

System Requirements

Modified by Jason Howie on May 14, 2015

Below are the recommended and minimum system requirements to install and run CircuitMaker.

Recommended System Requirements

- Windows 7 or Windows 8 (32-bit or 64-bit)
- Intel® Core™ i5 processor or equivalent
- 8 GByte RAM
- 3.5 GByte hard disk space (Install + User Files)
- NVIDIA® GeForce® GT 640 series or AMD® Radeon® HD 7770, 1024MB (or more) graphics card or better, supporting DirectX 9.0c and Shader model 3 (or later)
- Dual monitors with at least 1680x1050 (widescreen) or 1600x1200 (4:3) screen resolution
- USB2.0 port if connecting to 3D Mouse
- 3D mouse for 3D PCB design, such as the [Space Navigator](#)
- Adobe® Reader® (8 or later)
- Internet Connection
- Up to date Web browser

Minimum System Requirements

- Windows 7 32-bit
- Intel® Core™ i3 processor or equivalent
- 4 GByte RAM
- 3.5 GByte hard disk space (Install + User Files)
- Intel integrated graphics HD4000 or equivalent, supporting DirectX 9.0c and Shader model 3 (or later)
- Main monitor 1280x1024 screen resolution at no greater than 100% DPI scaling
 - Strongly recommended: second monitor with minimum 1280x1024 resolution at 100% DPI scaling
- USB2.0 port if connecting to 3D Mouse
- Adobe® Reader® (8 or later)
- Internet Connection
- Up to date Web browser

If you need to open and edit XLS files for BOM, Microsoft Excel can be used, but is not a system requirement. OpenOffice can be used also.

DPI Scaling Support

The following table shows the maximum DPI Scaling supported, based on the vertical resolution of the monitor being used.

| Monitor Vertical Resolution (pixels) | Maximum DPI Scaling Supported |
|--------------------------------------|-------------------------------|
| 1024 to 1200 | 100% |
| 1600 | 125% |
| 1800 | 200% |
| 2K and above | 250% |

Other Considerations

The Size of the Design

The system requirements detailed above are for a medium-sized PCB design, for example up to 1000 components and up to 1000 nets. If your designs have a larger number of components and/or nets, then consider upgrading the processor family (for example, upgrade an i5 to an i7).

While there are no 'hard limits' per se, the software has been engineered to make it impractical for use with large designs. To this end, the PCB Editor will start to exhibit performance degradation when editing designs containing 5000 pads, becoming virtually unusable with designs containing 50,000 pads. Degradation itself takes the form of progressive slow-down in PCB editing functions (such as routing, placing components, polygon pours, etc).

The Importance of a Good Graphics Card

Graphics cards are a critical hardware element that can have a large impact on both the performance and stability of systems. Choose the right hardware requirements necessary to achieve stunning results, make the whole system more responsive and 'feel' better, and remove distractions to design caused by lags in the GUI. Altium PCB editor has been optimized for use with DirectX 9.0c, and requires a graphics card that supports this. Altium has chosen DirectX rather than OpenGL for its graphics engine, which has become the preferred standard for gaming graphics cards. An advantage of this choice is the fact that gaming cards are often significantly cheaper than workstation cards of equivalent performance. We therefore strongly recommend the use of a gaming card instead of a workstation card.

The need for a high-performance graphics card is directly related to the amount of use of the 3D PCB capabilities. For example, a Core i7 processor with on-chip integrated HD4000 graphics will be more than adequate if you only require occasional use of the 3D PCB capabilities. If you intend to make extensive use of the 3D PCB features, for computationally intensive tasks such as interactive presentations, then it is recommended to use a dedicated gaming graphics card in combination with a 3D mouse, such as the [Space Navigator](#).