## General

The MFB-POLYLITE is a sound module with four individual synthesizer voices that can either be used as a single polyphonic synthesizer or as four independent monophonic synthesizers. It uses hybrid analogue-digital technology and is controlled and edited by MIDI.

## Setup

Connect the included power supply to the rear POWER jack. AUDIO OUT is the output of the unit and connects to your mixer, amp or audio interface. We have also provided a SINGLE OUT for indivdual output for the four voices. A breakout cable adapter comes with this unit.

AUDIO IN is used to run sound into the MFB-POLYLITE. Connect any line level sound source here or your mixer's aux send.

MIDI In needs to be connected to the MIDI OUT of your keyboard, controller or interface. Now, switch the MFB-POLYLITE on, by pressing its ON/OFF switch.

## Mode

MODE selects the unit's polyphony and the voice to edit. Press MODE and use + or – to select between: 00= polyphonic use and 01-04 monophonic use. 01 means that the MFB-POLYLITE is in monophonic mode and voice 1 in edit mode (02 for Voice 2, 04 for Voice 3, 04 for Voice 4). The selected MIDI channel is valid for polyphonic use and the first voice in monophonic mode. Here, voice 2 has the following MIDI channel (plus 1) and so on.

## MIDI

Anytime you switch on the MFB-POLYLITE, it defaults to recognize only Note On, Note Off, modulation-wheel, Tune, Mode1, Mode2 and Program Change.

Press REC once if you need to work with **all** MIDI information (e.g. controller data). A dot in the display will indicate this.

## Functions

The MFB-POLYLITE uses the same classic structure as the SYNTH LITE II, only with four voices. Since it has no control knob for the synth parameters, it is remote operated by MIDI controllers, a software editor (free download) or, best, SYNTH LITE II.

## Oscillators

Oscillators OSC 1 and OSC 2 found the sound base. TUNE control the overall pitch. WAVE selects between saw tooth and square waveforms. In addition, OSC 1 offers ring modulation (OSC 1*OSC 2 or OSC 1* Sub). The Sub Oscillator is adjustable in level and fine tune. It always uses a square wave at 32' octave. OSC 1 and OSC 2 can each select between 16', 8' und 4' octaves. INTERVAL adjusts a detuning of OSC 2 of plus minus 1 Octave. By this, it can reach 32' and 2'. OSC 2 also offers an Impulse waveform as third waveform choice and hard-sync as fourth choice. This feature synchronizes OSC 2's waveform to follow the pitch of OSC 1. No matter what pitch OSC 2 runs at,

whenever OSC 1 starts a new waveform cycle it will force OSC 2 to do so, too. Here, modulation by pitch-wheel and LFO only addresses OSC 2 to cause timbral instead of pitch changes.

## VCF

The oscillator signals are combined in the mixer section. It offers controls for LEVEL OSC 1, LEVEL OSC 2 and LEVEL OSC 3 (menu). The output is then routed into the voltage-controlled 24 dB low-pass filter stage. CUTOFF adjusts its frequency while EMPHASIS enhances this particular frequency up to self-oscillation of the filter. CUTOFF can also be controlled by the keyboard if switching on Keyboard Follow (system settings). CONTUR adjusts the amount of modulation to CUTOFF by ADSR 1 filter envelope.

## VCA

The final stage before the output is the voltage controlled amplifier. Envelope ADSR 2 is used to define the sound level over time.

## ADSR

The MFB-POLYLITE offers two envelope generators: ADSR 1 and ADSR 2. Both offer controls for ATTACK (initial time to reach full level when a key is pressed), DECAY (time to travel from full to Sustain Level), SUSTAIN (key hold level after Decay phase). The RELEASE phase is initiated when a key is released. It defines the time it takes from sustain to zero level. Here, RELEASE can be either zero or identical to the DECAY time (system settings).

## LFO

The voice's LFO offers triangle, saw-tooth and square waveforms. The selection is done by pressing WAVE 3. The LFO's frequency is controlled with RATE and ranges from approximately 10 sec to 100 Hz. In addition, there is a One Shot saw-tooth mode that only passes through the waveform once. This is useful for Sync-Sounds in particular since here the LFO only adresses OSC 2' pitch (while a selection of impulse would control pulsewidth).

DEPTH adjusts the modulation intensity. It is neutral in its center position. Turn clockwise from center to modulate the filter cutoff frequency, turn counterclockwise to modulate the oscillators.

## Glide

GLIDE controls the intensity of the portamento effect. Here, the pitch change between two adjacent notes is a continuous glide from the first to the new note. Glide is not active in polyphonic mode.

## User memory

The MFB-POLYLITE offers 100 user memory locations to save your sound creations. Selection is done like this: Press and hold USER and use the + and – keys to select the

memory location you want to use. Keep the +/– buttons pressed to fast forward or rewind.
Remark: The memory system is not identical to the SYNTH-LITE II (has bank of six sounds 01....06, 11....16). The MFB-POLYLITE uses memory locations 0 to 99.

To save press RECORD twice first (the display will show two dots). Now, press and hold USER and select the memory location with +/-. Releasing USER writes the sound to this location. This procedure can be used to copy sounds from one location to another, too.

**Pitch-Wheel**
Incoming pitch-wheel MIDI data result in changes of oscillator pitch. The range is plus minus two semitones.

**Modulation-Wheel**
The modulation-wheel (MIDI controller 1) controls either the filter's cutoff frequency and/or the oscillator pitch, depending on the system settings.

**MIDI-Channel**
To set the MIDI-channel press REC once (the display will show two dots). Now, use + and – buttons to set the channel number. To complete the operation press REC again.

**Operator's manual**

# MFB-POLYLITE