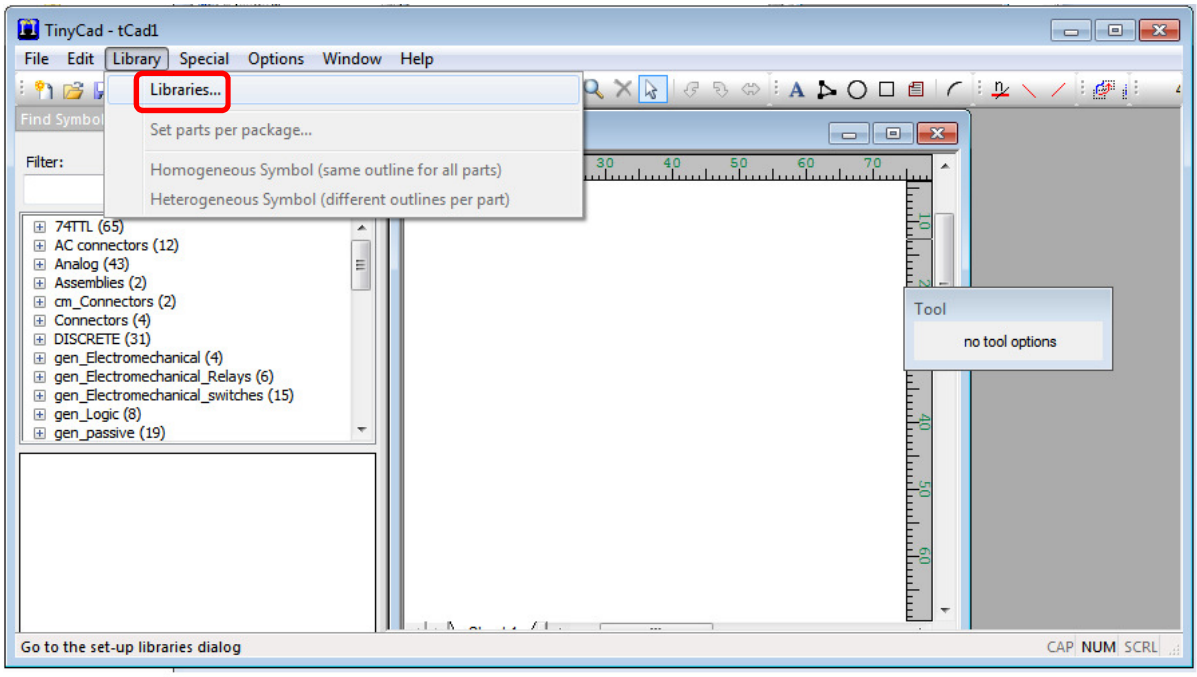
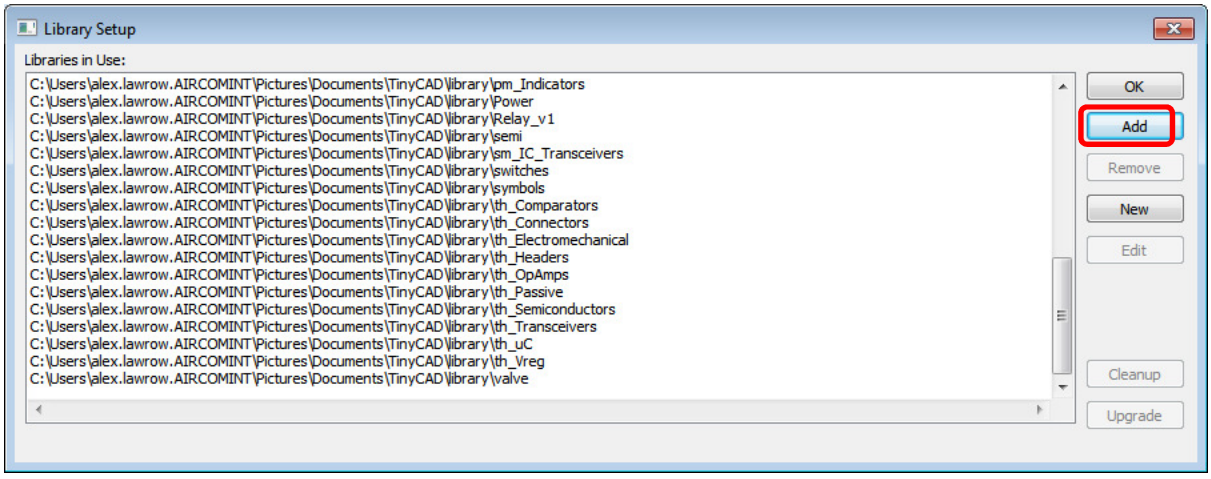
Using TinyCAD with VeroRoute

Adding VeroRoute symbols libraries to TinyCAD

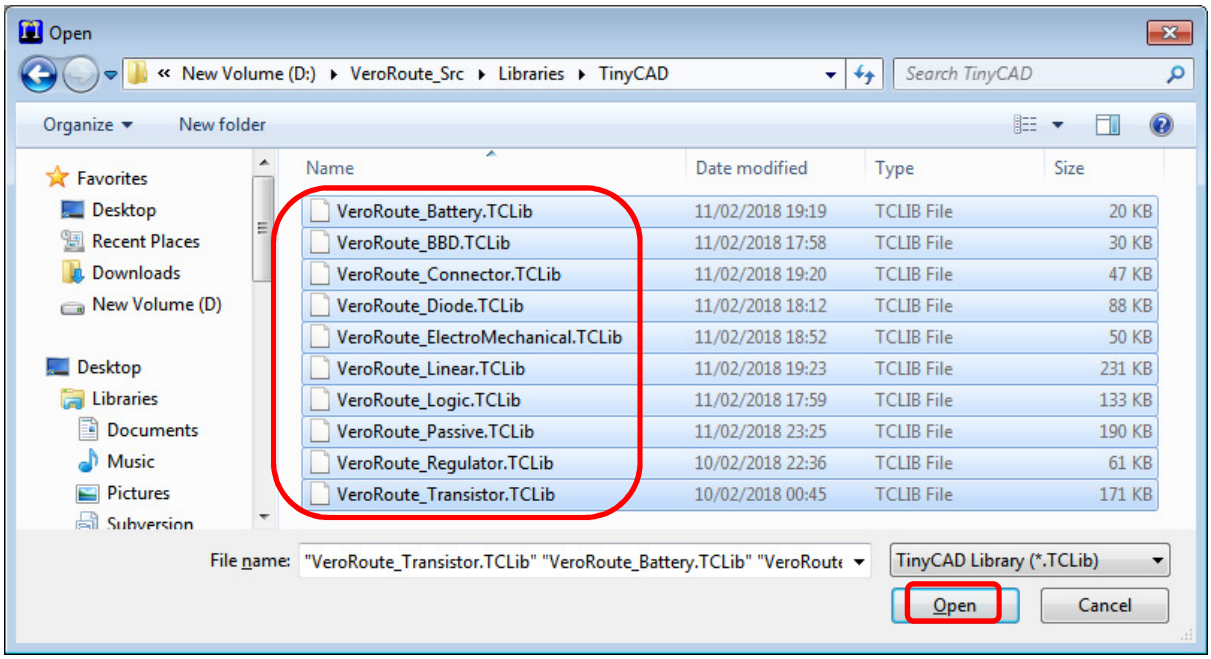
TinyCAD needs to use symbols with package types (i.e. footprint names) that VeroRoute will understand. To add these symbols to TinyCAD do the following.
In TinyCAD, click on **Library->Libraries…** on the main menu.



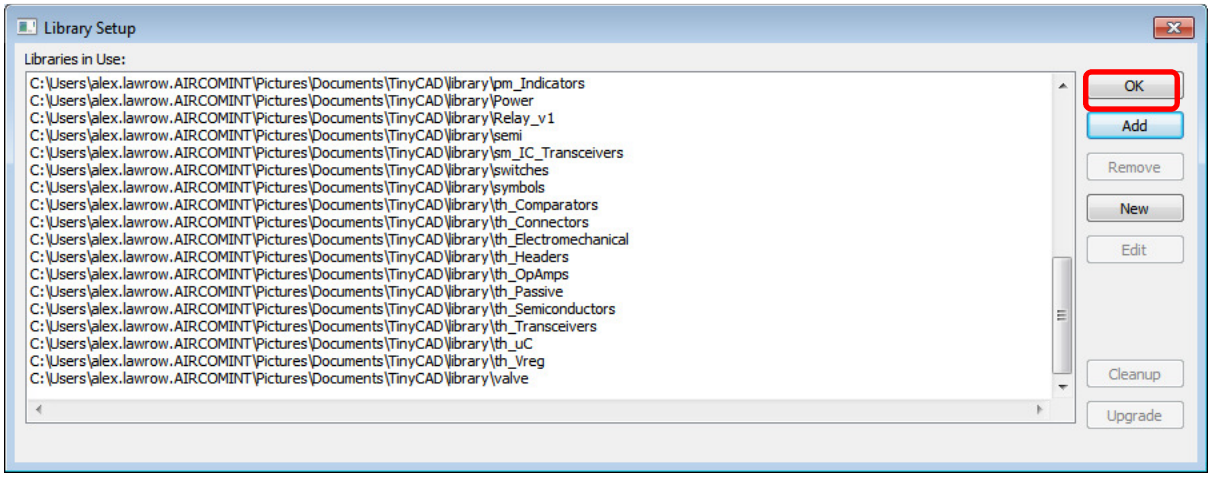
Click the **Add** button on the Library Setup dialog.



A file dialog will open. Navigate to the symbols files (*.TCLib) included with VeroRoute (in the “Libraries/TinyCAD” folder). Select them all and hit **Open.**



Once the libraries have been added, hit **OK** in the Library Setup dialog.



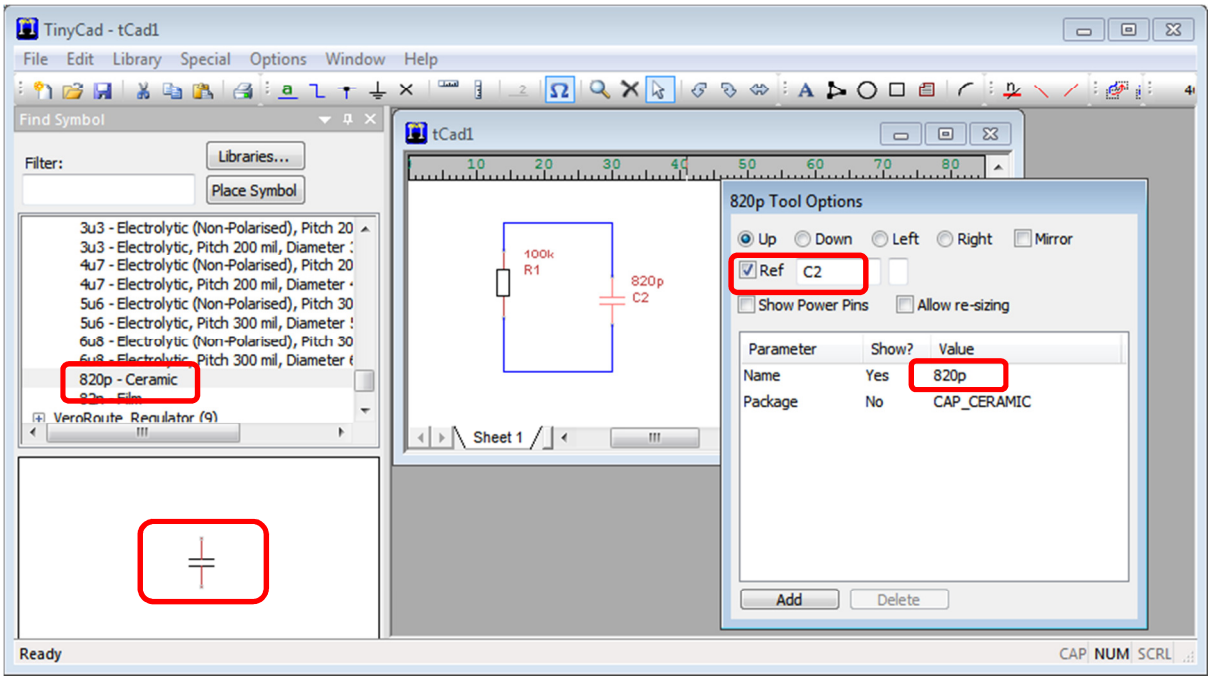
The symbol files provided with VeroRoute will probably be updated and expanded with new releases of the software. In order to use the latest symbols you must first remove any existing VeroRoute symbols from TinyCAD using the Library Setup dialog, and then add the new ones. The process is not automatic unfortunately.

Using the VeroRoute symbols in a schematic

The VeroRoute symbols will be listed in the left pane of TinyCAD. When you click on a symbol name in the list, it will draw the symbol preview in the bottom-left pane. You must either click on the symbol preview, or press the ***Place Symbol*** button to place the symbol in the schematic.

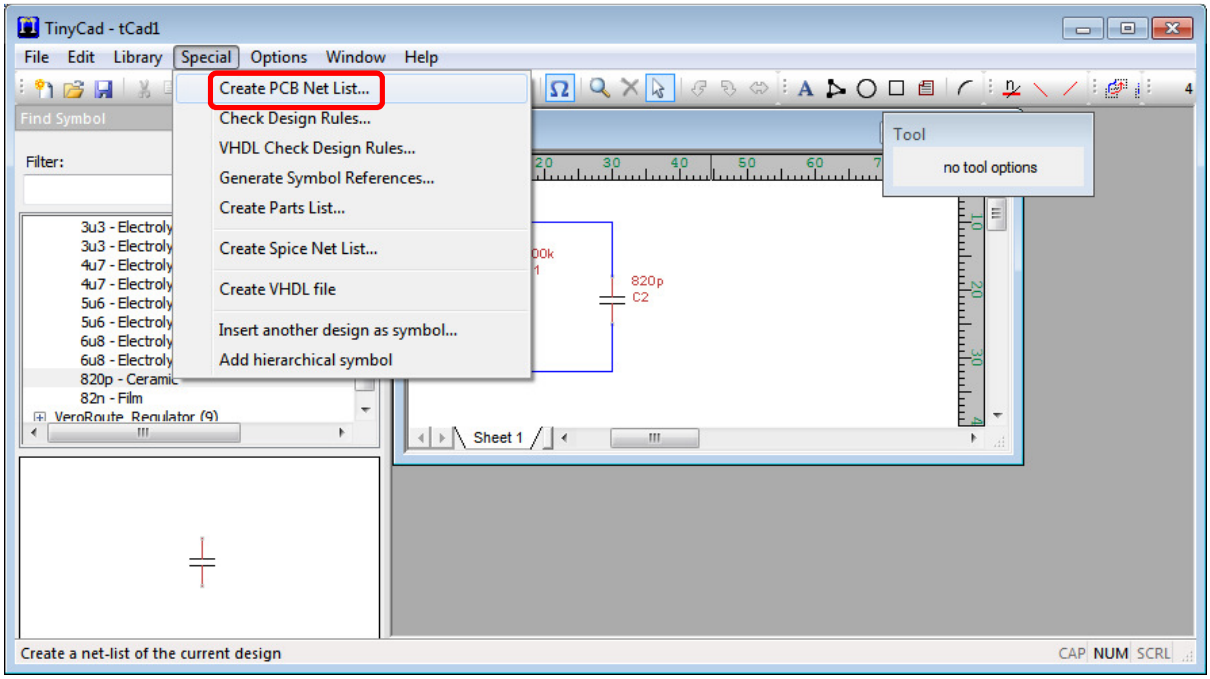
When you place the symbol in the schematic, remember to set its "Ref" to a unique identifier and its "Name" to the component value. Note that:

- TinyCAD "Ref" corresponds to VeroRoute "Name".
  The minus character '-' is reserved by the Protel netlist format. The "Ref" must not contain any minus characters, or else VeroRoute will fail to import the netlist.
- TinyCAD "Name" corresponds to VeroRoute "Value".
- TinyCAD "Package" is a part description that VeroRoute understands.

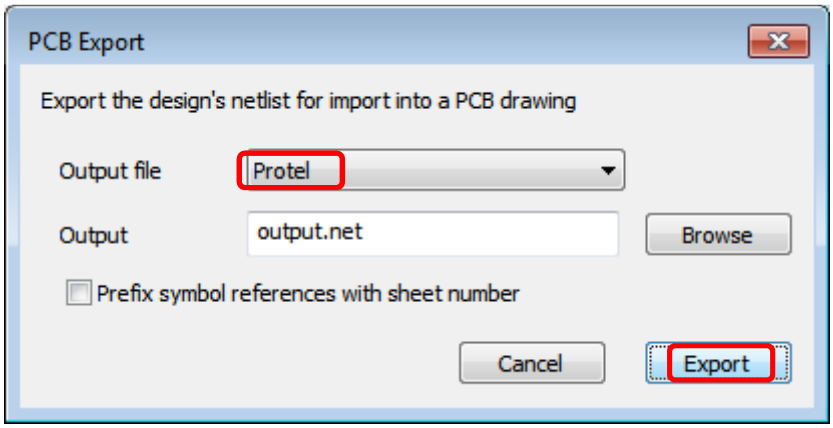


Exporting a netlist from TinyCAD

To export a netlist, go to **Special->Create PCB Net List…** on the menu bar.



Select **Protel** format, and hit **Export**.



The created file (“output.net” in this example) can then be imported by VeroRoute.

Creating your own symbols for Import into VeroRoute

You can create your own TinyCAD symbols, but the Package field needs to be set to something that VeroRoute can understand. The provided symbols cover most of the package types. Note that some packages have the number of pins at the end of the package name, and these are listed in the table below.

DIP*x*	A DIP package with *x* pins. (e.g. DIP20 ➔ 20-pin DIP).
SIP*x*	A SIP package with *x* pins. (e.g. SIP8 ➔ 8-pin SIP).
SWITCH_DT*x*	An on-board double-throw switch with *x* pins in total. Example: SWITCH_DT3 ➔ 1-pole double-throw switch. SWITCH_DT6 ➔ 2-pole double-throw switch. etc.
SWITCH_ST*x*	An on-board single-throw switch with *x* pins in total. Example: SWITCH_ST2 ➔ 1-pole single-throw switch. SWITCH_ST4 ➔ 2-pole single-throw switch. etc.
SWITCH_ST_DIP*x*	An on-board single-throw DIP switch with *x* pins in total. Example: SWITCH_ST_DIP2 ➔ 1-pole single-throw DIP switch. SWITCH_ST_DIP4 ➔ 2-pole single-throw DIP switch. etc.
PADS*x*	Gives *x* separate pads for wiring an off-board component. Example: An off-board potentiometer called “Pot1” with Package type PADS3 becomes 3 separate pads called “Pot1_1”, “Pot1_2” and “Pot1_3” in VeroRoute.

Note that VeroRoute v1.2 currently has a limit of 255 pins per component and will fail to fully import a netlist if any component has more than 255 pins.