

CadSoft EAGLE Version 7

System Requirements

EAGLE is a powerful graphics editor for designing PC-board layouts and schematics. In order to run EAGLE the following is required:

- Windows 7, or newer
- Linux based on kernel 2.6 for Intel computers, X11 with a minimum color depth of 8 bpp, 32-bit runtime environment with the following libraries: libssl.so.1.0.0, libcrypto.so.1.0.0
- Mac OS X version 10.6 or above for Intel computer,
- a minimum graphics resolution of 1024 x 768 pixels,
- preferably a 3-button wheel mouse.

Professional Edition

◦General◦

- maximum drawing area 150 x 150 inches (about 4000 x 4000 mm)
- resolution 0,00325 μm (micron)
- grid in mm or inch
- up to 255 drawing layers
- command (Script) files
- C-like User Language for data import and export
- readable, fully documented XML data structure
- easy library editing
- composition of self-defined libraries with already existing elements by Drag&Drop
- easy generation of new package variants from any library by Drag&Drop
- free rotation of package variants (0.1 degree steps)
- arbitrary pad shapes in the Package Editor

- library browser with powerful search function
- support of technology feature (e.g. 74L00, 74LS00..)
- easy definition of labelled drawing frames
- free definable attributes, applicable for Devices in the Libraries and in Schematic or Layout
- support of assembly variants
- easy-to-use dimensioning tool
- merging of different projects with maintaining consistency (Design Reuse)
- integrated PDF data export function
- export function for graphic files (BMP, TIF, PNG...)
- printouts via the OS's printer drivers with print preview
- partlist generation with database support (*bom.ulp*)
- Drag&Drop in the Control Panel
- user-definable context menu with object-specific commands for all objects, available through a right mouse click
- properties of objects can be accessed and edited via context menu
- automatic backup function

◦Layout Editor◦

- full SMD support
- support of Blind and Buried vias
- rotation of objects in arbitrary angles (0.1-degree steps)
- components can be locked against moving
- texts can be placed in any orientation
- dynamic calculation of signal lines while routing the layout
- magnetic-pads function
- tracks can be drawn with rounded corners in any radius
- mitering to smooth wire joints
- Design Rule Check for board layouts (checks e.g. overlaps, measures of pads or tracks)
- copper pouring (ground plains)

- package variants support
- Differential Pair routing
- automatic creation of meanders for length compensation of signals
- user-definable, free programmable User Language to generate data for mounting machines, test equipments, milling machines or any other data format
- output of manufacturing data for pen plotters, photo plotters and drilling machines with the CAM Processor

◦ **Schematic Editor** ◦

- Schematics can be designed in a hierarchical structure: modules are represented by module instances and connected through ports in the top level of the schematic.
- the hierarchy can reach any depth
- up to 999 sheets per schematic
- icon preview for schematic and module sheets
- sorting sheets of modules and schematic with Drag&Drop
- cross references for nets
- automatic generation of contact cross references
- simple copying of parts
- replace function for parts without loss of consistency between schematic and layout
- Online -Forward&Back Annotation between schematic and board
- automatic board generation
- automatic generation of supply signals
- Electrical Rule Check (error check in the Schematic and consistency check between Schematic and Layout)

◦ **Autrouter Module** ◦

- fully integrated into basic program
- TopRouter with gridless routing algorithm, which can be preceded by the Autorouter



- optional automatic selection of routing grid and preferred directions in the signal layers
- support for multi-core processors to process multiple routing jobs simultaneously
- uses the layout's Design Rules
- change between manual and automatic routing at any time
- basic engine for the Follow-me router, a tool that supports you in manual routing; the trace of a selected signal will be calculated automatically
- ripup&retry algorithm
- user-definable strategy by cost factors
- routing grid down to 0.02 mm (about 0.8 mil)
- no placement restrictions
- up to 16 signal layers (with user definable preferred directions)
- full support of Blind and Buried vias
- takes into consideration various net classes

◦Standard Edition◦

The following restrictions apply to the Standard Edition:

- The layout area is restricted to a maximum of 160 x 100 mm (about 6.3 x 3.9 inches). Outside this area it is not possible to place packages and draw signals.
- A maximum number of 4 signal layers are allowed (Top, Route2, Route3, Route14, Route15, Bottom).
- The Schematic can have a maximum of 99 sheets.

◦Light Edition◦

The following restrictions apply to the EAGLE Light Edition:

- The board area is restricted to 100 x 80 mm (about 3.9 x 3.2 inches). Outside this area it is not possible to place packages and draw signals.
- Only two signal layers can be used (no inner layers).
- A schematic can consist of only one single sheet.
- Merging of different projects is not supported.



- Does not support hierarchical schematics and is not available as multi-user licenses.

Larger Layout and Schematic files can be printed with the *smaller* editions. The CAM processor can generate manufacturing data as well.

◦ **Freemium Edition (Free Trial)** ◦

The Freemium Edition is a *Free Premium*, which is available only after registration on <http://www.element-14.com/eagle-freemium> and has the following limitations:

- The board area is restricted to 100 x 80 mm (about 3.9 x 3.2 inches), which corresponds to half of an Eurocard.
- Only 4 signal layers can be used (Top, Route2, Route15, Bottom).
- A schematic can consist of a maximum number of 4 sheets.
- The Freemium license is limited to one single user and computer, and requires an active connection to the Internet in order to work.
- The license expires 30 days after installation.

*It is not possible to combine modules of different editions!
The Light Edition is available as Freeware for testing, evaluation, and non-commercial use.*

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