



ЗВУКОВОЙ ОБЪЕКТ



БАС

MONOPHONIC
ANALOGUE
SYNTHESIZER





ОСЦИЛЛЯТОР-Oscillator
PUT

ТОНИНГ FINE

ШИРИНА PULSE WIDTH

БАС-BASS

МИКСЕР-MIXER

БАС-BASS

ГРОМК-VOL

СРЕЗ-CUT

КОИТИР ENVELOPE

АТАКА ATTACK

ДУБИНА

БАС

SOUND OBJECT BASS

ANALOGUE MONOPHONIC SYNTHESISER FOR RETRIEVING BASS

SOUND OBJECT BAS

EURORACK EDITION

| User Manual





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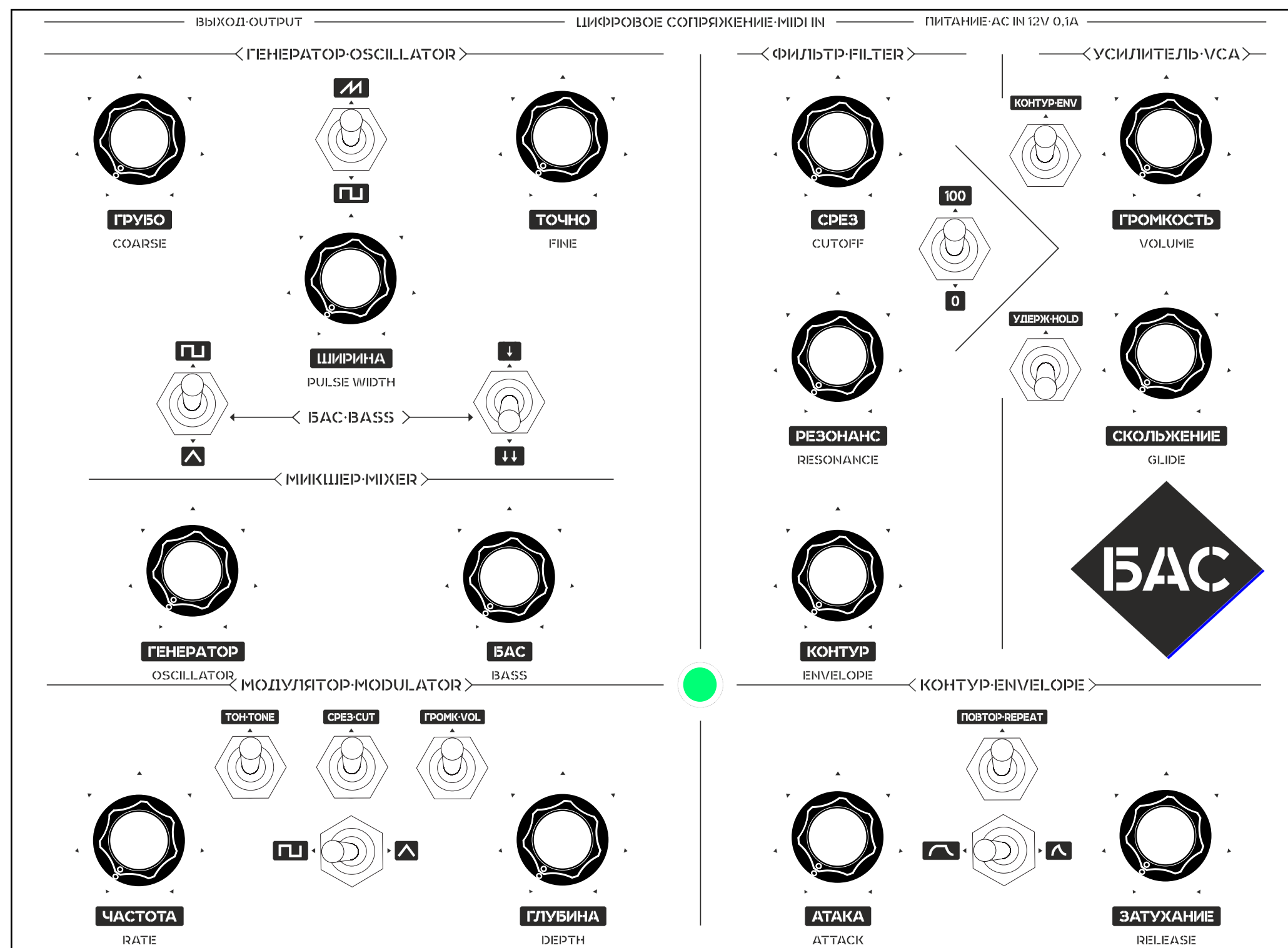
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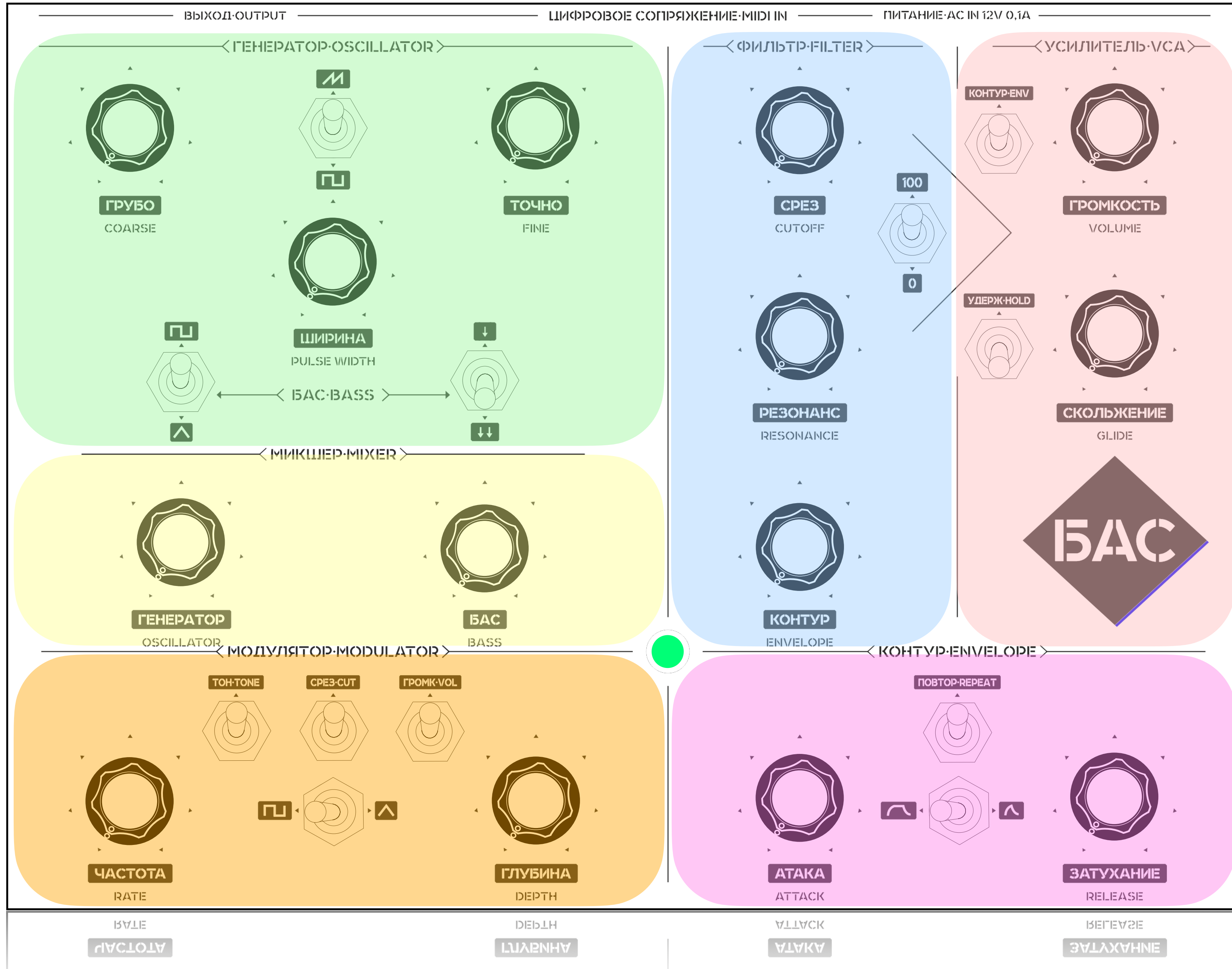
CONTACT

THE SYNTH ARCHITECTURE



SOUND OBJECT BAS IS A MONOPHONIC ANALOGUE SYNTHESIZER TO RETRIEVE BASS TIMBRES. THE SYNTH HAS 1 OSCILLATOR GENERATING 2 WAVEFORMS AND 1 SUB-OSCILLATOR GENERATING 2 DIFFERENT WAVEFORMS. GENERATED SIGNAL IS SENT TO THE MIXER SECTION WHERE IT CAN BE ADJUSTED BY TASTE. FURTHER THE SOUND TRAVELS TO THE FILTER SECTION, AND FROM THERE TO THE VCA. MODULATOR LFO SECTION CAN BE SENT TO DIFFERENT DESTINATIONS AS WELL AS ENVELOPE GENERATOR CAN MODIFY THE SIGNAL ALONG THE WAY.

Front Panel



Sound Objects Bass Building Blocks

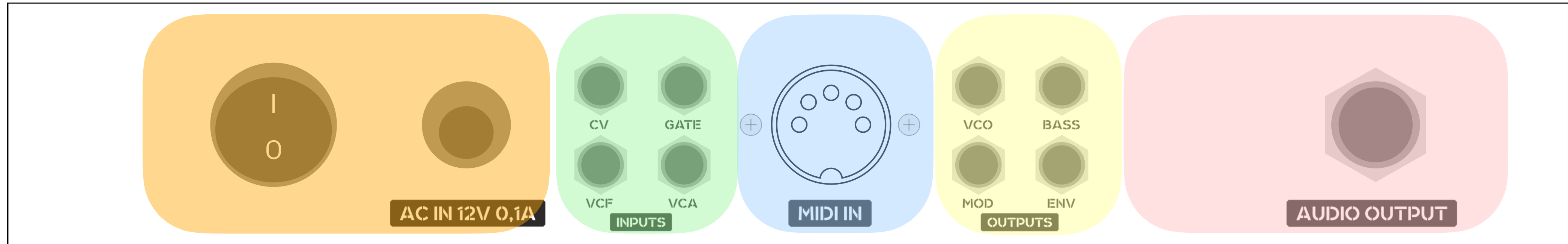
- OSCILLATOR
- MIXER
- FILTER
- MODULATOR
- ENVELOPE
- VCA

Rear Panel

Power Supply Input

5-pin MIDI Input

Main Output: Monophonic Audio Output

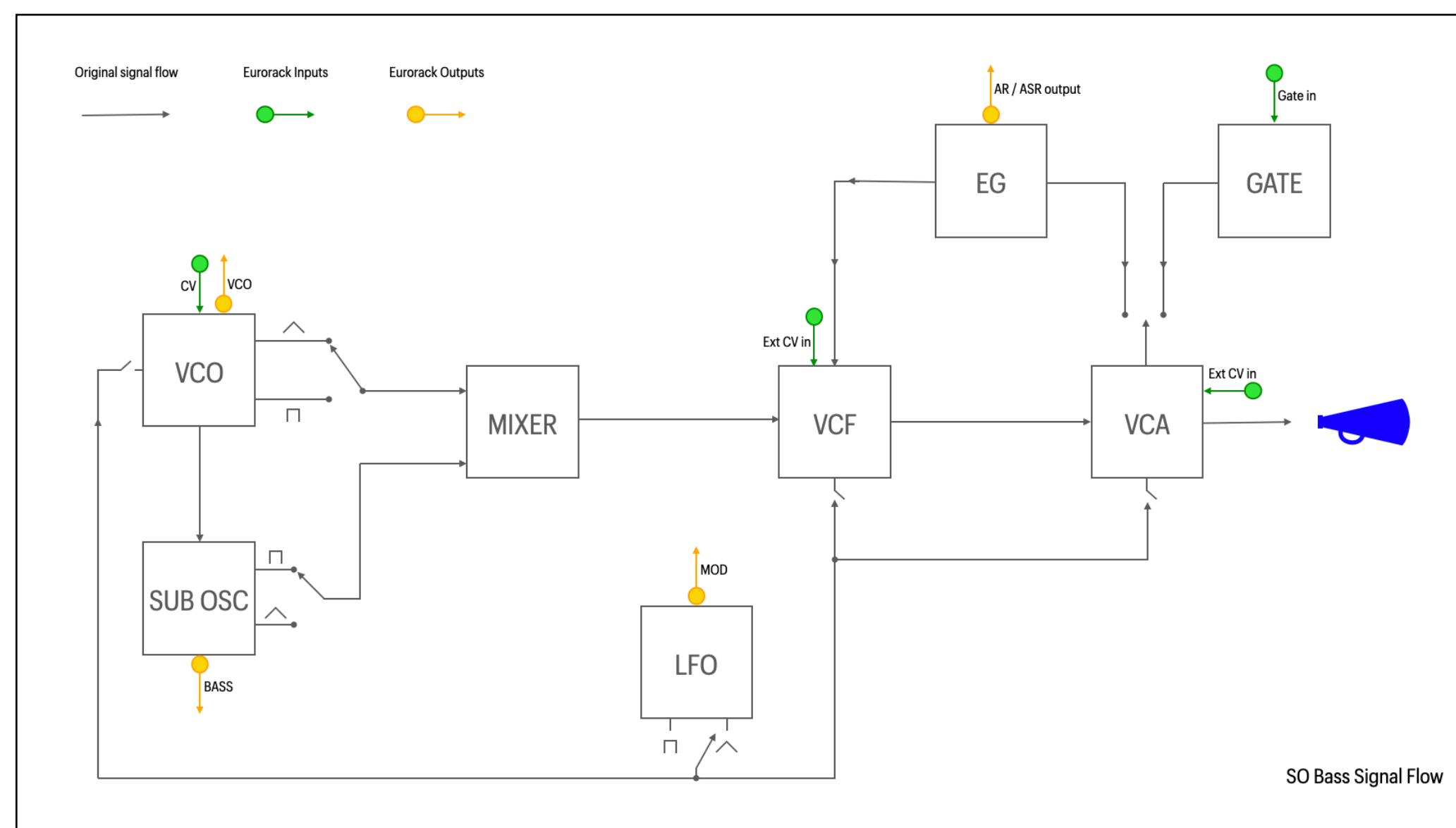


Power ON/OFF Switch

Eurorack Inputs: VCO 1 Pitch, Gate, VCF envelope CV input and VCA CV input

Eurorack Outputs: VCO 1, BASS (sub osc), Modulator (LFO), Envelope Generator Output

SIGNAL FLOW + BUILDING BLOCKS



THE SIGNAL CIRCUIT OF SOUND OBJECT BASS IS A CLASSIC EXAMPLE OF A SUBTRACTIVE SYNTHESIS METHOD, WITH A SUB OSCILLATION ADDED TO SPICE UP THE BASS WITH SUB TONES, GIVING IT THE REQUIRED PRESSURE TO IMPRESS YOUR LISTENER. MODULATION OF DIFFERENT DESTINATIONS SUPPORT THE EXPRESSIVE TIMBRE COLLECTION YOU CAN GET BY PLAYING WITH THE SYNTH IN A GREAT ACCURACY AND AWARENESS. LET'S LOOK THROUGH EACH SECTION AND THEIR COOPERATION CLOSER.

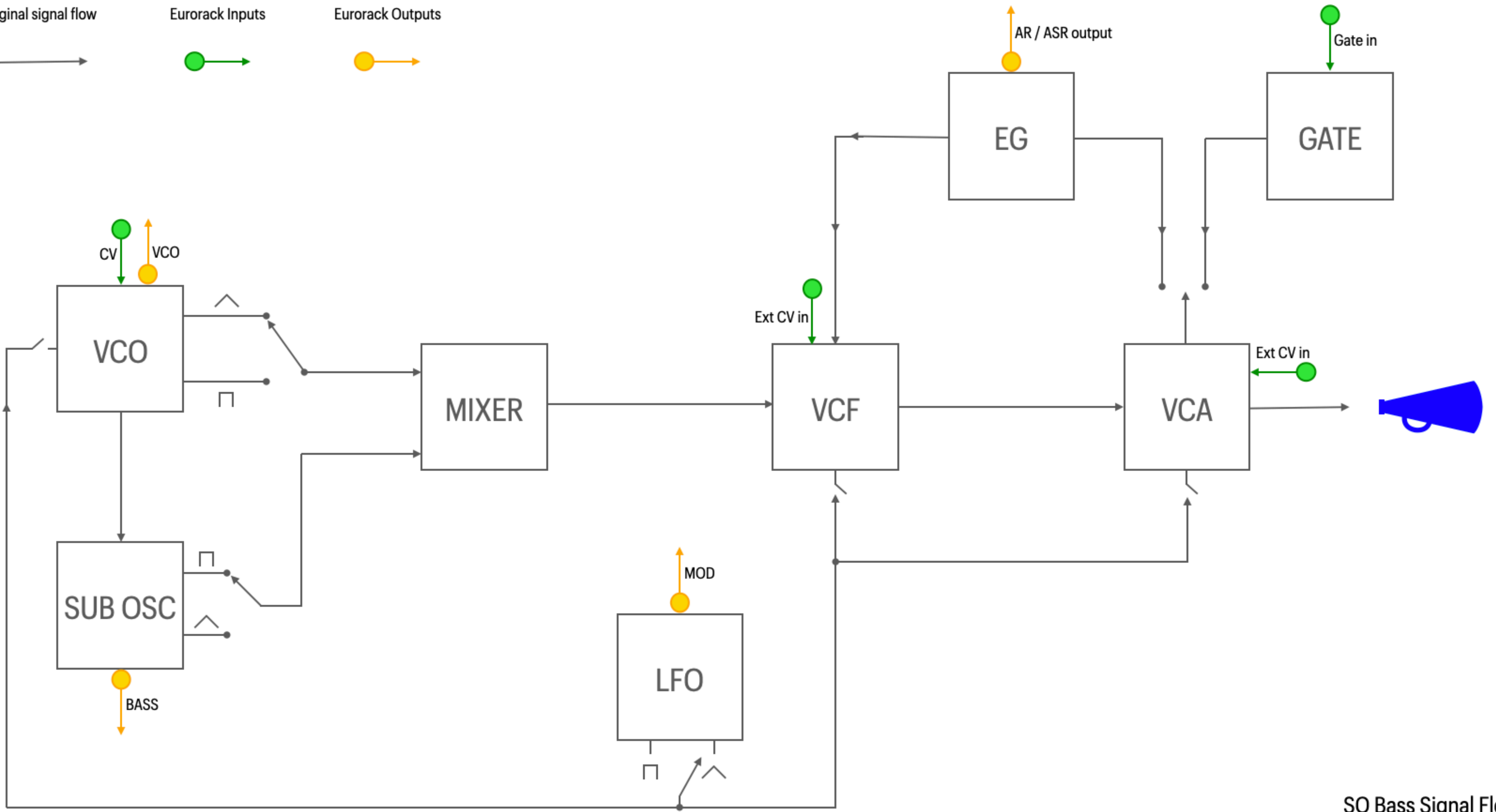
Original signal flow



Eurorack Inputs

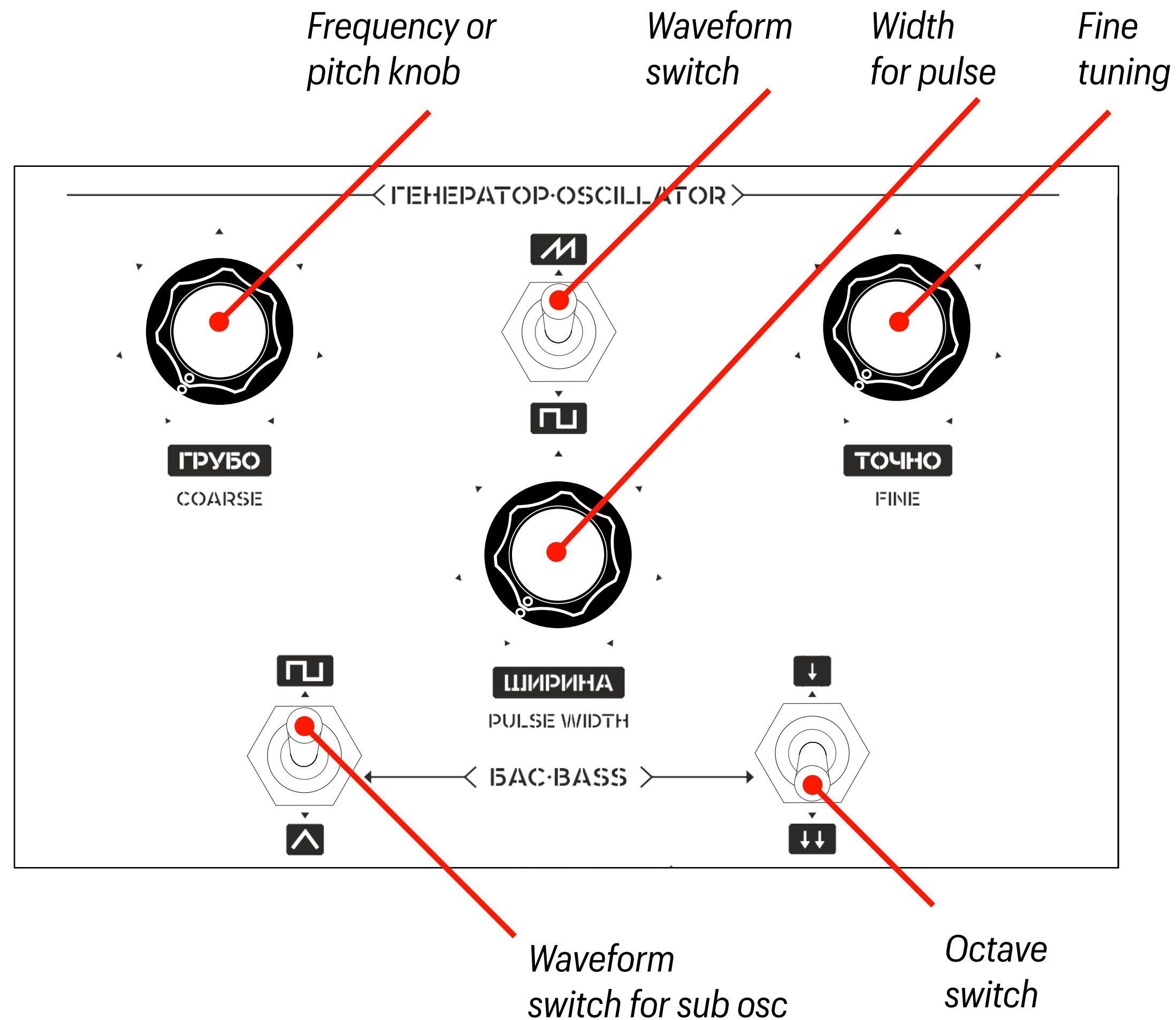


Eurorack Outputs



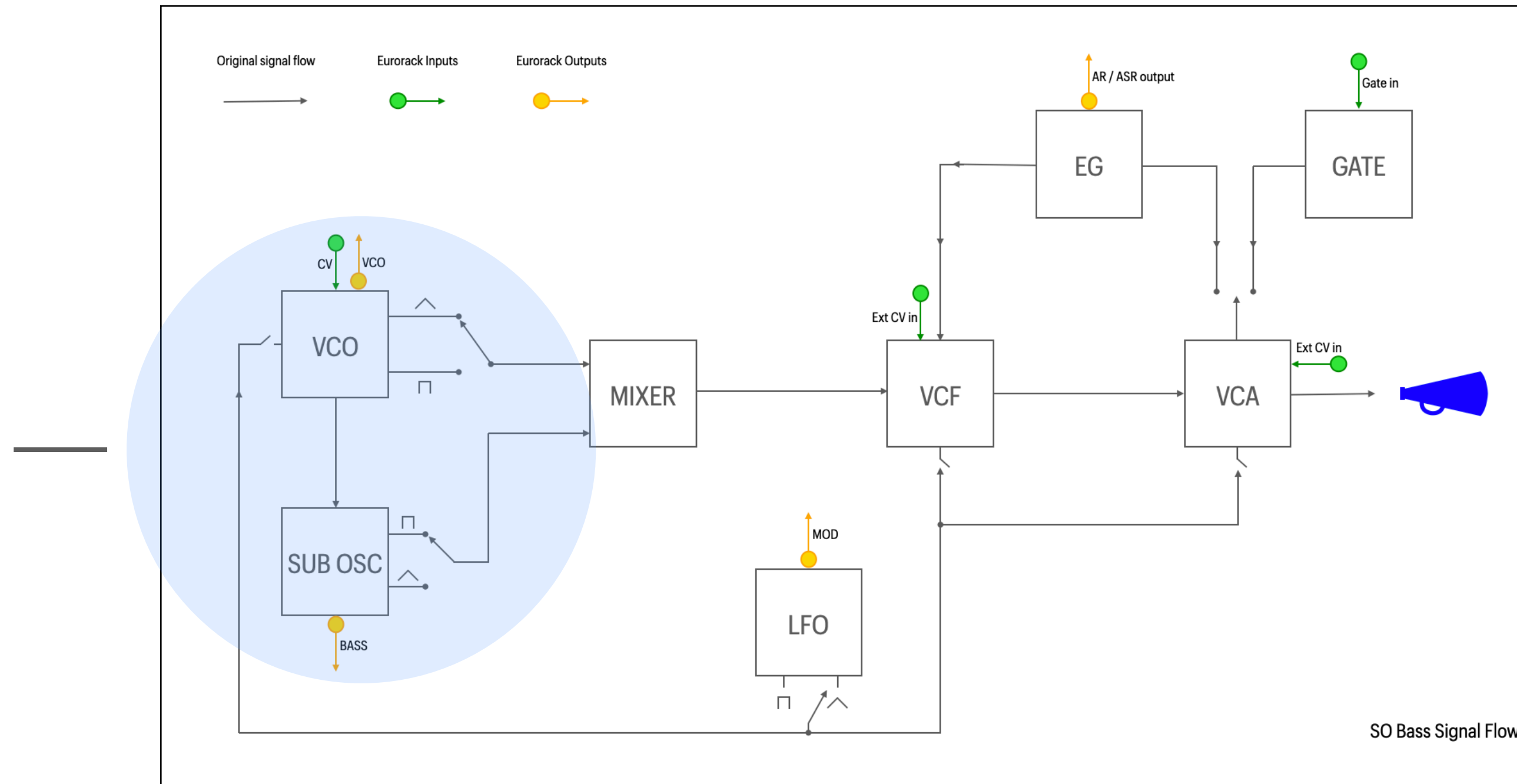
SO Bass Signal Flow

VCO+SUB OSC



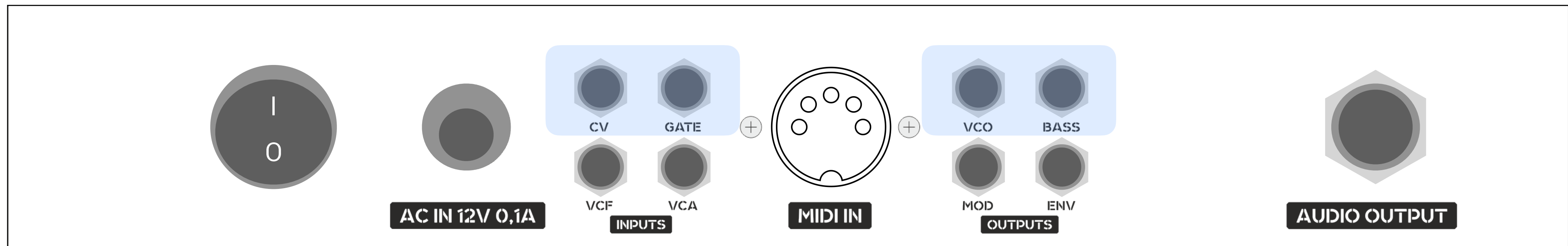
GENERATOR SECTION CONTAINS 2 OSCILLATORS. OSCILLATOR ONE GENERATES SAWTOOTH OR, PER CHOICE, SQUARE WAVEFORMS; HAS COARSE AND FINE PITCH CONTROLS. SUB-OSCILLATOR GENERATES TRIANGLE AND PULSE WAVEFORMS, WITH PULSE WIDTH CONTROL AND AN OCTAVE SWITCH. THIS SECTION HAS EURORACK INPUTS AND OUTPUTS ON THE REAR PANEL AND ALLOWS COMMUNICATION WITH EXTERNAL DEVICES. PITCH INPUT TO THE FREQUENCY OF THE OSCILLATOR 1 SENDS 1V/OCT SIGNALS FROM EXTERNAL SOURCE AND IS MARKED AS "CV INPUT" ON THE REAR PANEL. OUTPUTS VCO AND BASS ON THE REAR PANEL SEND AUDIO SIGNALS GENERATED BY THE GENERATOR SECTION AND CAN BE USED FURTHER IN ANY PATCH IDEA.

VCO and Sub-Osc (BASS) blocks in the circuit. Both signals travel to the mixer section

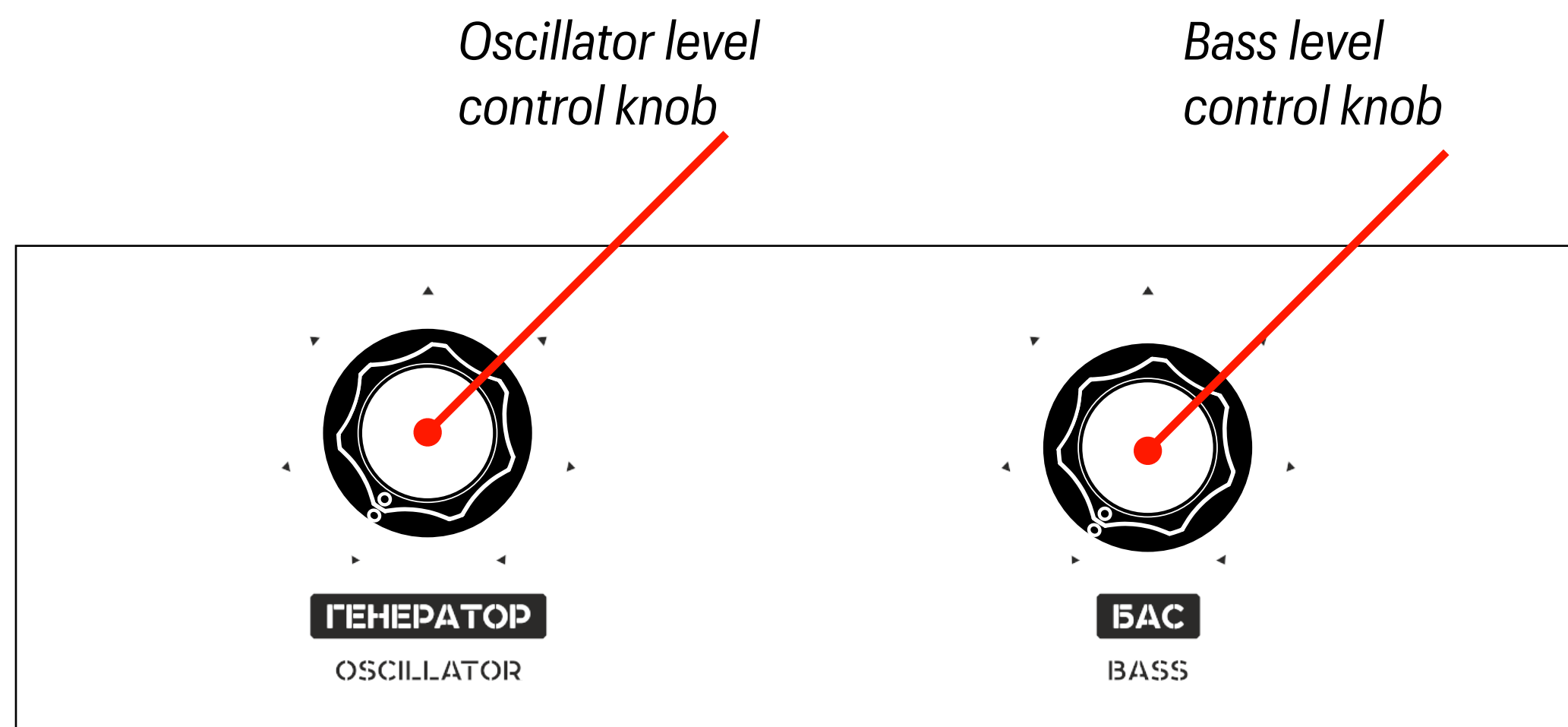


CV and Gate inputs for the VCO

VCO and Sub-Osc (BASS) outputs

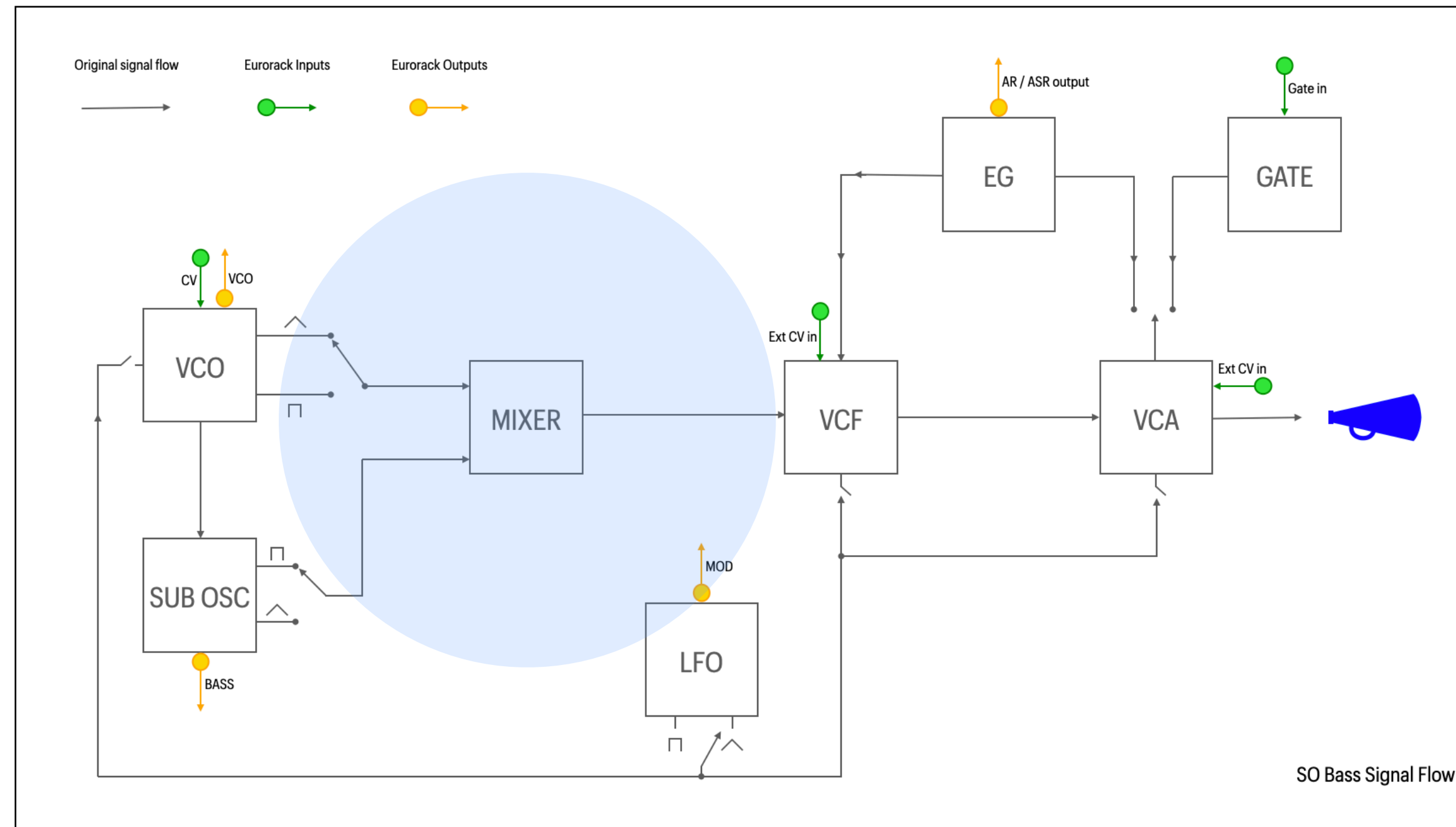


MIXER

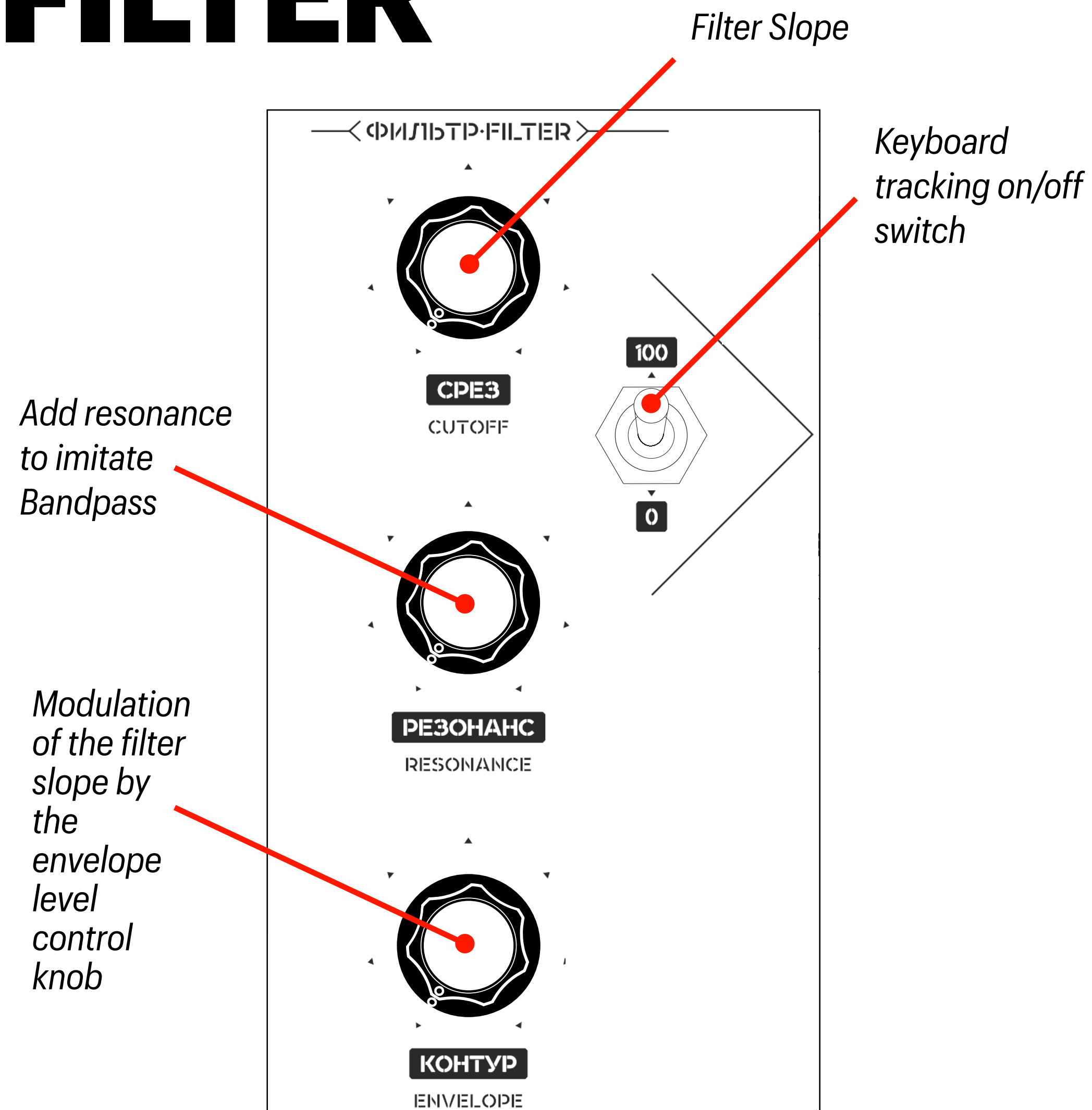


MIXER SECTION IS THE PLACE WHERE BOTH GENERATORS SEND THE SIGNAL TO. THE MIXER ALLOWS YOU TO CONTROL THE AMOUNT OF EACH OF THE SIGNALS BY TASTE. YOU CAN USE ONLY 1 VCO AND GENERATE MANY, NOT ONLY BASS-LIKE, TIMBRES. BY ADDING SUB OSC (BASS) TO THE GENERATED TONE YOU CAN INRICH THE TIMBRE WITH SUB TONES, GIVING IT THE MASSIVE PRESENCE FEEL.

MIXER section allows to control the amount of both signals, adjusting them by taste

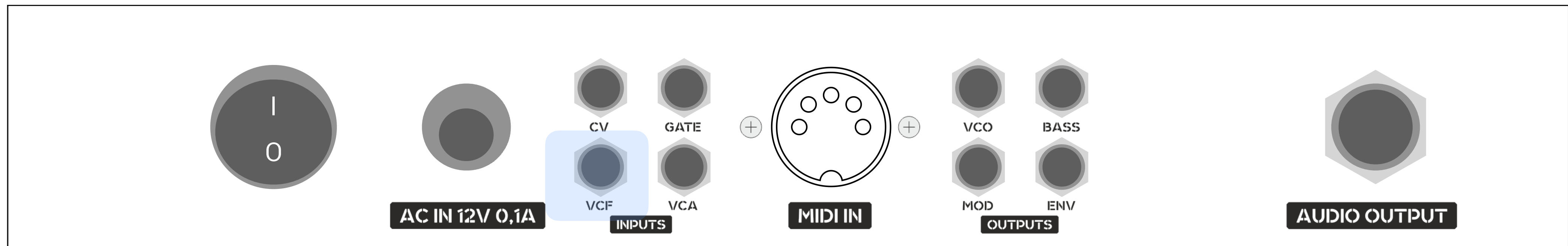
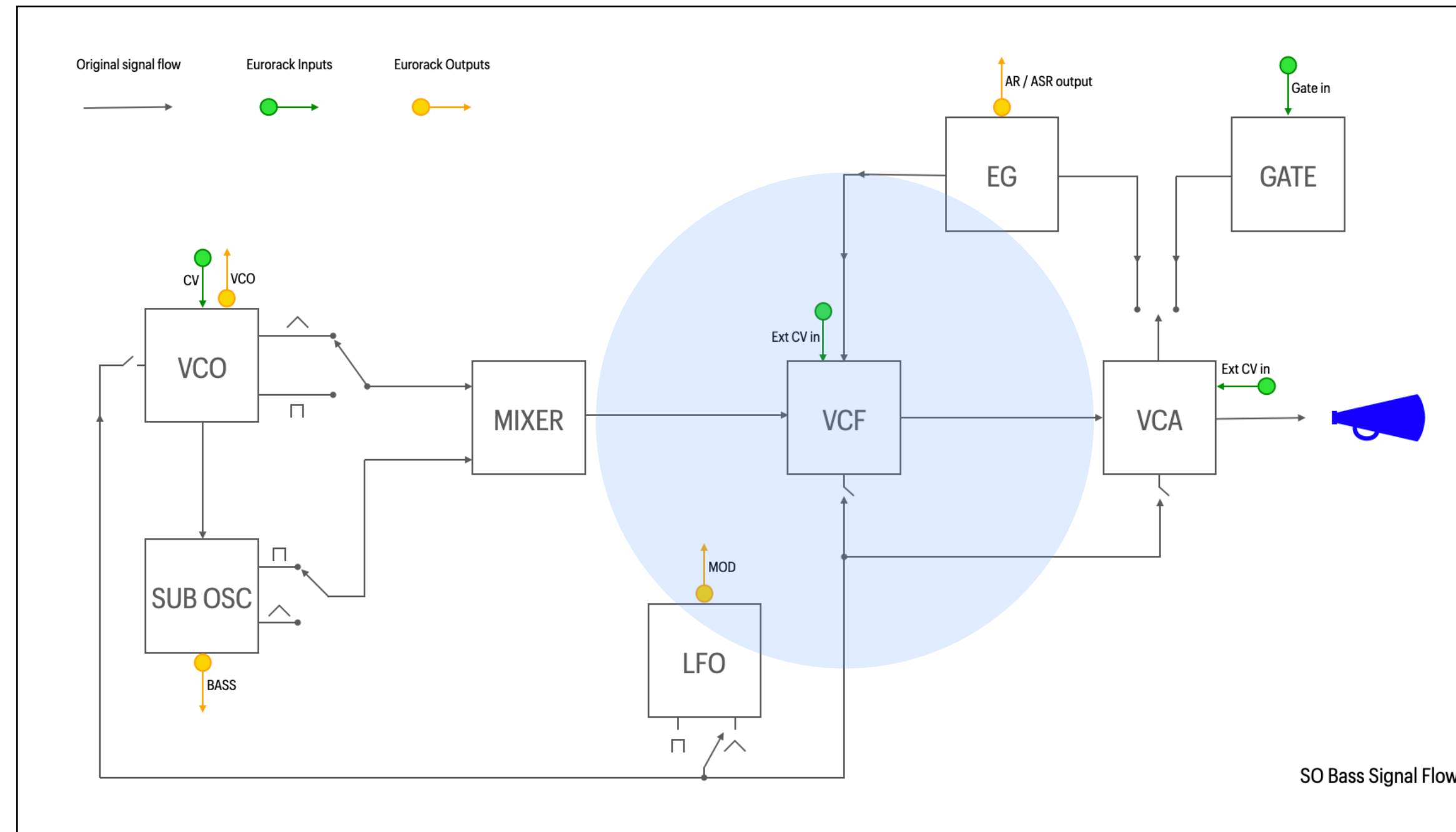


FILTER



CLASSIC TYPE OF A FILTER, WITH A CUT-OFF AND RESONANCE CONTROLS. THERE IS A DEDICATED ENVELOPE LEVEL CONTROL KNOB THAT ALLOWS MODULATION OVER THE SLOPE, BASED ON THE SETTINGS OF THE ENVELOPE SECTION. 100 TO 0 SWITCH SETS THE KEY TRACKING ON.

VCF section filters incoming signal, can be modulated by Envelope Generator or Modulator (LFO)



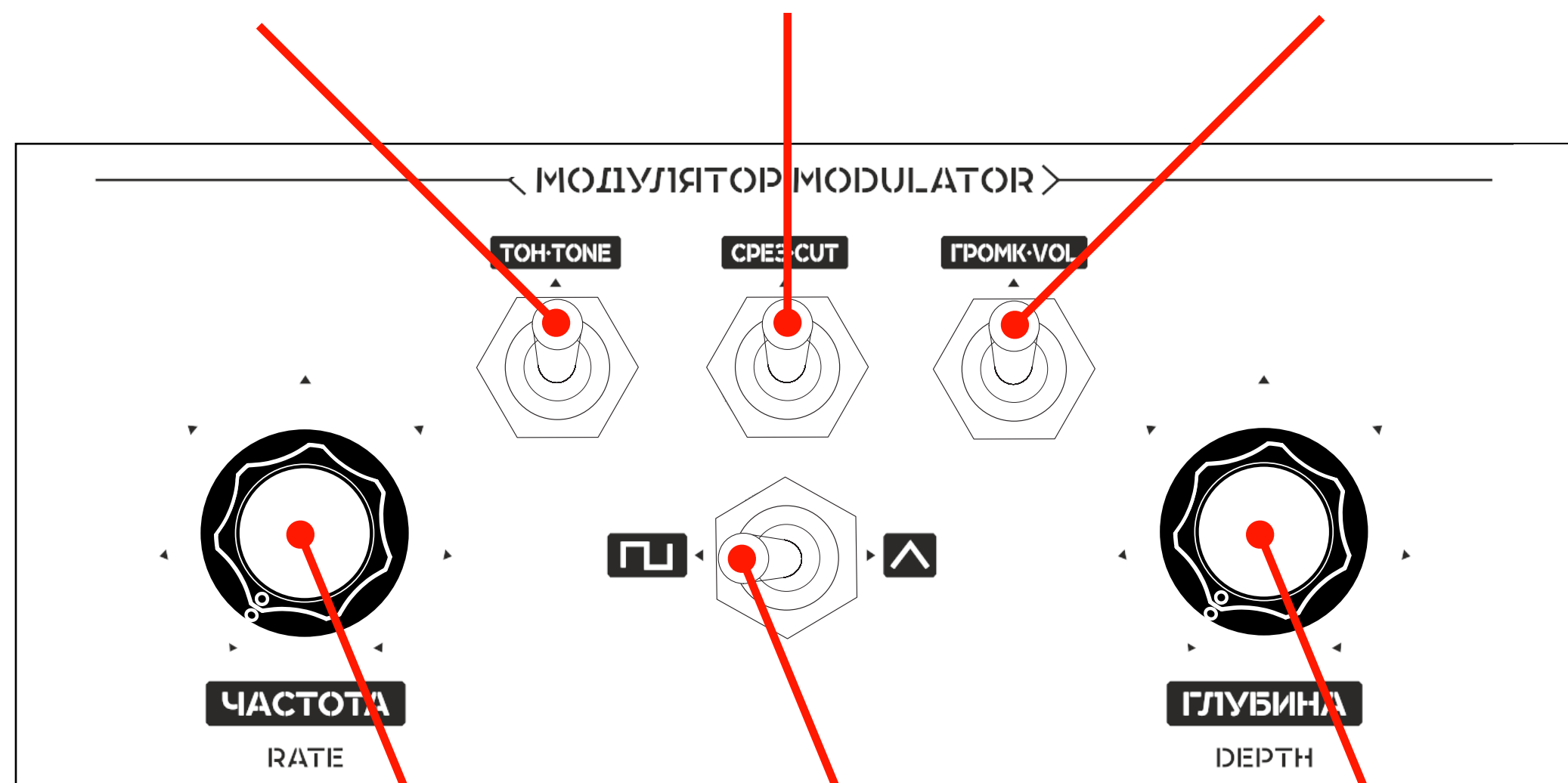
VCF cut-off
CV input

MODULATOR

Switch that sends
modulator
to frequency

Switch that sends
modulator
to filter cut off

Switch that sends
modulator
to the VCA



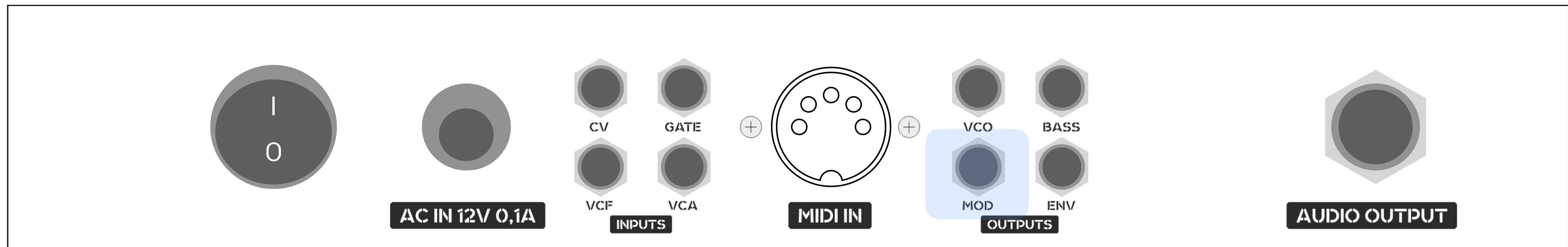
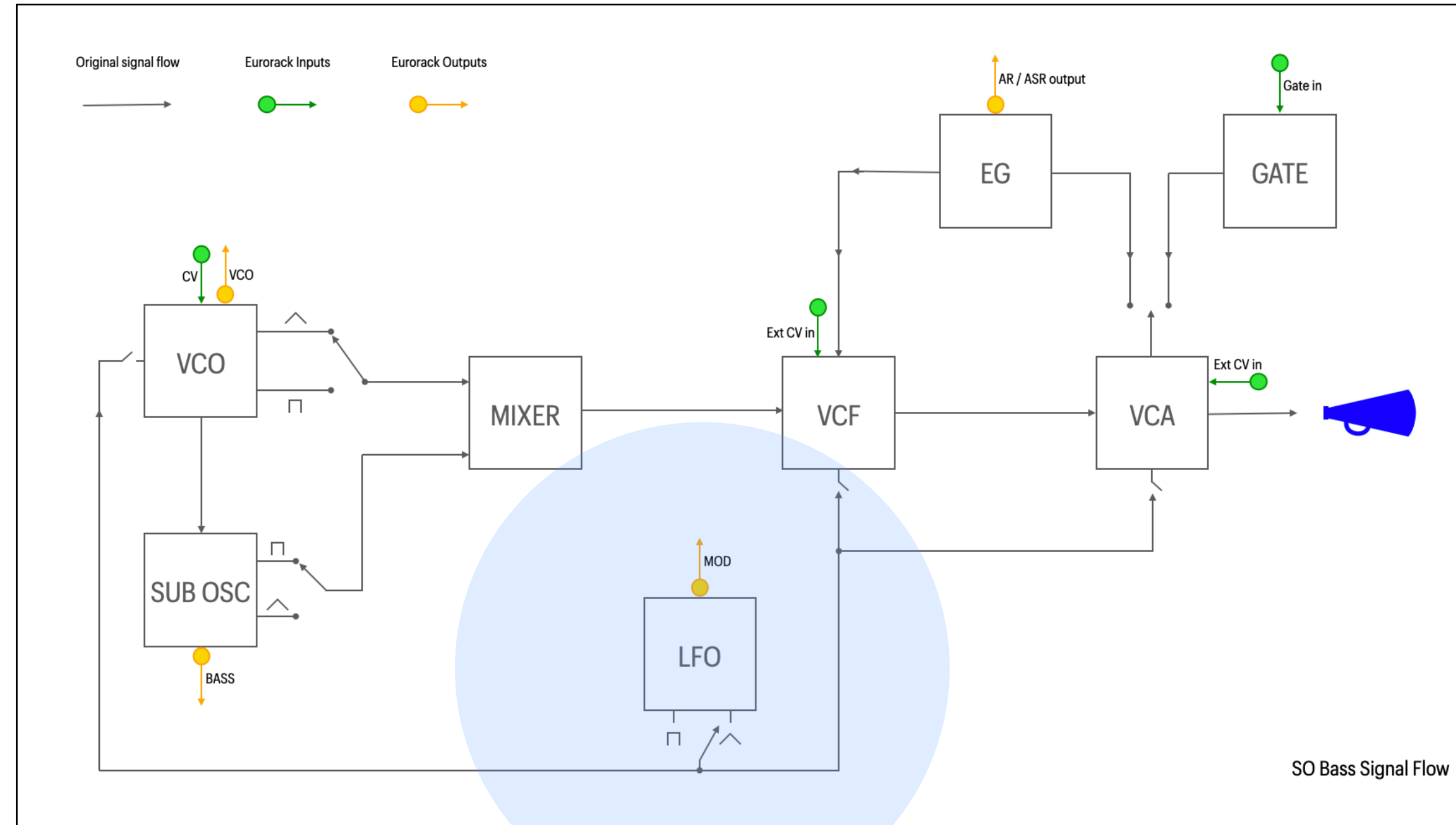
Rate
control
knob

Pulse (square)
to triangle
switch

Modulation
level depth
knob

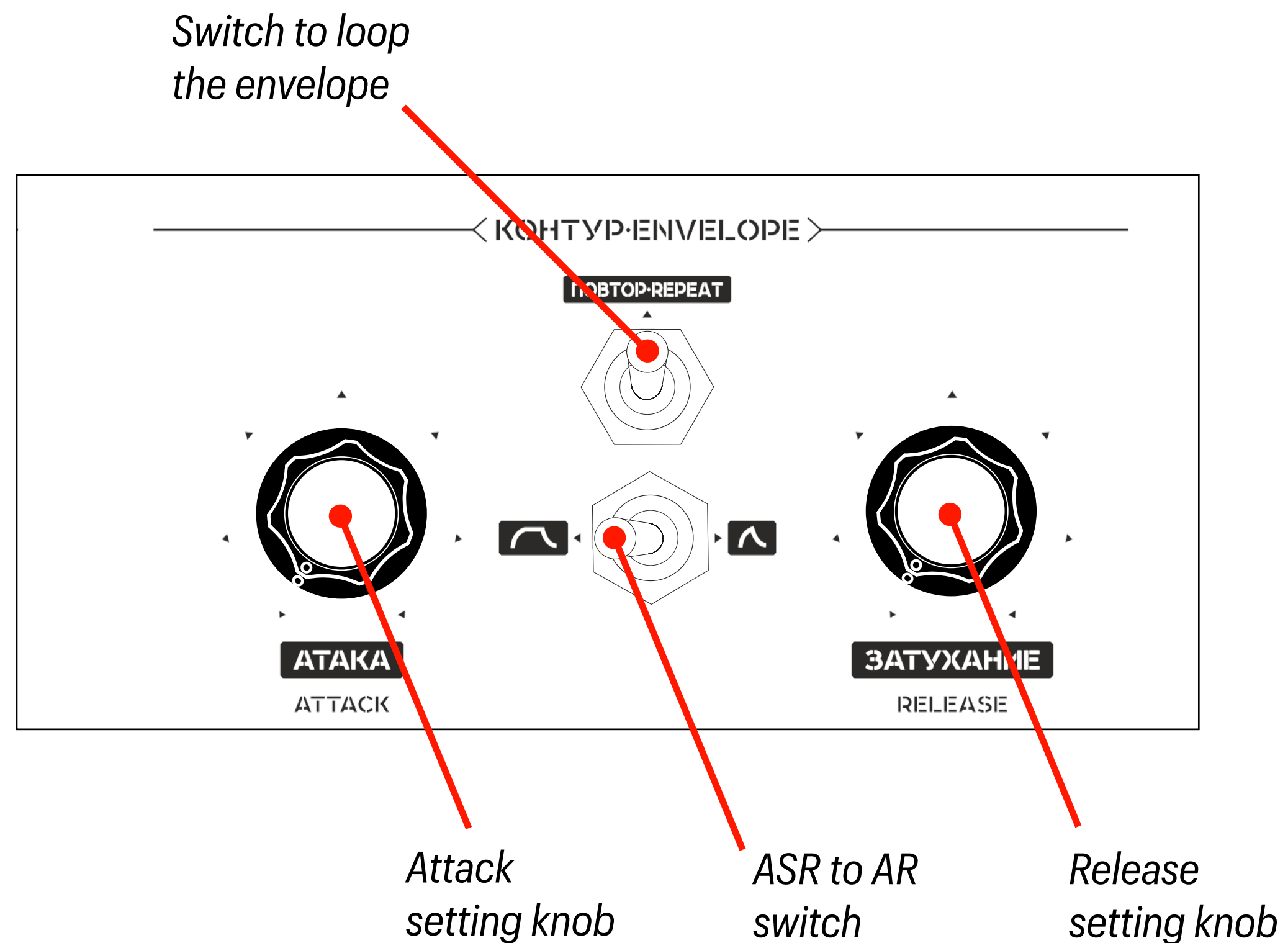
MODULATOR SECTION IS AN ADVANCED LFO, GENERATING TWO DIFFERENT WAVEFORMS - SQUARE (PULSE) AND TRIANGLE. THE SECTION HAS RATE CONTROL OVER THE LFO FREQUENCY AND DEPTH LEVEL KNOB THAT LETS ATTENUATION OVER THE SENT MODULATING SIGNAL. THREE SWITCHES SEND THE LFO TO DIFFERENT DESTINATIONS, THAT IS FREQUENCY OF VCO (FM SYNTHESIS), CUT-OFF OF THE FILTER SLOPE AND THE VCA (LOUDNESS). MODULATOR CAN BE SENT TO ANY EURORACK TYPE SYSTEMS VIA REAR PANEL.

LFO sends square or triangle waveforms



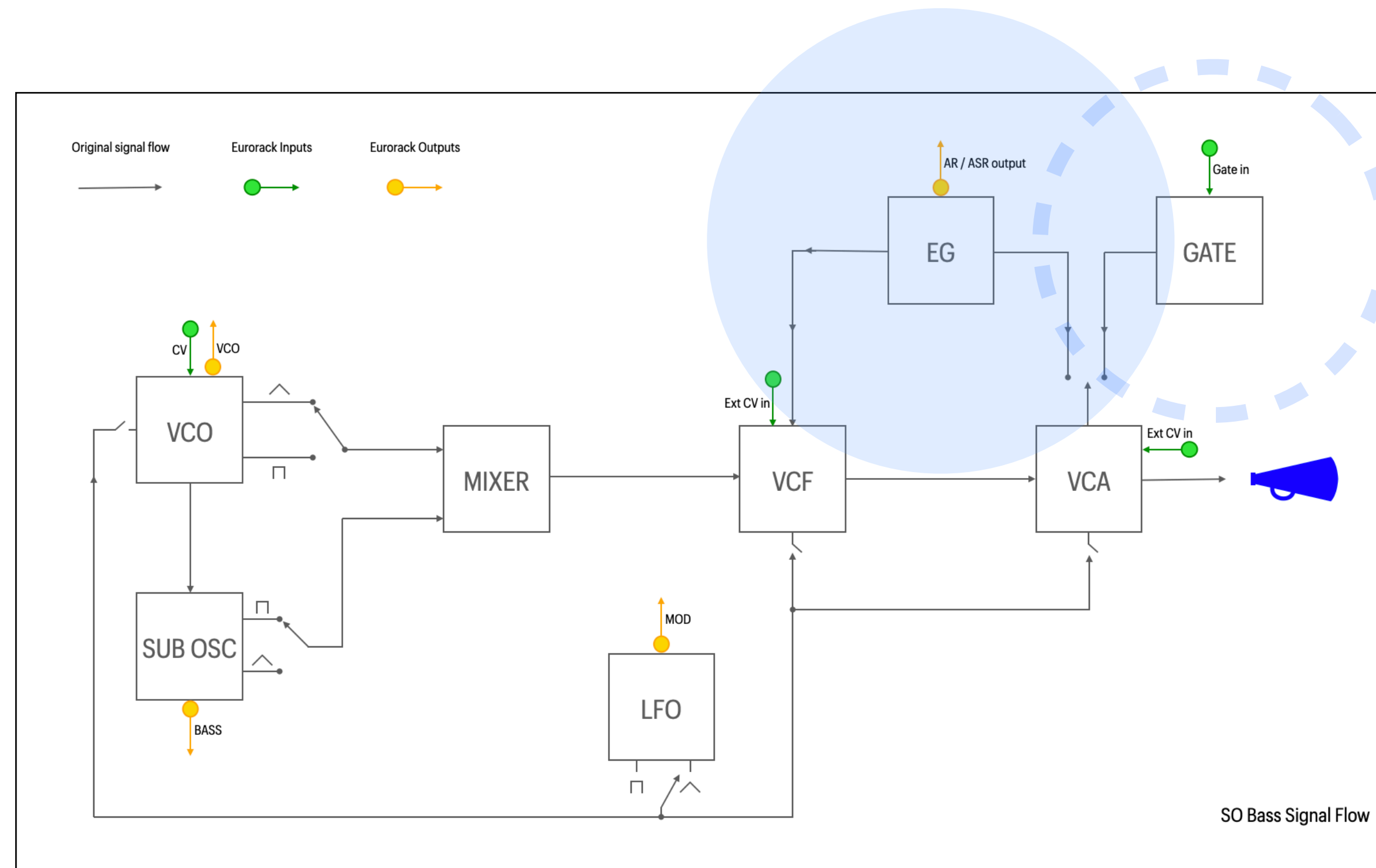
MOD (LFO)
output

ENVELOPE



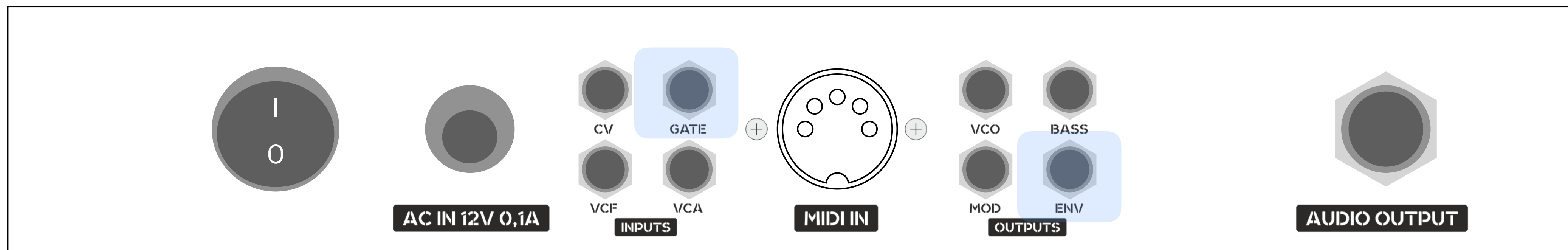
ENVELOPE GENERATOR GIVES CONTROLS OVER THE SLOPE FORMS IN ASR (ATTACK-SUSTAIN-RELEASE) AND AR (ATTACK-RELEASE) SHAPES. THE ENVELOPE CAN BE LOOPED (SET ON REPEAT).

EG section sent to VCF
(Filter) and VCA (loudness)



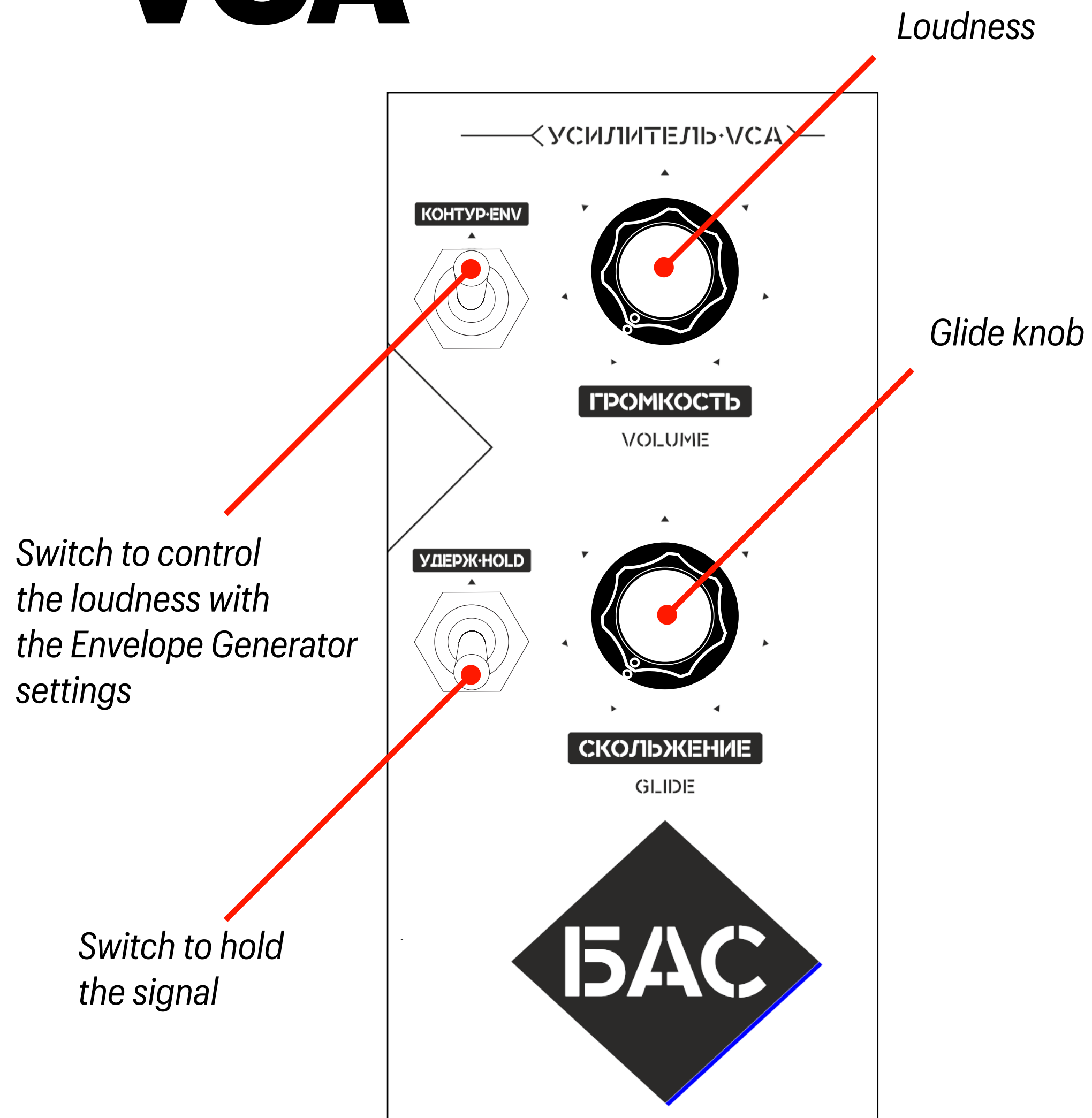
Gate input for external CV

GATE input



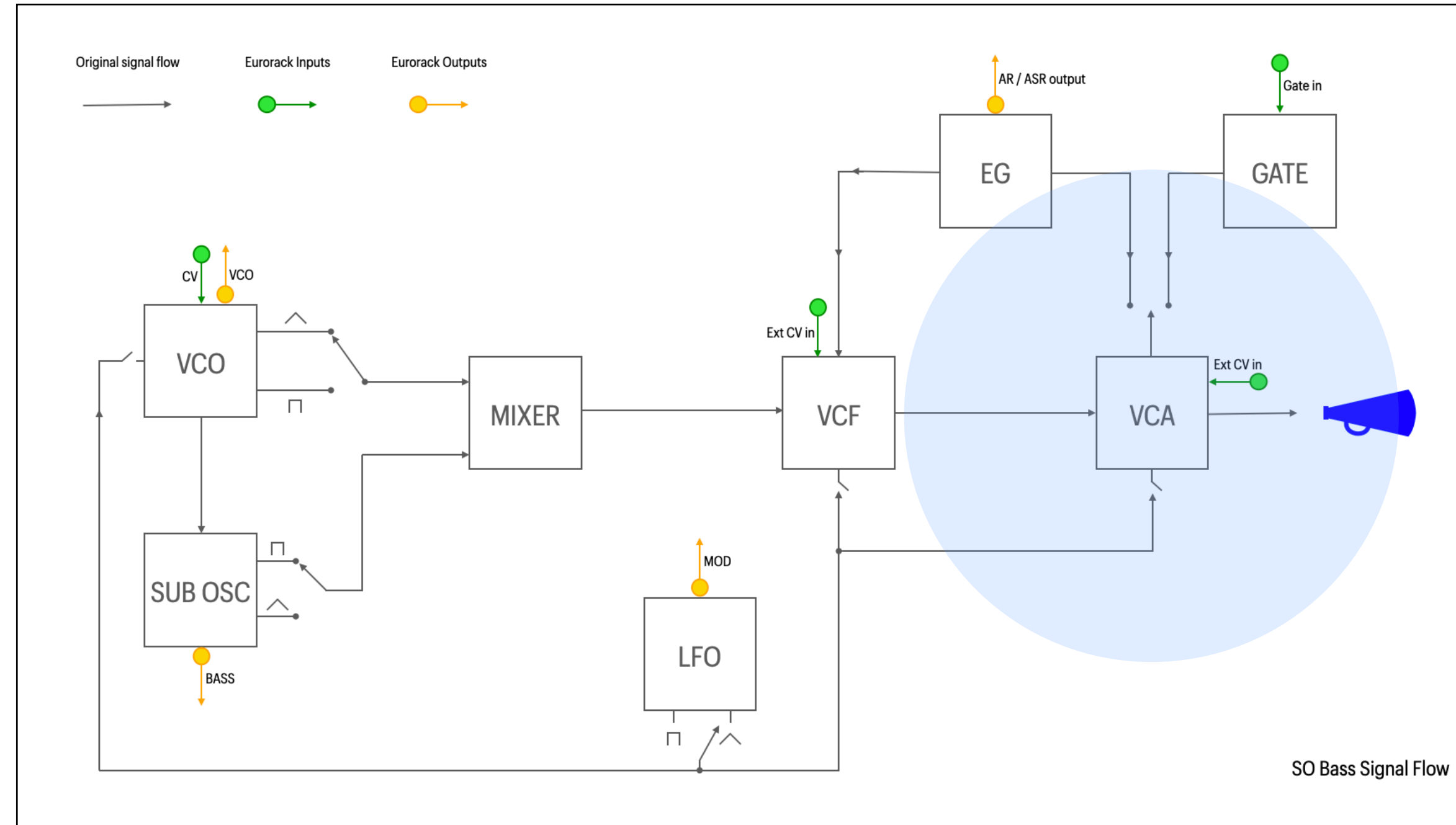
ENVELOPE
output

VCA

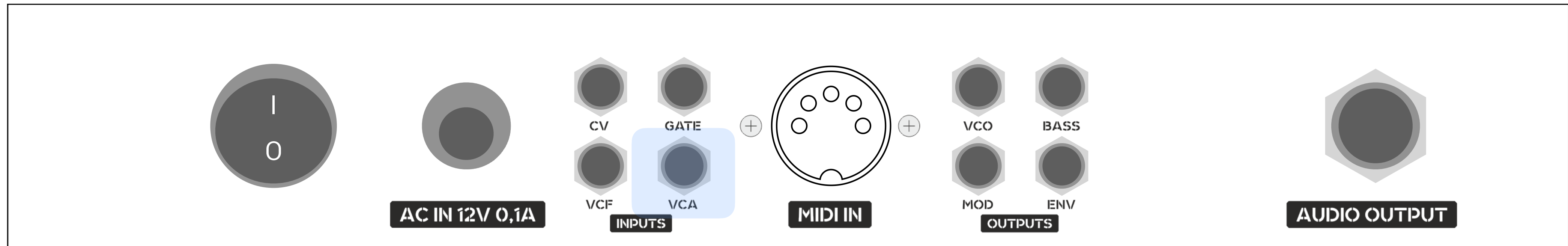


VCA, THE AMPLIFIER, CONTROLS THE LOUDNESS OF THE SYNTHESISED SIGNAL. THE LOUDNESS CAN BE MODULATED BY THE ENVELOPE GENERATOR AND THE MODULATOR (LFO). GLIDE CAN BE ADDED HERE. VCA CV INPUT ON THE REAR PANEL LETS THE LOUDNESS TO BE CONTROLLED BY THE EXTERNAL EURORACK TYPE CV SIGNALS.

VCA (amplifier) section



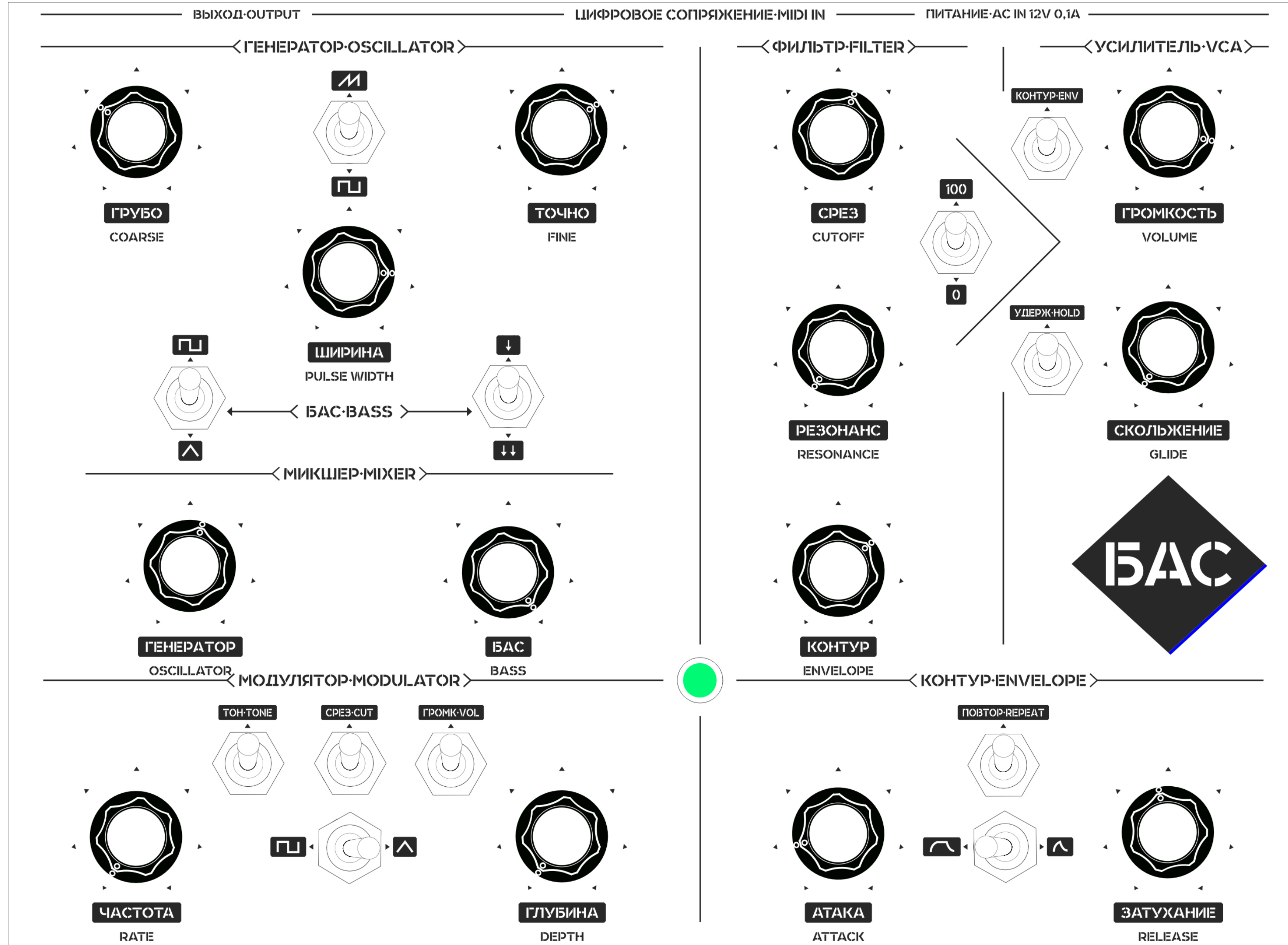
GATE input

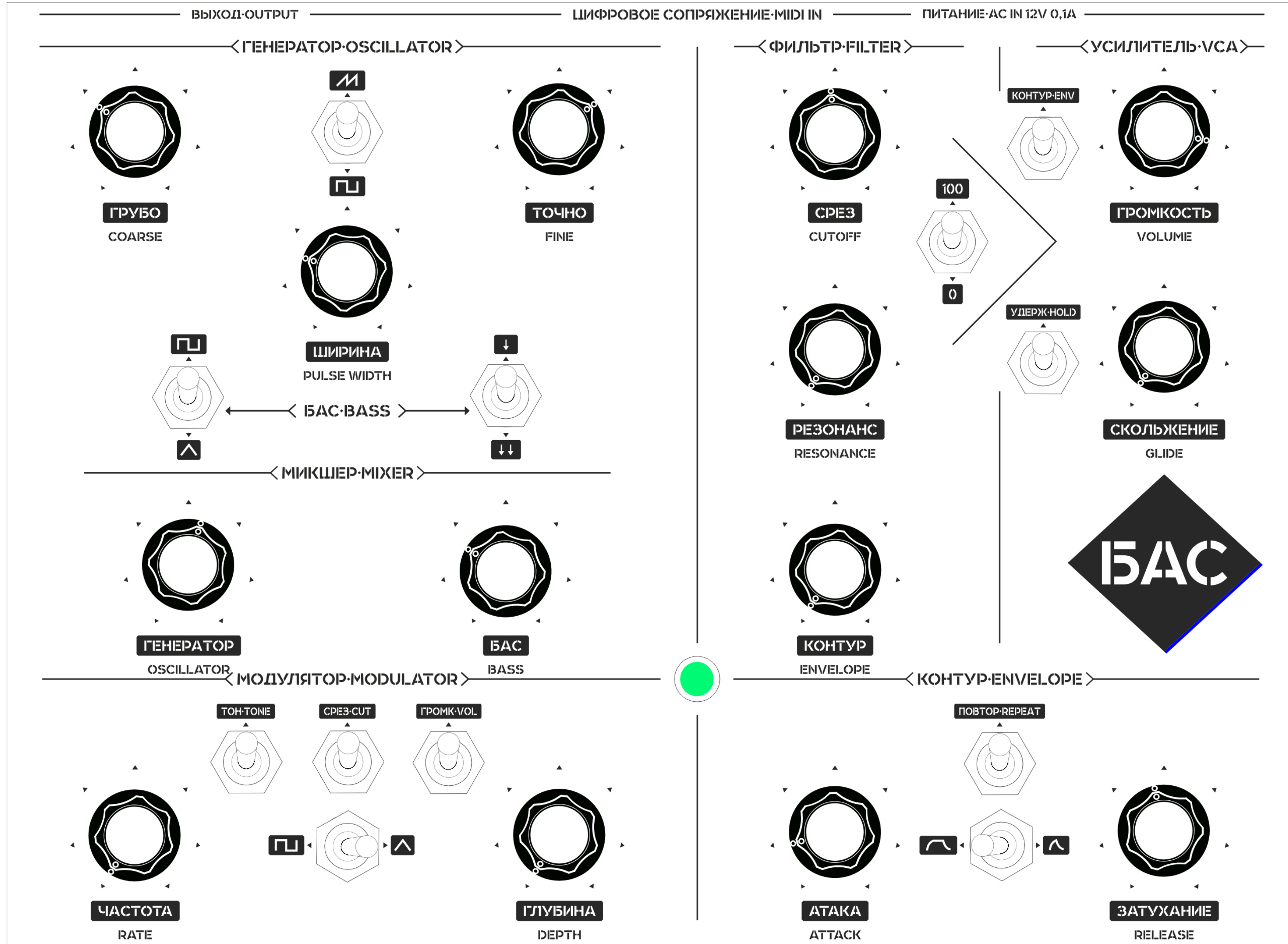


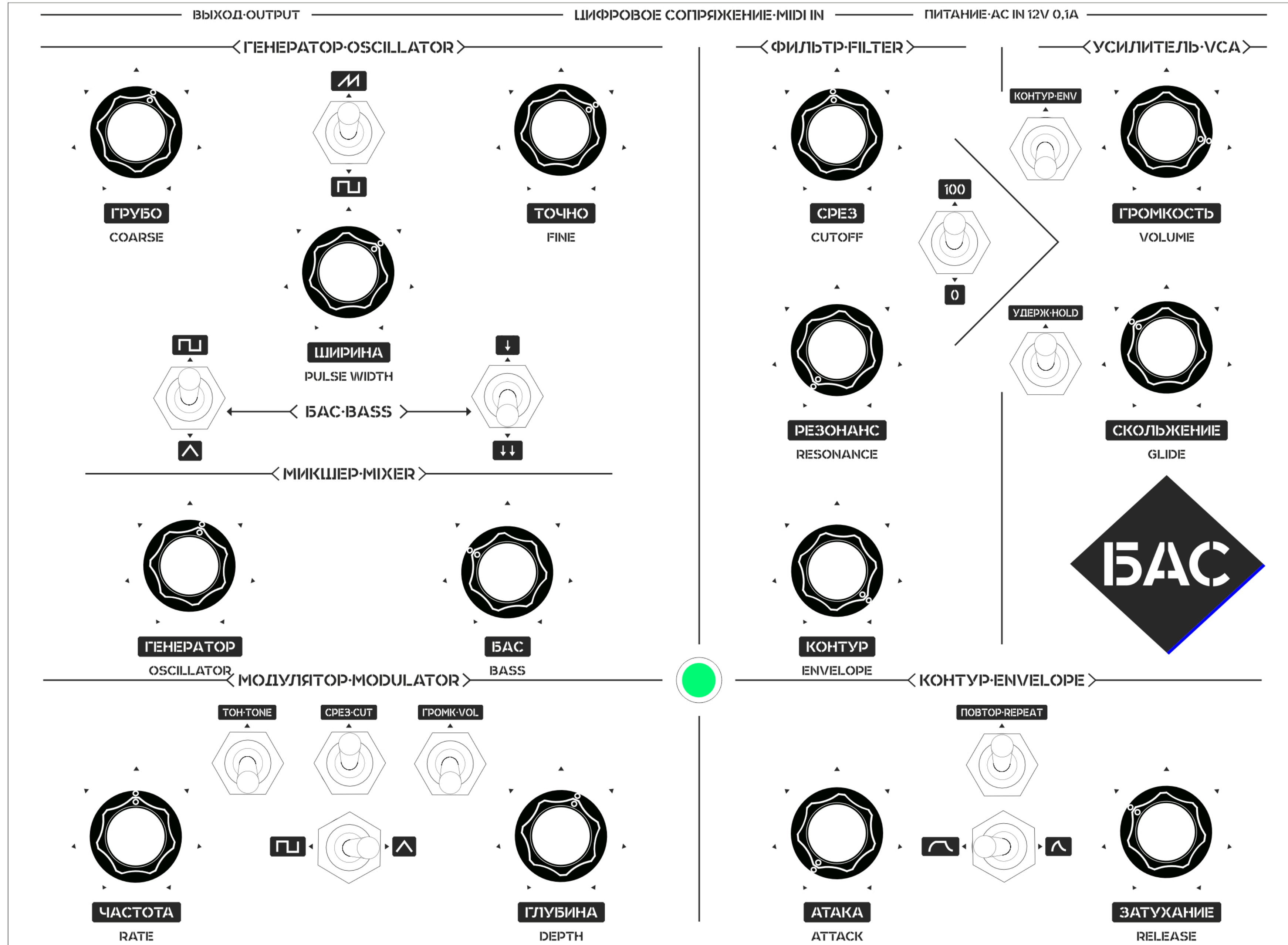
VCA
input

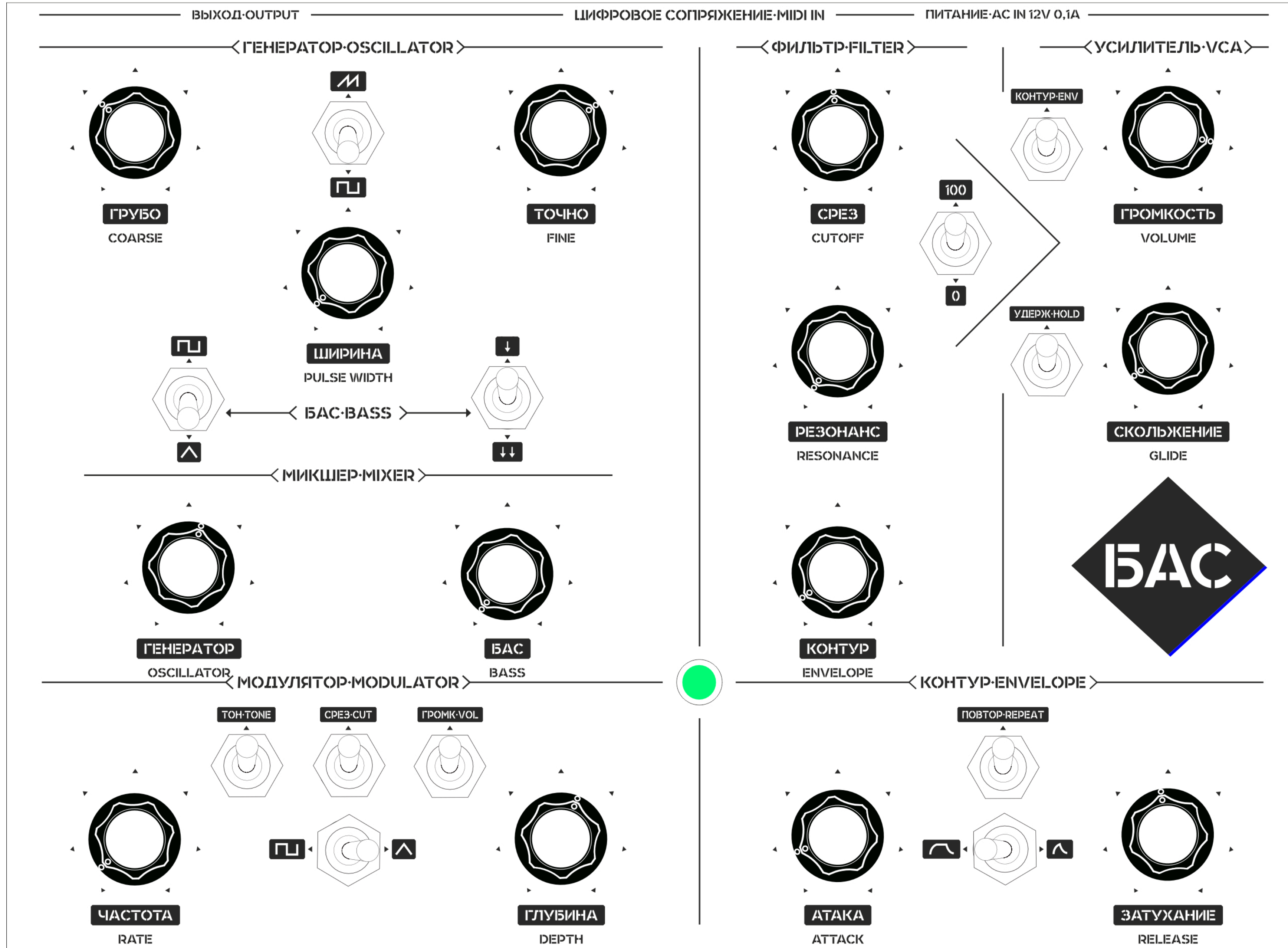
CREATING SOUNDS

SOUND OBJECT BASS IS A SIMPLE YET POWERFUL SOUND SYNTHESIS STATION TO GENERATE BASS ORIENTATED TIMBRES. HOWEVER YOU CAN ALSO GENERATE SOUNDSCAPES THAT YOU COULD CREATE ON ANY OTHER SYNTHESISER. YOU CAN USE EXTERNAL MIDI CONTROLLER TO SEND MELODIES TO THE SYNTH AND RECORD OR PERFORM IN REAL TIME. HERE ARE THE FEW EXAMPLES WE DISCOVERED.





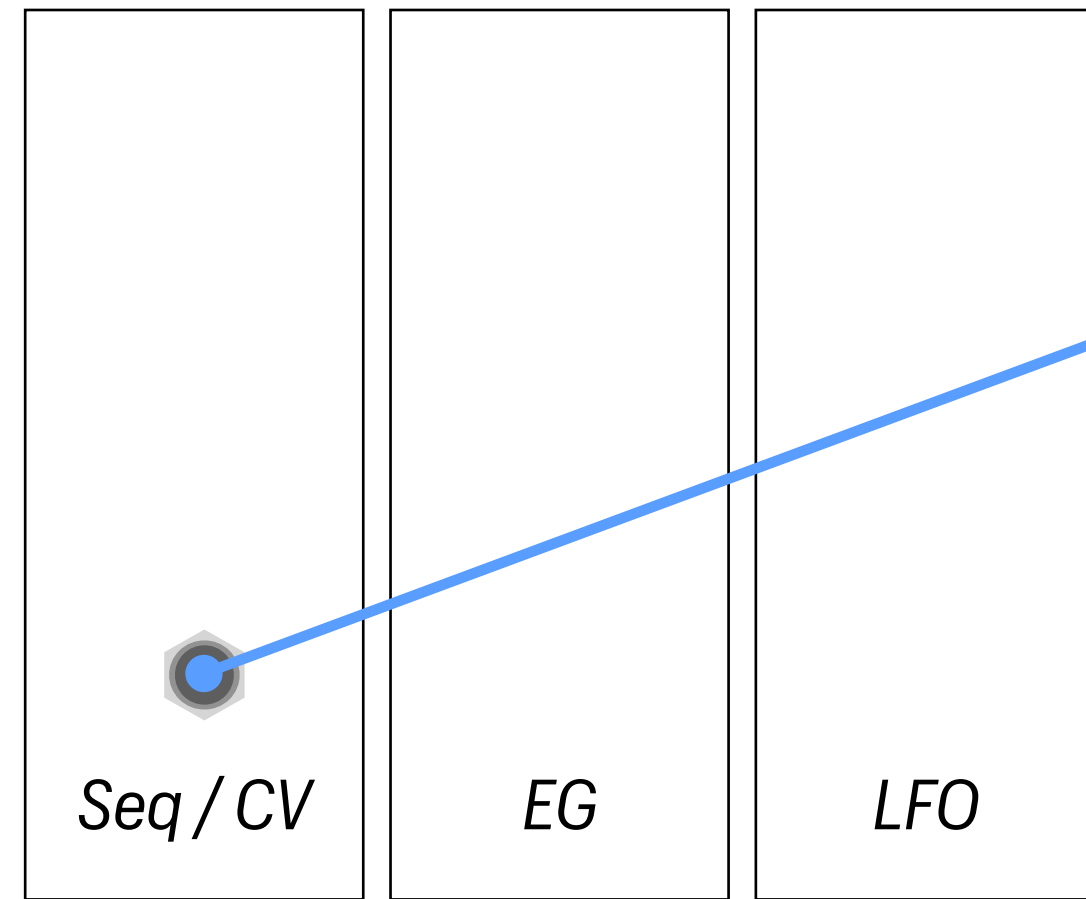




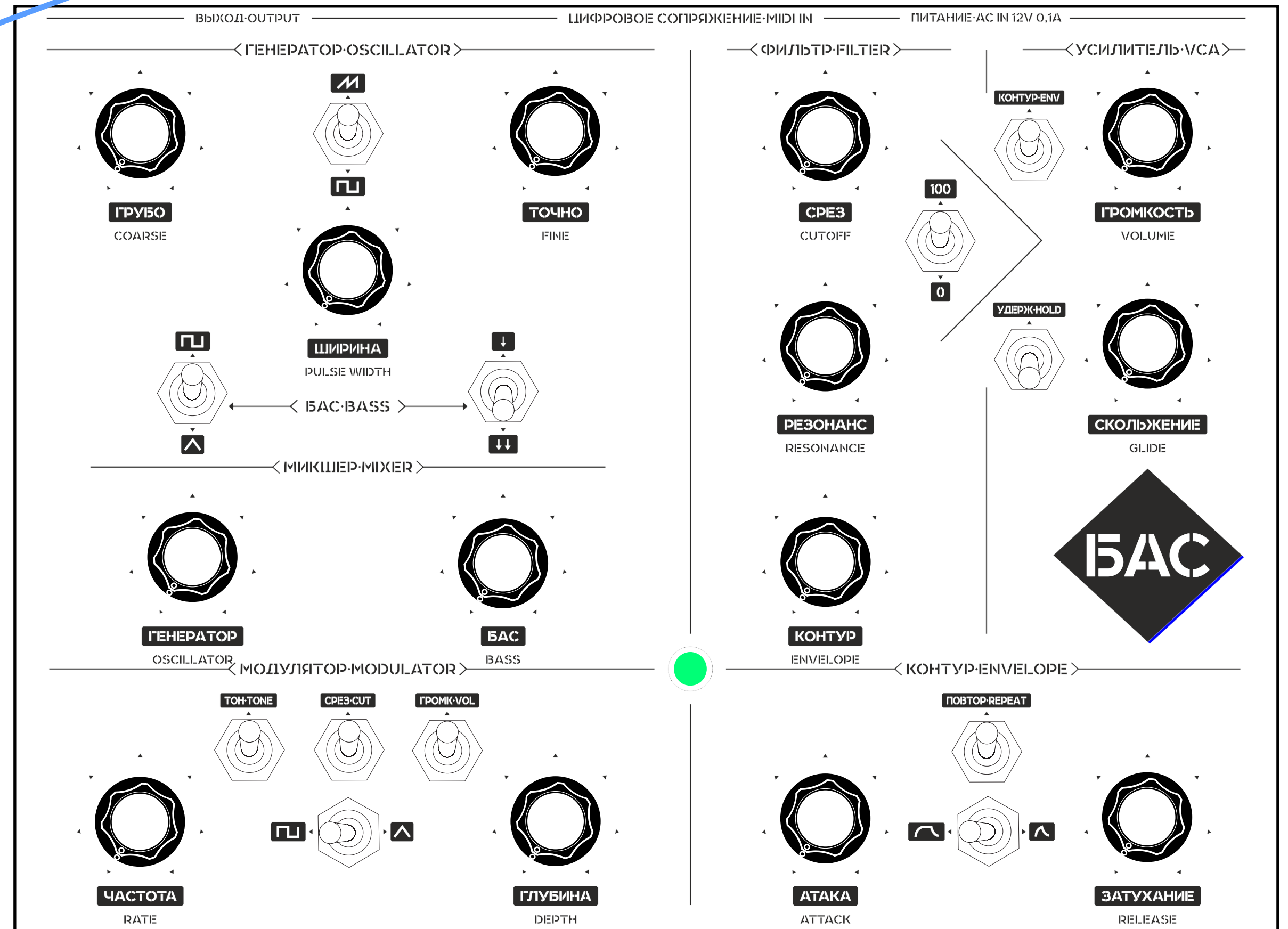
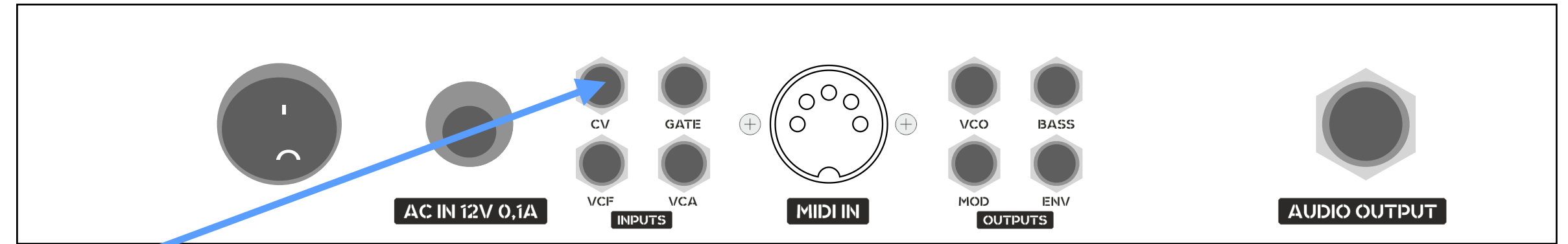
PATCHING WITH EURORACK

SOUND OBJECT BAS HAS INPUTS AND OUTPUTS ON THE REAR PANEL, THAT ALLOWS TO CREATE COMMUNICATION BETWEEN EURORACK TYPES OF SYSTEMS. HERE ARE THE FEW EXAMPLES THAT ARE ALSO SHOWN ON THE WEBSITE [SOUND-OBJECTS.COM](https://www.sound-objects.com), WHERE YOU CAN LISTEN THE SOUNDS WE CREATED AS AN EXAMPLE.

Simple Bass



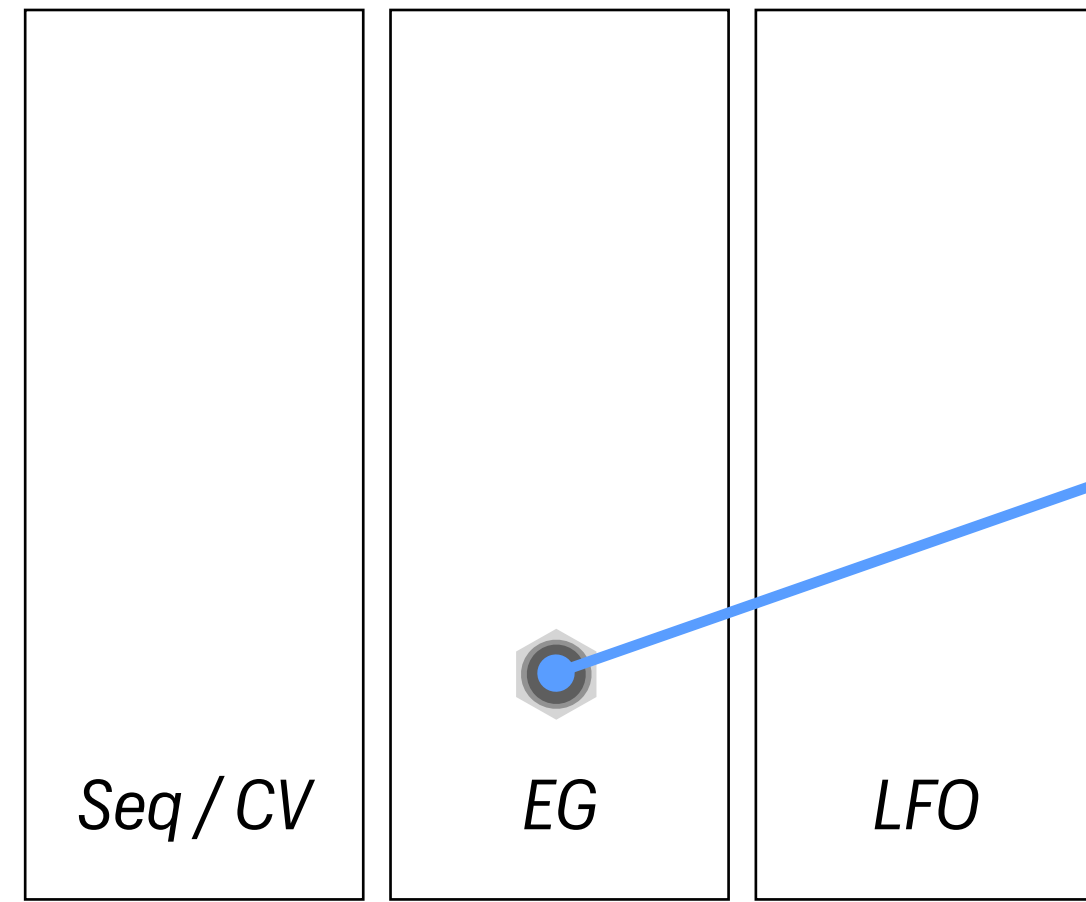
Eurorack modules



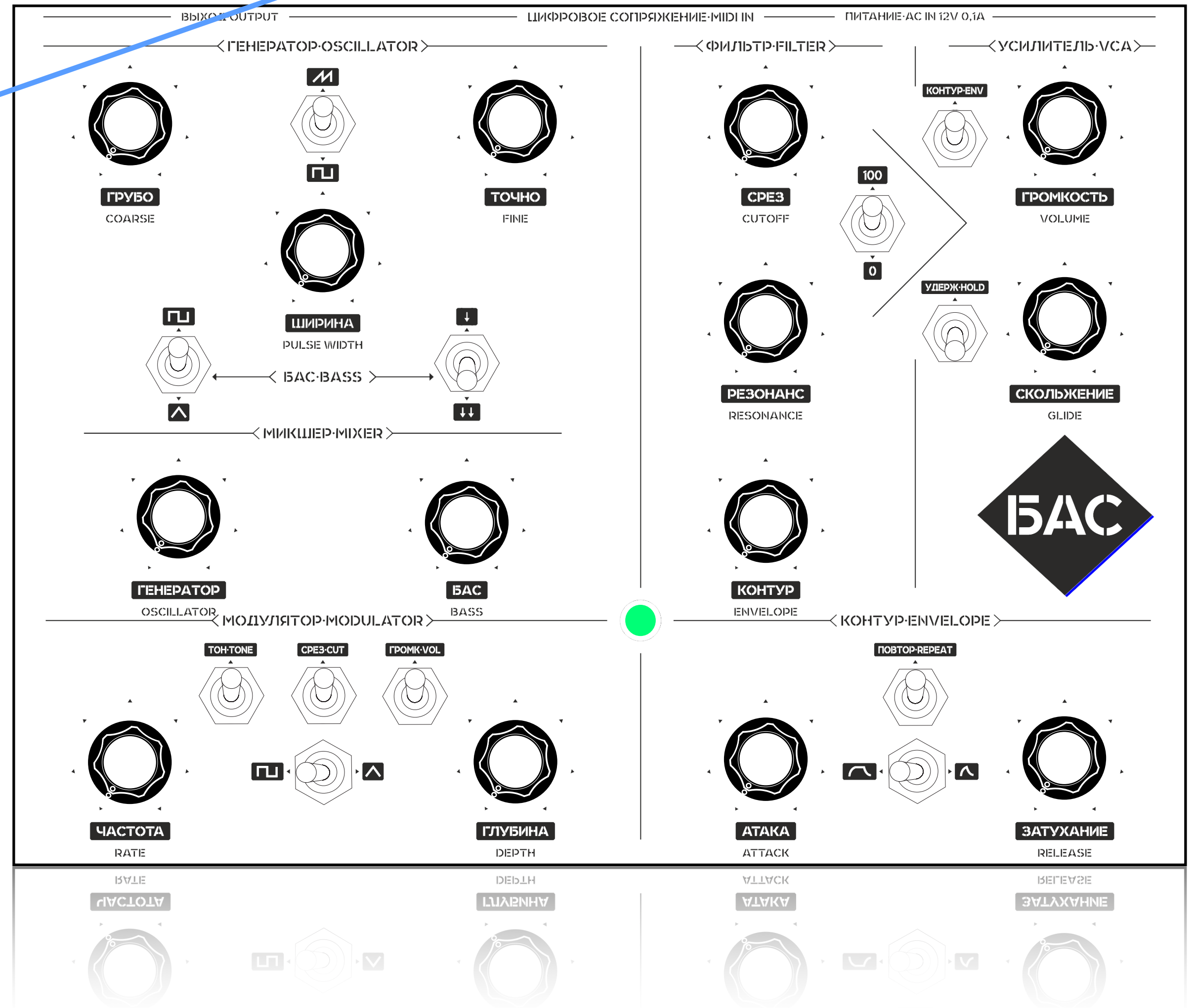
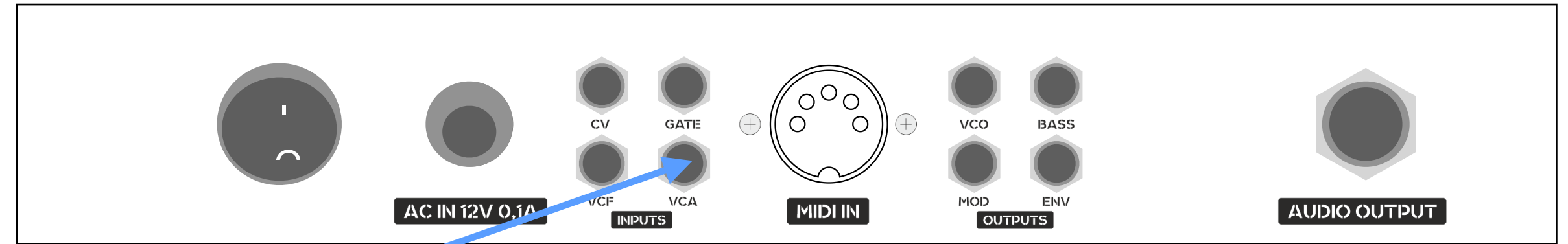
Notes

We are sending a sequence from the tracker to the CV input of the VCO 1. By adjusting the balance between the VCO and BASS on the MIXER section of the SO BASS, we create a balance between the major timbre and the SUB tone. By playing with different modulating blocks we manipulate the change of the baseline timbre in real time. Sequence is pre-programmed on the according module.

Funky One

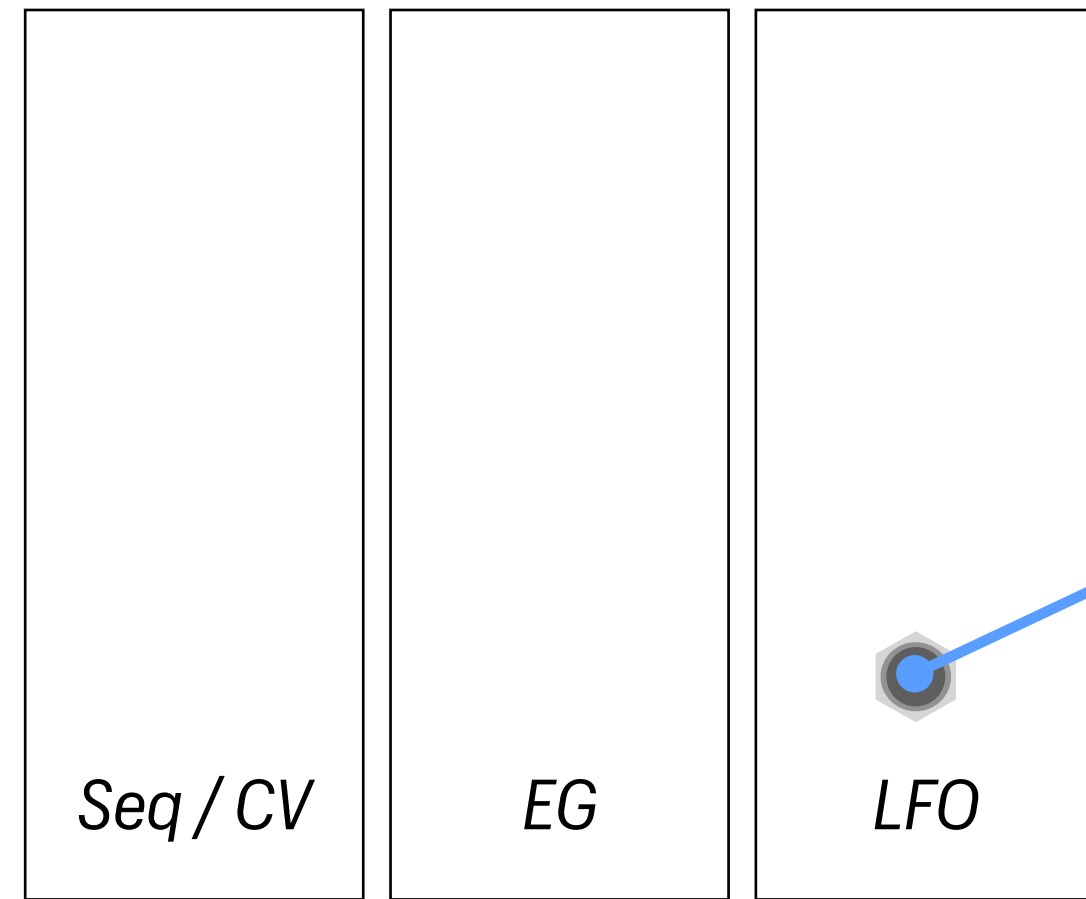


Eurorack modules

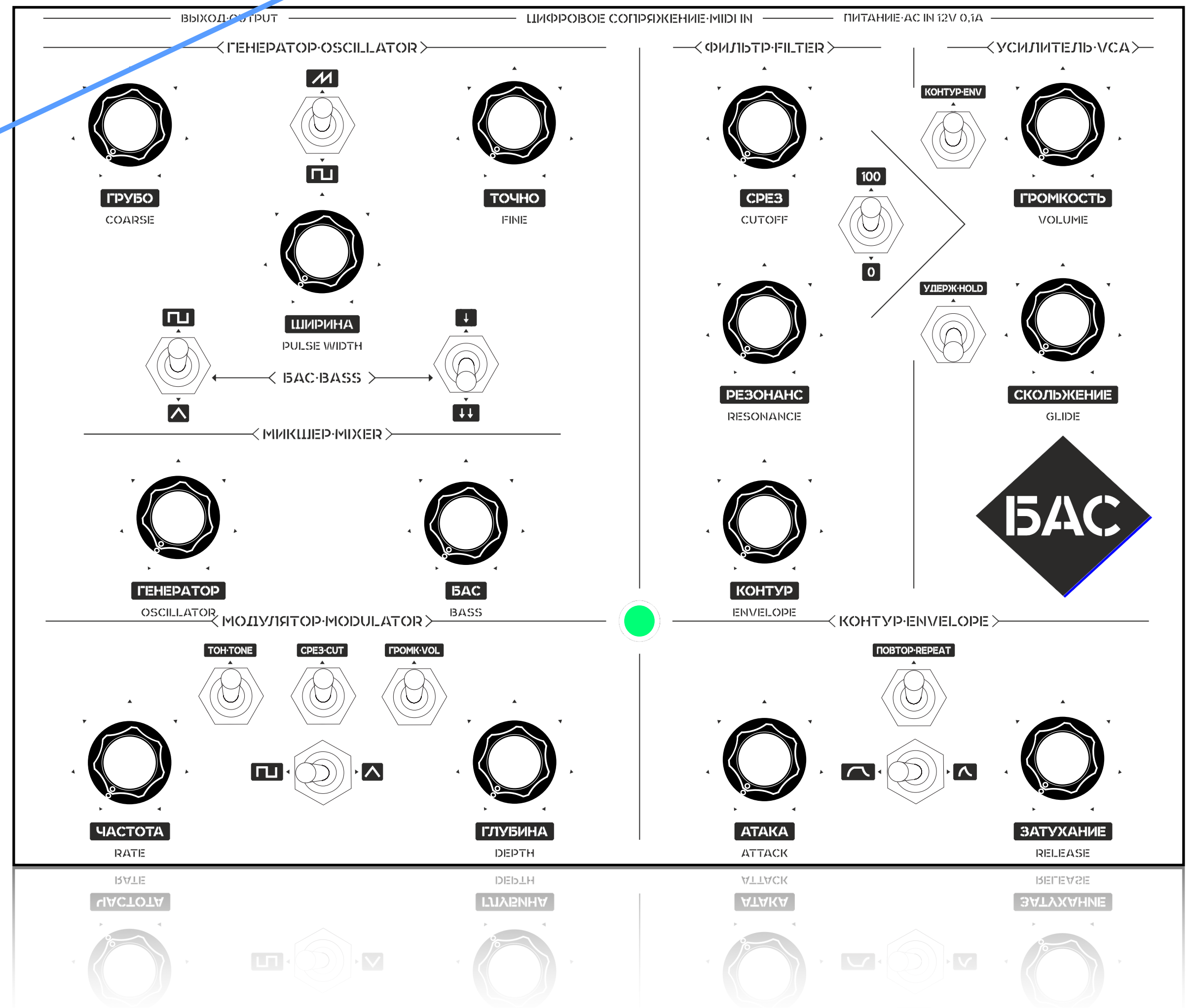
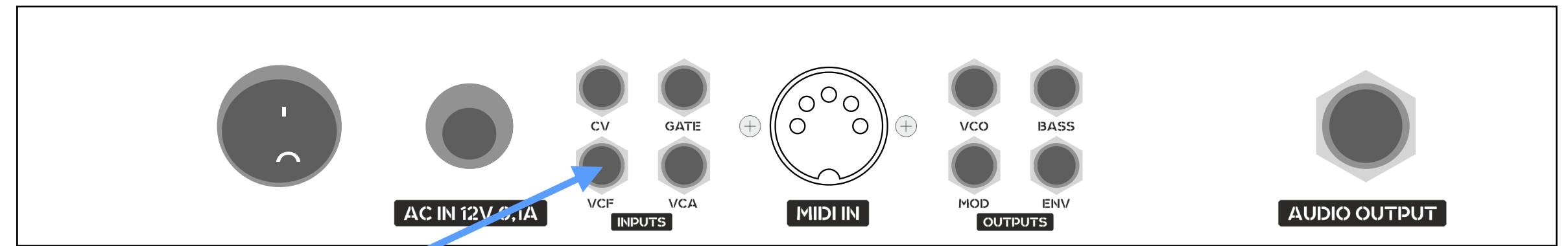


Notes

We are sending external EG (envelope generator) to control the loudness of the generated signal.



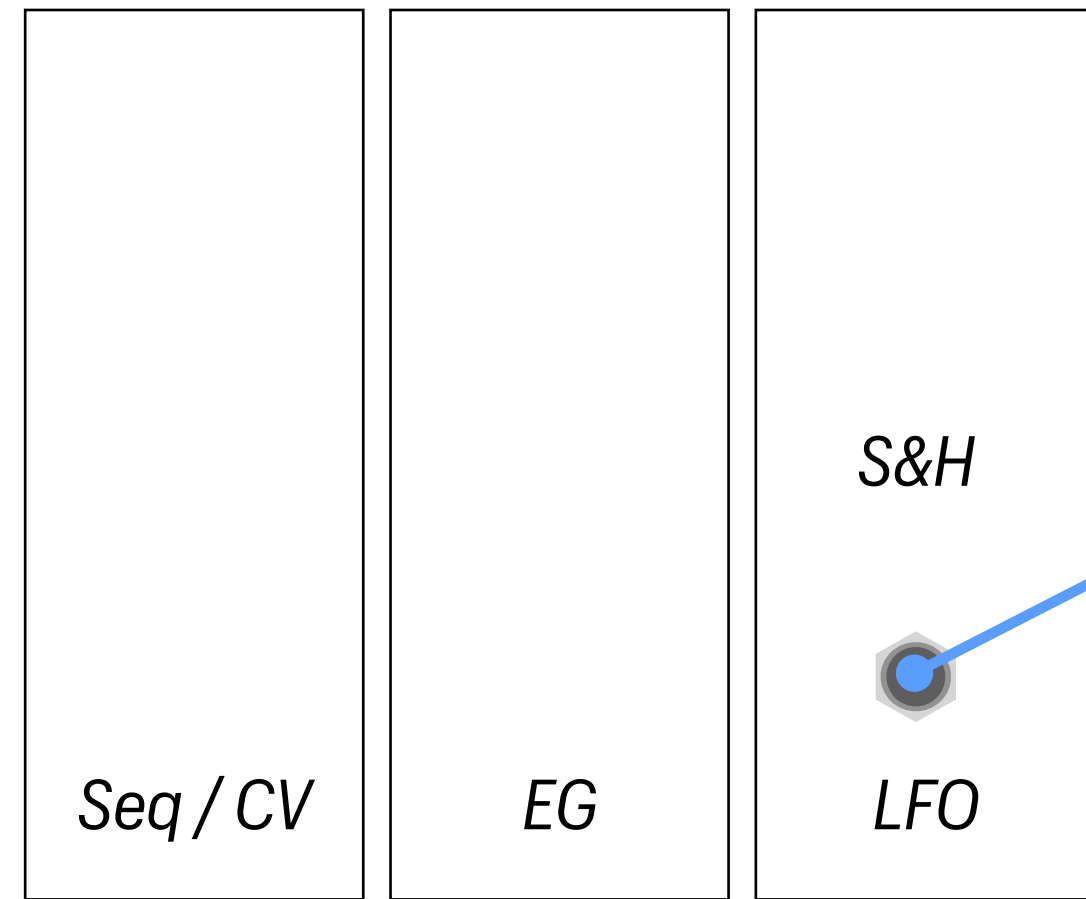
Eurorack modules



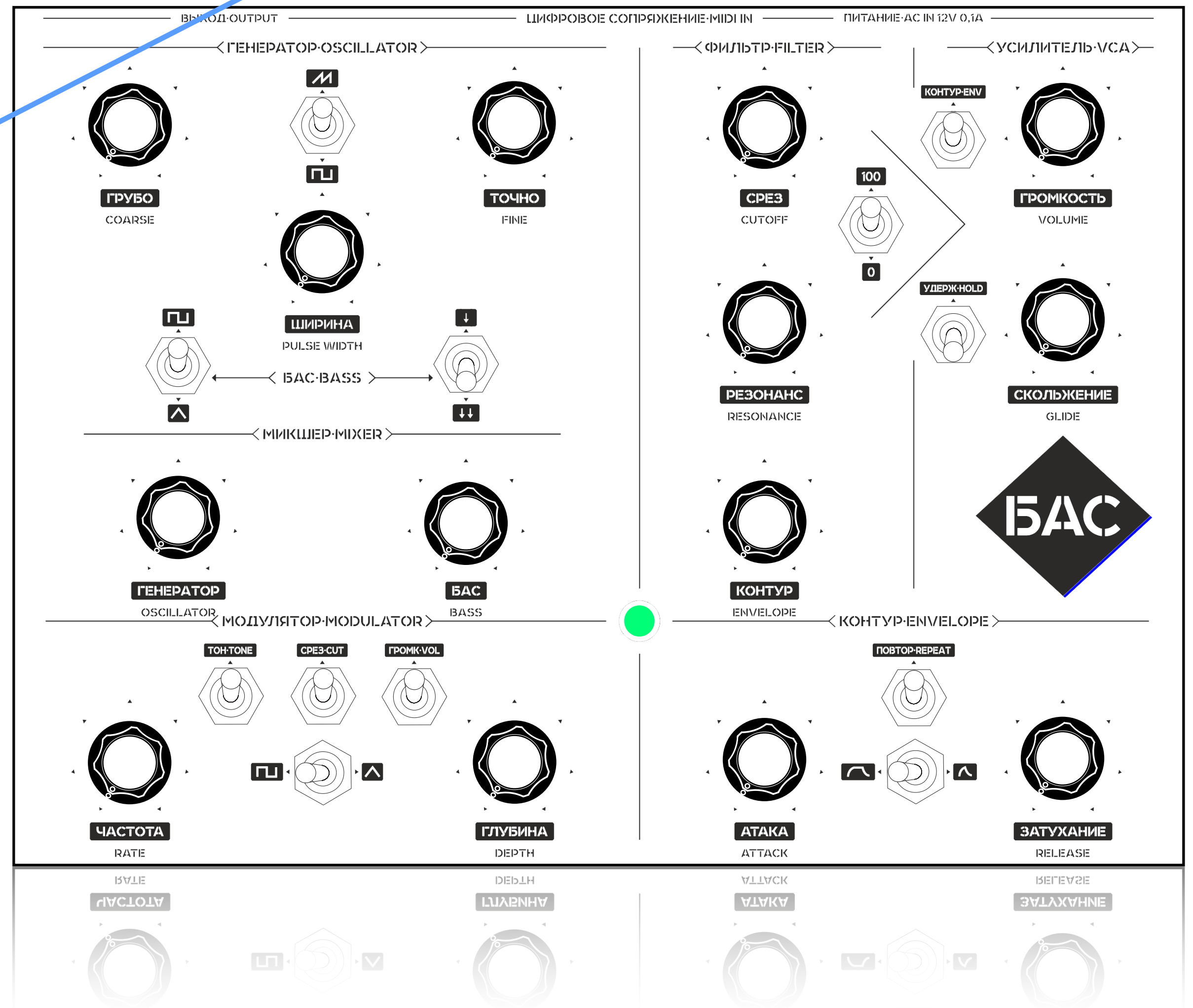
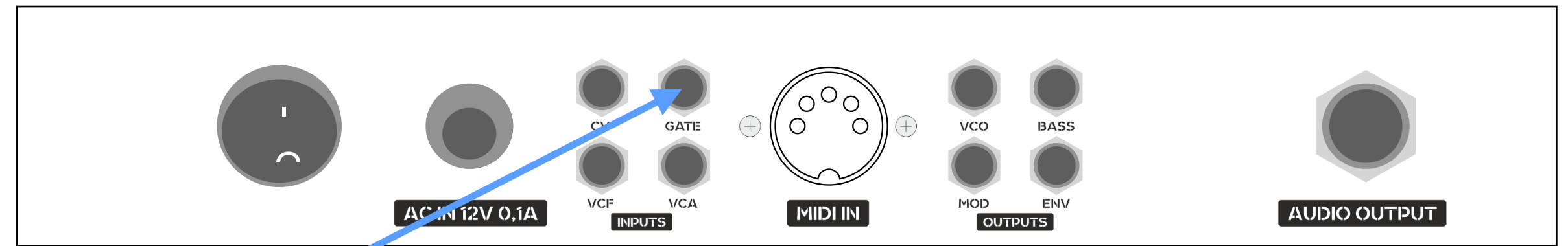
Notes

We are sending external LFO to modulate the Filter slope and that allows us to create different timbres.

Indie



Eurorack modules



Notes

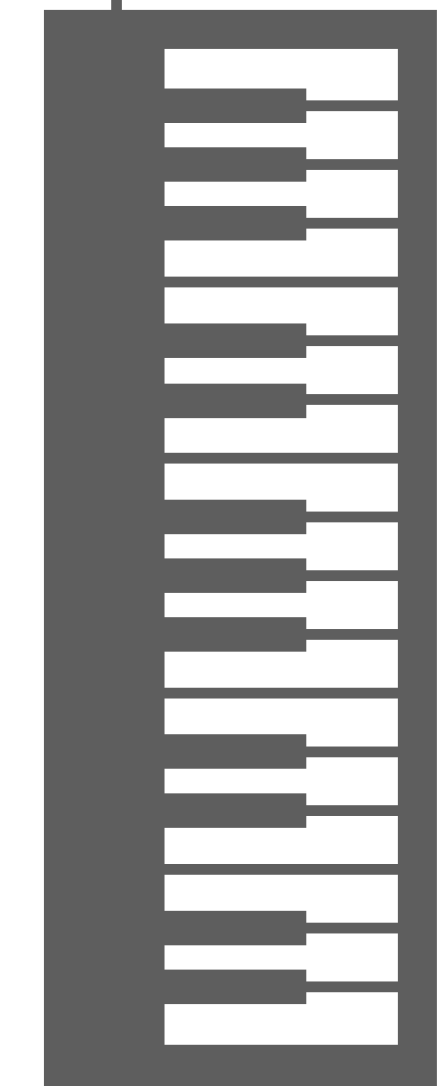
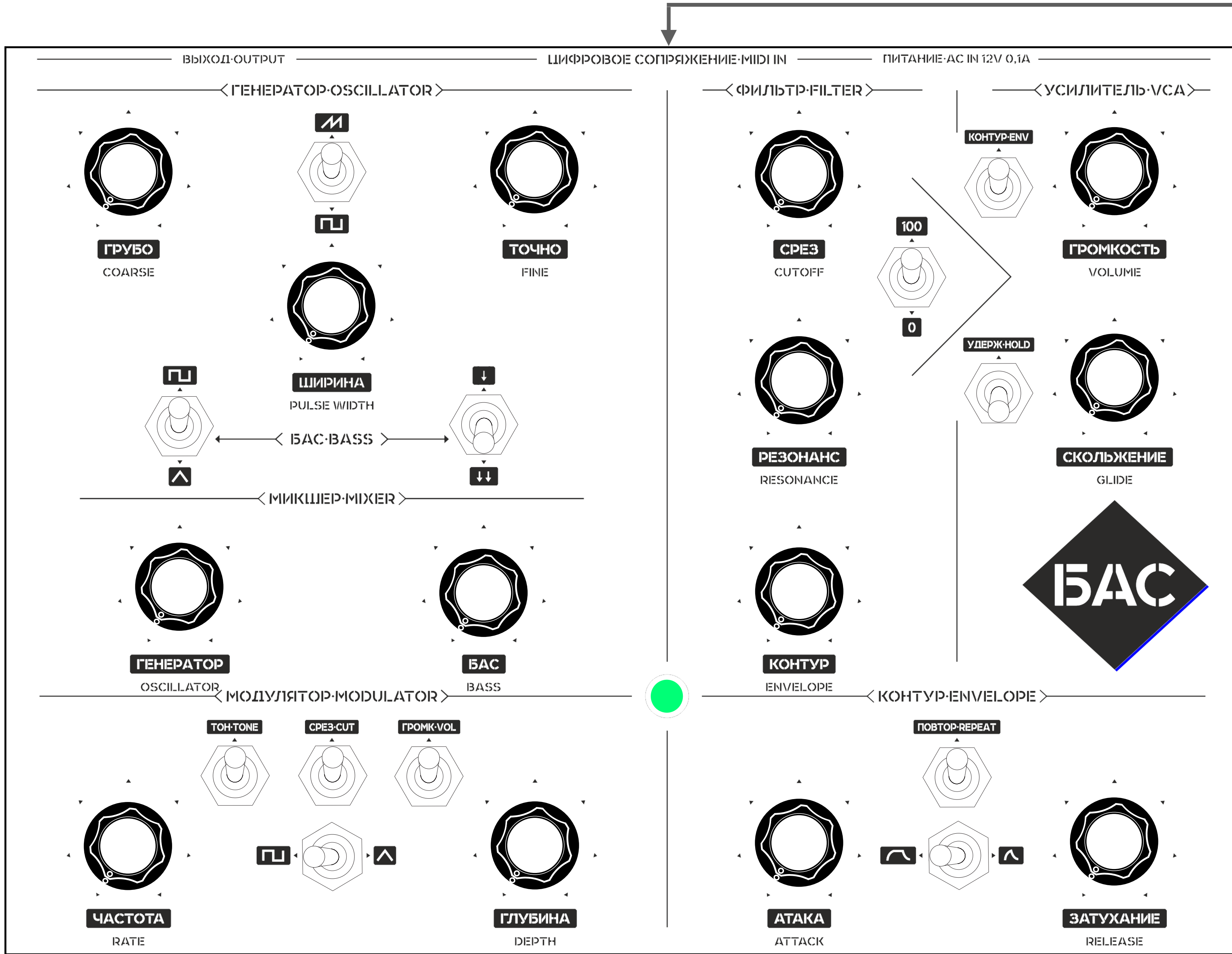
We are sending external modulator Sample and Hold to open the Gate of the synth.

MY SOUNDS

THESE TEMPLATES CAN HELP YOU TO RECREATE SUCCESSFUL SOUND TIMBRES YOU DISCOVERED, BUT FORGOT HOW THEY WERE MADE. JUST PRINT THE PAGE, MARK SETTINGS WITH A PENCIL AND NAME IT. SOUND OBJECT BASS IS A SIMPLE CONFIGURATION, WITH TIME YOU WILL KNOW THE INFLUENCE OF EACH BLOCK ON THE GENERATED WAVEFORMS BY HEART. UNTIL THEN - MAKE THE NOTES AND TRY TO REMEMBER SETTINGS OF YOUR FAVOURITE TIMBRES :)

Name

Notes



MIDI controller

БАС БАС БАС

АТАКА АТАКА АТАКА

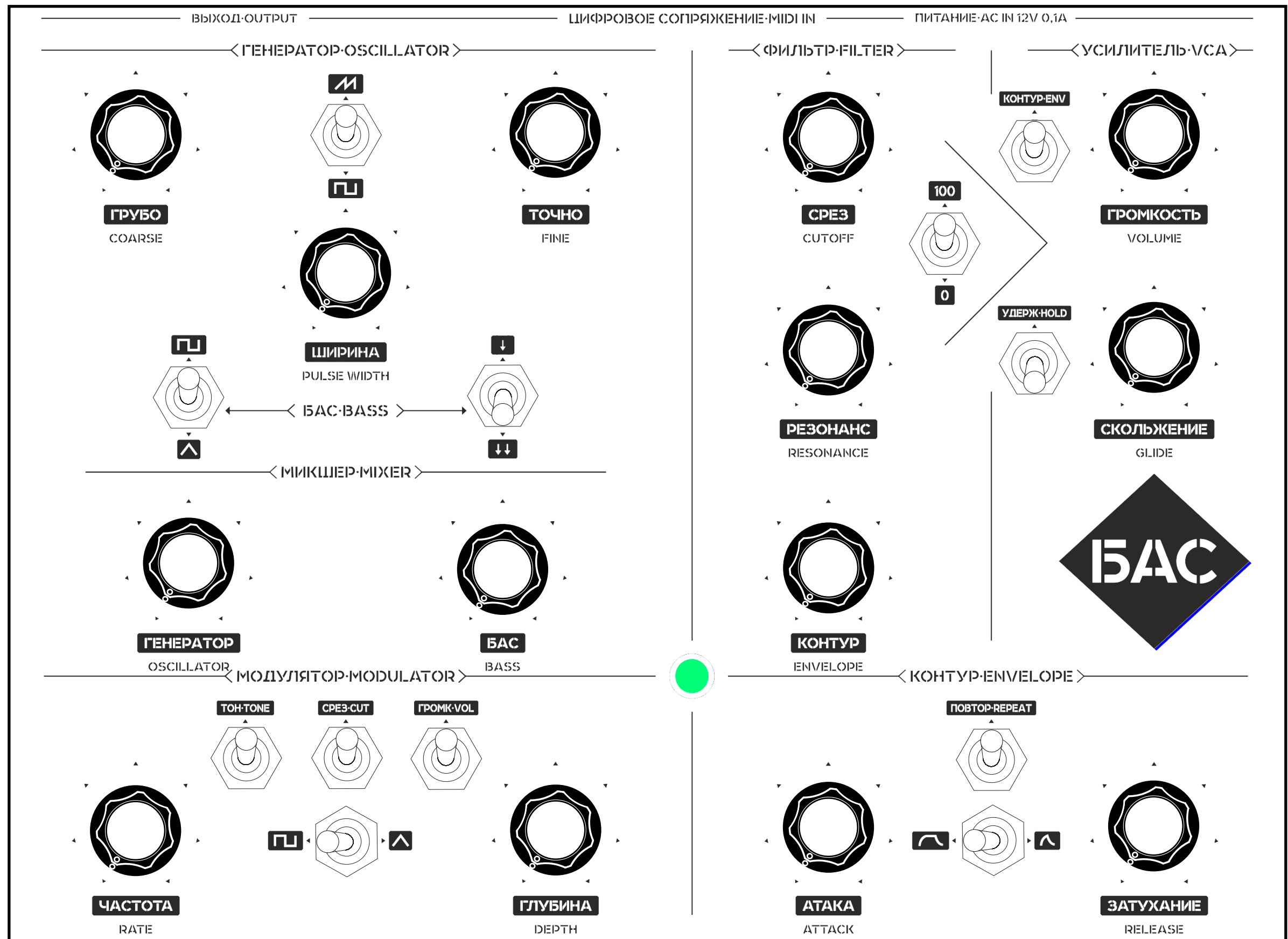
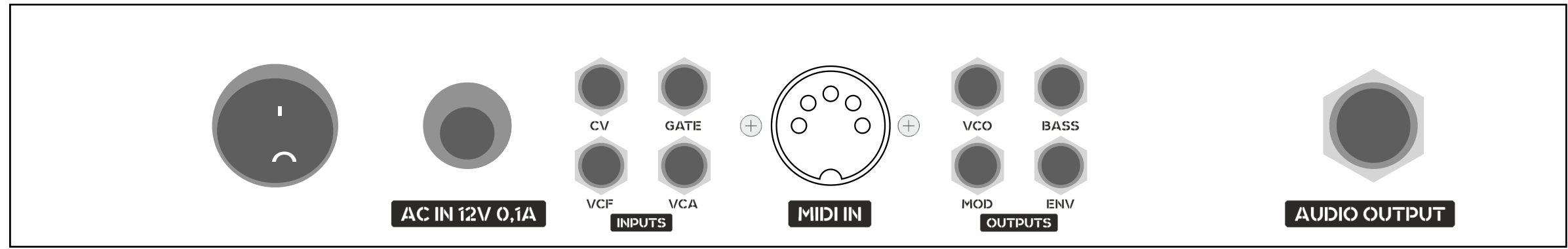
ЗАТУХАНИЕ ЗАТУХАНИЕ ЗАТУХАНИЕ

Name



Eurorack modules

Notes



SAFETY

SOUND OBJECT BASS: TECHNICAL DESCRIPTION AND SAFETY

SAFETY MEASURES:

USE ONLY ORIGINAL POWER SUPPLY (AC 12V 100 MA)

DO NOT SPILL WATER ON THE SYSTEM

KEEP AWAY FROM OPENED DIRECT SUNLIGHT AND FIRE

IN CASE OF ANY MECHANICAL DAMAGE, DO NOT OPEN THE UNIT. CONTACT FOR REPAIR.

PANEL: ALUMINIUM

BODY: ABS PLASTIC

DIMENSIONS: 225 X 170 X 60 MM

WEIGHT: 1.5 - 1.8 KG WITH POWER SUPPLY

CORRECT DISPOSAL: THIS PRODUCT SHOULD BE HANDED OVER TO AN AUTHORISED COLLECTING SITE FOR RECYCLING WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (EEE). IMPROPER HANDLING OF THIS TYPE OF WASTE COULD HAVVE A POSSIBLE NEGATIVE IMPACT ON THE ENVIRONMENT A D HUMAN HEALTH DUE TO POTENTIALLY HAZARDOUS SUBSTANCES THAT ARE GENERALLY ASSOCIATED WITH EEE. CONTACT YOUR LOCAL CITY OFFICE, WASTE AUTHORITY, OR YOUR HOUSEHOLD DISPOSAL SERVICE.

CONTACT

**FOR QUESTIONS, CONTACT:
INFO@MODULARMOON.COM**

