A-V-P SYNTH

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RITMOBOX

Analog Drum Synthesizer
with 8-step sequencer

User Manual

RITMOBOX - is a compact, analog drum synthesizer inspired by the drum machines/synthesizers of the 70s-80s with a built-in 8-step sequencer and MIDI. It has 37 controls, 3 switches and 14 buttons with which you can have a wide control over the sound parameters, sequencer and MIDI. It has individual audio outputs for each of the five sounds and a mix output.

Assembled in Moscow/Russia using discrete components and OTA chips.

Specification:

- Fully analog, discreet components;
- 5 individual sound channels: CH, OH, 3 separate Generators (G1, G2, G3) each with its own oscillator, individual pulse ("kick"), noise, LFO and other modulations;
- 37 knobs/controls for different sound shaping options;
- 8 step analog sequencer with ability to program 16 steps;
- Up to 16 steps preset loading/saving slots;
- TAP and Mute/Unmute functions;
- MIDI In/MIDI Out;
- 3.5 mm individual outs;
- 6.3 mm output;
- 6.3 mm headphones output;
- Steel casing;
- Dimensions: L250xW220xH100 mm;
- Weight: 1,8 kg (without power supply);
- 12 VAC 220v or 110v power supply (included).

Controls

Front panel

Rear panel

① **MASTER section**
Regulates the master volume of the unit.

② ③ **CH and OH section**
LED indicator;
LEVEL – volume control level;
DECAY – decay control;
FILTER – cutoff filter control;
NG/MET - mixing of the noise generator/metal tone.

④ ⑤ ⑥ **GENERATOR section (G1, G2, G3)**
LED indicator;
HR/LR SWITCH – high resonance/low resonance which makes the overall sound harsher (HR) or softer (LR).
LEVEL – volume control level;
PITCH – tone pitch control;
OSC/NG - mixing of the osc/noise generator;
SWEEP – SWEEP control of the tone;
PULSE – pulse volume control;
DECAY – tone decay control;
NG FILT– noise generator filter CUTOFF control;
RATE – tone rate LFO control;
DEPTH – depth LFO control.

⑦ **SEQUENCER section**
SOUND SELECTION button allows to select the following:
- One of the five drum sounds (CH, OH, G1, G2, G3) for programming on the sequencer (note on/off);
- TAP function to trigger the five sounds by tapping on the first 5 step buttons;
- Mute/Unmute the five sounds in any order.
START/STOP button – starts and stops the sequencer;
STEPS button – selects step modes (1-8 and 9-16);
8/16 button – turns on 16-step mode;
9-16 button – turns on 9-16 steps for programming;
LOAD button – loads a saved programmed pattern from memory (16 slots);
SAVE button – stores the programmed pattern to memory (16 slots);
TEMPO control – controls the speed of the steps.

The combination of the LOAD and SAVE buttons in a certain order allows you to delete the single or the whole pattern (the **CLEAR** function, pg7).

Buttons and indicators **1-8** - multifunctional buttons and indicators that enable/disable: sequencer steps; the midi channel number setting; storing and loading of the patterns into the sequencer.

⑧ **MIDI IN/OUT** –DIN5 connector to connect the unit to MIDI source.

⑨ **S/N** – serial number.

⑩ ⑪ **POWER** - button to turn on the unit and socket 12 VAC to connect the power adapter.

⑫ **PHONES** - 6.3 mm jacks for connecting headphones.

⑬ **INDIVIDUAL OUTS** – 3.5 mm jacks for connection to a mixer or other audio devices.

⑭ **MIX OUT** – 6.3 mm jack for connecting the unit to a mixer, amplifier or other sound device.

Connecting RITMOBOX

Connect the power adapter, audio and MIDI cables to your RITMOBOX rear connectors.
Power supply (12 VAC): Connect the included power adapter to the **POWER** input of RITMOBOX;
Audio output: insert cables with 6.3 mm mono jacks into the **MIX OUT** or 3.5 mm individual outputs **INDIVIDUAL OUTS** jacks in order to connect the RITMOBOX to a mixer or other audio equipment;
MIDI input: connect the **MIDI OUT** of an external sequencer or MIDI keyboard (or another MIDI device) to the **MIDI IN** jack of the RITMOBOX synthesizer.

Powering on RITMOBOX

Press the **POWER ON** button. The CH and STEPS indicators in the sequencer section will light up indicating that the unit is turned on.

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Sequencer section

MIDI-channel selection setting
The 1st MIDI channel is set by default in RITMOBOX. To change it, turn off the device then press and hold the START/STOP button, while continuing holding the button turn on the device, continue holding it until the START/STOP starts flashing.
The first MIDI note received from the MIDI controller will set the MIDI channel number. After that, you need to Power off RITMOBOX and then turn it on again to save and resume normal operation. Now the set MIDI channel will be stored in the device memory.

START/STOP button
This button starts or stops the sequence playback. Sends START/STOP messages to MIDI OUT.

Step selection button 8/16
The **8/16** LED indicator is not lit - only 1st 8 steps are selected for programming.
The **8/16** LED indicator is lit - all 16 steps (1-16) are selected.

Step selection button 9-16
The 9-16 LED is not lit - first 8 steps are selected for programming.
The LED 9-16 is lit – 9-16 steps are available for programming.

8 buttons STEPS
Pressing one of the step buttons switches the state of this step to trigger note on/off.

SOUND SELECTION button
This button selects one of the RITMOBOX's drum sections for editing on the sequencer. Short pressing on the button allows to choose a specific sound for programming on the steps.

TAP mode
You can enter into the **TAP mode** on the 5th press of **SOUND SELECTION** button (all 5 led indicators will turn on). In this mode, the steps 1 – 5 represent the sounds in the order of their priority: 1-CH, 2-OH, 3-G1, 4-G2, 5-G3. Just press on the needed step to trigger/play it.

Mute/Unmute mode

You can enter the Mute/unmute mode on the 6th press of **SOUND SELECTION** button. In this mode, the steps 1-5 represent the sounds in the order of their priority: 1-CH, 2-OH, 3-G1, 4-G2, 5-G3. By default, the indicators on the steps will all be lit. Just press on the needed sound step to mute or unmute it. If the sound is unmuted, the led indicator of the chosen sound will be off.

SAVE button

Hold the SAVE button (one of the 8 steps will start to blink, indicating on which current slot you have a saved pattern at that moment) and then press one of the 8 step buttons to select where the pattern will be saved.
By default, the 1-8 slots for saving are selected (out of 16). This saves all 16 steps of each of the eight sounds of the current pattern. RITMOBOX has overall 16 saving slots.

If you want to save a pattern to slots 9-16:
Press and hold the SAVE button, press on 9-16 button ones (one of the 8 steps will start to blink, indicating on which current slot you have a saved pattern at that moment), then press one of the 8 step buttons to select where the pattern will be saved and finally release the SAVE button to store it to that location.

LOAD button

Press the LOAD button (one of the 8 steps will start to blink, indicating on which current slot you are located at that moment) and then one of the 8 step buttons to select the pattern to load. This will load all 16 steps of each of the eight sounds from the saved pattern. RITMOBOX has overall 16 loading slots.

If you want to load a pattern stored in slots 9-16:
Press and hold the LOAD button, press on 9-16 button ones (one of the 8 steps will start to blink, indicating on which current slot you are located at that moment), then press one of the 8 step buttons to select where the pattern will be loaded from and finally release the LOAD button to recall the selected pattern.

CLEAR function

In order to delete the programmed sequence of a particular sound section, you need to short press the LOAD button then release it and press the SAVE button. In order to delete the entire programmed sequence using several or all of the sound sections, you need to short press the SAVE button then release it and press the LOAD button.

MIDI IN
MIDI notes are transmitted in real time to 5 trigger outputs in the following order: CH-48 note, OH-50, G1-52, G2-53, G3-55.
If MIDI CLOCK messages are received, the sequencer will synchronize with MIDI CLOCK and will disconnect its internal clock. When synchronized to MIDI CLOCK, the tempo control can be used to select the amount of MIDI CLOCK per step (1-16). When the MIDI CLOCK message are not received within 1 second, the sequencer switches back to its internal clock.
The MIDI START message starts the sequencer.
The MIDI STOP message stops the sequencer.
The MIDI CONTINUE message starts the sequencer from the last step.

MIDI OUT
MIDI CLOCK messages are sent from the MIDI OUT. MIDI notes in messages are sent via MIDI OUT for MIDI control of other external midi devices.

Warranty:

The standard warranty on RITMOBOX synthesizer is for one year from the date of purchase.

1. The warranty does not apply in the following cases:
- Expiration of the guarantee (after one year from the date of purchase); After-guarantee servicing is possible, shipping both ways is at the expense of the buyer. We try to stay reasonable concerning servicing;
- There is any mechanical damage to the inside and/or outside of the unit;
- There are signs of opening or self-repair;
- A malfunction caused by self-updating software, or installing additional options/mods;
- A malfunction caused by damage of the product by other objects and liquids, as well as results of fog, rain and snow.

2. The guarantee does not apply to:
- Adapter;
- Controls if their failure was caused by normal wear or contamination during use.

Feel free to email us if you have any questions: avpsynths@gmail.com

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