



## **Sprint-Layout 6.0**

**Design your own  
Printed Circuit Boards**

### **System requirements**

Windows 2000,XP,Vista,  
Win 7 32/64 bit, Win 8 32/64 bit



Sprint-Layout - this software is getting more and more famous in the last years. If you need a software to design your PCB's easy and fast, you can't get away from Sprint-Layout! Many thousand satisfied users can't be mistaken - Sprint-Layout with its marvellous usage is simply unbeatable!

There is no unnecessary "ballast" which makes it difficult to keep the overview or which makes the usage almost impossible. Because of the logical and understandable structure of Sprint-Layout the usage is very easy to learn. So finally, you can concentrate to the essential thing: Designing and optimizing your PCB-layouts.

With Sprint-Layout you can start to draw you layout immediately. Place your pads or draw your tracks just wherever you want - there are no limitations or restrictions. Work completely free, just like on a sheet of paper. This matches the new motto of Sprint-Layout: **Just Draw It!**

Sprint-Layout offers all needed and many helpful functions to design your own layouts. Of course, there is an extensive library with all common components included.

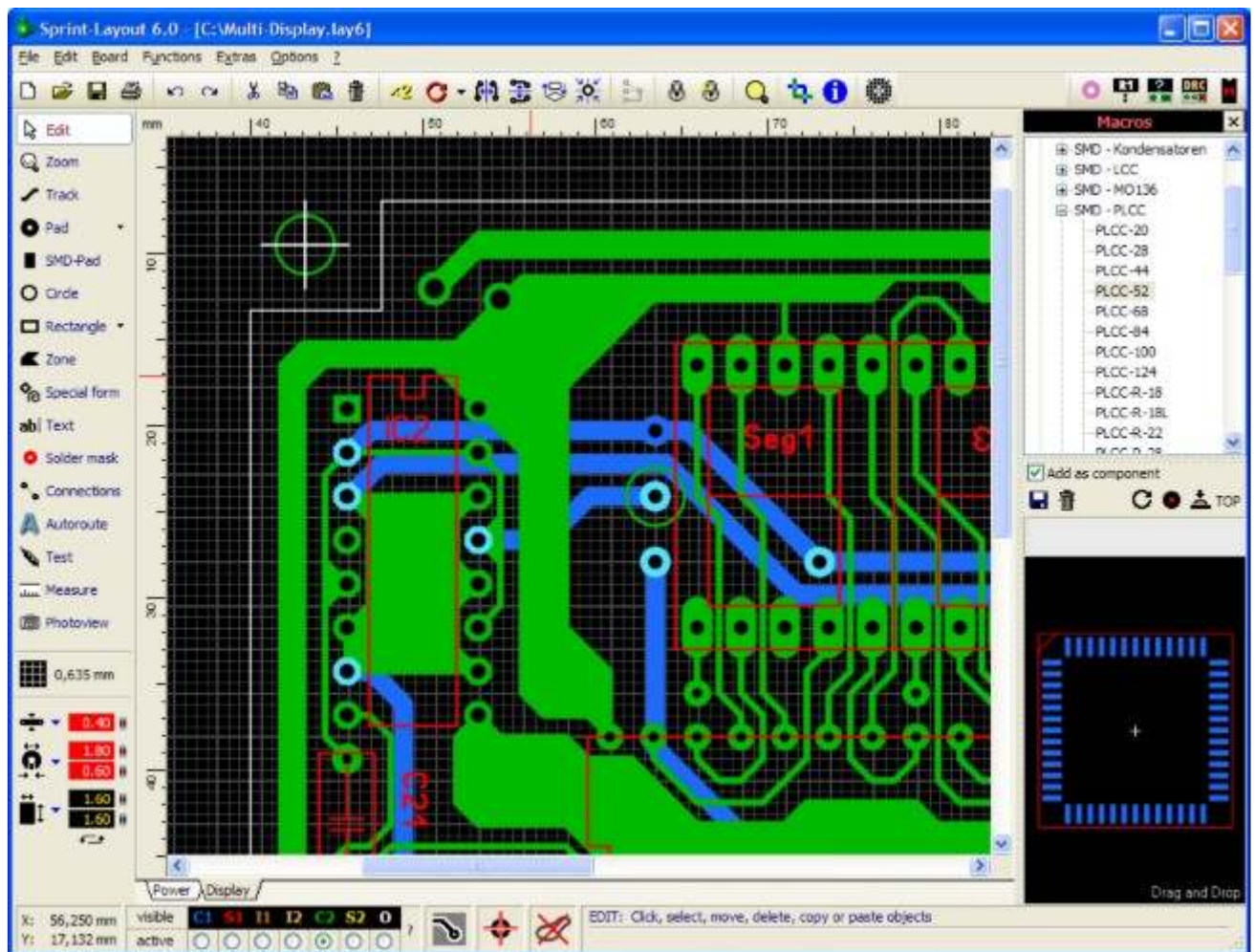
For manufacturing your PCB's by hand, there is an excellent printout-procedure with many options available. If you want to produce professional boards, there are many PCB-manufacturer, which accept Sprint-Layout files. If required, you can export your layout to the GERBER and EXCELLON format which are supported by almost every PCB-manufacturer. If you own a CNC milling-machine, Sprint-Layout is also able to create HPGL files for isolation-milling.

The new version 6.0 includes many new features and improvements, which makes the software more comfortable. As always, we take very much care of an user-friendly operation.

Of course the new version 6.0 is fully compatible to all older versions of Sprint-Layout. You can load all older layout-files and edit them with the new version.

With the free [viewer](#) for Sprint-Layout-files it is possible for everybody to view or print your layouts.

Are you getting curious? Here you can download the free [demoversion of Sprint-Layout 6.0](#).



Sprint-Layout is equipped with tools to draw pads, tracks, copper areas, labels and so on. Just select the corresponding mode and place your elements. All parameter like track-width, pad-size, etc. are always visible at a glance, and can be edited every time. The active grid-capture lets you easily place your elements exactly.

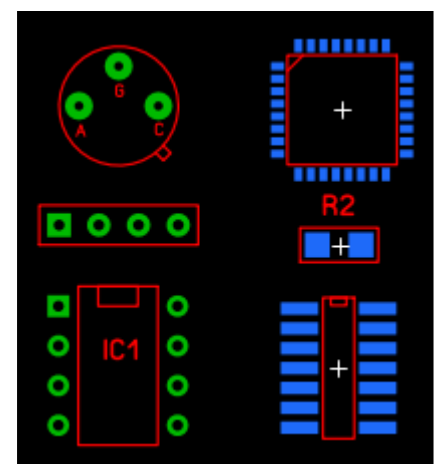
You can edit existing layout-elements very easy. For example if you adjust the width of a track, you will see the result immediately on your layout. Additional functions like copy, move, rotate, mirror, etc. are self evident.

### Component-library

The component-library is already filled with many common used components, either in SMD or in conventional through-hole-technology. The library is displayed in a well sorted treeview, so you don't have to spend much time for searching a component.

If a special component is missing, you can easily draw it by yourself just on your layout. After that you can add this component to the library. So this new component is always available.

To use a component from the library, just drag&drop it to your layout. After that you can move, rotate or label the component like you want.



### Anti-Aliasing

The quality of the screen presentation is strongly improved with the anti-aliasing-technology. Edges are smoothed and the layout is looking much more realistic, even in small zoom modes.



### Reticule with automatic-capture mode

The automatic-capture mode makes it easier to place pads or tracks. Whenever the reticule gets close to a capture-point, it will be captured to this point, and helps you to connect exactly. This is particularly very helpful, if some connections are lying out of the grid.

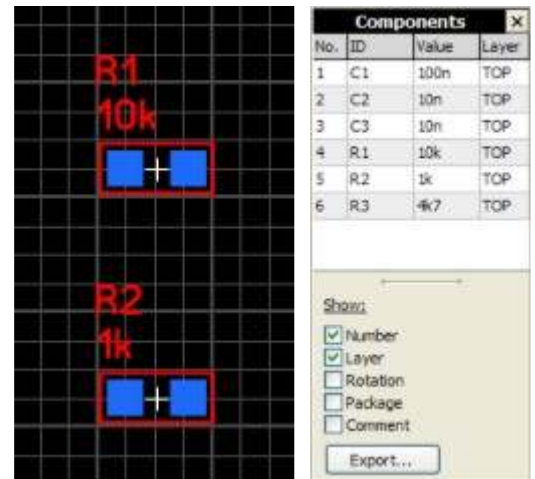
The reticule also has a numeric display of the current coordinates. So you don't have to wander with your eyes to another position and you have always the view on your layout.



### Components and component-lists

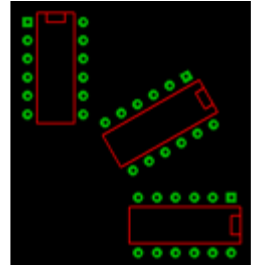
Sprint-Layout can display and manage the components including identifier and value. Of course there is also the possibility to show the component list.

Each component can manage some additional data, so called "Pick+Place" data. With these additional data, Sprint-Layout can export Pick+Place files, which are necessary for the automated placement of SMD components on a board.



### Free rotating

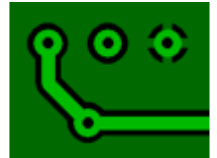
You can rotate all components or elements in any angle. This makes it possible to place your components in the best manner.



### Automatic Ground-Plane

This function fills unused areas of a layout with copper automatically. This accelerates the corroding process and saves corroding material. You may also use this function to create a screen for HF-boards.

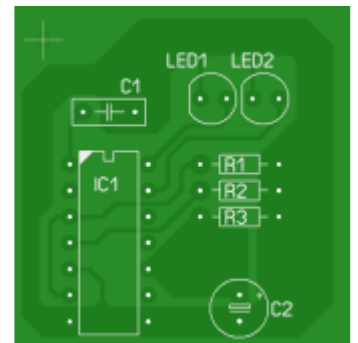
You can also define thermal-pads on the automatic ground-plane.



### The Photoview

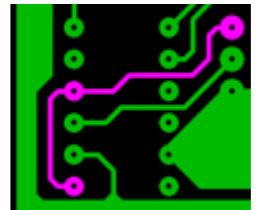
The photoview lets you take a look at your board as if it was already manufactured, with drillings, silk screen, etc. This helps you to find typically mistakes like wrong mirrored components or text.

You can select which board-side do you want to view and display or hide the silk-screen. With the “x-ray” feature you can make the board transparent, so that you can see the other board-side shine through.



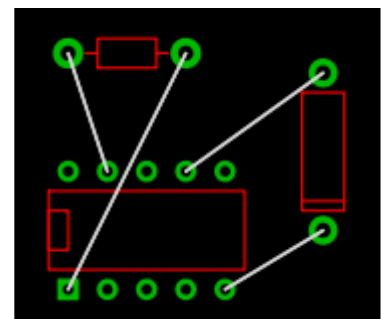
### Test-function

This function is very helpful to check your layout. You can click on any position of your layout, and Sprint-Layout will find all connected layout-elements, and light them up. This makes it very easy to check the signal flow of the layout.



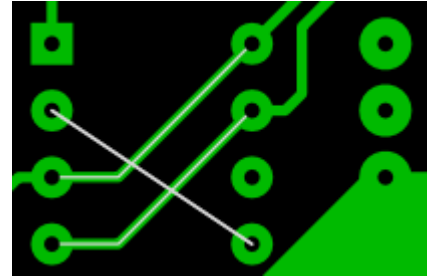
### Connections (Rubberbands)

With the help of the connections, you can simplify the routing process. Straight rubberband lines are used to indicate connections that have not yet been routed. This may help you not to forget any tracks. The rubberband lines are also helpful to find a suitable position for components. You may use them to avoid crossing tracks when placing the components on the board.



### The Autorouter

There is simple point-to-point autorouter integrated in Sprint-Layout. This autorouter is able to connect two points of your layout. These two points are defined with a connection (rubberband). The autorouter was not designed, to generate whole boards at once. This is usually not possible. To create a proper layout, you have to design it mostly by yourself. The autorouter in Sprint-Layout is designed as an easy to use autorouter. You don't have to make obscure specifications and options. The autorouter is as simple as the whole software.

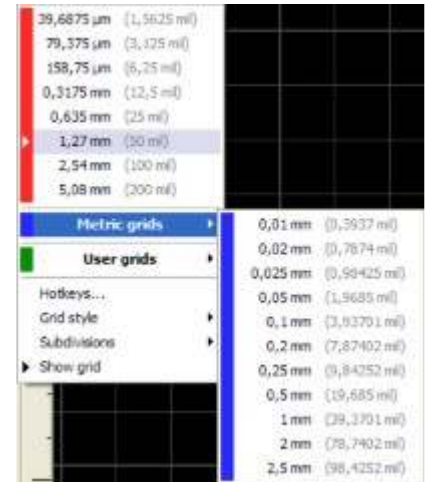


### High resolution and accuracy

The resolution and the accuracy of Sprint-Layout was increased substantially. This concerns also the grid settings and the maximum zoom factor. It is now possible to define a grid-value up to 1µm. So it is no problem to design even very fine layout structures.

Also the selection of a special grid-value with the grid-menu is very easy. Just select the desired value from the popup-menu, which is filled with all default grid-values, either in inch or metric values. Of course you can easily extend this grid-menu with your own-defined grid-values.

You can change the current grid also with the numeric keys 1-9 on your keyboard. These keys are working as hotkeys with predefined grid-values.



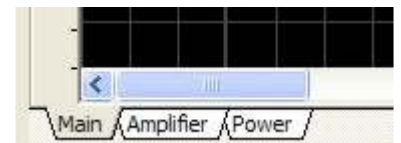
### Layer administration

Sprint Layout offers - for both sides of the board - a copper- and a silk-screen-layer. Optional there are 2 inner layers (for multilayer PCB's) and an outline layer (for the outline of your board) available. The layers can be switched on and off whenever necessary.



### Several boards

A Sprint-Layout file can contains several boards. So you can add all boards of a project to one file. With a single click you get access to any board of your project.

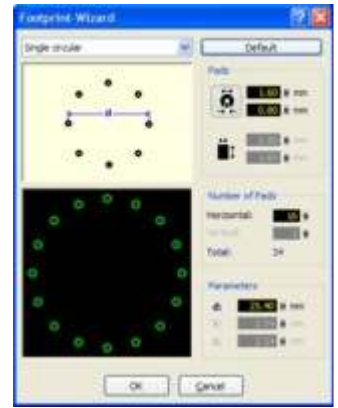


### The Footprint-Wizard

The footprint-wizard helps you to create special footprints for components. You can specify the footprint-type and the parameters and the wizard creates your footprint automatically.

Every footprint-type has different parameters. These parameters are displayed and explained in a little picture in the footprint-wizard.

All changes that you made will be displayed in the preview immediately. If you have set all parameters, the footprint-wizard creates the footprint and you can place it on your layout.



### Properties-Panel

The properties-panel offers the possibility to edit all important properties of your layout-elements without calling special dialogs. Besides you can edit here special properties like positions, etc.

The properties-panel responds on the current selection on your layout. Just select the desired element and edit its properties directly in this panel. All changes that you make in this panel will be displayed on your layout immediately, so you can always see the result of your changes.

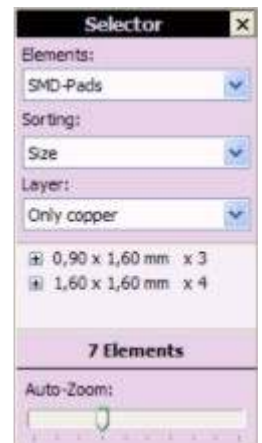
With the help of the **multi-selection** possibility, you can even change properties of as many elements as you like at one go.



### The Selector

The Selector is a mighty tool. You can use it to search and select special elements on your layout. So it is possible to search and select all pads with a special shape or size. If the desired elements are selected, they can be changed in common with the properties-panel.

The Selector can also help to analyze your layout. So you can list e.g. all tracks sorted by their widths. Such lists can help you to find unwanted elements.



## Design-Rule-Check (DRC)

Because of little inaccuracies while a PCB will be produced, there are some tolerances and limitations to keep, to get a usable Board. These values are named "Design Rules". Sprint-Layout is able to check some important design rules, e.g. the minimum clearance distance between 2 copper tracks, etc.

After a DRC is finished, all detected problems are listed in clear text and the problem-areas will be marked with a white hatch. Now you can examine the problems one after the other and correct them.



## Scanned copies

You can load a bitmap in the background of your layout. This bitmap can be a scanned-copy from an existing layout. You can use this bitmap as an original to trace the layout. The bitmap must be available as a bitmap file (BMP or JPG). The resolution should be between 300-600 dpi. A pure B/W color depth is recommended, but not absolutely necessary.



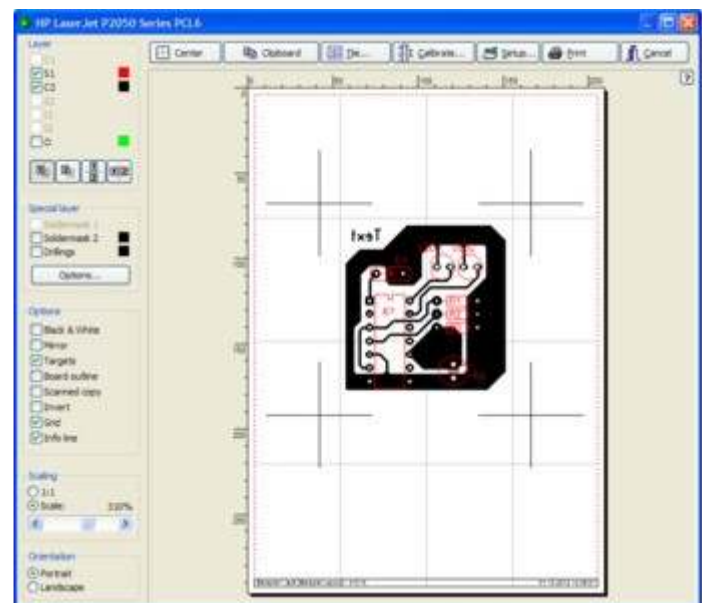
## Printing

Various options are available to print your layouts, solder masks, component-mounting-plans, silk-screens or drilling-plans on paper sheets or transparent film.

The printout position is adjustable and the tile-option allows you to repeat the printout of small designs in x- and y-direction, to save film and material.

The printout can be scaled.

All changes you make will be displayed in the preview immediately.

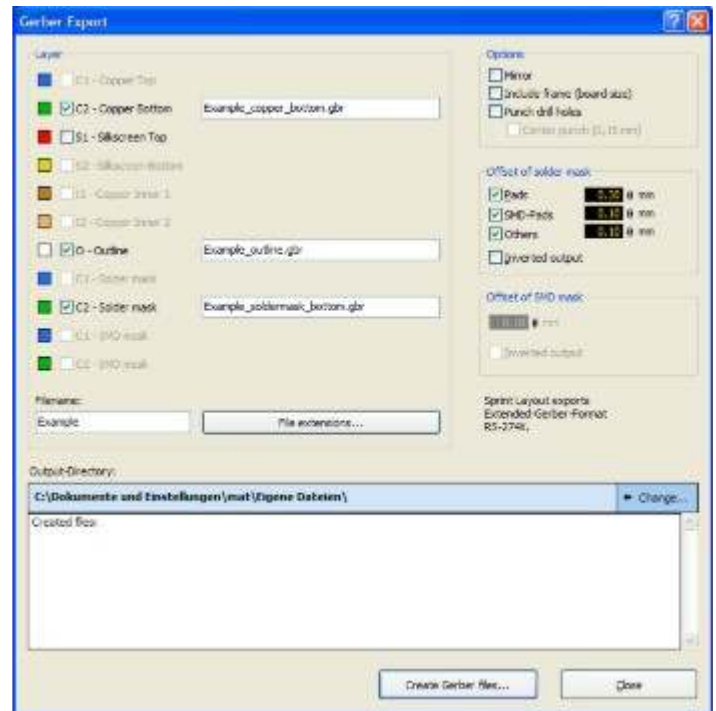


### Gerber / Excellon export

Sprint Layout produces GERBER files (RS-274X) that are used to exchange layout data with PCB manufacturers. Gerber files are supported by (almost) all manufacturers. So you don't need films or something else to produce your boards.

The drillings can be exported in the common EXCELLON format. With this feature you can drill your board automatically.

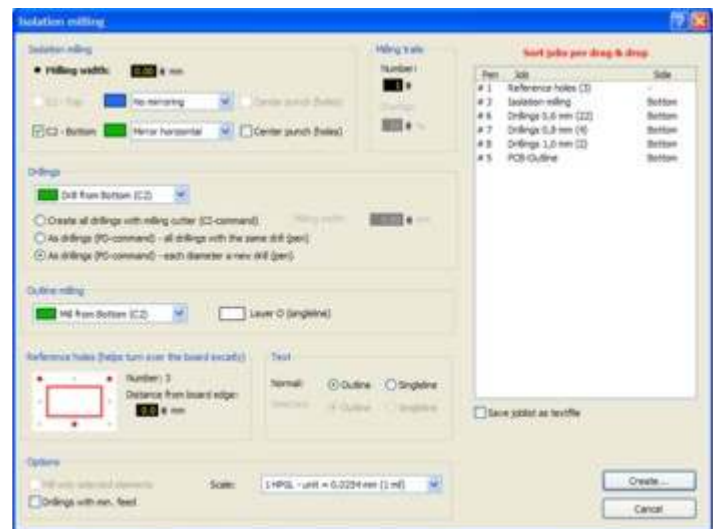
There are many PCB-manufacturer, which accept Sprint-Layout files (\*.LAY) in a direct way, so you don't have to create Gerber or Excellon files by yourself.



### Isolation-milling

Sprint-Layout supports also the isolation-milling. In this case, the PCB will be produced using a CNC-milling machine. Sprint-layout is able to calculate all necessary isolation-channels. The output file will be exported in the HPGL format. You can use these files to load them into your milling-application and produce the board.

Additional functions like drilling-outputs, mirroring or the option to define texts as singleline or outline, give you numerous possibilities.



### The Sprint-Layout-Viewer

With this Viewer it is possible for any user to view and to print Sprint-Layout files. The Viewer is a free software. You can download the Viewer directly from this homepage.