

OPERATION MANUAL



DECKARD'S VOICE

AN ENTRY LEVEL SEMI-MODULAR
SYNTH FOR EURORACK SYSTEMS
BY BLACK CORPORATION

FCC COMPLIANCE STATEMENT

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

EUROPEAN UNION REGULATION COMPLIANCE STATEMENT

This product complies with the Low Voltage Directive 2006/95/EC and the Electromagnetic Compatibility Directive 2004/108/EC. The product meets the requirements of RoHS 2 Directive 2011/65/EU.

This product must be disposed of properly according to local laws and regulations.

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

INTRODUCTION

Thank you for purchasing Deckard's Voice, an entry level semi-modular synth for eurorack systems. Sharing the same paradigm and circuit as its bigger brother, Deckard's Dream, Deckard's Voice is trimmed down for eurorack and supplemented with the flexibility available only in modular format.

We hope you enjoy years of creativity and inspiration with your new module!

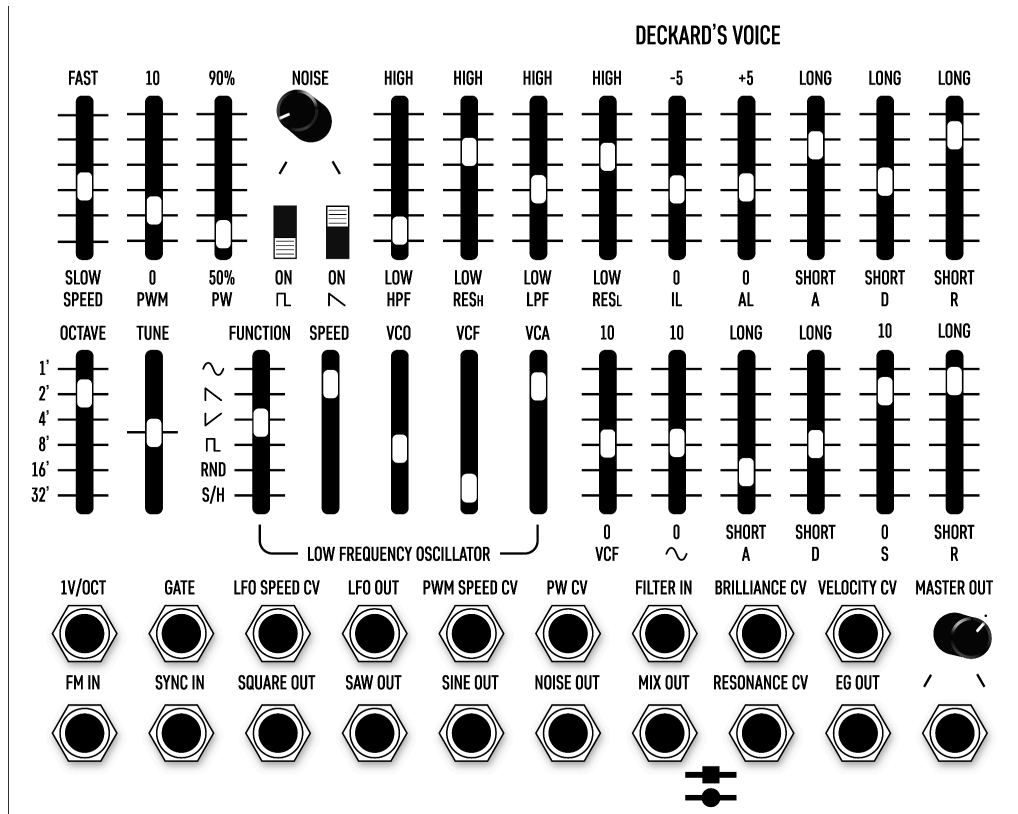
SPECS AND FEATURES

- 32HP size
- +12/-12V standard eurorack power
- 110 mA +12V
- 30 mA -12V
- 0 mA 5V (not used)
- 38 mm depth
- VCO with pulse, glitched saw, and sine outputs
- Dedicated Low Frequency Oscillator for Pulse Width Modulation
- Noise source
- External audio input to the filter
- Discrete hi-pass and lowpass filters with resonance and IL-AL-ADR envelope
- LFO with sine, saw, ramp, square, random and stepped sample & hold output
- output VCA with ADSR envelope and velocity control over volume
- ADSR (0-10V), LFO (-5V/+5V)
- Individual Square, Saw, Sine, Noise, and mix outputs
- Main output with volume control.

INSTALLATION

Remove module from packaging. Power down your modular system and disconnect the power cable. Attach included ribbon power cable to Deckard's Voice's power connector with red stripe aligned with indicator stripe labeled -12V on back panel of module. Connect other end to power distribution bus in modular system case. Reconnect and power on modular system. Do NOT connect your module while the power is on! Deckard's Voice is ready for operation.

PANEL LAYOUT



CONTROLS

- **PULSE WIDTH MODULATION LFO SPEED:** sets speed of PWM LFO.
- **PULSE WIDTH MODULATION LFO AMOUNT:** determines amount of pulse width modulation, from 0 to 10.
- **MANUAL PULSE WIDTH SETTING:** manually sets pulse width from 50% (square wave) to 90% (thin pulse wave).
- **NOISE LEVEL:** sets amount of noise generator signal mixed in.
- **SQUARE/PULSE WAVE ON/OFF:** determines whether square/pulse wave is turned on (switch down) or off (switch up).
- **SAW WAVE ON/OFF:** determines whether saw wave is turned on (switch down) or off (switch up).
- **HPF CUTOFF:** High pass filter cutoff. Set to Low, the filter is completely open. Set to High, the filter allows only the highest frequencies to pass.
- **HPF RESONANCE:** High pass filter resonance.
- **LPF CUTOFF:** Low pass filter cutoff. Set to High, the filter is completely open. Set to Low, the filter allows only the lowest frequencies to pass.
- **LPF RESONANCE:** Low pass filter resonance.

- **INITIAL LEVEL:** Sets start of filter envelope relative to cutoff frequency of filter. Filter cutoff is modulated starting with a frequency lower than HPF/LPF cutoff settings. As IL is increased (max -5), starting frequency will be lower.
- **ATTACK LEVEL:** Sets maximum level attained by filter envelope, the peak of the Attack phase. This can also be loosely regarded as the “envelope amount.”
- **ATTACK:** Filter envelope attack length. †
- **DECAY:** Filter envelope decay length.
- **RELEASE:** Filter envelope release length. †
- **OCTAVE SELECTOR:** Similar to organ stops. Two octaves below (32'), one octave below (16'), default range (8'), one octave above (4'), two octaves above (2'), and three octaves above (1').
- **TUNE:** Adjusts pitch up or down by one semitone. **NOTE:** on V1.0 and 1.1 versions of Deckard's Voice,
- **DETUNE:** Adjusts pitch up or down up to 1 octave.
- **SUB-OSCILLATOR (LFO) WAVEFORM SELECTOR:** Selects sine, saw, ramp, square, random, and stepped sample&hold.
- **SUB-OSCILLATOR (LFO) SPEED:** Controls LFO frequency: Move slider up for faster LFO modulation. †
- **SUB-OSCILLATOR (LFO) VCO:** Controls amount VCOs are modulated by the LFO (i.e. vibrato). Move slider up for increase modulation.
- **SUB-OSCILLATOR (LFO) VCF:** Controls amount VCFs are modulated by the global LFO (a kind of tremolo). Move slider up to increase modulation.
- **SUB-OSCILLATOR (LFO) VCA:** Controls amount VCAs are modulated by the global LFO (i.e. tremolo). Move slider up to increase modulation.
- **VCF:** Controls amount of filter output sent to VCA.
- **SINE WAVE LEVEL:** Controls volume of Sine wave sent to VCA.
- **A (ATTACK):** VCA attack time. †
- **D (DECAY):** VCA decay time.
- **S (SUSTAIN):** VCA sustain level. †
- **R (RELEASE):** VCA release time. †
- **MASTER OUT:** Controls overall volume of Deckard's Voice.

† = These time settings for Attack and Sustain/Release may be adjusted by setting switches on the back of the module as shown on the table below:

Switch 1	Switch 2	LFO (HZ)	A (sec)	S/R (sec)
Off	Off	.05-50	.001-100	.001-100

Switch 1	Switch 2	LFO (HZ)	A (sec)	S/R (sec)
On	Off	.1-50	.001-10	.001-15
Off	On	.05-30	.001-50	.001-50
On	On	.1-50	.001-50	.001-50

INPUTS/OUTPUTS

1V/OCT: Controls the pitch of the VCO, typically sent from a 1V/OCT keyboard, sequencer or LFO. (10v max)

GATE: Responds to gate inputs. At maximum gate, the envelope progresses through its Attack and Decay stages and stays at Sustain level. When gate is released (low), the envelope resumes through its release stage. (0-10v)

LFO SPEED CV: Controls the rate of LFO. (0-10v)

LFO OUT: Sends Deckard's Voices LFO out to be used externally. (-5/+5v)

PWM SPEED CV: Modulates pulse width modulation speed. (0-10v)

PWM CV: Modulates pulse width modulation amount. (0-10v)

FILTER IN: Receives audio signal to pass through Deckard's Voice's envelopes and filters.

BRILLIANCE CV: Controls VCF cutoff of all filters simultaneously (HPF and LPF). (0-10v)

VELOCITY CV: Controls VCA amount to add dynamics while performing. (0-10v)

FM IN: Receives an external signal to modulate frequency of VCO.

SYNC IN: Hard sync input of oscillator.

SQUARE OUT: Output of Deckard's Voice's raw, unfiltered square wave.

SAW OUT: Output of Deckard's Voice's raw, unfiltered saw wave.

SINE OUT: Output of Deckard's Voice's raw, unfiltered sine wave.

NOISE OUT: Output of Deckard's Voice's raw, unfiltered noise.

MIX OUT: Output of sum of Deckard's Voice's raw, unfiltered square, saw, sine wave and noise.

RESONANCE CV: Controls VCF resonance of all filters simultaneously (HPF and LPF). (0-10v)

EG OUT: Sends Deckard's Voice's envelope out to be used externally. (0-10v)

MASTER OUT: Monophonic audio out.

CALIBRATION

As every modular setup is unique, there will be occasions when Deckard's Voice requires calibration. There are two types of calibration, OSCILLATOR and SLIDER.

Before doing any of these procedures, power on the module for 20 minutes for it to warm up to regular usage temperature.

*To enter CALIBRATION mode, hold (Long Press) the CALIBRATION button on the back of the unit until the STATUS glows White.

VCO CALIBRATION

Before entering VCO calibration, make sure no signal is going into 1V/OCT, FM IN, or SYNC inputs, LFO sliders are all set to zero (bottom position), DETUNE is set to the center position and OCTAVE is set to 32'. To enter VCO calibration, first enter calibration mode*. Next, press (Short Press) the calibration button. The STATUS will turn Yellow. Short press again and the STATUS will turn Pink and calibrate the beginning of the lowest frequency. When finished STATUS will indicate Green for 2 seconds.

Next, connect a voltage source (keyboard controller is easiest) play C6 and turn the V/OCT trimmer until your tuner reads C6.

Now run the second calibration as follows: Disconnect the V/OCT, confirm no connections to FM IN and SYNC inputs, confirm LFO sliders are still all set to zero (bottom position), re-enter calibration mode*, DETUNE is set to the center position and OCTAVE is set to 32'. Then short press (to enter VCO calibration mode, Yellow STATUS), long press (hold) to run the final calibration, Red STATUS (this takes about 1 minute). Status will indicate Green for 2 seconds when it is done.

Finally, connect a 1V/OCT source (keyboard controller is easiest) and a tuner to the SINE output. Press or send C1 to Deckard's Voice. Adjust the SCALE trim on the back of the module so that the signal from it is in tune as C1. Next, Press or send C6 to Deckard's Voice and adjust the V/OCT trimmer also on the back of the module until it is in tune as C6. Check C1 again, if not in tune, repeat the process. Last, check some other octaves and adjust V/OCT and SCALE trimmers until you are satisfied with the tuning.

SLIDER CALIBRATION

SLIDER calibration is only necessary after a firmware update. To enter calibration mode, with the unit powered on, long press the calibration button on the back of the module. A white led will light to indicate it is in calibration mode. Long press again, the STATUS indicator will glow yellow. Move all sliders to the bottom position and press the CALIBRATION button. STATUS light will turn blue. Move all sliders to the top position and press CALIBRATION. The STATUS indicator will glow green for 2 seconds and turn off. The sliders have been calibrated.

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