

## User Guide Firmware 1.0

Thank you for pre-ordering the ConVertor E1.

The ConVertor will convert an analog monophonic audio signal into its Pitch, ENV and GATE Control Voltages, DC signals to control external analog synths. It also provides its own internal digital synth that is always in tune. It can work by itself with external synths or act as its own synth. You can also expand it via a MIDVertor E1 adding sustain pedal, MIDI i/o, arpeggiation and centralized control for up to 7 ConVertors in parallel. Check periodically for new firmware on our product page: [sonicsmith.com/products](http://sonicsmith.com/products).

Feel free to write us with any feedback, question or concern at: [info@sonicsmith.com](mailto:info@sonicsmith.com)



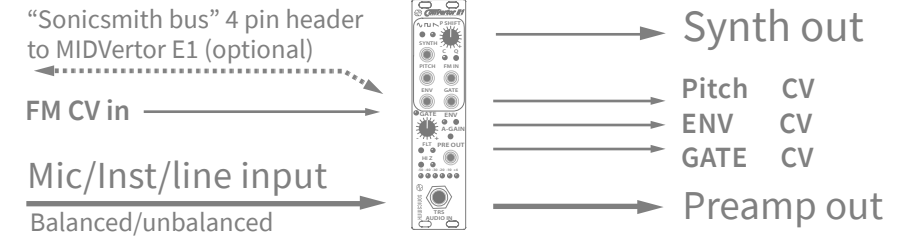
Aug 2023

Sonicsmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 1) Connecting and powering

To use the ConVertor E1 you need to supply your own 12V powered Eurorack case with 12HP (6cm) available space, one available power connection and about 90 mA of current available. Connect the power cable to the back, place and screw the panel to the rack using the two included standard M3 screws. Avoid exposing it to sun, fulids or unchecked physical abuse/shocks.



There is no 48V phantom power. Please **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. Always test a signal’s loudness before patching it with speakers or headphones on.

Sonicsmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 2) Preamp section buttons

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**

LOW Z: 50 kOhm

HI Z: 2M Ohm

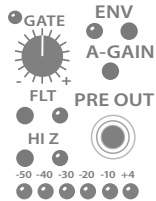
25 Hz

75 Hz

150 Hz

Press **FLT** To toggle between

analog input HPF frequencies:



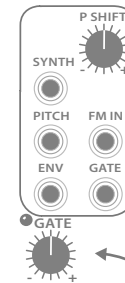
Press **A-GAIN** To activate Auto-GAIN detection, play loudly, briefly, during 2.5 seconds. After 2.5 seconds, the gain will be set and the meter will go back to showing input levels. The gate will not effect the PRE OUT signal. Press the GATE knob and dial to change the **gain manually** (metered in red) and initiating another 2.5 second count. The ConVertor E1 will remember all preamp/comp settings after a restart. The gain can amplify the input up to +54db. If you turn the GATE encoder and see the meters change value in green then you are changing the gate’s threshold (see square #3).



Sonicsmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 3) The two encoders: GATE & P SHIFT



Turn the **P SHIFT** knob to shift the DCO’s semi-tones SYNTH & the PITCH CV outputs up to -2 - +2 octaves. Press on the P SHIFT knob to bypass the shift back to unison. Press it again to come back to the shift. The resulting pitch shift is relative to the **FM IN** 1V/oct CV input so you can try arpeggiating the pitch from a sequencer 1/V per octave output, patched into it.

Turn the **GATE** knob to increase/decrease the gate’s threshold in 1dB increments. Default GATE **threshold is -35 dBFS** and will effect the ENV CV output by shutting the ENV CV out to 0V and the SYNTH OUT audio off. PRE OUT is analog copy of the same signal going to the ADC. Connect the pre-out minijack TS to an +18dBu-capable destination like Eurorack gear. The gate’s threshold can vary between -6dbFS to -65dbFS.

Sonicsmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 4) SYNTH, memory & ENV dynamics



Press the **SYNTH** button to select WAVE/ Synth **preset**

- GRN= unchanged
- Red = changed



As of firmware 1.0 the ConVertor E1 will **SAVE** all its settings automatically and will recall them the next time you power it up so you can continue working from where you left off. Saving the settings will incur 3 seconds of inactivity.



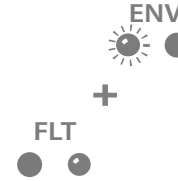
Press the **ENV + A-GAIN** buttons to change the **Compressor/Expander** of the internal VCA & ENV CV out



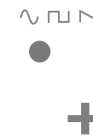
SonicSmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 5) LPF effect & Pitch tracking speeds



Press the **ENV + FLT** buttons to activate the **2-pole LPF**. The ENV LED will light up in green. Press both of them again to bypass the low pass filter effect. The LPF cutoff frequency will be modulated by the ENV and the pitch frequency at varying amounts.



Press the **ENV + SYNTH** buttons to select between the 3 **pitch detection** speeds. Choose fast if your audio source has little harmonics, but if you get “glitches” in your pitch tracking you can try the slower “medium” / “sticky” and see if it helps.



SonicSmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 6) Quantizing the FM in & VCO mode



Press the **Q** button to toggle between **quantization** & **continuous** FM CV input. It will quantize in semi-tones while the Q LED will be lit. It will quantize always in relation to the encoder shift. If 0V CV is injected into the FM input, then the ConVertor E1 synth will stay in unison. We can modulate its frequency within 8 octave range.



Press both encoders down to enter **VCO mode**, during which, the preamp will work completely independent from the SYNTH output. The internal SYNTH pitch will be controlled by the FM 1V/oct CV input (or an incoming MIDI from a connected MIDVertor). The preamp audio input will continue to track the pitch as usual and PITCH CV out and ENV CV out will provide the same CV signals as usual.

To route the internal synth sound through the VCA modulated by the ENV follower, press the ENV button (hile in VCO mode). You can also route the internal LPF as well, by pressing ENV+FLT.

SonicSmith 2023

ConVertor E1 User Guide - Firmware 1.0

## 7) Flashing the firmware/s



To **Flash** the ConVertor E1 **Firmware/s** we need to copy the firmware/s file/s on to a micro SD card which is formatted in FAT 32 file system and not any bigger than 32 GB. After you insert the SD card at the back of the module, power the device off, hold the lower 4 func. buttons (illustrated on the left), then while holding them, power the module on to initiate flashing. Keep the 4 buttons pressed until you see a meter LED blinkin red. After that, you see another LED blinking (if the second uC is flashing). You can let go of the buttons after the 1st LED started blinking. Firm 1.0 should be downloadable from our product page.

Please visit [www.sonicSmith.com/products](http://www.sonicSmith.com/products) for periodical updates and products availability.

SonicSmith 2023

ConVertor E1 User Guide - Firmware 1.0