

The Circuit Slices Preamp+ (model number CS044) is a dual-function module for Eurorack-compatible synthesizers. In this narrow module is a microphone preamp and an envelope follower with CV and gate outputs. Use this module to process acoustic sources or to control functions in a modular synthesizer using acoustic sound.

Features and Specifications for the CS044 Preamp+

All analog design using state of the art ICs and surface-mount construction

Microphone amplifier has a voltage gain of over 100 (+40dB)

Designed to use inexpensive Electret microphones

The Preamp output is “normal” patched to the envelope follower’s input

The preamp and follower can be used separately – patching to the follower IN disconnects the preamp

Gain control uses a panel-mounted 9mm potentiometer with a heavy-duty knob

Jumper selectable pull-up resistor to power Electret microphones

Dual-color LED indicates output signal level: above 2V peak (green) and above 5V peak (orange to red)

Green LED above the GATE jack indicates when the GATE output is high (5V)

Envelope follower tracks the input’s peak level from 0V to 5V and up to 10V

Envelope follower outputs a GATE signal (5V) used to trigger envelope generators or other devices

Gate threshold approximately 1.5V at follower’s input

Includes power cable and case screws

Reverse power protection

Power: +12 VDC @ 40 mA, -12 DC @ 9 mA, using a standard Eurorack 10-pin power connection

Connections: Standard 3.5mm jacks

Depth: 30 mm

Panel width: 4 HP

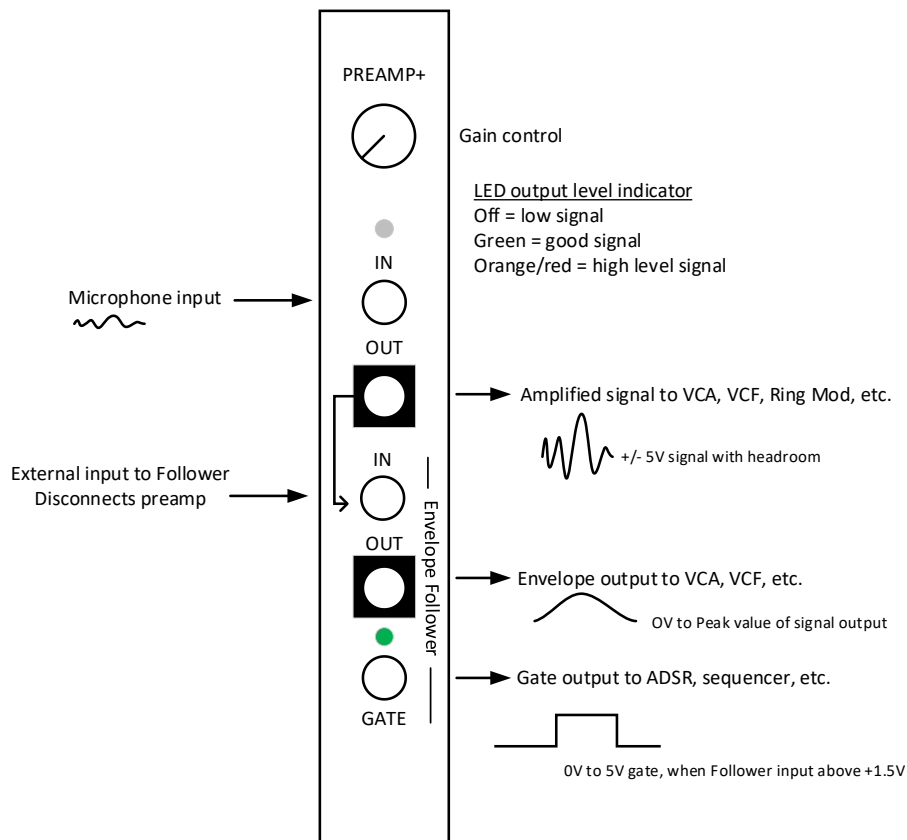
Installation

Simply route the ribbon-cable power connector to your power bus and mount the panel using the supplied screws. The red stripe on the ribbon cable must be toward the -12V pin on the power bus and the module. We supply a cable without a strain-relief on the 10-pin connector, to keep the module's overall width narrow.

Using the Preamp and Envelope Follower

The preamp is designed for use with an electret microphone; however, you may try using an electric guitar pickup or other low-level / high-impedance transducers as an input. Shorting jumper header, J11 on the PCB selects an electret microphone (marked "e-mic") or non-electret device (marked "d-mic"). The jumper is factory-set for use with electret microphones.

Now give it try. Starting with the gain control turned fully counterclockwise, plug a microphone into the preamp IN jack. While speaking into the mic, turn the preamp knob clockwise until the top, dual-color LED starts to light green, indicating a good signal level. Orange to bright red means you might be clipping the signal. Note that a loud sound will clip, even if the gain control is at a low setting. You should also see the green GATE LED turn on and then turn off when you stop speaking. Now, patch the preamp output to a synth module that is ultimately patched to your external audio system, to hear your amplified voice.





--- The intended use for this module is not as a substitution for a lead vocal sound system, but rather to use acoustic sources for control and as signal sources in a modular synthesizer rig. ---

With external acoustic-produced signals in the analog synthesizer world, you can modify the signal or use the signal to control other functions in your synthesizer.

The envelope follower output produces a positive DC control voltage that tracks the peak level of the follower input. This DC envelope can be patched to module CV inputs. This means you can use the amplitude of your voice, or other acoustic source, to control functions in a synthesizer patch. Use your voice to control a VCF and simultaneously, use the GATE signal to trigger an envelope generator. If you have a ring modulator, such as the Circuit Slices CS045, you can patch the preamp to the modulator to produce the classic, if not trite, robot-voice effect used in very old science fiction movies. Or try using the beat from an acoustic drum to step a sequencer or trigger an envelope generator.

The patch examples described are simple preamp configurations and only scratch the surface of the ways you might use this device. This module opens up the capabilities of any modular synthesizer system.

This module is limited-warranted for one year with parts, under normal use – not including the application of reverse or over-voltage power by customer. Return shipping to Circuit Slices from customer not included. Return to Circuit Slices, LLC for repairs. Circuit Slices, LLC reserves the right to replace the module if necessary. Please keep your receipt / packing slip for warranty information.

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