like Env Amt 1, only the cutoff frequency of the right filter is changed.

Gain

If you press this button, the input signal can be pad at 10 dB.

Mix 2-1

With this knob you can mix the output signal of the right filter with positive or negative phase into the left filter. At center position no modulation occurs.

Mix 1-2

Same with Mix 2-1; Opposing to this the output signal of the left filter gets mixed into the right filter.

Cutoff

These knobs change the corner frequency of both low pass filters. The more it is turned to the left, the less high frequencies stay in the filtered signal.

Feedback

In center position there is no feedback. Turning to the right resembles the regular resonance of a normal music filter. If you turn it to the left though the filter reaches a fairly unstable state by positive feedback. Oscillations appear that are similar to LFOs, and in extreme positions very deep frequent bass tones can result.

Caution: On some adjustments very deep and strong bass signals can be created that might damage your speakers if you don't care for a signal limitation!

FM 1-2

Same with FM 1-2, only that the left modulates the right filter.

Quick start

Turn both envelope amounts, Mix2-1, Mix1-2 and the feedback knobs to center position; turn both FM knobs to zero. If you assert a signal to the inputs and tweak the cutoff knobs, the M-Resonator will act like a normal stereo low pass filter. Now let's look at the feedback knobs. A turn to the right produces the known filter resonance whistling, but in the opposite direction the knob creates a totally different reaction. At low levels you can hear a gained bass until the filter starts to create very deep frequent oscillations. Re-center them again to obtain a neutral position. Open both filter cutoffs (turn cutoff fully clockwise). Turn the envelope amounts to the left and assert a rhythmic signal. Watch and hear the filters close and open in the rhythm of the music signal.

The other knobs cause very complex interactions between both filters and therefore it is not possible to describe these actions in an easy manner. They are very much dependend from the audio material and knob settings relative to each other. Sometimes only a very little change of angle of one knob causes the whole sound to change into something totally different.

At this point we like to encourage you to tweak and twiddle and experiment with this unique filter box. Note that the structure of the stereo filter is symmetrical. So it is very interesting to create "mirrored" knob settings that feed back signals in both ways and form the 2 filters into a multi-resonant complex feedback machine. Little alterations from symmetrical settings let the chaos arise...

And finally...

Service, tips and tricks

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We wish you lots of joy and satisfaction with our units!

Berlin, May 2006