MANTHER
QUICKSTART GUIDE

MALEKKO

Version 1.0

WARNING
To reduce the risk of electrical shock do not expose to water, rain or any moisture.

Do not use in direct sunlight.
Do not open the enclosure. If you require servicing, please contact Malekko directly.
Use only the 9V power AC adaptor provided with Manther.
Do not use around heat (stoves, furnaces etc.).
Do not use abrasive chemicals to clean your unit or LCD screen.
Do not apply unnecessary pressure to the LCD screen.

MANTHER is a full featured, tabletop monosynth with an analog signal path, an advanced 64-step digital sequencer and onboard delay. The heart of this beast is a coveted CEM3340 based VCO IC chip. The analog filter is based on an SSM2044 chip. The Source Mixer allows for total control over the Square, Triangle, Saw, Tri Shape, Noise and Sub Oscillator levels with individual wave outputs. Dial everything from heavy basslines to screaming leads to stomping kicks. Manther growls like no other.

Automation recording is available for parameters of the LFO, VCO, SOURCE MIXER, VCF, VCA, ENVELOPE as well as GLIDE and DELAY. Once automation is recorded it can be saved within a total of 64 presets. This allows for recall of intricate sound sculpting and numerous animated creations. Easily build songs by simply selecting presets to play in any order. Program notes quickly using the keyboard. Utilize the Repeat and Probability functions per step for a unique and inspiring approach to gate pattern formation. Even route the LFO to modulate the Delay time.

The intuitive menu offers additional control and setup of the more complex features: Sub Semitones, ADSR envelope, Sequence direction (FWD, REVERSE, PENDULUM and RANDOM), Sequence division and multiplication, LFO phase, additional Delay features, Clock settings and more.

INS and OUTS include: CV, MIDI, CLOCK, GATE and LFO and pairs brilliantly with Eurorack.

Features include:

• 64-step sequencer
• Keyboard with octave transpose controls
• Onboard Delay with Time, Mix, Regenerate and Sync controls
• Individual Outputs for Square, Saw and Triangle waveforms
• Mixer for Square, Triangle, Saw, Sub Osc and Noise
• Audio Input
• 4 banks of 16 presets each
• Song Mode
• Record automation of features per step for: LFO, VCO, DELAY, VCF, ADSR Envelope and
   GLIDE
• Gate Probability, Gate Repeat, Gate Delay and Accent per step
• Morph control over automation
• Route LFO to modulate delay time
• LFO Sync
• Assign modulation of Pulsewidth to LFO, Manual or Envelope
• Glide control per step
• FWD, REV, PENDULUM and RANDOMIZE sequence directions
• Tempo control
• Switches for LFO shape
• Switches for Envelope direction and VCA control
• Range switch
• Gate inputs and outputs
• LFO output
• CV inputs for VCO, VCF and VCA
• MIDI in and out
• Headphone Output

INPUTS, OUTPUTS AND ROUTING

1 LFO (Low Frequency Oscillator) OUTPUT
2 VCO (Voltage Controlled Oscillator) CV INPUT
3 SEQUENCER CV OUTPUT
4 SEQUENCER GATE OUTPUT
5 INDIVIDUAL SQUARE WAVE OUTPUT
6 INDIVIDUAL SAW WAVE OUTPUT
7 INDIVIDUAL TRIANGLE WAVE OUTPUT
8 ANALOG CLOCK INPUT
9 ANALOG CLOCK OUTPUT

10 EXTERNAL AUDIO INPUT (routes to VCF)
11 MIDI INPUT
12 MIDI OUTPUT
13 VCF (Voltage Controlled Filter) CV INPUT
14 HEADPHONE OUTPUT
15 MAIN OUTPUT
16 VCA (Voltage Controlled Amplifier) CV INPUT
17 ENVELOPE GATE INPUT
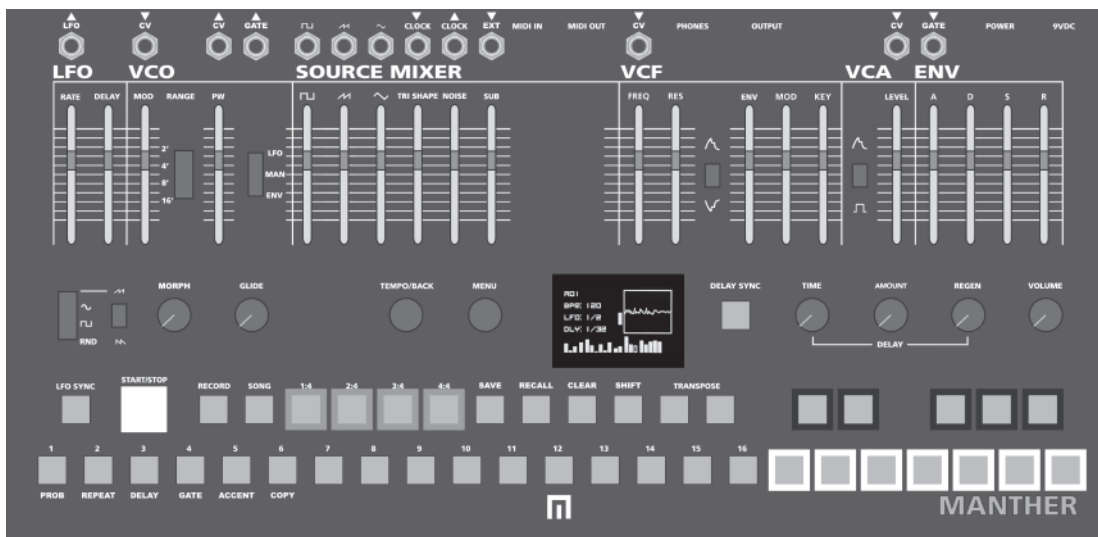18 POWER IN and POWER ON/OFF BUTTON
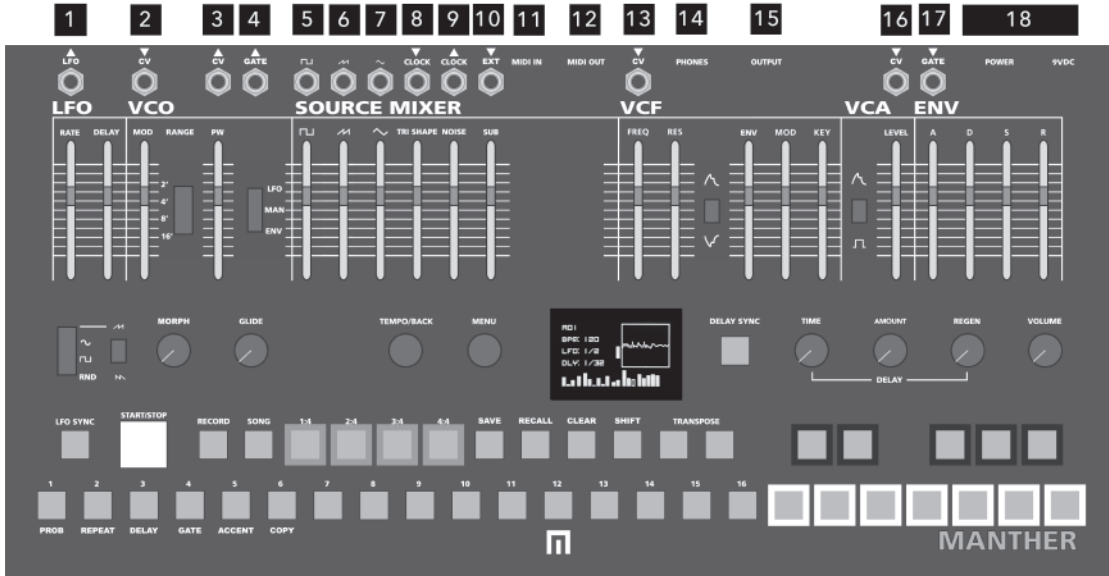


TRI FOLD
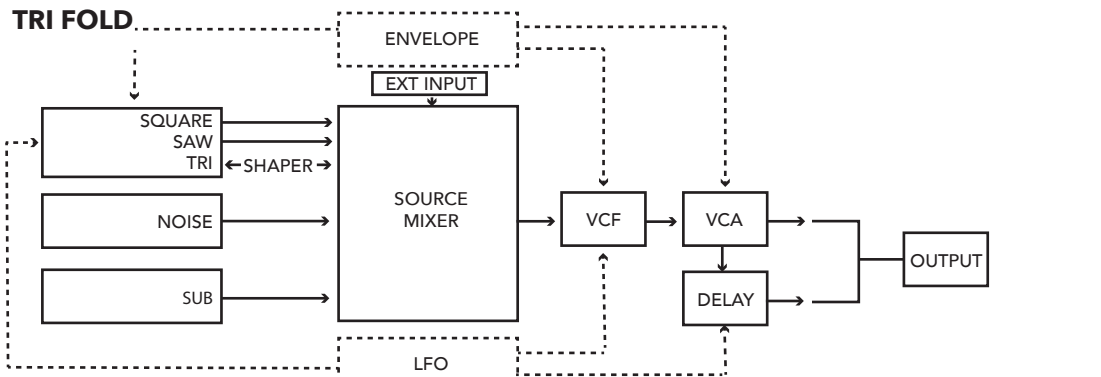
FOLD ALL (see MENU)
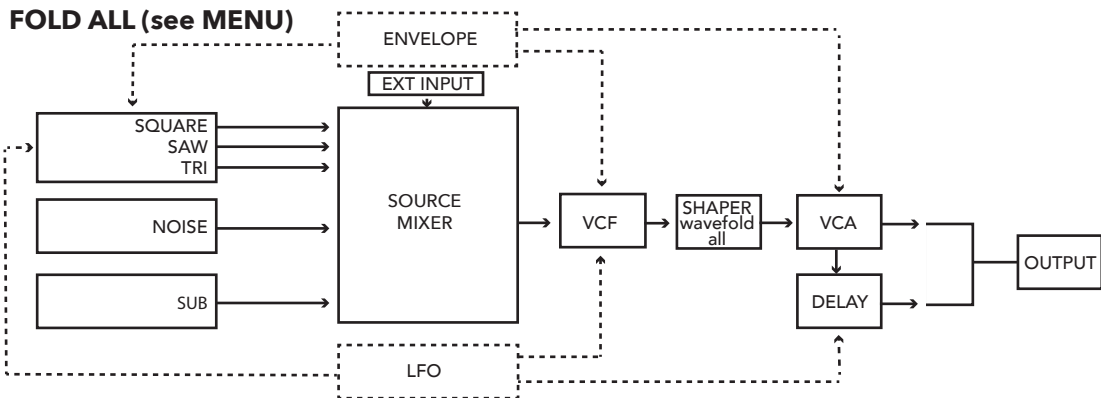
FIRST STEPS

FIRST:

1. POWER UP YOUR UNIT. It will take a few seconds for Manther to initialize and recall your memory settings.

LED screen will show the following info for settings:

- PRESET INDICATOR: A (BANK A) and 01 (preset number 1)
- BPM
- LFO SETTING (sync or not synced and rate)
- DELAY SETTING
- BAR GRAPH DISPLAY OF FADER/CONTROL POSITIONS
- OUTPUT WAVEFORM
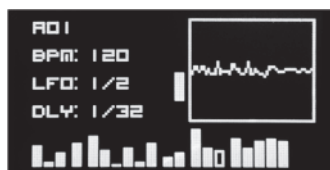
PRESS THE START/STOP BUTTON. You will now see a blue light moving across each step button indicating playback.

MANTHER ships with some already programmed presets. To recall these presets, hold the RECALL button while selecting one of the sequencer/step buttons. If you want to clear a preset, simply select SHIFT and then CLEAR. You can save a now empty sequence by holding SAVE and one of the step buttons/preset slots.

THERE ARE TWO WAYS YOU CAN START RECORDING NOTES ON STEPS:

1. You can press the RECORD button and play the keyboard - every time you press a key, a note will record on a step.

2. You can program steps on or off on the sequencer and then hold those lit buttons/steps while selecting notes on the keyboard.

- Once you have programmed some steps with notes, adjust the fader/control settings for the LFO, the VCO, the SOURCE MIXER, the VCF, VCA and ENVELOPE.

- Save your preset: HOLD SAVE, then select one of the sequencer buttons 1-16 to save to a slot.

- To expand your sequence to 32 steps, hold the 2:4 button and then select the 16th step button. The sequence you programmed into 1:4 will now automatically copy to 2:4.

- To record automation of fader changes, hold RECORD while moving faders. You will see the LED of the fader with automation recording is now lit red. To clear pre-recorded fader/control automation, hold the CLEAR button while moving automated fader or knob. You can automate all of the faders as well as GLIDE and DELAY controls.

FIND THE FULL MANTHER MANUAL ON **MALEKKOHEAVYINDUSTRY.COM**

LFO, VCO & SOURCE MIXER

LFO

1 LFO RATE CONTROL

Controls LFO speed from minimum to maximum speed.

2 LFO DELAY CONTROL

When LFO SYNC BUTTON (#5) is set to ON, the DELAY SLIDER will control the amount of time between a note or a key press and when the LFO ramps up to its full amplitude. When SYNC is OFF, delay range is approximately 30-500 milliseconds.

3 LFO WAVEFORM SWITCH

Selects the LFO waveform shape. RAMP wave, SINE wave, SQUARE wave, and RANDOM are all available as modulation shapes. Additionally, there is a switch to invert the ramp wave into a sawtooth wave.

4 INVERT LFO RAMP SWITCH (SAWTOOTH)

Set #3 swith to the top setting, then adjust this RAMP switch(#4) .

5 LFO SYNC ON/OFF

When lit LFO will sync to BPM.

VCO

6 VCO FREQUENCY MODULATION

Turning the VCO MODULATION SLIDER up increases the amount of LFO modulation applied to the VCO's frequency for vibrato effect for instance.

7 VCO OCTAVE RANGE SWITCH

16' tracks with SEQUENCER and MIDI notes, 8' is an octave above, 4' is two octaves above, and 2' is three octaves above.

8 VCO PULSEWIDTH SLIDER

When PWM SOURCE SWITCH (#9) is set to MANUAL, the PW AMOUNT SLIDER varies the SQUARE wave's pulsewidth. When the PWM SOURCE SWITCH is set to LFO or ENV, the PW AMOUNT SLIDER acts as an attenuator for pulsewidth modulation.

9 VCO PULSEWDITH MODULATION SWITCH

Switch between LFO, MANUAL or ENVELOPE to control pulsewidth of the SQUARE WAVE. See #8 above for additional info.
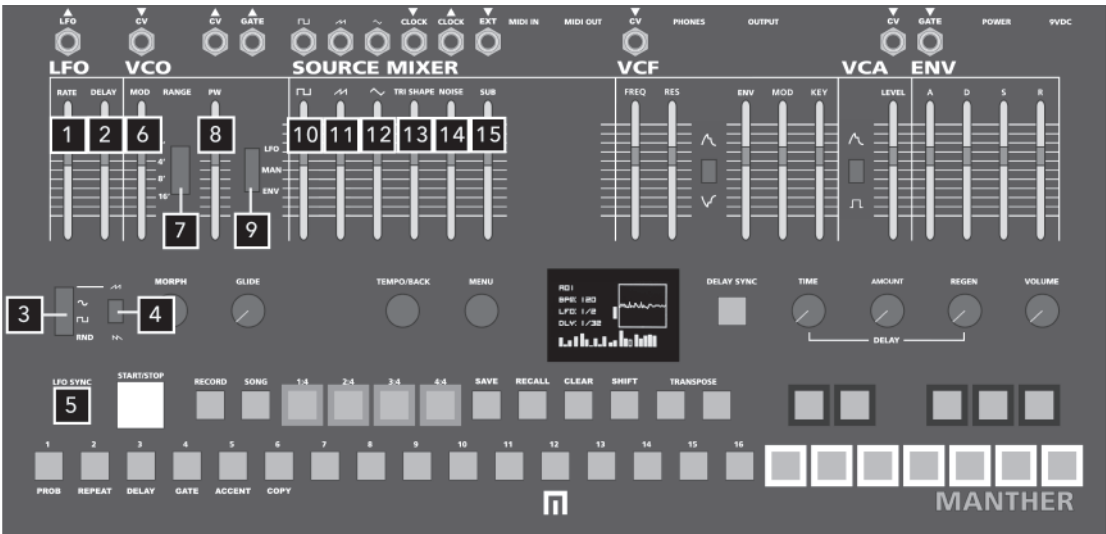
SOURCE MIXER

The VCO waveform outputs are available for mixing and combining with the NOISE and SUB OSCILLATOR.

10 SQUARE WAVE LEVEL

11 SAW WAVE LEVEL

12 TRIANGLE WAVE LEVEL

13 TRIANGLE SHAPE / WAVEFOLD CONTROL

14 NOISE LEVEL

15 SUB OSC LEVEL

Note: External Input is unity level

VCF, VCA, ENVELOPE & SEQUENCER

VCF

16 VCF CUTOFF FREQUENCY SLIDER

Manual control of filter cutoff frequency. Sums with VCF modulation mixer (ENV, MOD, KEY) and VCF CV IN input.

17 VCF RESONANCE CONTROL

Sets filter resonance.

18 VCF/ENVELOPE MODULATION SWITCH

Switch the ENVELOPE to either positively or negatively modulate the VCF (UP position is postive).

19 VCF/ENVELOPE MODULATION CONTROL

Controls the amount of modulation applied to filter frequency cutoff from the envelope generated by the ENVELOPE section.

20 LFO TO VCF MODULATION CONTROL

Controls the amount of modulation applied to filter frequency cutoff from the LFO.

21 VCF KEYTRACKING CONTROL

Controls the amount of pitch CV applied to VCF.

VCA

22 VCA ENVELOPE/GATE MODE SWITCH

Switches VCA control between ENV and GATE mode. In ENV mode the ENV section's ADSR controls the amplitude of the VCA. In GATE mode, a gate signal is generated whenever a key is pressed or a sequencer note is played, bringing the VCA to maximum amplitude.
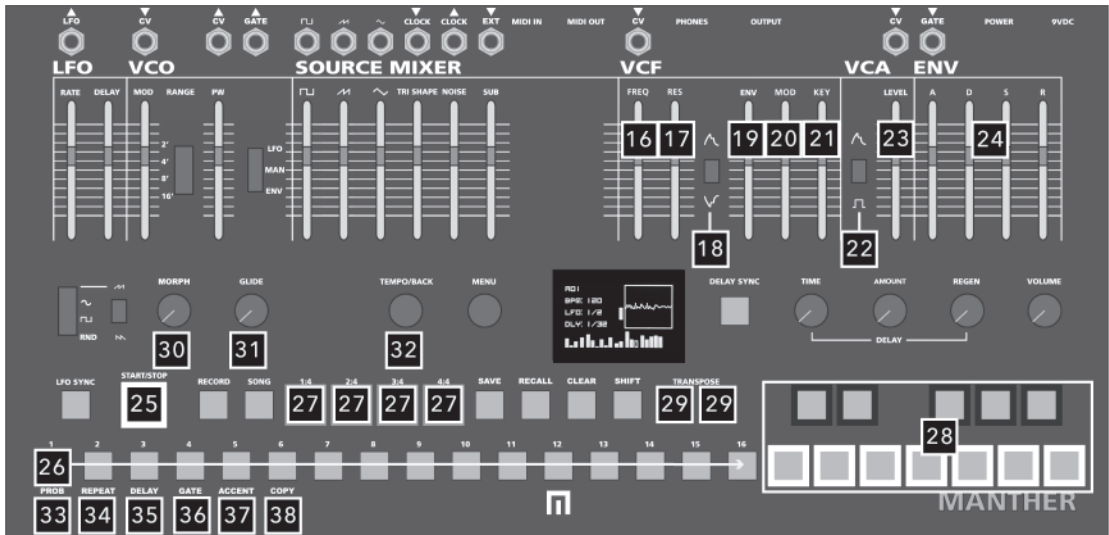
23 VCA LEVEL CONTROL

Down position for full attenuation and up position for no attentuation.

ENVELOPE

24 ADSR ENVELOPE CONTROL

Control over Attack, Decay, Sustain and Release. For instance, Attack in down position for the shortest attack.

SEQUENCER

25 START/STOP

Starts and stops sequencer.

26 STEP AND PRESET BUTTONS

Turning these buttons on and off will activate notes/steps. HOLDING SAVE while selecting one of these buttons also saves all settings as a preset (there are 64 total presets available).

27 SEQUENCE ACCESS (1:4,2:4,3:4,4:4) AND PRESET BANK ACCESS

Select these buttons to access different sequence sections for a total of 64 steps. These buttons are also used to access BANKS of presets by holding SHIFT and then 1:4, 2:4 and so on for 64 total preset slots.

28 KEYBOARD

Play to program notes per step.

29 TRANSPOSE OCTAVE

Select these buttons to change the keyboard octave up or down.

30 MORPH CONTROL

Control over global skew. Use this to slowly morph through recorded automation.

31 GLIDE CONTROL

"Global" GLIDE or each step can be programmed with an individual GLIDE amount by holding a step button while adjusting the GLIDE control.

32 TEMPO/BACK

Turn to change tempo/BPM. Also pressing this button while in MENU mode will EXIT MENU.

33 PROBABLITY MODE

SHIFT + PROBABILITY button will access menu for programming the probability that a particular step will fire.

34 REPEAT MODE

SHIFT + REPEAT button will access menu for programming amount of repeats per step.

35 GATE DELAY MODE

SHIFT + DELAY button will access menu for programming amount of gate delay per step.

36 GATE MODE

SHIFT + GATE button will access menu for programming gates and gate time per step. By default, gates are ON for each step.

37 ACCENT MODE

SHIFT + ACCENT button to program an ACCENT to a step.

• Hold Shift and Button 33-37 to enter the above modes, turn the MENU button to change the parameter and then select a step button you wish to apply the new parameter setting to.

38 COPY

Hold SHIFT + COPY to enter COPY mode, then hold the step you want to copy while pressing the step you want to copy to.

MENU

42 OLED / MENU

Press the **MENU** button to enter main MENU. Turn the MENU knob to scroll through the menu list. Press the MENU button to select feature option. Press **TEMPO/BACK** to EXIT menu.

RECORD

Change UPDATE from ALL to NOTE specifically (default is set to ALL). This will switch automation recording from every step to just steps with active notes.

MIDI

Set MIDI channels.

DELAY

Sets DELAY maximum milliseconds.

LFO>DELAY (set LFO to modulate delay time).

MIXER

WAVEFOLDER TRI is default and can be changed to VCF where wavefolder folds signal after VCF (fold all).

SUB SHAPE changes sine to square.

SEMITONE changes semitones of SUB OSC.

CENTS changes semitones of SUB OSC in cents (fine tuning).

LFO

PHASE adjust phase of the LFO.

KEY SYNC change key sync of LFO to ON. OFF is default.

SEQUENCE
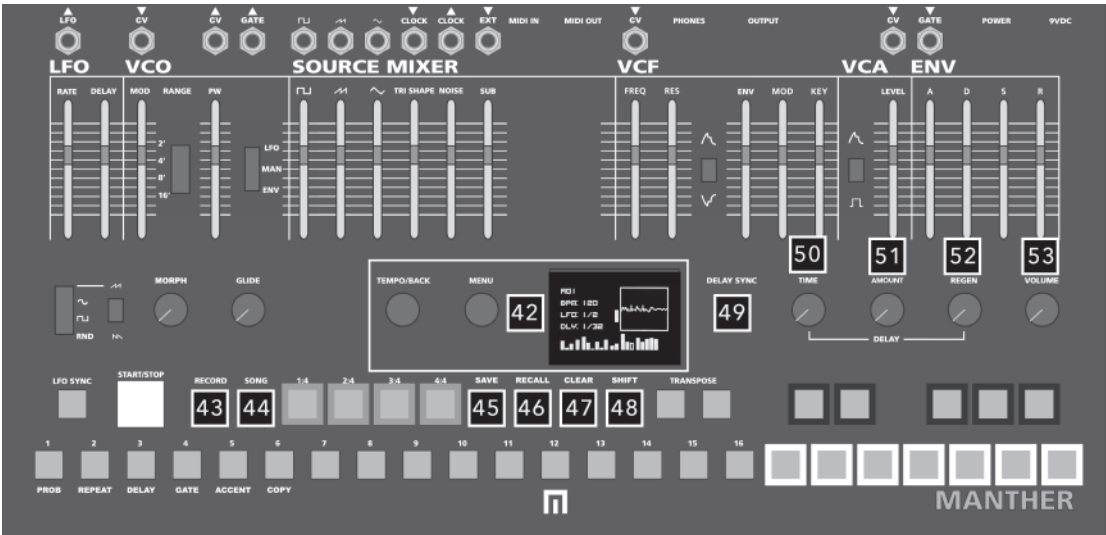
SEQUENCE LENGTH: Change from 1-64 steps.

DIRECTION: Sequence direction options are FWD, REVERSE, PENDULUM and RANDOM.

DIVIDE: Divide sequence time.

MULTIPLY: Multiply sequence time.

CLOCK

Change clock from INT default, to MIDI CLOCK, ANA (analog).

AUTOMATION / PRESETS / SONG MODE

43 RECORD MODE

Hold the RECORD button while adjusting sliders and control knobs for DELAY, MORPH and GLIDE to record live automation. To record changes to the keyboard simply press once (RECORD will be lit) and then play.

44 SONG MODE

Press SONG and then select PRESET buttons to include these presets in your song/automated playback. Once you have selected the presets you want to play in your song, select the SONG button again (it will be illuminated).

45 SAVE PRESET

To save a set of steps and automation, hold the SAVE button while selecting buttons 1-16. To save to a new BANK, hold SAVE then select the bank (1:4, 2:4, 3:4, 4:4) and then a preset slot. Presets save: AUTOMATION and settings of all fader and controls, all sequencer information, and all menu settings with the exception of octave range switch settings.

46 RECALL PRESET

To recall a preset, hold RECALL while selecting saved presets on buttons 1-16. To recall from another BANK, hold RECALL then select the bank (1:4, 2:4, 3:4, 4:4) and then the preset slot/button.

47 CLEAR

To clear a step, hold CLEAR while selecting a step. To clear a PRESET, hold SHIFT+CLEAR. To clear automation, hold CLEAR and move the fader or control with automation or CLEAR + RECORD to clear *all* automation.

48 SHIFT

Hold SHIFT to access PROBABILITY, REPEAT, DELAY, GATE and ACCENT programming.

DELAY

49 DELAY SYNC

Press the DELAY SYNC button to sync the DELAY to clock.

50 DELAY TIME

Adjusts the DELAY TIME in divisions of clock when DELAY SYNC is on. If not synced, simply adds delay in milliseconds.
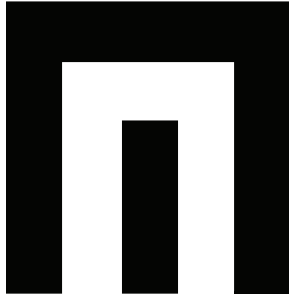
51 DELAY AMOUNT

Adjust to change the amount of delay in signal out.

52 DELAY REGENERATION

Adjust to change amount the delay regenerates. Great for creating feedback.

53 MAIN VOLUME

Adjust to change the main volume output for MAIN and HEADPHONES.

WARRANTY

This product is covered by the Malekko Heavy Industry warranty for one year following the date of purchase. This warranty covers any defect in the manufacturing of this product. This warranty does not cover any damage or malfunction caused by incorrect use such as, but not limited to the use of incorrect power supplies, excessive voltage levels, or exposure to extreme temperature or moisture levels. The warranty covers replacement or repair, as decided by Malekko Heavy Industry.

Please visit our website malekkoheavyindustry.com to obtain full warranty information and to register your product for coverage.