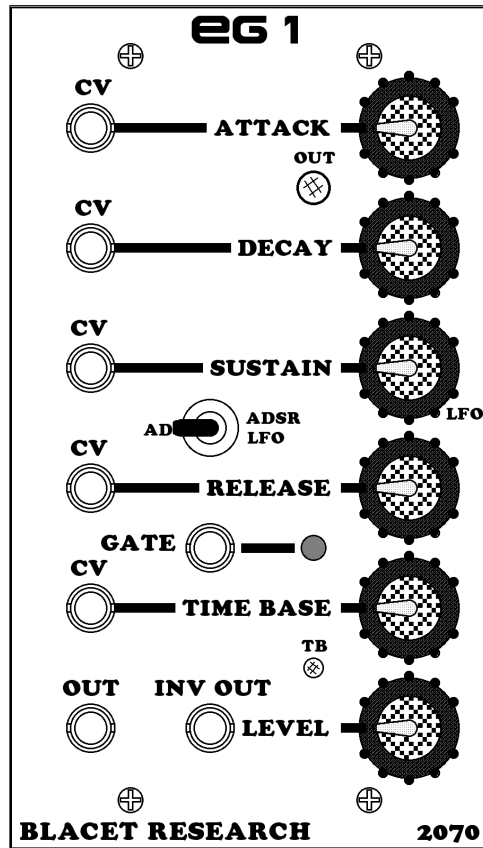


EG1

BLACET RESEARCH MODEL EG2070 Voltage Controlled Event Generator

Users Manual



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Introduction

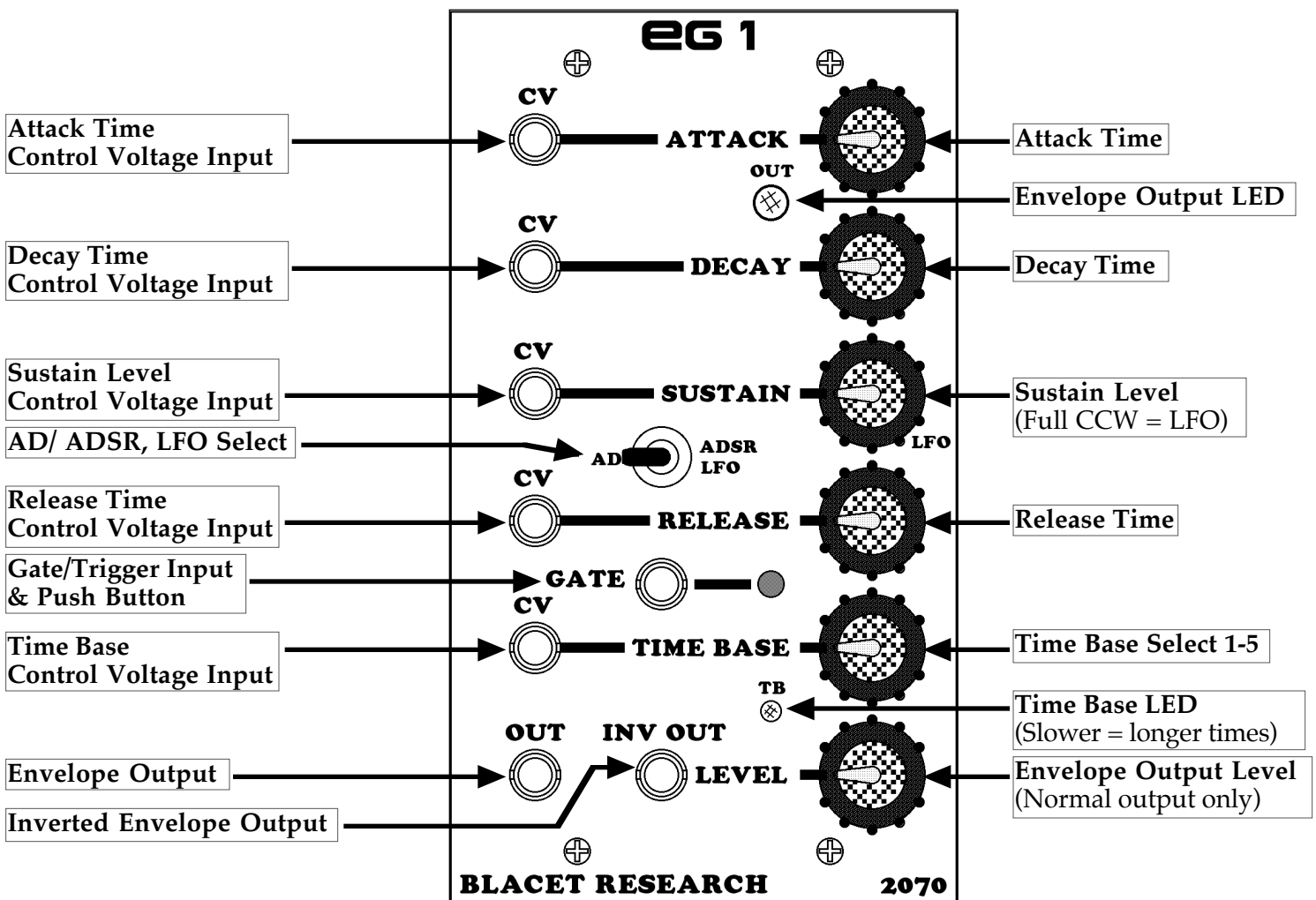
The EG1 is a high quality voltage controlled event generator which delivers classic AD, (Attack/Decay), ADSR (Attack, Decay, Sustain, Release), and LFO (Low Frequency Oscillator) waveforms. The LFO waveform has independent attack and decay times, allowing positive ramp, negative ramp and triangle waves.

ADR times can be controlled over a 2500:1 range in each of 5 voltage selectable time ranges (Time Base) for a combined range of greater than 24,000,000:1. Typical segment times range from a minimum of 600 μ S to 4 hours.

Sustain levels are adjustable from 150 mV to 10V. With minimum sustain, the unit outputs LFO waveforms. Maximum envelope levels can be adjusted via trimmer from 1V to 10V.

Gate inputs will generate ADSR or LFO waveforms while the AD mode can be triggered by a brief pulse.

A normal output with attenuator as well as a positive, inverted output is provided. LEDs show the normal envelope output level and the Time Base setting.



Controls and Operation

Attack Time Control Voltage Input, Attack Pot: The Attack time is the time required for the envelope to reach the maximum level (typ. 10V). Attack is the first segment of the envelope generated upon reception of a "Gate" or Trigger" (see **Gate Input**, below). Because the EG1 is normally used to control modules with exponential response, the segments are linear ramps. The exception to this is an option to make the Decay segment an exponential curve.

Decay Time Control Voltage Input, Decay Pot: The Decay time is the time required for the envelope to drop from the maximum level (typ. 10V) to the Sustain level. Decay is the second segment of the envelope generated. Decay is typically a linear segment, although trim pot 1 (RT1) can be used to dial in a varying amount of exponential curve. Some people like the way this response sounds and the Decay portion is usually the most audible.

Sustain Level Control Voltage Input, Sustain Pot: The Sustain level is the point at which the envelope is maintained as long as the Gate signal is high after the two initial segments, attack and decay, terminate. If the sustain level is set to minimum, the LFO mode will engage and the AD segments will auto repeat as long as the Gate input is high.

Release Time Control Voltage Input, Release Pot: The Release time is the final segment of the envelope and is initiated when the Gate goes low. When the LFO mode is selected, the release time will effect the termination time of the waveform after the Gate goes low. Since the actual level of the LFO waveform at termination varies, the release effect may appear random.

Gate Input Jack: Any voltage greater than 0.6V will initiate the module output. A gate type signal will enable the ADSR and LFO functions. A trigger pulse can be used in the AD mode (see **AD/ADSR/LFO Switch** below).

AD/ADSR/LFO Switch: Place this in the "AD" position to use a trigger pulse to initiate an AD envelope. The envelope will run to completion even if the trigger is removed. For ADSR and LFO functions, place the switch in the ADSR position.

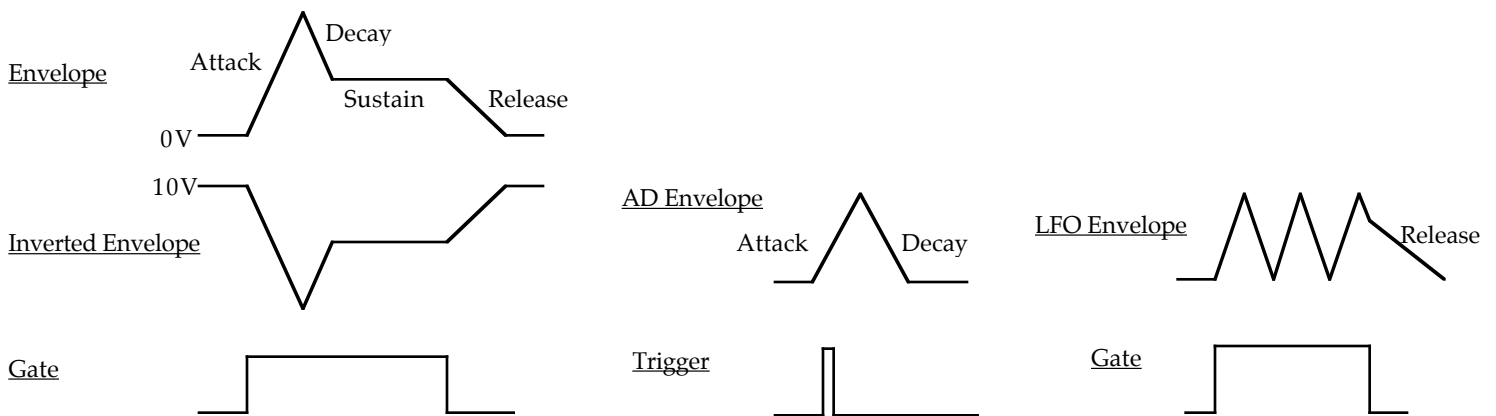
Time Base Control Voltage Input and Time Base Pot: The EG2070 has 5 time ranges which can be selected via voltage control. Each range is 10X the preceding and requires an approximate 2V step, for a total of 10V. The Time Base LED blinks to show the TB selected. Slower blinks equal longer envelope times.

Output Jack, Inverted Output Jack, Level Pot: The normal envelope output only can be attenuated by the Pot. The Inverted envelope is inverted around the positive peak and does not output negative voltages. For example, "off" for this envelope would be 10V.

Power Input Jack J9: A source of regulated +/-15Vdc power must be supplied to this PCB jack to run the module. Note the current requirements in the "Specifications" section.

Connections to this jack should be made only when the power supply is OFF and the connector must be positioned correctly on the pins.

As using the wrong supply can cause damage to the unit, please contact us if you have any questions!



Calibration

RT2: The EG2070 is factory calibrated for a 10V envelope peak. Other peaks in the range of 1 to 10V may be used by adjusting this trimmer.

RT1: The response of the decay segment may be changed from linear to exponential by turning this trimmer CW. The factory setting is linear.

Options

A pad on the PCB board (JA) is provided to bring the full, unattenuated (normal) envelope out to a jack.

Specifications

Front Panel Size: 5.25 x 3" W

Module Depth: 6"

Input/Output Jacks: 3.5 mm (1/8")

Envelopes: AD, ADSR, LFO

Gate Level: 0.6V

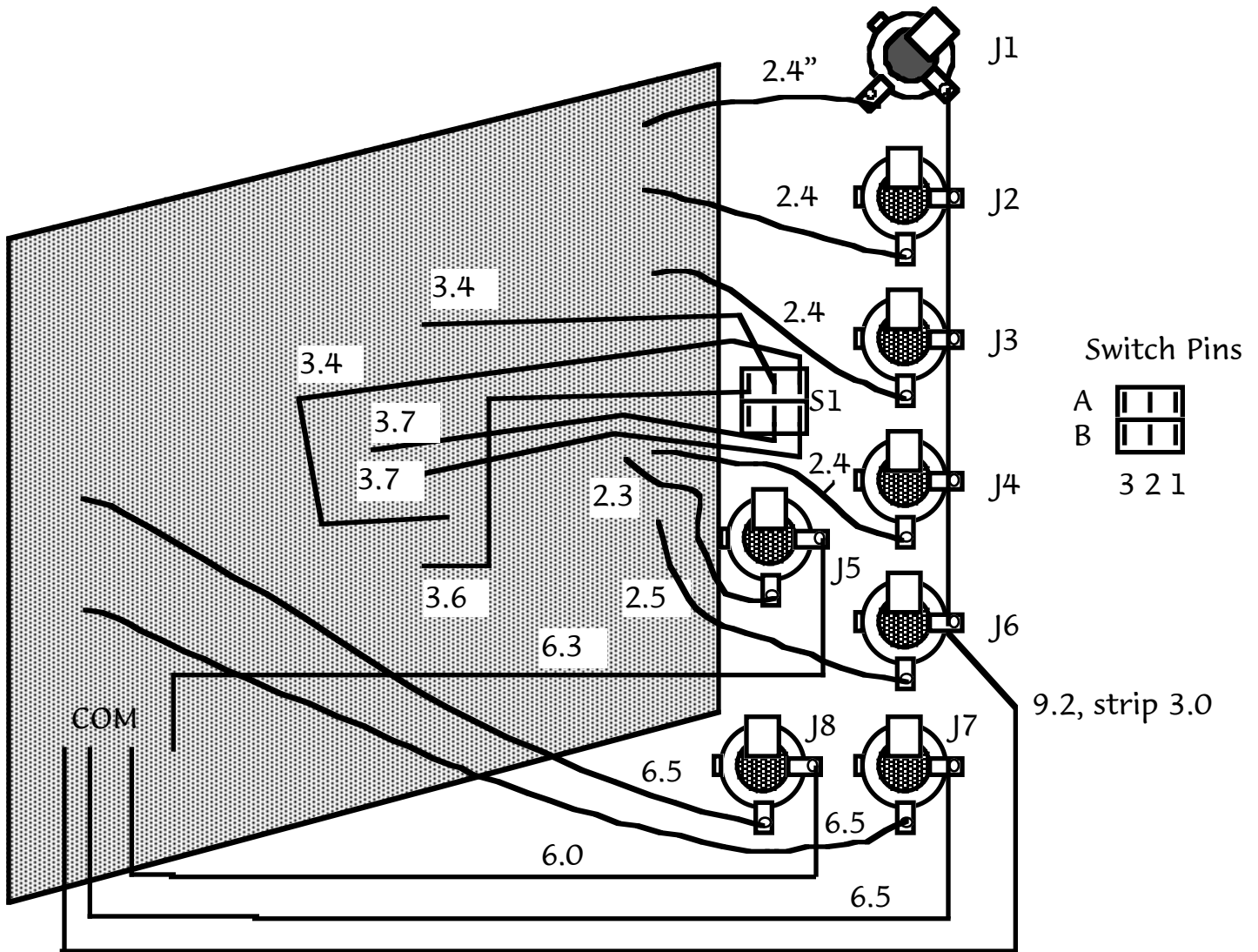
CV Range: 0-10V

Peak Output Level: 1.5 to 10V max

ADR Time: 1mS to 4 Hours

Five Ranges: **min**/max: 1mS/1.6S, **6mS**/16S, **60mS**/160S, **600mS**/25 minutes, **6S**/4 hours

Power: +/-15 Vdc @+41/-22 mA



Calibration

RT2: The EG2070 is generally calibrated for a 10V envelope peak. Other peaks in the range of 1 to 10V may be used by adjusting this trimmer. Use an oscilloscope to check this level.

RT1: The response of the decay segment may be changed from linear to exponential by turning this trimmer CW. The factory setting is linear (full CCW).

Troubleshooting, Repair, Warranty

If you encounter problems that you can't solve, contact us, preferably via e-mail with a description of the problem. We can then help you get your module working.

The parts contained in this unit have been carefully selected and tested. They are guaranteed for 90 days from the date of purchase. If you believe that you have a defective part (or if you have a part missing), contact us so we can provide you with a replacement or repair.