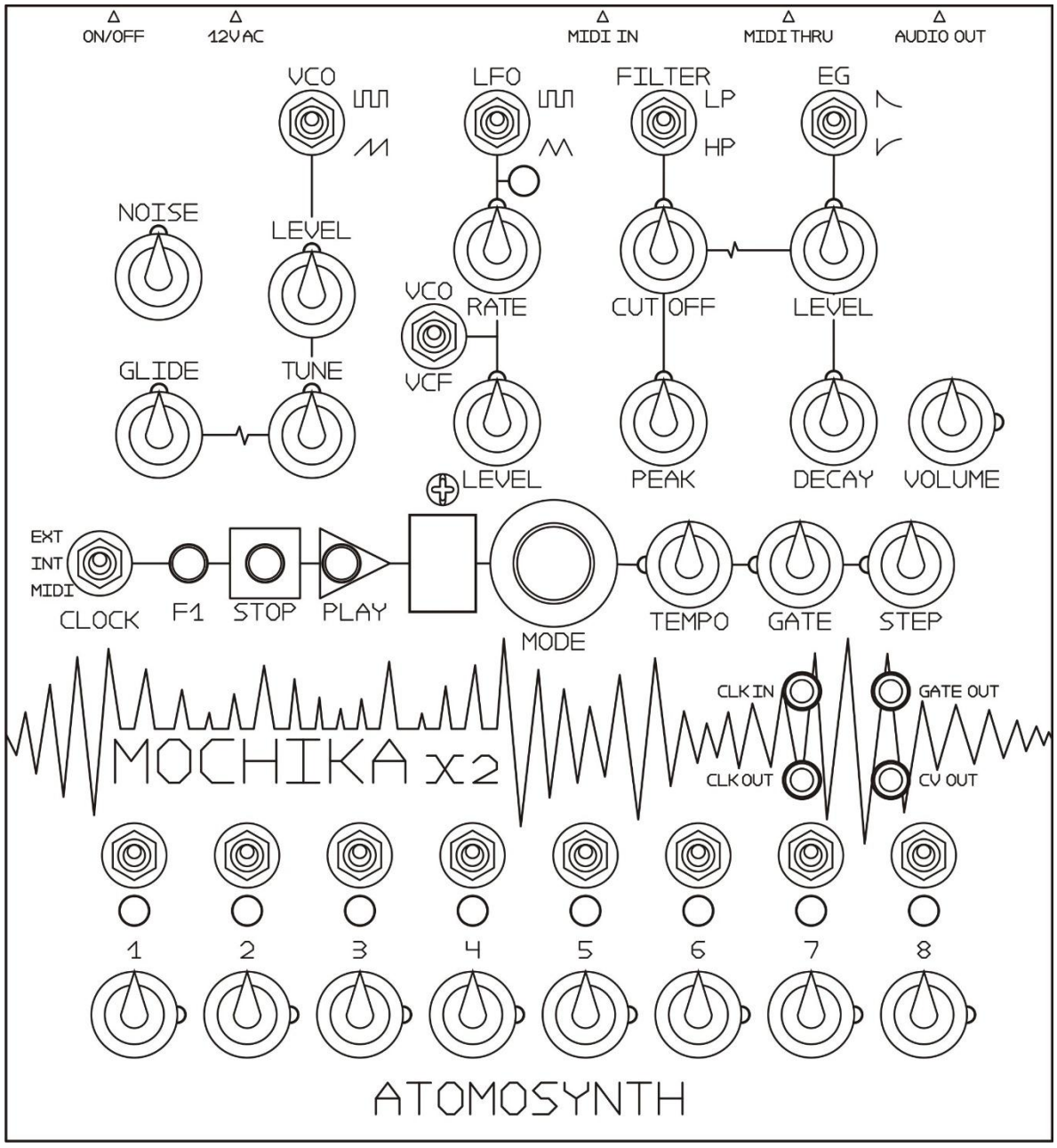
AtomoSynth MochikaX2 v1.0



Thank you for purchasing the AtomoSynth, Mochika X2 version 1.0.

Analog synthesizer sequencer.

In order to enjoy long and trouble free use, please read this manual carefully and use the instrument correctly. After reading this manual, please keep it for later reference.

Precautions

Location

- Using the unit in the following locations can result in a malfunction.
- In direct sunlight
- Locations of extreme temperature or humidity
- Excessively dusty or dirty locations
- Locations of excessive vibration
- Close to magnetic fields

Power supply

Please connect the unit to the supplied power supply (AC to AC 12V 500mA). Do not use a DC power supply, the unit will not work or may get damaged.

Interference with other electrical devices

Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

Handling

To avoid breakage, do not apply excessive force to the switches or controls.

Care

If the exterior becomes dirty, wipe it with a clean, dry cloth. Do not use liquid cleaners such as benzene or thinner or cleaning compounds or flammable polishes.

Keeping foreign matter out of your equipment

Never set any container with liquid in it near this equipment. If liquid gets into the equipment, it could cause a breakdown, fire, or electrical shock. Be careful not to let metal objects get into the equipment.

Basic Operation

1. Connect the power supply output to “12V AC” input and connect power supply to mains.
2. Connect the output jack of the unit to an amplifier. Use unbalanced ¼" connector (mono plug). Before doing so, lower the volume of your amp. Note: the output is not designed to be used with headphones, connect it always to an amp.
3. Turn the unit on using the “On/off” switcher in the rear panel.
4. Set the CLOCK switcher to INT position (internal clock)
5. Using the MODE knob select any mode (for example 8)
6. Set the STEP knob all the way left (for the sequence to start in step 1)
7. Set the TEMPO knob to a desired tempo.
8. Set the GATE knob all the way right (for a gate tempo of 1 sec.)
9. Press the PLAY button once to start playing the sequence.
10. Change the pitch of each step using the step knobs
11. Change the sound using the synthesizer section switchers and knobs.
12. To change to another mode while playing, move the MODE knob to select a mode (for example 4.) and the press the PLAY button.
13. To “freeze” the sequence, press and hold the F1 button, and the MochikaX2 will continue playing the same step till the F1 button is released. (it only works in the normal sequence mode and the “pingpong” sequence mode)
14. To select a different start step, slowly move the STEP knob to the right. As it is moved to the right, the sequence will start in step 2, 3…and so on, if the Step knob is set all the way right, the sequence will start in step 8 and all the other steps in the sequence will not sound.
15. Press the STOP button to stop the sequencer.

Midi synchronization.

1. Connect midi output of a midi clock master device to the midi input of the MochikaX2.
2. Set the CLOCK switcher to MIDI position.
3. Select any mode (except oscillator mode 0) using the MODE knob.
4. Press the PLAY button. The MochikaX2 will wait for a midi “start” signal to start playing.
5. Start playing the midi master device.

Sequencer MODES

The MochikaX2 sequencer has many play modes set the mode by turning the MODE knob, the DISPLAY will show the mode number.

1. **Oscillator mode**.  When set on the oscillator mode press PLAY and it will play just one step, choose the step that you want to be played by turning the STEP knob, set the duration of the played step (gate time) by turning the GATE knob, when you set the Gate knob to the maximum (all the way right) the gate time is set to infinite and it will play continuously until you press the STOP button.

2. Sequence mode, from  to  It is the normal forward sequence, the numbers are the steps in the sequence. For example to play a 3 step sequence, turn the MODE knob until the Display shows the number 3 and press the PLAY button, to change to any other mode while playing, just select other mode and press PLAY to apply the change.

3. Ping Pong mode. From  to  (number with dot) it is the forward and backward (ping pong) sequence mode, the numbers are the steps in the sequence. Operation is the same as in the sequence mode.

4. Random mode  The sequencer plays the steps in random order.

5. Random repetition mode  (r with dot) it is a sequence in which each step is repeated a random number of times, the maximum number of repetitions can be set from 2 up to 8 by turning the STEP knob while playing.

6. Repetiton mode. From  to  (numbers with blinking dot) It is the Repetition Mode, in which each number indicates the step number, each step can be repeated from 1 to 8 times. Set the number of repetitions by pressing and holding the F1 button and turn the MODE knob. For example to set 5 repetitions to the step number 3, turn the MODE knob until the DISPLAY shows the number 3 with the dot blinking, then press and hold the F1 button, another number will be shown (without the blinking dot) it is the actual number of repetitions, turn the MODE knob until it shows 5 then release the F1 button, it will show the number 3 again (step number), it can be done while the sequencer is playing in normal sequence mode or Ping-Pong mode, or while the sequencer is stopped. To reset the repetitions settings (all steps to 1 repetition) press and hold the F1 button and the press the STOP button once and release the F1 button, it can be done when the sequencer is playing or stopped.

7. Gate type mode. From  to  (blinking numbers) It is the gate type mode, where each number indicates the step number, each step can be set to  (normal gate type) in which the gate time is defined by the GATE knob. And  (hold gate type) in which the gate is active all the time the step is played.

To set the gate type turn the MODE knob to the desired step number (blinking number) then press and hold the F1 button, a letter will be shown it is the actual gate type, turn the MODE knob to set the gate type to A or b and release the F1 button, it can be done while the sequencer is playing in normal sequence mode or Ping-Pong mode, or while the sequencer is stopped. To reset the gate type settings (all steps to A type gate) press and hold the F1 button and the press the STOP button once and release the F1 button, it can be done when the sequencer is playing or stopped.

8. Gate Arpeggio modes. From  to  these are 8 patterns of Gate Arpeggio (A, b, C, D, E, F, H, J) When set on any of the arpeggiator modes press PLAY and it will play just one step in a rhythmical pattern, choose the step that you want to be played by turning the STEP knob, set the duration of the played step (gate time) by turning the GATE knob.

9. Connection Modes.  and  This modes allow to connect two MochikaX2 sequencers to obtain a 16 step sequence. Using a splitter cable patch the same external clock signal (like a pulse signal from a LFO) to the CLK IN of both units and set the CLOCK switcher to EXT, then set one MochikaX2 MODE knob to the symbol  (left side) and the other MochikaX2 to the symbol  (rigth side) and press the PLAY button in both units at the same time.

The symbols  and  (with dot) produce a 16 step ping-pong sequence.

Front panel elements.

Noise knob.

It sets the amount of white noise applied to the mix.

VCO (Voltage Controlled Oscillator)

VCO switcher.

It sets the waveform of the VCO to square or ramp wave.

Level knob.

It sets the level of the VCO waveform applied to the mix. It affects the response of the filter, at low or medium level it will produce a warmer sound and with the filter peak at medium to high level it will produce a “growl” effect especially with low frequencies.

Tune knob.

It sets the overall pitch range of the VCO.

Glide knob.

It sets the glide time effect.

LFO (Low Frequency Oscillator)

LFO switcher.

It sets the waveform of the LFO to square or triangle wave.

Rate knob.

It sets the frequency of the LFO.

VCO VCF switcher.

Is sets the destination the LFO modulation. To the VCO or Filter.

Level knob.

It sets the level of LFO modulation applied to the VCO or filter.

FILTER (VCF, Voltage Controlled Filter)

Filter Lit PF HPF switcher.

It sets the mode of the filter to Low pass filter of High pass filter.

Cut off knob.

It sets the cut off frequency of the filter.

Peak knob.

Is sets the resonance level. At high levels it adds a distortion effect to the sound.

EG (envelope generator)

EG switcher.

Using this, you can select between a normal envelope curve or an inverted envelope curve to modulate the filter cut off.

Level knob.

It sets the level of the envelope modulation to the filter

Decay knob.

It sets the decay time of the envelope modulation to the filter.

Volume knob.

It sets the main output volume.

Sequencer section

Clock switcher.

It sets the clock source, it has 3 positions: EXT for external clock (like a low frequency oscillator). INT for internal clock and MIDI for midi clock. To apply the change of clock source press the PLAY button.

F1 button.

When a normal sequence mode or “pingpong” sequence mode is playing you can push the F1 button and the sequence will “freeze” and will continue playing the same step till the F1 button is released.

When in repetition mode or gate mode, while pressing the F1 button and turning the MODE knob you can set the number of repetitions of each step in the repetition mode (dot blinking), or set the gate type for each step in the gate mode (number blinking).

STOP button.

It stops the sequence. When in repetition mode or gate mode, while pressing the F1 button and then press the STOP button once, it resets all the repetitions and gate type settings of all steps.

PLAY button.

Press it to start playing the sequence, or to apply any change of mode or clock input. While a sequence is playing and press the PLAY button it resets the sequence to the first step. While a sequence is playing and you change to any other sequence, oscillator or arpeggio mode, press the PLAY button to apply the changes.

Display.

It shows the mode and steps numbers.

MODE knob.

Use this to set the mode, number of repetitions and gate type.

TEMPO knob.

It sets the tempo when the CLOCK switcher is in INT internal mode. When the CLOCK switcher is set to MIDI, the TEMPO knob will set the midi clock multiplier to 1X the midi clock (all the way left), 2X (before the mid position), 4X (after the mid position) and 8X the tempo of the midi clock (all the way right).

GATE knob.

It sets the gate time of all steps except when a step is set in b gate type (hold gate type).

STEP knob.

When in normal sequence mode or “pingpong” sequence mode the STEP knob Is used to set the “initial” step, if the STEP knob is set all the way left, the sequence will start in step 1, as it is turned to the right, the sequence will start in step 2, 3 and so on, if it is set all the way right, the sequence will start in step 8 and all the other steps in the sequencer will not sound.

It is used also to choose one of the 8 steps in the oscillator mode and in the gate arpeggiator modes.

When the sequencer is playing in the random repetition mode, the STEP knob sets the maximum number of repetitions from 2 (all the way left) up to 8 repetitions (all the way right).

CV OUT.

Control Voltage output jack. Range is from 0 to 4 volt (When you use the Mochika to control an external synthesizer by CV Gate, set the GATE knob all the way right).

GATE OUT.

Gate output jack, it outputs a 5V gate signal.

CLK IN.

Clock input jack, Patch an external clock signal here or a pulse LFO. This input only works when the CLOCK switcher is set to the EXT position.

CLK OUT.

Clock output jack, when the CLOCK switcher is set in the INT position it outputs the internal clock signal. When the CLOCK switcher is set in the EXT position, it outputs the same signal feed to the CLK IN jack. When the CLOCK switcher is set to MIDI it outputs a signal synchronized to the midi clock input, it can output 1X, 2X, 4X and 8X

the input midi clock tempo, it is controlled by turning the TEMPO knob and pressing the PLAY button.

Step Switchers.

Each step switcher turns on and off the gate signal of each step.

Step LEDs.

Each step LED light when each step is active.

Step Knobs.

Each step knob set the pitch or voltage for each step.