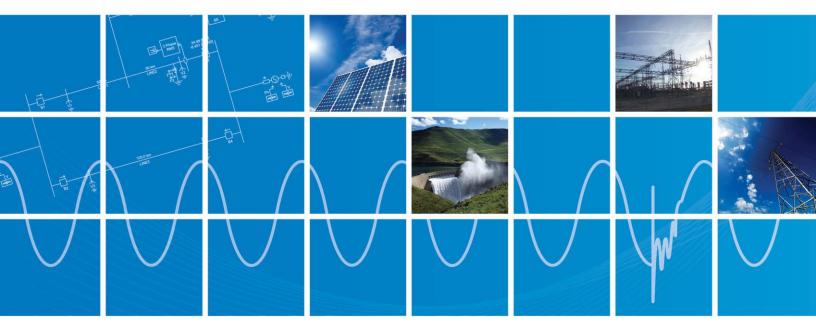


Specifications for PSCAD v4.4.1

Written for PSCAD X4 version 4.4.1

May 18, 2018 Revision 2



Powered by Manitoba Hydro International Ltd. 211 Commerce Drive Winnipeg, Manitoba R3P 1A3 Canada mhi.ca





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@pscad.com) for purchasing details. **NOTE**: The Intel Visual Fortran 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 <u>www.microsoft.com</u>.

⁴To download the Microsoft Visual Studio C++ 2010 Redistributables (x86), visit <u>www.microsoft.com</u>. 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: <u>www.pscad.com</u>). 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 <u>twice as fast</u>. Contact our *Sales Desk* (<u>sales@pscad.com</u>) for purchasing details.

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

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

PSCAD Imposed Boundaries (all Editions and Compilers)



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

Copyright © 2018 Manitoba Hydro International Ltd. All Rights Reserved.