



Specifications for PSCAD v4.4.1

Written for PSCAD X4 version 4.4.1

May 18, 2018
Revision 2





Computer Requirements:

PSCAD X4 is a numerically intensive power system transients simulator; a fast and efficient personal computer is recommended for best results. PSCAD is supported on any computer running Microsoft® Vista or 7.

| Category | Recommended |
|-------------------------------|--|
| Operating System ¹ | Microsoft Windows Vista 32 SP1, Vista 64 SP1 Microsoft Windows 7 |
| Additional Software | Intel® Fortran Composer XE 2011 ² Microsoft® .NET Framework 4.0 Full ³ Microsoft Visual C++ 2010 Redistributables (x86) ⁴ |
| Peripherals | One USB 2.0 port ⁵ |

¹PSCAD is a 32-bit application but will operate on 64-bit platforms, provided the 64-bit hardware drivers are installed for the USB hardware lock.

²The *Intel® Fortran Composer XE 2011* compiler has shown to provide EMTDC runtime executables that are significantly faster than those built by its predecessor (*Intel Visual Fortran 11*); in some cases twice as fast. The latest *Line Constants Program* is also built with this compiler, with significant speed enhancements as well. Intel® claims that the latest version (v12.1) is 17% faster still, but this has not been verified. Contact our *Sales Desk* (sales@pscads.com) for purchasing details. **NOTE:** The *Intel Visual Fortran* compiler is not supported in the *PSCAD Free Edition*. This edition uses only the *GFortran 95* compiler.

³The PSCAD X4 installer program requires that Microsoft® .NET Framework 4.0 Full be installed prior to installing your PSCAD X4 product. This version of the software comes complete with the Microsoft® Windows 7 operating system, but is not included with Microsoft® Windows Vista. To download Microsoft® .NET Framework 4.0 Full, visit www.microsoft.com.

⁴To download the Microsoft Visual Studio C++ 2010 Redistributables (x86), visit www.microsoft.com. Please note that you only need the (x86) version, even if you have a 64-bit machine.

⁵USB 2.0 port is required for the hardware lock. Parallel port type locks are no longer supported.

Personal computers configured with slower processors and lesser RAM may be used, but slower execution performance will result. In other words, simulation speed increases with processor speed and amount of RAM.

Supported Fortran Compilers

PSCAD requires a FORTRAN compiler to build and simulate projects. The following commercially available compilers are presently supported:

- Intel Visual Fortran 9.x, 10.x, 11.x & 12.x¹
- GFortran 95

For your convenience, a free FORTRAN compiler, called the *GFortran 95* compiler, is provided on your PSCAD CD (or may be downloaded from our web site: www.pscad.com). If you have downloaded the *Trial Edition* from our web site, the *GFortran* compiler is available as a separate file.

If you are the owner of a professional or educational PSCAD license, it is recommended that you purchase the *Intel® Visual Fortran Composer XE 2011 (v12)* compiler, mainly for its superior debugging environment and optimization features. Also, has shown to provide EMTDC runtime executables that are significantly faster than those built by its predecessor (*Intel Visual Fortran 11*); in some cases twice as fast. Contact our *Sales Desk* (sales@pscad.com) for purchasing details.

¹The *Intel Visual Fortran* compiler is not supported in the *PSCAD Free Edition*. This edition uses only the *GFortran 95* compiler.

PSCAD Imposed Boundaries (all Editions and Compilers)

| Description | Boundary |
|------------------------------------|-----------|
| Electrical nodes | Unlimited |
| Transformers | Unlimited |
| Mutually coupled windings | Unlimited |
| Module Definitions | 1,024 |
| Components | 65,536 |
| Component Graphical Layers | 256 |
| T-Lines/Cables | Unlimited |
| Conductors per T-line Right-of-Way | 30 |
| Data signal dimension | 1,024 |
| Radio Transmitters/Receivers | Unlimited |
| STOR allocations | Unlimited |
| STORF/L/I/C allocations | Unlimited |



Edition Specific Boundaries

| Description | Free | Educational | Professional |
|------------------------|-------------|--------------------|---------------------|
| Electrical Sub-systems | 1 | 1 | Unlimited |
| Electrical Nodes | 15 | 200 | Unlimited |
| Modules | 5 | 64 | 1,024 |
| Components | 1,024 | 32,768 | 65,536 |
| Output Channels | 64 | 1,024 | Adjustable |

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