PCB Converter for SketchUp

The latest design tool from RS Components

User's Guide

Google SketchUp

Into the
3rd dimension
with Google Sketch-up

Ever have a design that did not quite fit the mould? You have laid out the PCB and made sure that your design is clear of grounding or signal-integrity problems. You have managed to squeeze a couple of layers out of the design despite having to work with dense ball-grid arrays. Everything is going fine until someone points out that a stiffening bar needed to strengthen the outer casing fouls a connector or the heatsink needed to prevent the host processor from going into thermal shutdown

These are the moments when the worlds of mechanical computer aided design (MCAD) and electronic (ECAD) collide. For years, they have proceeded along parallel lines and only interacting through the language of engineering change orders when someone recognises, often later than is desirable, that a design modification has knock-on effects on the domain.

If you are working to the dimensions of a standard packaging format, there is less to go wrong. You can rely on the standard measurements for mounting holes to be confident that the PCB will go in the space provided – just as long as you have not used some very tall components. But this safe approach can only get you so far.

"A hot-running processor will need a large heatsink that might block the cooling flow of air for other critical components. It is hard to see how airflow might be constricted from the pure 2D view of a PCB layout package"

Heat is a concern for many designs. A hot-running processor will need a large heatsink that might block the cooling flow of air for other critical components. It is hard to see how airflow might be constricted from the pure 2D view of a PCB layout package. A much clearer picture emerges only when you move into the 3D world to see how the PCB, components, connectors and packaging fit together. The ability to do this earlier in the design – rather than waiting

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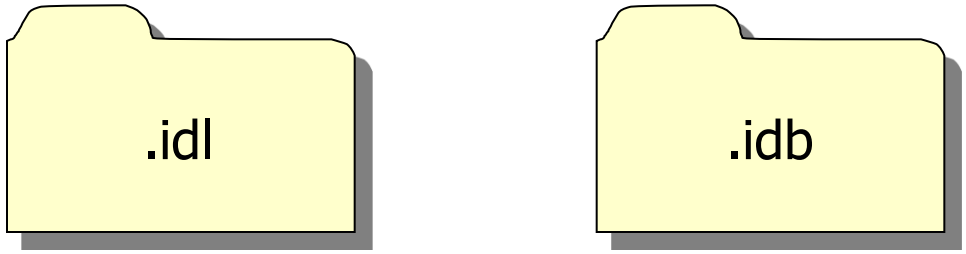
Creating the IDF

PCB Converter for SketchUp will convert a Printed Circuit Board design in the IDF format into a COLLADA file, which is recognised by Google SketchUp

Most PCB design packages will allow the exporting of designs in the IDF format. This is usually accomplished using the “Output” or “Export” menus

The process of exporting an IDF will create **two** files:

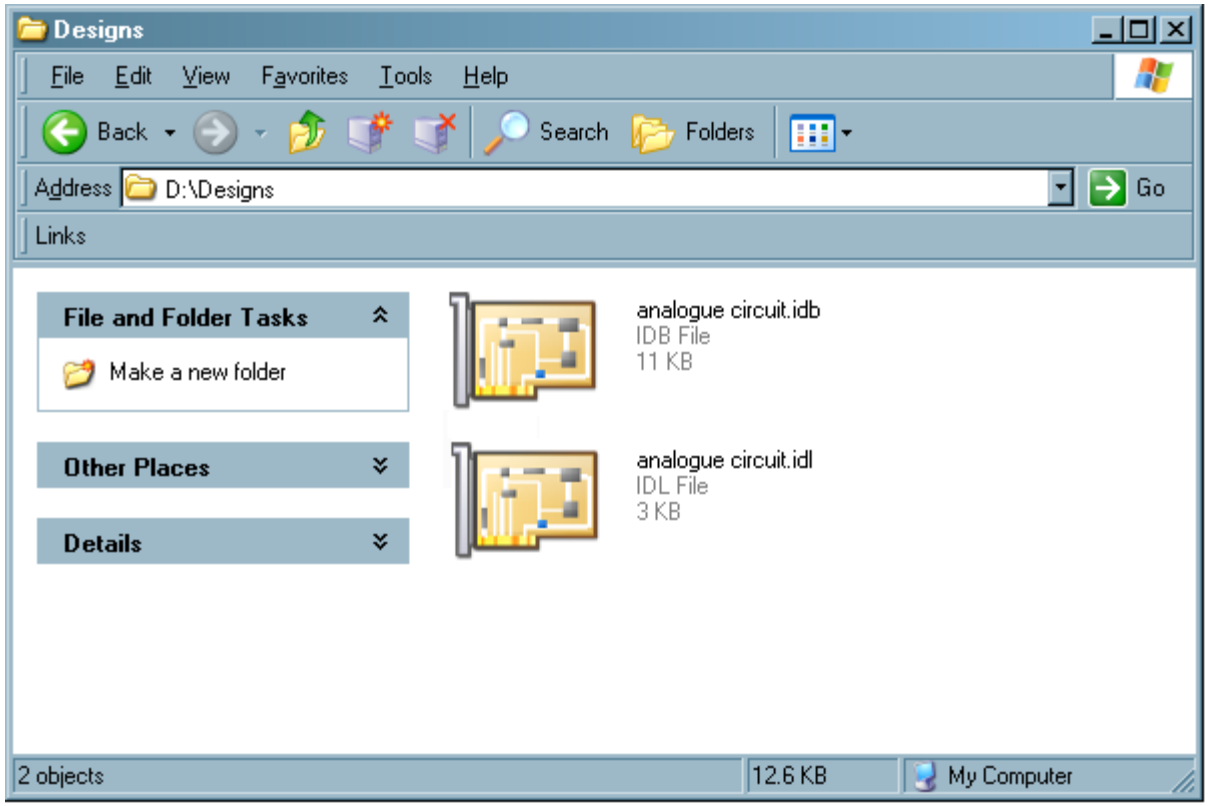


PCB Converter for SketchUp uses the .idb file

Using the tool

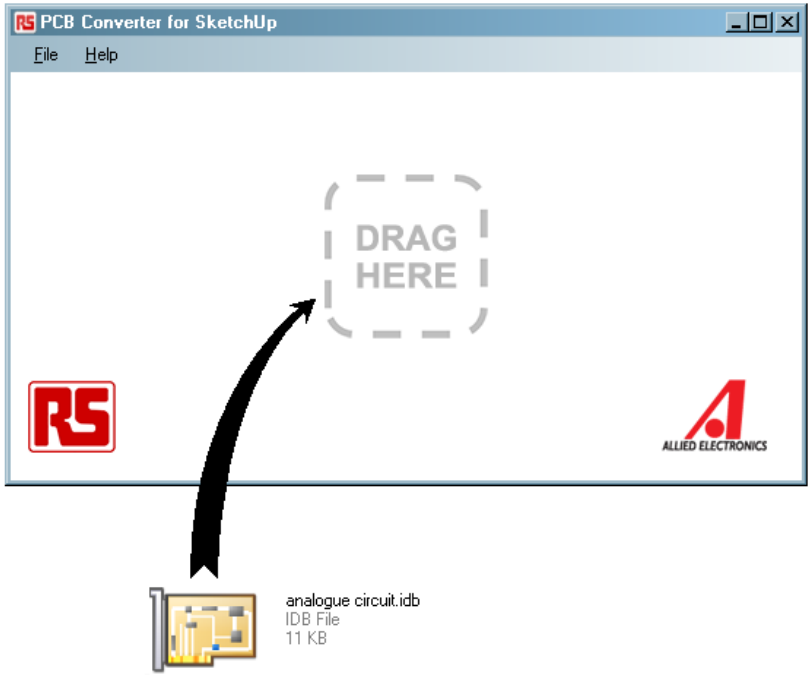
1. Open PCB Converter for SketchUp by double clicking on the programme icon

2. Using Windows Explorer, navigate to where the idl and idb files have been saved



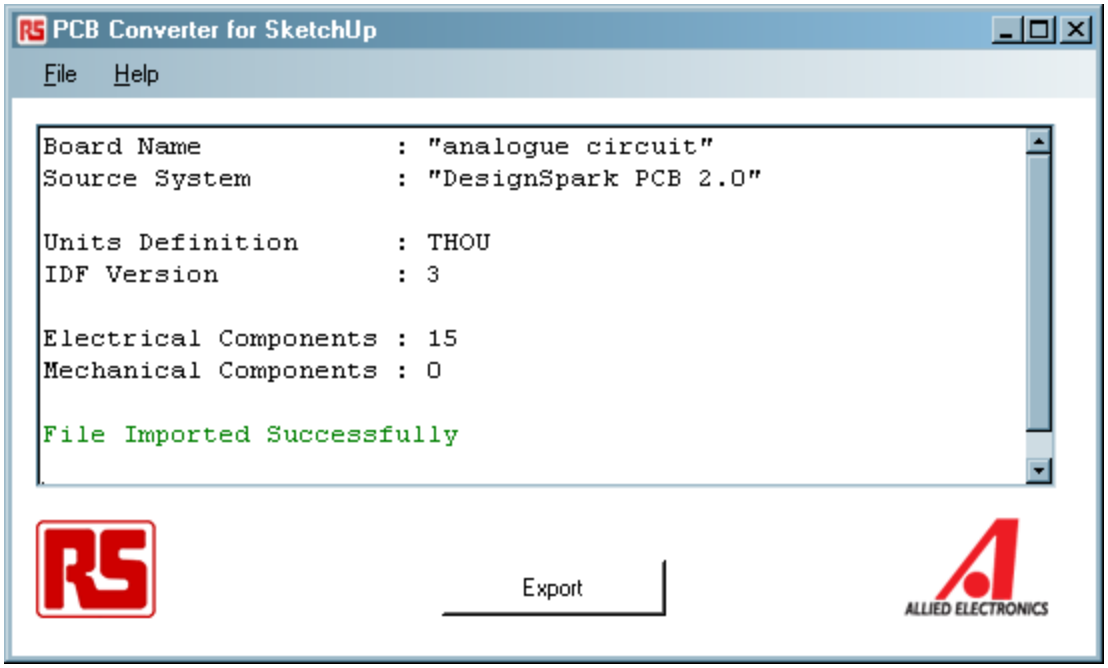
Using the tool

3. Click and hold the idb file. Drag the file onto the PCB Converter tool, and release.



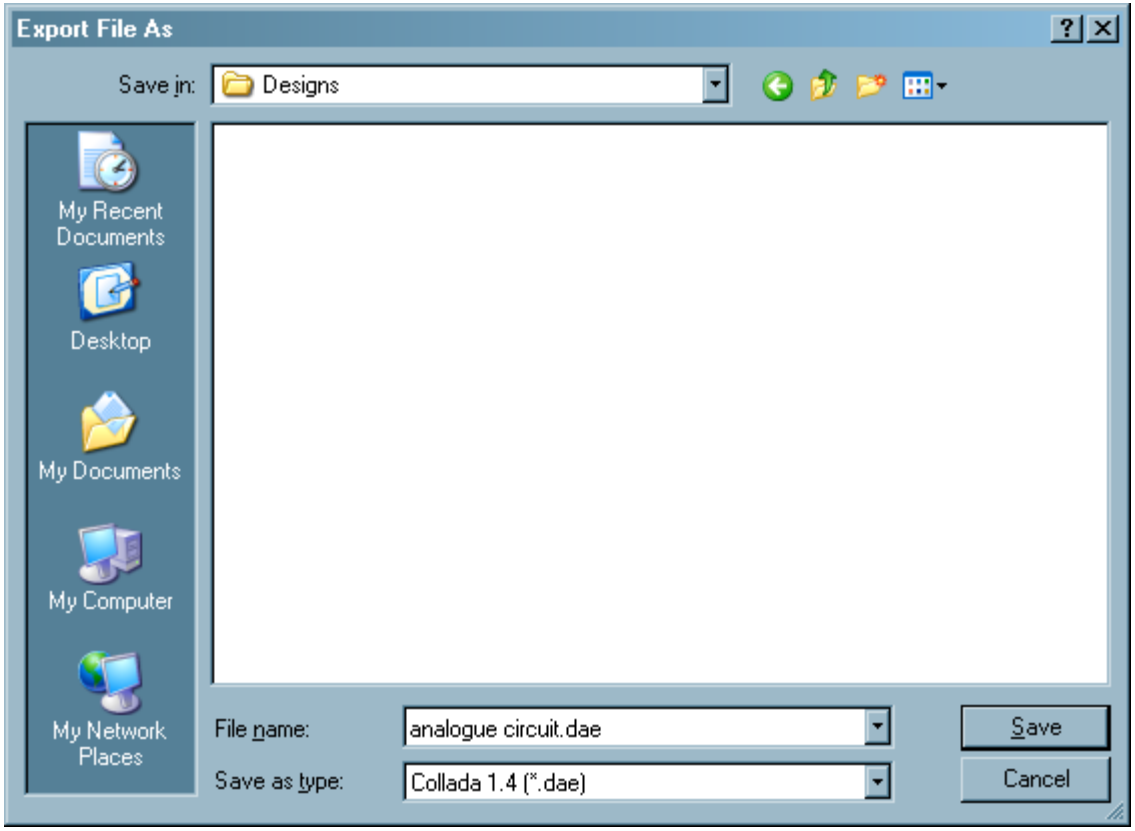
Using the tool

4. The tool will change, and show the “Export” button.



Using the tool

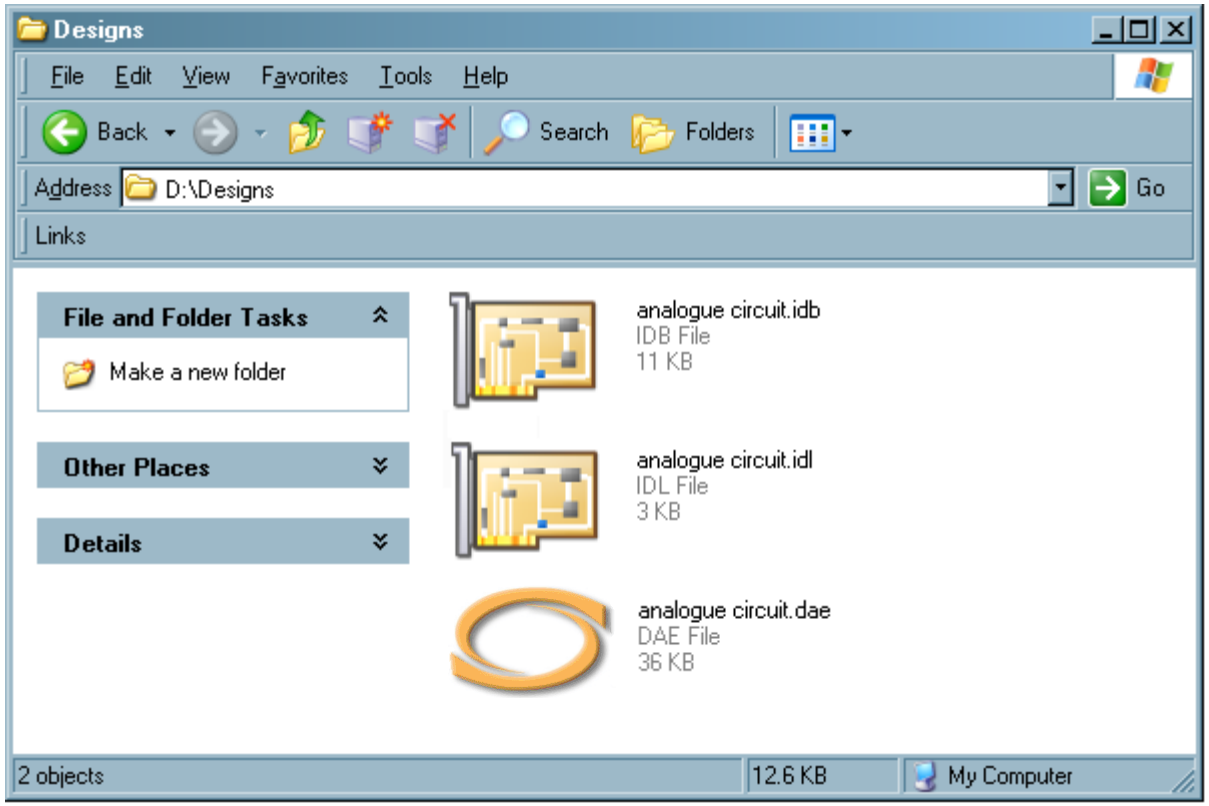
5. Click the “Export” button and choose a location to save the COLLADA (.dae) file



6. Click “Save”

Viewing the COLLADA file

7. The COLLADA file is now ready to be imported into Google SketchUp. This can be accomplished using the “File/Import…” command.



Further information

For further information, visit DesignSpark.com or rswww.com