

User Guide Firmware 0.9

Thank you for pre-ordering the ConVertor E1.

The ConVertor will convert an analog monophonic audio signal into its Pitch, ENV and GATE Control Voltage, DC signals to control external analog synths. It also provides its own internal digital synth that is always in perfect tune to the incoming audio's pitch. It can work by itself with external synths or soon will have an option to expand to a full synth voice on its own right, via Firm 2.x series (available soon). You can also expand it via a MIDVertor E1 adding sustain pedal, MIDI i/o, arpeggiation and mainframe for up to 7 additional ConVertors in parallel.

Feel free to write us with any feedback, question or concern at: info@sonicsmith.com



Oct. 2021

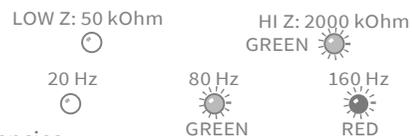
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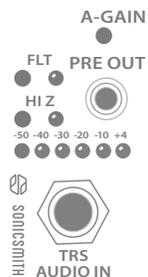
2) Preamp section

Connect a TS or TRS Mic/Inst./Line 1/4" plug into the audio input

If you play a pickup inst. press the **HI Z**



Press **FLT** to toggle between analog input HPF frequencies:



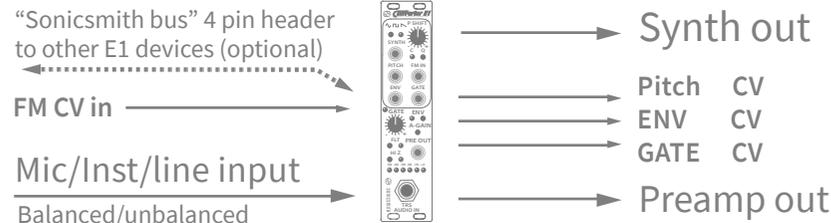
Press **A-GAIN** to activate Auto-GAIN detection. Play loudly once or twice, and after 2.5 seconds, the gain will be set and the meter will go back to showing input levels. The gate will not effect the PRE OUT levels. To change the **gain manually**, push the GATE knob and adjust the gain with the encoder. If you don't touch the knob again for 1.5 seconds, it will change back to controlling the gate threshold. The PRE OUT is a copy of the same signal going in to the ADC.

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1) Connecting & powering

To use the ConVertor E1 you need a -12/12V powered Eurorack case with 6HP (3cm) available space, one available power connection and 150mA of current available. Connect the power header cable, screw the panel to the rack using at least two standard M3 screws. Avoid exposing it to sun, fluids or unchecked physical abuse/shocks.

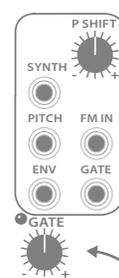


It's recommended to **avoid** patching any audio signal stronger than +4dBu or CV signals into the **audio input**. The audio & CV outputs of this device are very loud, potentially around 10V scale so always test a signal's loudness before patching it with speakers or headphones on by dimming any speakers first.

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3) Knobs assignments: default



Turn the **P SHIFT** knob to increase/decrease the pitch shift of the internal DCO as well as the CV PITCH output across -2+2 octaves. Press the P SHIFT knob to bypass the shift back to unison. Press it again to undo/redo.

Turn the **GATE** knob to increase/decrease the gate's threshold by +/- 1dB. Default GATE **threshold is -35 dBFS** and will effect the ENV CV output by shutting the ENV CV to 0V as well as the SYNTH OUT audio off. Connect pre out using a minijack TS to a +18dBu capable destination like modular synths.

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4) SYNTH & compression



Press the **SYNTH** button to toggle between the 4 waveforms:



Press the **ENV + A-Gain** buttons to engage a 3:1 compression effect on the internal VCA CV and ENV CV output.

Press them again to bypass the compression.

5) Quantizing FM CV input



Press the **Q** button to toggle FM input quantizer (light on)
This will quantize the FM input to semitone shifts from the fundamental pitch. Semitone quantization helps with external arpeggiation from external CV sources like LFO's and sequencers.



Press it again to turn off the FM input quantizer as continuous mode (LED off).

6) Troubleshooting

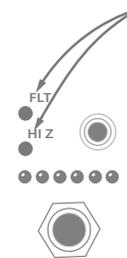
No sound from SYNTH out: Do you see the audio meter go higher than the first 3 LED's? If not, turn up the gain and make sure the GATE LED turns off when sound supposed to play. Try **decreasing the GATE** with the lower knob. Press A-GAIN to get **enough gain**. Check where the SYNTH out is routed to.

Noisy output: Make sure the gate is high enough to allow only intentional notes through. Plug the PRE OUT and listen to the original audio you are playing into the ConVertor. Make sure it has a clear pitch and no excessive noises. Try restarting the units and make sure it has at least 150 mA to itself. Try restarting the units from external switch or case plug.

Weird behavior: Make sure your power supply can allocate at least 150mA to the ConVertor. Powering up the unit by simply connecting the power ribbon cable is not recommended. Try restarting your unit from a main switch or even disconnecting the plug to from the case. Also try minimizing the use of HI Z with high gains. The gain can climb higher than a pickup normally needs.

Contact: info@sonicsmith.com for any questions about the product.

7) Flashing / updating firmware



Find the latest firmware on:

<https://sonicsmith.com/products/convertor-e1/>

Download it into a micro SD card and insert it into the back of the ConVertor E1. Power the ConVertor off, then **press & hold** the **HI Z + FLT** buttons while powering up the unit. Keep holding the buttons for 2.5 seconds. While flashing, the meter LED's to the right will blink one after another showing the two micro-controllers that are flashing.

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