

User Manual

MFB-SYNTH

General

The MFB-Synth is an analog Synthesizer Module, which can be controlled via MIDI. The unit is monophonic; i.e. only one note can be played simultaneously. The MFB incorporates a 32-step sequencer, which can be programmed through the C1.. C3 keys.

Setting up the MFB-Synth

The AC adapter is plugged into the DC IN connector. Be careful only to use the supplied AC adapter, as standard-issue AC adapters do not supply the necessary voltage. Connect the MFB-Synth to your amplifier or mixer via the AUX OUT socket. The MIDI IN connector can be connected to the MIDI OUT socket of any MIDI capable synthesizer or keyboard. After making sure all connections are made, the MFB-SYNTH can be switched on by pressing the ON/OFF switch. The unit's display will now show a '0'.

Operation

The MFB-SYNTH comprises the classic elements of an analog synthesizer. First we have the Voltage Controlled Oscillators, VCO1, VCO2 and VCO3. Each of the three VCO can be set to produce either a Triangle, Sawtooth or Square wave. An octave switch sets the frequency ranges of the oscillators in three octave steps (16', 8', 4'). As VCO2 and VCO3 can be detuned over a range of +/- 1 octave, practically the 32' and 2' ranges are added to this. The TUNE control allows adjustment of the overall pitch for all three VCO's.

The output of the three VCO's is routed to the 24dB Lowpass filter via a source mixer. The filter frequency can be adjusted via the CUTOFF control. The KONTUR control determines the influence of ADSR1 on the filter frequency. Additionally, keyboard tracking of the filter can be turned on/off by the VCF KEYB switch. Finally, the resonance of the filter can be influenced by the EMPHASIS control. If turned far enough clockwise, the filter will start to self-oscillate.

After passing through the filter, the signal is routed to the Voltage Controlled Amplifier (VCA), whose envelope is controlled by ADSR2. Afterward, the amplified signal is routed via the VOLUMEN control to the AUX OUT socket. As you might have guessed, the VOLUMEN control attenuates the overall output volume of the MFB-Synth.

The envelope generators ADSR1 and ADSR2 consist of an ATTACK, DECAY and SUSTAIN control. When a note-off is received, the RELEASE setting controls the release-time of the envelope. The RELEASE is either fixed (RELEASE switch is OFF) or corresponds to the DECAY value (RELEASE switch is ON).

VCO3 can also be used as Modulator (LFO). Make sure you turn the LEVEL control for VCO3 down all the way if you do. By using the VCO MOD switch, modulation of both VCO1 and VCO2 can be engaged. The MODULATOR control sets the amount of modulation applied to the VCO's. The VCF MOD switch activates the modulation of the Filter Frequency.

Sequencer

The internal sequencer can be programmed via the keys C1.. C3. This is how it works: After pressing the red PROGRAM button, a '1' appears in the display to indicate the sequencer's location (1st note). Now, enter the desired notes via the little keyboard. Rests can be programmed by using the yellow PLAY button. The default length of a sequence is 32 notes, but any length of sequence up to 32 notes can be programmed. To end a sequence prior to reaching step 32, simply press the PROGRAM button after entering the last note. To play the sequence just entered, press the PLAY button. The tempo of the sequence playback can be adjusted via the TEMPO control. Pressing one of the keys on the MFB-SYNTH's keyboard can transpose a sequence.

A total of 15 sequences can be stored in the MFB-SYNTH's memory. When pressing the PROGRAM switch, and holding it for at least one second, the display shows the current sequence's program

number. As long as the PROGRAM switch is pressed, this number can be changed by using the TEMPO control. After switching the MFB-SYNTH on, the sequencer defaults to sequence number 1.

Remark: The TEMPO control was originally used as GLIDE control. As many users did not want to lose this function, the TEMPO control now has doubled as GLIDE. In 'PLAY' mode it functions as a TEMPO control, in all other cases it is used to adjust the GLIDE time. It is also possible to turn the glide function off altogether. To do this, switch the unit off, press the yellow PLAY button, and switch the unit back on while keeping the PLAY button pressed (wait until the sequencer starts running). To turn the glide function back on, simply repeat this procedure.

Dynamics

The MFB-SYNTH is velocity sensitive when controlled via MIDI. This dynamic behaviour applies to either the VCF, the VCA or both. To enable this function, first switch the unit off. Then press the B2 (VCA) and/or C3 keys (VCF) while switching the unit back on. Wait until the display indicates "0". Switching off the dynamic control works in the exact same way. When switching the unit on, the right-most dot will light when the VCF dynamics are activated, and/or the bottom led-bar will light when the VCA dynamics are active.

MIDI Channel

When pressing the yellow PLAY button, and holding it for at least 1 second, the display will show the current setting for the MFB-SYNTH's MIDI channel. Keeping the button pressed the TEMPO control can be used to set the MIDI channel. Releasing the PLAY button will store the new setting.

MIDI Clock

The MFB-SYNTH sends MIDI Start, Stop and Clock signals, when set to 'internal'. It receives MIDI Start, Stop and Clock signals when set to 'external'. To change this setting, keep the A2 key pressed while switching the unit on (wait until the display shows the '0'). If the left-most dot lights, the MFB-SYNTH is set to 'external'.

Pitch Bender

MIDI-data transmitted by a pitch-bender controls the tuning of the MFB-SYNTH over a range of +/- 2 semitones.

Modulation Wheel

Independent of VCO3, MIDI-data transmitted by a Modulation Wheel can modulate the VCO, VCF and VCA of the MFB-SYNTH. The rate of modulation can be set by pressing one of the white buttons C1 (slow) ... C2 (fast) while switching the unit on (wait until the display shows the '0').

To set the modulation destinations, use the keys E2 (VCO), F2 (VCA) and G2 (VCF), while switching the unit on (wait until the display shows the '0'). In the same manner, the D2 key can change the modulation waveform from Triangle to Square (and back)

Remark: Switching the unit off and on can also be established by pressing both the C#1 and A#2 buttons. As soon as the display switches off, immediately release at least one of the keys. This procedure causes the MFB-SYNTH to reset, which can come in handy in case of 'stuck' notes.