

General information

The MFB-SYNTH LITE is a monophonic analogue Synthesizer module that is controlled by MIDI.

Setting up

Connect the included power supply to the POWER jack. The AUDIO jack has to be connected to an amplifier. The MIDI IN has to be connected to a controller keyboard. Now switch the MFB-SYNTH LITE on by pressing the ON/OFF switch. There's even an Audio Input EXTERN that is routed to the VCF and VCA.

Function

The MFB-SYNTH LITE uses all elements of a classical analogue synthesizer. Let's take a look.

VCOs

The oscillators are the source of the sound. There's a waveform selection for each VCO1 and VCO2 between sawtooth and rectangle. VCO1 offers an additional selection impulse while VCO2 has a ring modulator.

The octave range of each oscillator can be switched between 16', 8' or 4'. VCO2's TUNE knob is used for detuning or intervals. Its range is +/- 1 Oktave. The TUNE knob of VCO1 is responsible for the overall tuning of the MFB-SYNTH LITE.

VCF

The output of both VCOs is controlled in level in the mixer before it reaches the 24 dB Lowpass Filter. CUTOFF sets the working point - the highest frequency that can pass through the filter. EMPHASIS boosts the frequencies near this cutoff frequency. At high EMPHASIS settings the filter will start to self-oscillate.

The filter cutoff can be dynamically controlled by envelope ADSR 1. Adjust CONTUR to control the amount of this modulation. The switch VCF KEY defines whether keyboard pitch influences the cutoff frequency (ON) or not (OFF).

VCA

To control the amplitude of the sound the signal passes a voltage controlled amplifier (VCA) that is shaped by the second envelope generator ADSR2.

ADSR

The envelope generators ADSR1 und ADSR2 offer defineable control over ATTACK (time to reach full level), DECAY (time to fade to Sustain level) and SUSTAIN (Level). When releasing the key RELEASE will control the period *in which the filter or volume fades out*. There are only shared knobs for *DECAY and RELEASE*. Either the RELEASE time is fixed or it has the same value as the DECAY (RELEASE switch ON).

Modulator

The modulator offers three alternative waveforms: Triangle, Sawtooth and Rectangle. Its speed can be set by RATE. MODULATION controls *the intensity and the destination at the same time*. Turn the knob clockwise from the mid position to modulate the filter cutoff. Or turn the knob counterclockwise from the mid position to modulate to modulate pitch (VCO1 and VCO2).

MIDI Channel

The dip switches 1-4 allow to set the MIDI Channel of the MFB-SYNTH LITE.

OFF	OFF	OFF	OFF	Ch 1	OFF	OFF	OFF	ON	Ch 9
ON	OFF	OFF	OFF	Ch 2	ON	OFF	OFF	ON	Ch 10
OFF	ON	OFF	OFF	Ch 3	OFF	ON	OFF	ON	Ch 11
ON	ON	OFF	OFF	Ch 4	ON	ON	OFF	ON	Ch 12
OFF	OFF	ON	OFF	Ch 5	OFF	OFF	ON	ON	Ch 13
ON	OFF	ON	OFF	Ch 6	ON	OFF	ON	ON	Ch 14
OFF	ON	ON	OFF	Ch 7	OFF	ON	ON	ON	Ch 15
ON	ON	ON	OFF	Ch 8	ON	ON	ON	ON	Ch 16