

## General

The MFB-STEP64 is a step-sequencer with up to 64 steps. It offers four memory banks, each holding 118 user programmable memory locations. There are six playback modes:

1. monophonic with 5 parameters: Note, Velocity, Gate, CV3, CV4) -> Bank 1
2. 2 x monophonic with 3 parameters: Note, Velocity, Gate, 2 Midi channels) -> Bank 2
3. 4 x monophonic with note parameters for 4 MIDI channels ->Bank 3
4. 4 voice polyphonic (note parameter) ->Bank 3
5. monophonic, 32 steps: 3 parameters: Note, Velocity, Gate -> Bank 2
6. monophonic, 64 steps (note parameter) -> Bank 4

The modes are selected by pressing STEP 1...6, while turning the MFB-STEP64 on.

## Setup

Plug the power supply into the POWER jack. CV and GATE OUT connect to your voltage controlled analogue synth, while MIDI OUT connects to any MIDI-Synthesizer. MIDI IN is used to connect your clock master (e.g. drum-computer) or your MIDI keyboard. Now, you are ready to switch on the MFB-STEP64 by pressing its ON/OFF switch.

## CV/Gate

The MFB-STEP64 offers MIDI as well as CV/Gate outputs. CV uses 1V/Oct. characteristic and covers a range of 5 octaves. The gate outputs can either deliver 5 or 10 Volts output. Press STEP 9 or STEP 10, while powering up, to select between 5 and 10 Volts. Polarity can also be selected: Power up with STEP 11 pressed, to select positive polarity (On = 5/10 V). STEP 12 will select negative polarity.

## Functions

The SEQUENCE pushbutton selects the 128 stored sequences. Press and hold SEQUENCE, followed by one STEP pushbutton to select any of the first 16 sequences. To select higher locations, press two STEP pushbuttons after another. (3+7=37, 12+8=128 etc).

->Sequence locations 20, 30, 40 etc. are not existing.

After the sequence has been selected, press PLAY to start the sequencer. It runs in a loop: every time it reaches the last step, it will jump back to the first step. (To set the length of the sequence with the reset function, see below). Pressing PLAY will also stop the playback.

To edit the sequence, press any STEP pushbutton. The according LED will light up. Control 1/NOTE will set a note value when turned. If you press this knob you can set a rest. (2/Velocity can also set rests by transmitting a Velocity=0 value.) All active steps will be displayed by medium density lighting LEDs.

Depending on the selected mode, you will be able to define Velocity and two further CV output values. The gate-length will be adjusted by SHIFT and 2/VELOCITY in six steps (1 = 1/6...6 = 6/6).

## Reset, setting the sequence length

The sequence length can be adjusted by holding SHIFT and turning the TEMPO knob. For example, if you set a value of 12, the sequence will play to step 12 and then jump back to step 1.

## Save

To save a sequence press RECORD. The left dot in the display will light up. Now, press RECORD once more to store the sequence in the current location. You may as well select other sequence locations by using SEQUENCE with a combination of one or two STEP pushbuttons.

## Mode 1

This mode works monophonic with up to 16 steps. The note value is transmitted (CV 1, white), Velocity (CV2, red), as well as values for CV 3 (yellow) and CV 4 (back). When using MIDI CV 3 will define a controller number (128 will send no value) and a corresponding value on CV 4. You can also set the GATE time. In addition to the four CV outputs, Gate 1 (white) is active, too.

## Mode 2

Mode 2 allows two monophonic note sequences. Sequence 1 uses CV 1/2 (Note, Velocity), Sequence 2 uses CV 3/4 (Note, Velocity). You can also set the GATE time for each sequence, Gate 1 and Gate 3 are active. The MIDI output uses two channels, the selected main channel and the following.

## Mode 3

This mode allows four monophonic note lines that are controlled by CV 1 to CV 4. Here, Gate outputs 1 to 4 are active. The MIDI output works on four channels, the selected main channel and the three following.

## Mode 4

Mode 4 allows creation of a polyphonic sequence with up to four voices (CV 1 to CV 4). Gates 1 to 4 are active. MIDI data are sent on the selected main channel.

## Mode 5

Here, you can define a sequence of up to 32 steps that can hold note and velocity information. CV 1 is used for notes, CV 2 for velocity. Gate 1 sets the note length. CONTROL 1/NOTE sets the note values 1...16; CONTROL 3/CV3 sets the values 17...32. Velocity is controlled by CONTROL 2/VELOCITY and CONTROL 4/CV4 in the same manner. The display will indicate steps 17...32 with a dot on the right side.

## Mode 6

Mode 6 allows a sequence with up to 64 steps. CV 1 and Gate 1 are active. CONTROL 1/NOTE sets steps 1...16, CONTROL 2/VELOCITY steps 17...32, CONTROL 3/CV3, steps 33...48 and CONTROL 4/CV4 steps 49...64. The display will indicate which note group plays.

No dot: steps 1...16

Dot on the right: steps 17...32

Dot in the middle: steps 33...48

Dots in the middle and on the right: steps 49...64

## Delete a sequence

The current sequence can be deleted by pressing and holding SHIFT and RECORD. (This doesn't delete stored sequences). Another way to zero the sequence is to press and hold STEP 1, then STEP 16 to activate all 16 steps. Moving a control knob will now set the same value to all steps. Using STEP 1 and STEP 15 will only select all odd steps, while combining STEP 2 and STEP 16 will select all even steps.

## Legato

Legato notes can be created by pressing multiple adjacent steps. Press and hold the lowest step first, then the following steps).

## Chords

In Mode 3 and 4 chords can be programmed. Hold SHIFT and use CONTROL 1/NOTE to select major chords or CONTROL 2/VELOCITY to select minor chords. In mode 5/6 SHIFT and 1/NOTE can be used to include the notes in bars 2, 3 and 4.

### **Mute Note Output**

While editing MIDI note values, they are sent to the MIDI output, even if the sequencer is not running. This can be disabled by pressing STEP 8 while switching the MFB-STEP64 on.

### **View stored values**

It is possible to view the stored values in a memory location: Press and hold STEP 1...16. Now, pressing SHIFT will display the value of control 1; pressing SHIFT again will display the value of control 2 and so on. To view to sequences in the current song, press and hold STEP 1...16. Here, SHIFT will switch to the next sequence.

### **Shuffle**

There are 15 different shuffle settings to add live to a sequence. Press SHIFT and CONTROL 3/CV3 to select any of the 15 settings. 0 means “no shuffle”. Using a shuffle 1...15 will disable GATE settings in mode 1, 2 and 5.

### **Songs**

The MFB-STEP64 offers 16 memory locations for songs. Each song can hold up to 128 sequences. To select a song memory location, hold SONG and press STEP 1...16. After releasing the knobs, the Song LED should be on. To enter programming hit RECORD. The left dot in the display will light up. You can enter up to 128 sequence locations that will be played in a sequence. To enter sequences 17...128 use SHIFT to enter the left digit (e.g. SHIFT 7+9=79).

### **MIDI channel, Velocity, MIDI Sync**

To select the MFB-STEP64's main MIDI channel, press RECORD followed by STEP 1...16 (STEP 1 selects channel 1 etc.). Control 2/VELOCITY will set the velocity value for modes 3, 4 and 6. MIDI Sync can be activated/deactivated by pressing and holding PLAY while switching the MFB-STEP64 on. The left digit will read E when external MIDI Sync is selected.

### **Tempo**

This knob will adjust the tempo of the playback. To advance or decrease the tempo in larger steps, press the knob while turning. The same mechanism works for 2/Velocity, 3/CV 3 and 4/CV 4. The tempo is displayed in beats per minute (BPM).

### **Transposing sequences**

The current sequence can be transposed by an attached MIDI keyboard. Transposing is also possible by pressing and holding SHIFT and a STEP pushbutton.



**User's manual**

**MFB-Step64**