

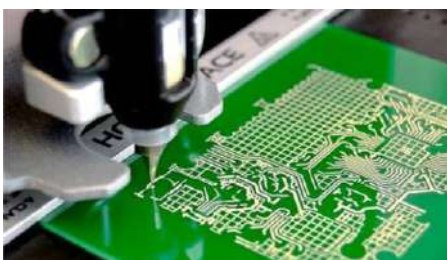
# Make your PCB on any surface



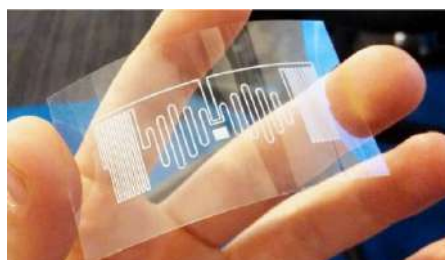
Sciencetech brings a compact and easy to use printer to make PCBs. Simply import your Gerber file into its software, press print, and the V-One printer will bring your board to life. Use the solder paste dispensing and reflow features to mount components onto your printed board or mount components on a pre-fabricated board with ease.

## Features

- Lightweight, fast and easy to use printer
- Conductive ink to make PCBs on any surface
- Easy to use GUI with live video tutorials for every step
- Auto level on any surface
- Dispense solder paste on pre-fabricated and printed board
- Inbuilt reflow plate for SMD soldering
- Circuit design on flexible material including fabric, plastic sheet, acrylic etc.
- 100 micron or 0.1mm minimum track width
- Multiple layer circuit design using rivets
- Magnetic connector for easy change module
- Live support



Build hardware easily and faster



Make PCBs on any surface



New possibilities for various applications

## The V-One prints traces, drills, dispenses solder, and reflows

### Zero day lead time



Getting a few boards shouldn't mean waiting for a factory on the other side of the world. Just load your files, click print, and have your board in less than an hour.

No lead time, no stencils, no hassle.

### Works with factory boards



Sometimes it makes sense to use factory fabricated boards. What doesn't make sense is paying and waiting for assembly when the V-One can quickly dispense paste and reflow those boards right on your desk.

### Built to grow



The V-One grew from just PCB printing to include paste and reflow, and is now drilling for through-holes.

The platform constantly becomes more powerful as we continue to improve our algorithms and add new inks, substrates and attachments.

### No nasty chemicals



Anyway you slice it, PCB etching is a harmful process for environment. However, additively printing PCBs deposits material only where you need it. No toxic chemicals required. Updates and use videos will guide you through each workflow.

### Less costly mistakes

We've all been there-waiting for weeks for boards to arrive only to find out there was a mistake



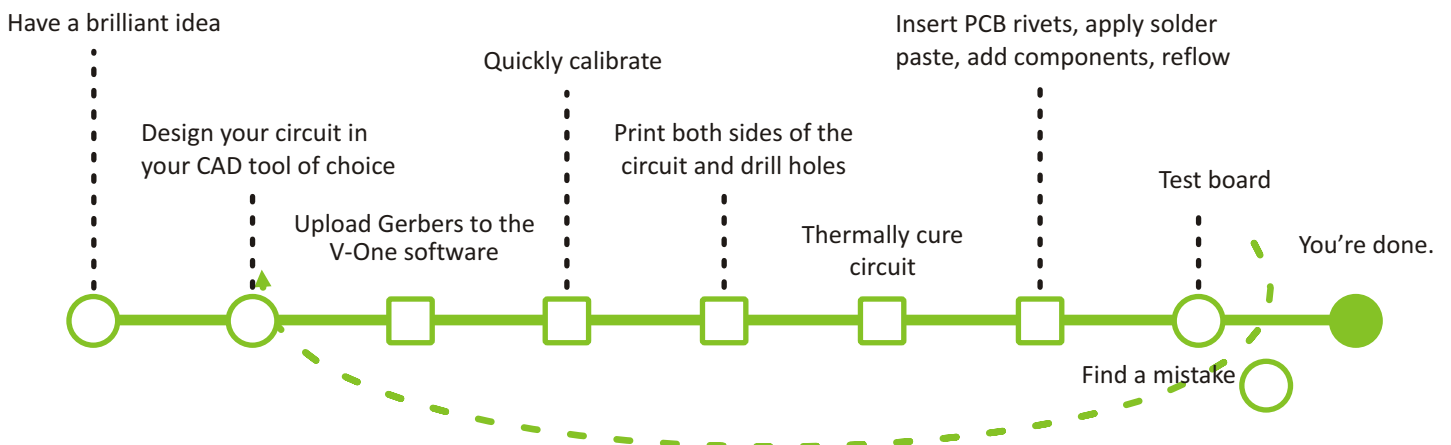
in the layout. With the V-One, you can print a corrected board immediately.

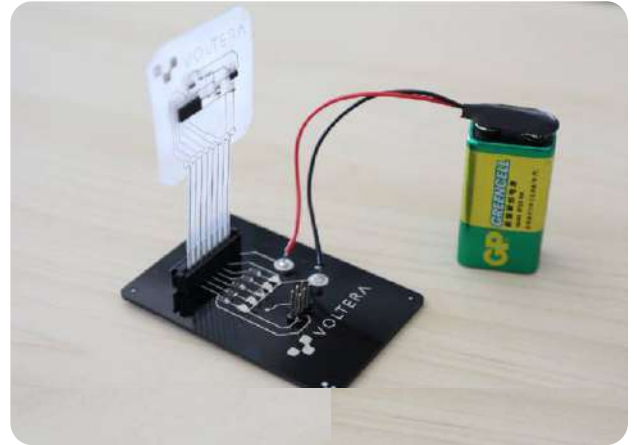
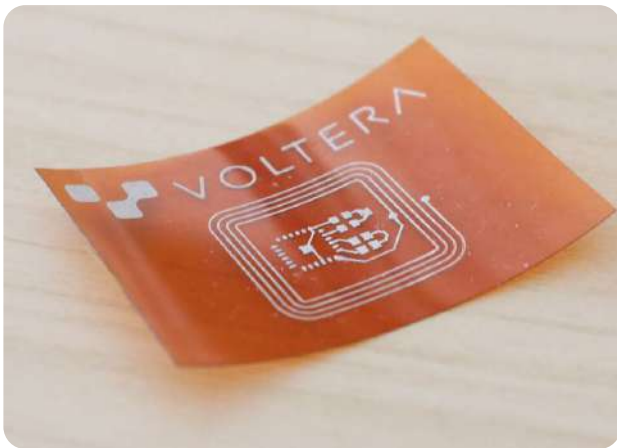
### Surprisingly simple software



Its free-to-use software accepts Gerbers from any CAD tool, regularly auto-updates, and uses videos to guide you through each workflow.

## The V-One workflow




**Multiple layer PCB**

**Antenna PCB**

**PCB on flexible material**

**PCB on curved surface**

## **Introduce new materials and substrates to your research**

### **Ready for experimentation**

Flexible inks and stretchable substrates are enabling new applications in wearables and e-textiles. Conductive ink advances are allowing new sensor applications. IoT and mesh technologies are increasingly using printed RFID tags, all possible with the V-One Printer.

Whether you're conducting fundamental research to accelerate these breakthroughs, or working at a business that takes advantage of these exotic technologies, the V-One is an essential tool for you.

Beyond printed electronics, the V-One can dispense any ink, paste or viscous fluid with  $\pm 10$  micron accuracy on fiberglass resins, ceramics and plastics. The possibilities are endless.

### **The world of electronics is changing**

The standardized ink cartridges we use can be filled with any material you like, or you can choose from our growing library of materials. Slide the cartridge into our swappable dispenser and you're all set.

Printing parameters like feedrate and distance to the board can be tuned in the V-One software for your own materials.

Before printing, the V-One maps the height of the board to dispense on even gently curved surfaces.

A command line interface for G-code allows you to take total control of the tool.

## Technical Specifications

### Printing

Minimum trace width	0.2mm (8mil)*
Minimum package size	1005
Minimum pin-to-pin pitch	0.65mm (32mil)

\* Optional Nozzle to reach 0.1mm trace width

### Resistivity

	12mΩ/Sq @ 70μm height
Supplied substrate material	FR4
Maximum board thickness	3mm

### Soldering

Minimum pin-to-pin pitch	0.5mm (20mil)
Minimum package size	1005
Solder paste alloy	Sn42/Bi57.6/Ag0.4
Solder wire alloy	SnBiAg1
Soldering Iron temperature	180-210°C

### Material Compatibility

Standard ink	√
Flexible ink	√
Copper PCBs	√
HASL PCBs	√(brittle)

### Drilling

<b>Spindle Speed (maximum)</b>	13,000 RPM
Power	12V, 25W
Runout (TIR)	0.076mm
Shank diameter	3.175mm
Supplied substrate material	FR1
Bit diameter (maximum)	2mm
Bit length (maximum)	38.1mm

### Footprint and print BED

Dimensions (L × W × H)	390mm × 257mm × 207mm
Weight	~7kg
Print area	128mm × 105mm
Max. heated bed temperature	240°C

### Software requirements

Operating System	Windows 7, 8, 10 (64bit), OSX 10.11+
Compatible file format	Gerber
Connection type	Wired USB 2.0

**Package contains****V-One Printer**

• Conductive Ink* Cartridge	1 no.
• Solder Paste* Cartridge	1 no.
• Dispensers	2 nos.
• Z-axis Probe	1 no.
• Board Clamps	2 nos.
• Clamp Thumb screws	4 nos.
• 3"×4" FR4 Substrates	6 nos.
• 2"×3" FR4 Substrates	10 nos.
• Power Cable	1 no.
• USB Cable	1 no.
• Nozzles	4 nos.
• Solder Wire Spool	1 no.
• Flux	1 no.
• Hello World Circuit	1 no.
• Portable Fridge - 5 Liters	1 no.

\* Should be kept in a temperature of 4-10°C for shelf life of 6 months.

**Optional with Drill head (not included in standard package)**

• Drill bits (various sizes)	10 nos.
• Sacrificial Layer	1 no.
• 3"×4" FR1 Substrates	6 nos.
• 2"×3" FR1 Substrates	10 nos.
• Safety Glasses	1 no.
• 0.4mm PCB Rivets	200 nos.
• 1.0mm PCB Rivets	200 nos.
• PCB Rivet Tool	2 nos.
• Power Cable and Adapter	1 no.
• Allen Key and Set Screws	1 no.
• Clamp Thumb screws	4 nos.
• Hello Drill Circuit	1 no.
• Zip ties	3 nos.