

# PSCAD X4

## New and Enhanced Features



PSCAD™ X4 is more powerful than ever before.

The PSCAD™/EMTDC™ development team has made significant improvements to the structure and abilities of PSCAD to include the most highly-requested features. PSCAD X4 represents a complete overhaul of the internal architecture of the software - and with this new architecture, comes a multitude of new features and functionalities that were previously not possible.

The following features are found exclusively in PSCAD X4 and subsequent versions.

### High Performance and Parallel Computing

- Launch and run multiple EMTDC simulations in parallel.
- Make optimal use of local processing hardware
- Run large electric networks fast by connecting subnetworks in parallel
- 64-bit PSCAD available

### Multiple Instances Modules

- Store page module definitions in library projects, just like any other component, and instantiate them in any case project
- Add parameters to page modules to pass data in and out, without the need for connection ports.

### Blackboxing

- Collapse any control system schematic into an equivalent component, complete with generated source files and/or compiled binary files.
- Protect intellectual property when distributing models

### Parameter Grid

- Display and manipulate component parameter settings easily and efficiently, using a convenient spreadsheet-like display.

### Drawing Layers

- Enable and disable groups of components easily by using smart drawing layers.

### Certificate Licensing

- Cloud-based licensing system.



Blackboxing allows users to design their systems graphically, and then quickly collapse the system into a sealed component

World-class training.  
Whether you are a new or an experienced user, the team of experts at MHI can tailor a course that suits your needs.



- No hardware lock required, only an occasional internet connection

### Upgraded Free Fortran Compiler

- GNU Fortran 77 compiler has been replaced with the more modern GFortran 95.

### Transmission Line/Cable Mutual Coupling

- Mutually couple individual line or cable segments that possess identical lengths, into a single segment.

### Multiple Workspaces

- Load and unload entire workspace study environments, composed of multiple projects, by simply switching the workspace

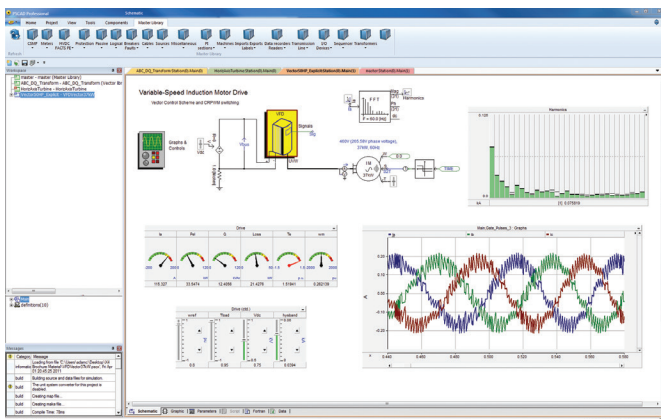
### Enhanced and Updated Line Constants Program

- DC correction algorithms ensure perfectly accurate DC response.
- Selective conductor elimination (not just the outer layer).
- Hollow conductor and semi-conductive layer support.
- Aerial cables.
- Passivity checking.
- Ideal cross-bonding and buried, bare conductors.

- New, more stable ground return approximation algorithm for cable systems.

### Many New Master Library Models Included

- Photovoltaic (PV) Source
- Frequency-Dependent Network Equivalent (FDNE)
- Frequency-Dependent Transfer Function Model (FDTF)
- Transformer Core Hysteresis (Classical Models Only)
- New multiple run component allows for additional data recording
- Discrete Wavelet Transformation (DWT)
- Space-Vector Modulation (SVM)
- Pipe-Type Cable
- Battery
- Saturable reactor
- Spark gap
- Two new auto transformer models
- And many more



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CONTACT US AT [SALES@PSCAD.COM](mailto:SALES@PSCAD.COM) FOR MORE INFORMATION

*Manitoba Hydro International Ltd. is a world leader in power system simulation innovation and applied engineering solutions. As the developers of the world-renowned PSCAD™/EMTDC™ software, we recognize the importance of collaborative partnerships and technologies in the global power industry.*

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