

## User Guide

Firmware 1.0 / 2.0

Thank you for buying a ConVertor E1. Sonicsmith's commitment to bridge the gap between pro-audio and modular synths resulted in this leap-of-technology module. A preamp and DCO working together or separately from each other for the ultimate playground of musical interfacing and control. The internal DCO can be controlled from audio, CV and MIDI (with expansion MIDVertor E1). Download the latest product documentations, specs and firmware downloads (1.x series) at the product page: [www.sonicsmith.com/products/convertor-e1](http://www.sonicsmith.com/products/convertor-e1).

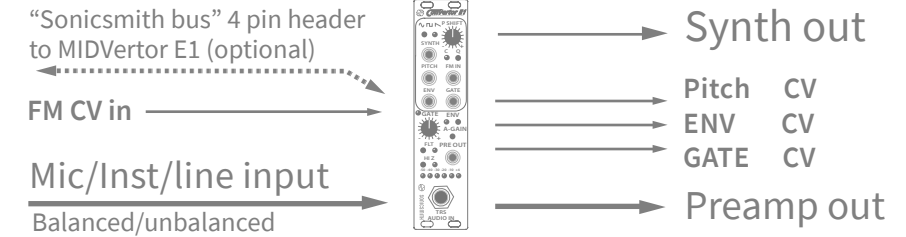
Feel free to write us with any feedback, question or concern at: [info@sonicsmith.com](mailto:info@sonicsmith.com)



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## 1) Connecting and powering

To use the ConVertor E1 you need a 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 all 4 of the included standard M3 screws. Avoid exposing it to sun, fluids or unchecked physical abuse/shocks.



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.

## 2) Preamp section buttons

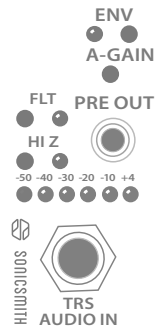
Connect a TS or TRS Mic/Inst./Line 1/4" plug into the audio input

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

LOW Z: 10 kOhm  
HI Z: 1000 kOhm

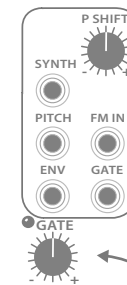
Press **FLT** To toggle between analog input HPF frequencies:

25 Hz  
75 Hz  
150 Hz



Press **A-GAIN** To activate Auto-GAIN detection, play loudly for 3 seconds. After 3 seconds, the gain will be set and the meter will go back to showing input levels. Press A-GAIN longer than 1 second to undo/redo. The gate will not effect the PRE OUT levels. Turn the GATE knob while in A-Gain mode to change the **gain manually** and initiating another 3 second count. The A-Gain mode will auto-exit within 3 seconds of inactivity. The ConVertor E1 will remember preamp settings after a restarting.



## 3) Knobs assignments: Default






Turn the **P SHIFT** knob to increase/decrease semi-tones for the DCO's SYNTH & the PITCH CV outputs by -2.5-+2.7 octaves. Press on the P SHIFT knob to bypass the shift back to unison. Press it again to undo/redo. Turn the P SHIFT knob faster than 7 steps in 0.3 sec to jump a whole octave. The resulting pitch shift is relative to the **FM IN** 1V/oct CV input so try arpeggiating the pitch from external LFO's (see #6) & sequencer 1/V per octave CV patched into it.

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 and the SYNTH OUT audio off. PRE OUT is analog copy of the same signal going to the ADC. Connect a minijack TS to a +18dBu-capable destination like modular synths. In all other function-modes, these knobs will be known as "Top knob & Bottom knob"

## 4) Function mode: SYNTH & ENV


 Press the **SYNTH** button  
 TOP Knob: **WAVE/Synth Preset**  


 Press the **ENV** button to change the int. VCA ENV & ENV CV out.  
 TOP Knob: **Attack time** in milli-seconds/seconds  
 If VCF is on (see #5) then ENV will go to VCF instead (VCA just gated).  
 0 50 100 200 300 500 700 1.2 sec 1.7 sec 2.5 3.5  


BOTM Knob: **Clip/Fold/Mod/...** (firm. 2 only)  
 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%  


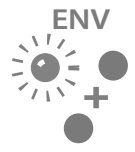

- Press SYNTH again to save / Press longer than 1 sec to undo & go home.  
 - Auto-save & back to home screen will accure in 7 sec of inactivity.


GRN= unchanged  
 Red = changed



BOTM Knob: **Release time** in ms/seconds. inf.(int. VCA off)  
 0 10 30 50 100 200 500 800 1.5 sec 2.5 sec  



Press ENV again to save & home/Press longer than 1 sec to undo & home.

## 5) ENV to VCA, VCF\* & ENV CV out

 Press the **ENV + A-Gain** buttons to change the  
 TOP Knob: **Compressor/Expander** to internal VCA & CV out  
 EXP 1:2 1:1 Comp 2:1 Comp 3:1 Comp 4:1 Comp 6:1 Comp 8:1  




BOTM Knob: Digital **Attenuator** to int. VCA & CV out  
 Mute 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%  



 Press the **ENV + FLT** button to access int. LP VCF (firm 2)  
 Press top knob to engage VCF on/off, or bottom knob to bypass attv.  
 TOP Knob: ENV **compressor/expander** to the int. VCF **CUTOFF**.  
 EXP 1:2 1:1 Comp 2:1 Comp 3:1 Comp 4:1 Comp 6:1 Comp 8:1  


BOTM Knob: Digital **Attenuverter** to **VCF ENV & ENV CV** out  
 -1:1 -80% -60% -40% -20% ENVoff 20% 40% 60% 80% 1:1  



Press ENV/FLT to save & home/Press longer than 1 sec to undo & home.

## 6) Quantizing the FM in & VCO mode


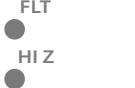
 Press the **Q** button to access quantization  
 TOP Knob: **Musical scales**, press to toggle major/minor  
 3rd, 5, 4th, 5, 5th, 4th, 3rd, 9th, 9th, 9th, 5th, 5th, Pent. Oct+5 Octaves  


BOTM Knob: **FM CV in ATTNV**. Press knob to bypass attnv.  
 -100% -80% -60% -40% -20% 0% 20% 40% 60% 80% 100%  


- Press Q/C again to save / Press longer than 1 sec to undo & go home.  
 - Auto-save & back to home screen will accure in 20 sec if unchanged.

 Press both encoders down to enter **VCO** mode.  
 The SYNTH LED will blink red/green, and the preamp and ENV CV out will work completely independent from the oscillator pitch and SYNTH outputs. SYNTH out will be continously full scale (no Q option).  
 To route the preamp's ENV thru the internal VCA press **ENV+SYNTH** func. buttons together. Press both again to bypass the VCA.

## 7) Reset / Expanding to Firm2.0 synth voice

 Press and **Hold all 4** func. buttons in the preamp section longer than 1 second to **RESET** the firmware to the previously loaded firmware (not including user presets).  


To **Flush the Firmware** we need to insert a micro-SD card containing the proper files for firmware flushing. Power the device off and then power it on while holding the same 4 func. buttons to start in firmware flushing mode and select a firmware from SD via the BTM KNOB: firmware 1-6  
 Top knob: Firmware select 1-6  
 If you want to expand your ConVertor E1 to be a full synth voice (firm 2.0) please visit [www.sonicsmith.com/products](http://www.sonicsmith.com/products)