cVert Bill of Materials

Rev 0 - February 2019

Some consumables have been omitted (solder, superglue, hot glue etc.). Tools are also not listed.

Note: Required components are the absolute minimum to build a working cVert. To build one as featured in the documentation, all optional components should be included.

Double check all components before ordering. If in doubt, email and ask.

<u>Name</u>	Required/Optional	Quantity	Source	<u>Link</u>	<u>Notes</u>
Arduino Pro Micro	R		1 Online	https://www.spa	r 5V version needed. Clones available from Chinese drop shipping websites/eBay
Geiger Counter module	R		1 Online	https://www.ban	c Also avaiable on AliExpress. Ensure it includes the tube before ordering.
20 x 4 LCD Module with I2C	R		1 Online	https://www.ban	g Available elsewhere, ensure it includes I2C
Rotary Encoder module	R		1 Online	https://www.ban	g Available elsewhere, ensure it includes a switch and a D-Shaft for the knob to fit
Illuminated momentary push switch	R		1 Maplin	https://uk.rs-onli	n Maplin is now defunct, linked button is similar but may require a different size hole in the panel
5 Pin, 180 Degree DIN Socket	R		1 Maplin	https://www.eba	y Maplin is now defunct, linked socket is similar. Screws/nuts may need to be purchased separately.
3.5mm female socket, panel mount	R		1 Maplin	https://www.eba	y Maplin is now defunt, linked socket is similar.
NE555 Timer, 8 pin DIP	R		1 Own stock	https://www.eba	y Common IC, available from any electronics store
Resistors (various)	R		4 Own stock		1/4 watt resistors of various values, see schematic. Can be ordered individually or in bulk. 2 additional if using case LEDs
Electrolytic capacitor, 1uF 16V	R		1 Own stock		Available from lots of online retailers.
Ceramic capacitor, 10pF	R		1 Own stock		Available from lots of online retailers.
2.54mm pitch female header	R	4	47 Online	https://www.eba	y Needed in smaller sections, quantity is the number of pins total.
Dupont male-female cables	R		19 Online	https://www.eba	y Helps to order a selection of genders and colours. Some will be cut up and soldered onto things.
Perfboard (70x40mm)	R		1 Online	https://www.ban	c Not required if using the custom PCB.
USB A to micro USB cable	R		1 Own stock		For programming the Arduino. Can also be used as the main power/ data cable if desired.
P2N2222A Transistor	0		1 Own stock		Available from lots of online retailers.
Custom cVert PCB	0		1 JLCPCB	See GitHub	Currently unavailable for purchase, but Gerbers are available for you to order your own. I may have some spares if you email me.
3D Printed Case (+ knob)	0		1 Self print	See GitHub	Can be printed via an online printing service, preferably black PLA
Laser cut acrylic panels (set)	0		1 Self made	See GitHub	Can be laser cut via onlie service if needed. Use 3mm translucent green acrylic. Possible to manufacture by hand.
M3 brass heat set inserts	0		4 Online	https://www.eba	<u>Y</u>
Black M3x12 dome head machine screw	0		4 Online	https://www.eba	<u>Y</u>
Black enamel spray paint	0		1 Homebase	https://www.hon	<u>n</u>
Grey automotive spray primer	0		1 Own stock		
1206 bright white LEDs on flying leads	0		6 Online	https://www.eba	y Bought pre-soldered to save hassle, would recommend. For illuminating the case panel
USB B male to USB A male cable	0		1 Online		
USB B panel mount to micro USB cable	0		1 Online	https://www.eba	y Available from Chinese drop shipping sites