



Getting Started with PSCAD X4 (v4.5.5)

Written for PSCAD X4 version 4.5.5

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Revision 2





Contents

- 1. COMPUTING REQUIREMENTS 1**
- 2. SCOPE BOUNDARIES 2**
 - 2.1 PSCAD IMPOSED BOUNDARIES (ALL EDITIONS AND COMPILERS) 2
 - 2.2 EDITION SPECIFIC BOUNDARIES 2
- 3. SUPPORTED FORTRAN COMPILERS 3**
- 4. INSTALLING PSCAD 4**



1. Computing Requirements

PSCAD 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 2013 for Windows ² Microsoft® .NET Framework 4.0 Full ³ Microsoft Visual C++ 2010 Redistributables ⁴
Peripherals	One USB 2.0 port ⁵ (if legacy licensing is used)
Other	Internet Connection (if certificate licensing is used)

¹The PSCAD product is sold as either a 32-bit or 64-bit application. The 32-bit application will operate on 64-bit platforms, provided the 64-bit hardware drivers are installed for the USB hardware lock.

²The *Intel® Fortran Composer XE 2013 for Windows* compiler has shown to provide EMTDC runtime executables that are significantly faster than those built by its predecessor (*Intel Visual Fortran 11*). The latest *Line Constants Program* is also built with this compiler, with significant speed enhancements as well. Contact our *Sales Desk* (sales@pscad.com) for purchasing details.

³PSCAD X4 requires that Microsoft® .NET Framework 4.0 Full be installed. Microsoft® .NET Framework 4.0 Full comes complete with the Microsoft® Windows 7 operating system and later, but is not included with Microsoft® Windows Vista. If not already installed on your computer, the PSCAD X4 installer will automatically install Microsoft® .NET Framework 4.0 Full.

⁴PSCAD X4 requires that Microsoft® Visual C++ 2010 Redistributables (either x86 for PSCAD 32-bit or x64 for PSCAD 64-bit) be installed. If not already installed on your computer, the PSCAD X4 installer will automatically install Microsoft® Visual C++ 2010.

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.

2. Scope Boundaries

Any boundaries imposed on your projects will depend mainly on which PSCAD edition you are using. The following tables list the most commonly encountered boundaries.

2.1 PSCAD Imposed Boundaries (all Editions and Compilers)

Description	Boundary
Transformers	Unlimited
Mutually coupled windings	Unlimited
Component Graphical Layers	256
T-Lines/Cables	Unlimited
Conductors per T-line Right-of-Way	30
Cables per Right-of-Way	12
Data signal dimension	1,024
Radio Transmitters/Receivers	1,024
STOR allocations	Unlimited
STORF/L/I/C allocations	Unlimited

2.2 Edition Specific Boundaries

Description	Educational	Professional
Electrical Sub-systems	1	256
Electrical Nodes	200	Unlimited
Modules	64	2,048
Components	32,768	65,536
Output Channels	1,024	2,048
Create Definition	✓	✓
Edit Definition	✓	✓
Navigate Module Hierarchy	✓	✓
Import/Export Definition	✓	✓
Copy/Paste Definition	✓	✓
Import Legacy Project (i.e. V4)	✓	✓
Commercial FORTRAN Compiler	✓	✓
Frequency-Dependent T-Lines	✓	✓
MATLAB Interface	✓	✓
Multiple Subsystems	✗	✓
Printing	✓	✓



3. 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.x & 13.x
- 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 for Windows 2013 (v13) 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.



4. Installing PSCAD

Installing your PSCAD software should be a straightforward process. If problems do arise, please contact the *PSCAD Support Desk* (support@pscad.com) for assistance.

1. Insert CD into a compatible optical drive. The installer should start automatically.
2. Follow the instructions given in each, sequential installer dialog.



DOCUMENT TRACKING

Rev.	Description	Date
0	Initial	30/Nov/2015
1	Update to Document Tracking: Content for the initial version of this manual was taken from the PSCAD v4.5.5 Help System. This current manual supersedes “Getting Started PSCAD X4 v4.5 and v4.6”, as that manual was split out into two separate documents, one for each version.	08/Jan/2015
2	Update to new Branding Guidelines	18/May/2018

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