

# Installation and Setup

## HARDWARE AND SOFTWARE REQUIREMENTS

The following are the recommended specifications.

Category	Minimum	Recommended
Processor	500 MHz (Pentium 2)	3 GHz (Pentium 4 or Athlon)
Operating System	Windows 2000 Windows XP	Windows 2000 Windows XP Pro SP2
Additional software	Digital Visual Fortran 5 Compaq Visual Fortran 6.x  NOTE: A free EGCS/GNU Fortran 77 compiler is provided, which is sufficient to run most cases in PSCAD. However, certain dimensioning limits will be imposed (see Dimension Limits).	Intel Visual Fortran 9.0.x  NOTE: One of the following packages must be installed for IVF 9.0 usage:  • Microsoft Visual C++. NET 2002 or 2003. • Microsoft Visual Studio.NET 2002 or 2003 (with Visual C++ installed).
Memory (RAM)	256 MB	1 GB
Hard Disk	500 MB	40 GB (Fast SCSI or IDE)
Video	SVGA (800 x 600)	XGA (1280 x 1024)
Other Peripherals and Hardware	CD-ROM Drive /w 32-bit Drivers Mouse One (1) Parallel, Serial or USB port (for hardware lock) TCP/IP Network Protocol	Same

### FORTRAN COMPILERS

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

- **Digital Fortran 5.0**
- **Compaq Visual Fortran 6.x**
- **Intel Visual Fortran 9.0.x**

For your convenience, a free Fortran compiler, called the EGCS/GNU Fortran 77 compiler, is provided on your PSCAD CD (or may be downloaded from our worldwide website: [www.pscad.com](http://www.pscad.com)). If you have downloaded the Student Edition from our website, the GNU compiler is available as a separate file. Please note that the GNU compiler will impose some limitations otherwise not experienced with the Digital, Compaq or Intel Fortran compilers.

If you are the owner of a professional PSCAD license, and intend to run large cases (i.e. greater than 200 nodes), it is highly recommended that you purchase the Intel Visual Fortran 9.0.x compiler. Contact us at PSCAD Sales ([sales@pscad.com](mailto:sales@pscad.com)) for purchasing details.

### LICENSING

All PSCAD software editions, except the Student Edition, must be licensed. Licensing is organized and controlled using License Manager software, which can exist either as a separate, standalone program, or can be embedded within PSCAD itself.

The type of licensing arrangement that is best for you depends on how you wish to utilize PSCAD, and on what type of license you purchased. The following sections describe each type of licensing arrangement in detail.

#### Multi-User Licensing

The multi-user licensing (MUL) method was first introduced with PSCAD V3, and was then the only licensing option available. With this configuration, the License Manager software is installed as a standalone program, which can be accessed by any computer (including the host), on a Local Area Network (LAN).

**NOTE:** The License Manager will only grant licenses to computers on the same subnet. Licenses requested via a router will not be accepted.

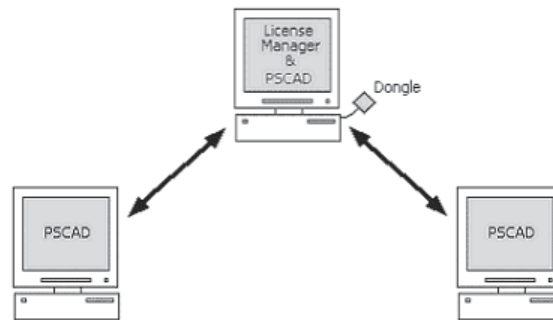
A multi-user set-up is capable of providing multiple users on multiple machines the ability to run multiple combinations of various licensable editions of PSCAD. In other words, if a user is sufficiently licensed, this method has the potential to afford a lot of freedom when operating over a LAN, and should be used if there will be several PSCAD users.

In multi-user licensing, the License Manager is used in conjunction with a hardware lock (also known as a dongle), which contains licensing information for the purpose of validation. When an instance of PSCAD is started somewhere on the LAN, a license will be requested from the License Manager. The License Manager determines whether a license is available, and checks the information on the dongle for verification.

The number of users that can access PSCAD simultaneously over the LAN depends on the number of licenses available on the dongle. For example, if there are a total of two Professional Edition licenses on a network dongle, then only two users may use the PSCAD Professional Edition at the same time. Each time a user opens or closes the PSCAD program, it will request or relinquish a license respectively. Each licensable edition of PSCAD possesses a separate product number, so that several products are possible on one dongle.

**NOTE:** The number of licenses owned does not limit the number of PSCAD installations on the LAN!

The License Manager and dongle needs to be installed on only one computer in a network. This computer will act as the License Manager 'server,' which will hand out licenses to other machines on the network, as requested. PSCAD may also be installed on the License Manager server machine if desired.



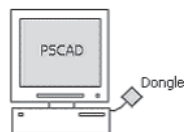
**EXAMPLE:** A PSCAD user owns three Professional Edition licenses programmed onto one dongle. The above diagram illustrates how the user could install the License Manager on a LAN, so that up to three users can run PSCAD simultaneously.

Multi-user licenses can be time limited or infinite (no time limit).

### Single-User Licensing

Single-user licensing (SUL) still involves the use of a dongle, but a standalone License Manager program is not required. Here, an embedded License Manager, within the PSCAD program itself, manages the licenses.

A single-user license will only allow a single user on a single machine to run only one instance of a licensable edition of PSCAD. Single-user licensing is designed especially for use on standalone machines and laptops, and will NOT allow access from other machines, even if it is connected to a LAN.



**EXAMPLE:** A PSCAD user owns one Professional Edition license programmed onto a single dongle. The above diagram illustrates how the user would install PSCAD as a single-user configuration. Note the absence of the License Manager as a separate program.

Single-user licenses can be time limited or infinite (no time limit).

### **Trial Licensing**

In order to simplify the evaluation process, and to provide access to the full PSCAD Professional Edition functions, trial licensing is now available with PSCAD V4. A trial license is a special type of single-user license, where a time limit is mandatory and the user may only own a single trial license of the PSCAD Professional Edition.

**NOTE:** Only the Professional Edition of PSCAD is available for trial licensing.

With trial licensing, neither the License Manager nor the dongle is required. However, the user must request a trial license after PSCAD is installed. Note that until the trial license is approved and sent by the Manitoba HVDC Research Centre Inc., the installed copy of PSCAD will function as a Student Edition (SE), with all SE limitations imposed (i.e. 15 electrical nodes maximum).

**NOTE:** Do not upgrade your operating system, hard drive, or network card during the duration of the trial license period. Any one of these changes will cause your trial license to be lost.

Trial licenses are locked to the hardware and registry of a particular machine and are therefore not transferable from one machine to another. The latest installed trial license will overwrite any previously existing trial licenses.

### **Hardware Locks (Dongles)**

The License Manager software supports the following types of hardware locks:



Sentinal SuperPro™ 797, Low Profile Parallel Port Hardware Lock



Sentinal SuperPro™ USB, USB Port Hardware Lock



MicroSentinal™, 25-Pin Serial Port Hardware Lock with 25 to 9-Pin Adapter

The USB and parallel port dongles are the preferred choice, due to their small size. The parallel port dongle is perfect for laptop computers, as it features a low profile and does not protrude from the back of the machine (and typically does not ever need to be removed). The serial and parallel port locks are compatible with all Windows platforms on which PSCAD is supported. However, **the USB dongle is NOT compatible** with the following operating systems:

- Windows NT 4.0
- Windows 95 OEM Service Release 2 or earlier

**NOTE:** Not all computers come with USB ports. If you are not sure if you have one, contact your system administrator for help.

### License Key

The license key is an ASCII text file named 'license.txt,' which usually resides on a floppy disk (called 'License Manager: License.txt') required for the PSCAD Professional and Educational Editions. This file contains encrypted information designed to act as a 'Key' to adding or upgrading licenses (both single-user and standalone) to the license database file, which is used directly by the License Manager.

### LICENSE MANAGER SOFTWARE

In addition to the standalone License Manager software that was first introduced with PSCAD V3, the PSCAD package now includes two additional types of License Manager. The type of License Manager you will need depends on your licensing arrangement.

There are a few important points to discuss regarding the maintenance and operation of the License Manager. These are outlined in the following sections as well.

#### **Standalone License Manager**

The Standalone License Manager (SLM) is used only with multi-user licenses. The SLM can operate on a dedicated server, or on any machine running PSCAD. Any combination of PSCAD products can be included and used interchangeably with this License Manager. Installation instructions for the SLM are given later in this chapter.

#### ***Maintenance and Support***

Once the License Manager is installed and running, it is a good idea for the person operating the designated License Manager server to maintain the software and ensure proper operation.

The Standalone License Manager (SLM) usually starts automatically when the machine is booted (unless manual starting is specified during installation) and runs as a background process. All SLM events and transactions are recorded in a log file entitled 'Lmgrd-log.txt,' which is usually located in the Windows or WINNT directory (depending on your OS). When troubleshooting, this file contains important information about the cause of any problems.

If problems arise with the operation of your License Manager software, first try to address the problem using the clues found in the log file. If the solution remains elusive, send us an email at PSCAD Support Services ([support@pscad.com](mailto:support@pscad.com)) with a detailed description of the problem. To ensure efficient response time, please attach the log file (i.e. **Lmgrd-log.txt**). Also, go to **START | Programs | HVDC Lmgr** and run the 'Get License Info' utility and attach the generated 'Get License Info' file (**getinfo.txt**) to the email.

#### **Local License Manager**

The Local License Manager (LLM) is utilized only when running under a single-user license. Although the LLM will support multiple

product licenses, it will not support multiple instances of any individual PSCAD product. Attempting to start a second instance of a certain product (say Professional Edition), will force the second instance to run as the Student Edition.

### **Trial License Manager**

The Trial License Manager (TLM) is utilized only when running under a lockless trial license. The TLM supports only a single, time limited license of the Professional Edition (multiple trial licenses are not supported). As with the Local License Manager, the TLM will not grant licenses to other machines on the LAN, and only one instance of a trial license may be active at one time. Any additional instances of PSCAD will run as the Student Edition.

### **PSCAD Usage Log**

As of License Manager Version 1.24, the usage of licensed PSCAD editions, such as PSCAD Professional and PSCAD Educational, is now logged. This information is saved in a comma-separated variable (\*.csv) file called PscadUsage.txt, which is located in either the Windows or WinNT directory on the machine running the License Manager software. This file can be directly imported into Microsoft Excel.

The following is a sample line from a PscadUsage.txt file:

lha, Pro, Remote, 7327, 177, Mon Aug 22 10:45:42 2005, Mon Aug 22 10:48:39 2005
lha, Pro, Remote, 7328, 176, Mon Aug 22 10:46:21 2005, Mon Aug 22 10:49:17 2005

The format of the file is as follows:

<user id>, <Pscad Edition>, <user location>, <LicenseID><#seconds of use>, <start time>, <finish time>

Description:

- <userid>: This is the login userid of the PSCAD user.
- <Pscad Edition>: Can be 'Pro' or 'Edu.' Use of PSCAD Student is not logged as it is not a licensed edition and does not require the LM.
- <user location>: 'Remote' for users using PSCAD on machines other than the LM machine. 'Local' for users using PSCAD on the same machine as the LM machine.



- <LicenseID>: This is the license ID of the granted license, and appears in the LM log file (lmgrd-log.txt), and in the PSCAD V4 log file (PscadLmgr.txt).
- <start time>: The time that the LM granted the PSCAD license to the user.
- <finish time>: The time that the user quit the PSCAD application.

## INSTALLING V4 FOR THE FIRST TIME

This section is exclusively for those who are either installing PSCAD V4 for the first time, or installing PSCAD V4 for the first time on a particular PC.

If you currently have PSCAD V3 installed on your PC, installing PSCAD V4 will not affect it - V4 is installed in a different program directory. However, your V3 License Manager software (if present) will be upgraded during your V4 installation. This will not affect your PSCAD V3 operations, and is recommended anyway.

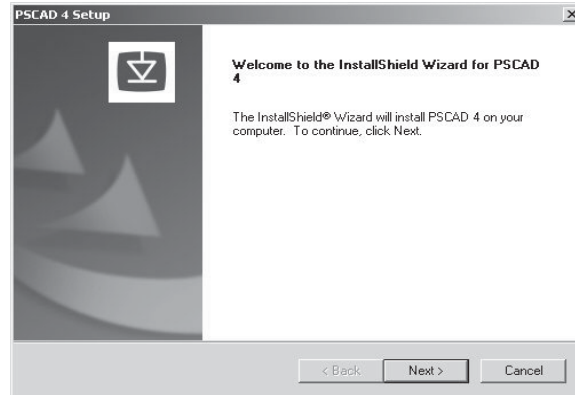
If you have a previous version of PSCAD V4 installed already on your machine, see 'Upgrading Your V4 Software' in this chapter.

### Installing PSCAD

If your operating system is Windows NT4, XP or 2000, you must have administrator or power user access to your machine, in order to install PSCAD.

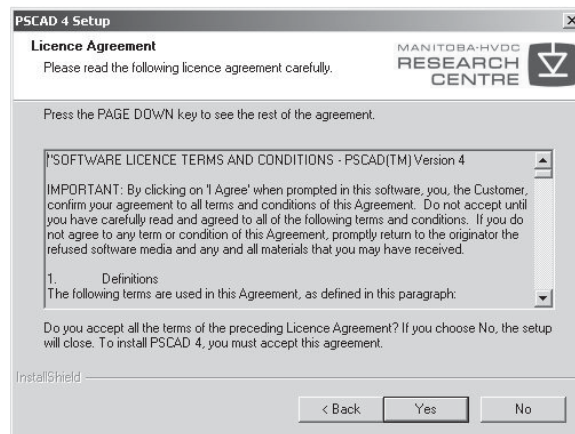
Please perform the following steps:

1. Insert the PSCAD CD into your CD-ROM drive.
2. The installer should start automatically and in a few moments, you should see the following screen:



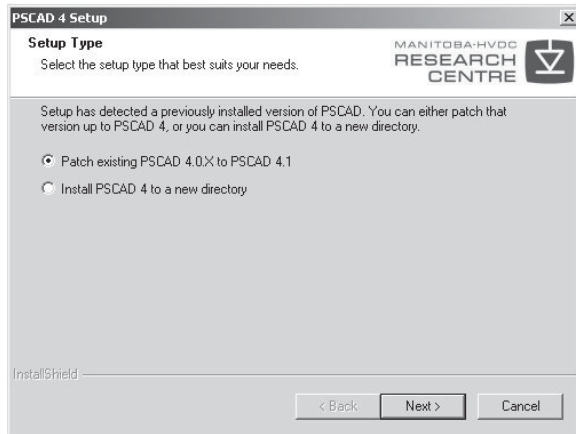
**NOTE:** If a different window appears asking if you want to Modify, Repair or Remove existing installed components, skip to 'Upgrading Your V4 Software' in this chapter.

3. Click **Next**. A dialog as shown below should appear outlining the PSCAD License Agreement. Once the entire agreement has been read, click **Yes** to continue.

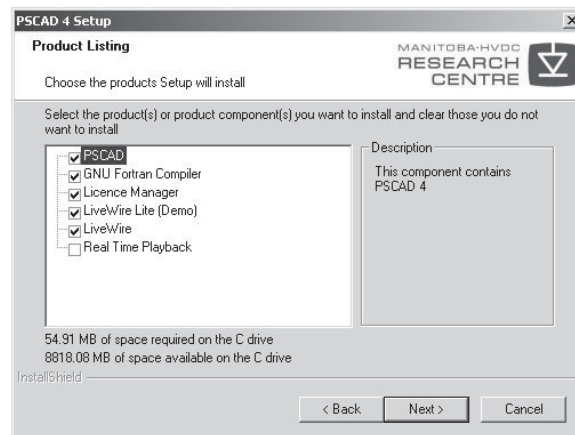
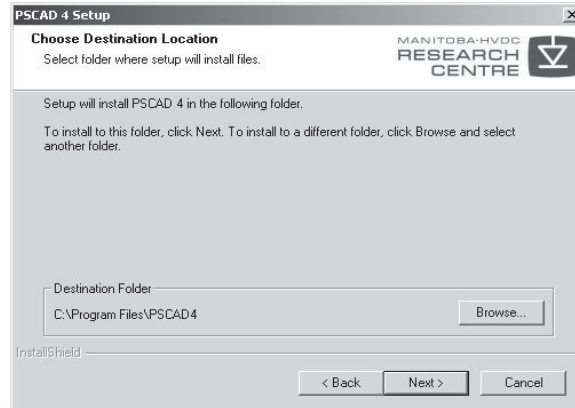


If you are installing a patch from a CD, and a previous version of PSCAD is detected, the following dialog should appear. See the notes given below.

**NOTE:** The PSCAD version numbers on this dialog may vary according to what version you are upgrading to/from.



- **Patch existing PSCAD 4.x.x to PSCAD 4.x.x:** Selecting this option will patch your existing installation. Files pertaining to PSCAD v4.0.x will be overwritten with the latest upgrades.
  - **Install PSCAD 4 to new directory:** Select this option to fully install PSCAD v4.1.x into a new directory. This is useful if you wish to keep the older version in order to compare results.
4. You have the option of installing PSCAD anywhere on your system. The dialog box below will allow you to make any changes you desire for installation location. When you have finished selecting a destination for PSCAD, click **Next**.



5. You will be presented with the above dialog, on which options are available for your install. Explanations for each of these options are given below.
- **PSCAD:** Select this option to install PSCAD. Although all PSCAD editions (i.e. Student, Educational and Professional) are included on the CD, you must be properly licensed to use any edition other than the Student Edition.
  - **GNU Fortran Compiler:** If you do not currently have either the Digital or the Compaq Fortran 90 compiler installed, select the GNU Fortran compiler. A Fortran compiler is **required** for any PSCAD project to simulate (run).
  - **License Manager:** Only select to install the License Manager if you intend for this machine to be the License

Manager server on a network (Standalone Licensing). If you choose to install the License Manager, proceed to Step 8.

- **LiveWire Lite (Demo):** Select this option to install the evaluation version of LiveWire. LiveWire is the primary data analysis and post-processing software tool recommended for use with PSCAD. You can get more information on this software at [www.zsystems.ca/products.htm](http://www.zsystems.ca/products.htm).
- **LiveWire:** Select this option to install the full version of LiveWire. Note that you must be licensed to run the full version. Please contact us at [sales@pscad.com](mailto:sales@pscad.com) for more details on obtaining a full license.
- **Real Time Playback:** If you wish to evaluate the Real Time Playback (RTP) demo software (or install the commercial version), select this option. For more on the RTP, see our website at: [www.pscad.com](http://www.pscad.com).

**NOTE:** If you change compilers at a later date, you can change the compiler options directly in PSCAD without having to re-install.

If you selected only **PSCAD** to be installed above in **Step 5**, then the installer will ask you to provide some additional information about how your current Licensing is configured:

Select PSCAD License Management Options

☐ I do not need a standalone Licence Manager

☐ I will only be using

- the Student Edition, or
- Lockless trial licences.

☐ I will only be using

- Single-user/single-machine licences.

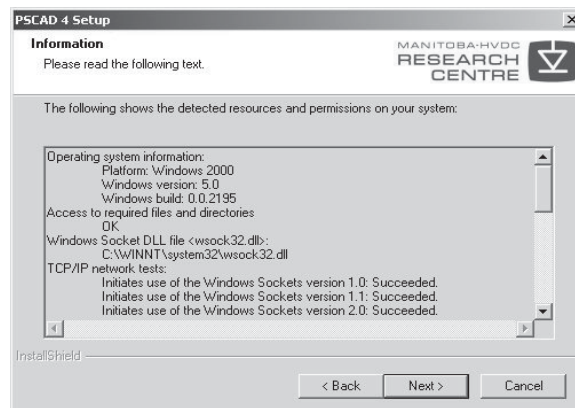
☒ I will use a Licence Manager on this machine

☐ I will use a Licence Manager on another machine on my network

Machine name:  (or IP address)

OK

- If you are a Student Edition user, will be using a Single-User License, or intend to request a Trial License (time limited), then you do not require a Standalone License Manager. Select the appropriate choice within the **I do not need a standalone License Manager** section of the above dialog.
  - If you did not select to install the Standalone License Manager in **Step 5**, but have changed your mind, select **I will use a License Manager on this machine**.
  - If this machine will be contacting a remote Standalone License Manager, select **I will use a License Manager on another machine on my network**. If this option is selected, you must then enter the hostname of the machine, on which the License Manager resides. For example, if this machine is named 'zeus,' then you should enter this name as shown above. The Installer will also accept an IP address. The hostname CANNOT contain spaces!
6. The Installer will now perform a variety of tests to verify system settings and ensure that everything is OK to proceed. If you would like to see the results of these diagnostics, please have a look at the report dialog window (similar to that shown below). Click the **Next** button to continue.



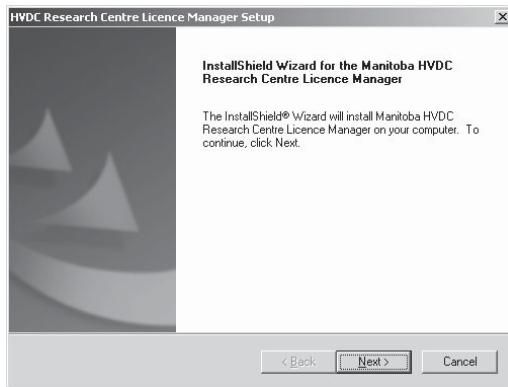
7. You will then be asked to enter a program folder, in which to place all of the program icons. A folder called PSCAD is selected by default. Click **Next** when finished.

At this point, the Installer will install PSCAD, and then branch off into additional installations that were indicated in Step 5. If you did not select the License Manager in **Step 5**, proceed to the section entitled Installing EGCS/GNU Fortran.

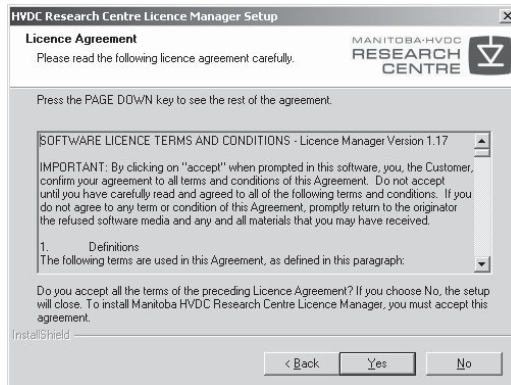
### Installing the License Manager

The License Manager Installer will only run if you selected it in Step 5. If you did not, proceed to the section entitled Installing EGCS/GNU Fortran.

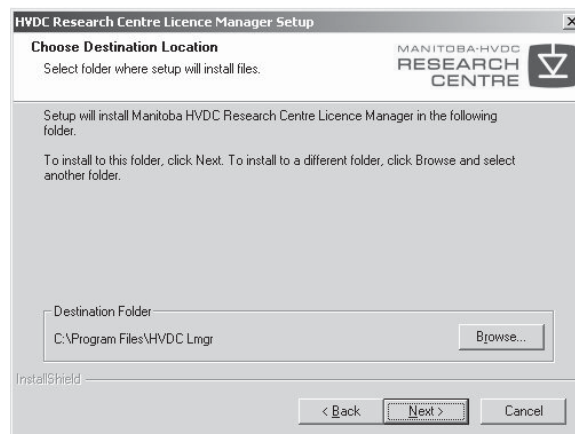
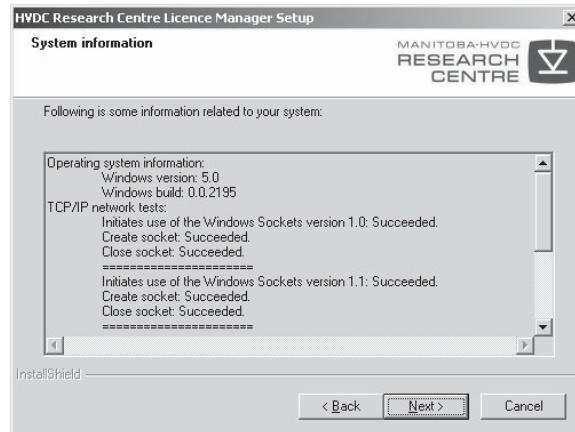
8. You will be presented with the following dialog window. Click **Next**.



9. A dialog, as shown below, should appear outlining the License Manager License Agreement. Once the entire agreement has been read, click **Yes** to continue.



10. A window should pop-up with some pre-installation information. Please review and click **Next**.
11. The Installer will now perform a variety of tests to verify system settings and ensure that everything is OK to proceed. If you would like to see the results of these diagnostics, please have a look at System Information dialog window (similar to that shown below) once the tests are completed. Click **Next**.

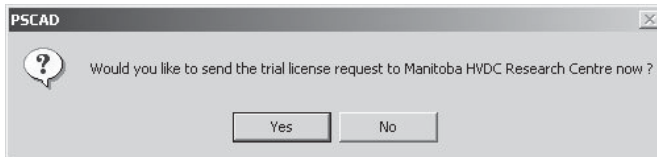




12. You have the option of installing the License Manager anywhere on your system. The dialog above will allow you to make any changes that you require for installation location. When you have finished selecting a destination, click **Next**.
13. You will then be asked to enter a program folder, in which to place all of the License Manager related program icons. A folder called HVDC Lmgr is selected by default. Click **Next** when finished.

Windows 98/ME Only:

14. The installer will ask 'Would you like to start the License Manager during machine boot?'. Selecting **Yes** means that the License Manager will start automatically when the system is re-booted. If **No** is selected, the License Manager must be manually started following each machine reboot. See 'Manually Starting the License Manager' in this chapter for more details.

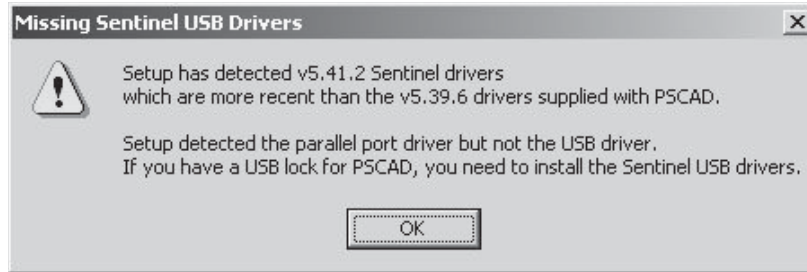


15. Another window will pop-up asking to simply verify the chosen program folder and installation location. Click **Next**.
16. At this point, the License Manager software will be installed along with the proper drivers required for the supported hardware locks. Also, a new service will be added to the Windows Services list. The Installer will run checks to ensure if the required drivers already exist, and if so, is an upgrade required.

### **Possible Messages**

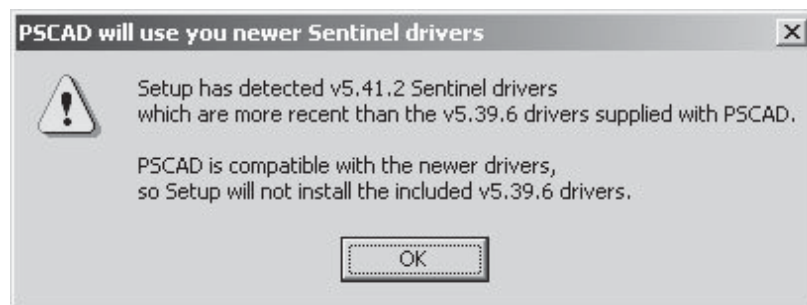
Missing USB Driver:

If it is found that your PC has a more recent Sentinel parallel port driver installed, but is missing a USB driver, the following message will be issued. Click **OK**.

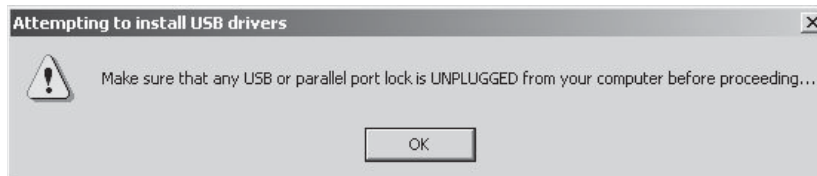


More Recent Drivers Detected:

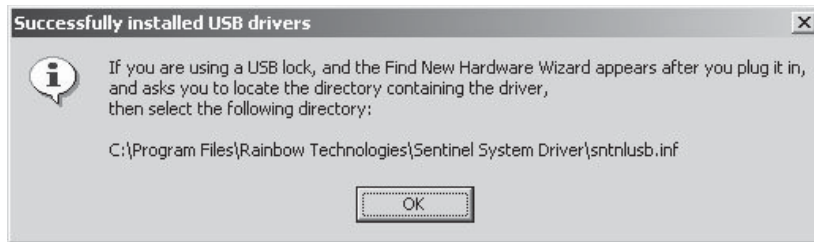
If it is found that your PC has more recent Sentinel USB and parallel port drivers already installed than those that come with the PSCAD installation, the following message will be issued. Click **OK**.



17. Before the hardware lock drivers are installed, you should receive an important warning message similar to the following. Click **OK** once you have unplugged your dongle.



18. If installation of the hardware lock drivers is successful, the following message will appear. Take note of the specified directory path and click **OK**.



19. The Installer will now ask you to connect your dongle as shown below. If you are unsure where your USB, parallel or serial ports are located, contact your system administrator. Also, see the notes given below.



### IMPORTANT:

#### A. Parallel Port Dongle:

- **DO NOT** insert the Parallel Port Dongle into the 25-pin serial port (if it exists).
- The dongle and the floppy disk have serial numbers (SN#) on them. They **MUST** match to be installed on the same machine.

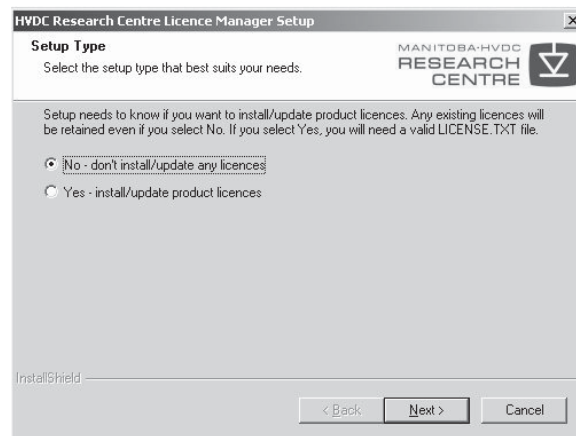
#### B. USB Dongle:

- If you are using a USB dongle, it is possible that the Windows 'Find New Hardware Wizard' may appear when you connect your dongle. If so, it will ask where the driver for the new device is. Enter the path given in the information dialog shown in Step 18. Otherwise, incorrect default drivers may be installed.
- The dongle and the floppy disk have serial numbers (SN#) on them. They **MUST** match to be installed on the same machine.

### C. Serial Port Dongle:

- If you are using a Serial Port dongle, connect the dongle to the 25-pin serial port. If you have specified the 25-pin serial port dongle during purchase, then a 9-pin to 25-pin converter will have been included with the PSCAD package (in case you do not have a 25-pin serial port).
- The dongle should be inserted in the direction indicated on the dongle.
- **DO NOT** insert the 25-pin serial port dongle into the parallel port.
- The dongle and the floppy disk have serial numbers (SN#) on them. They **MUST** match to be installed on the same machine.

20. You should now be presented with the following dialog window.



As this is the first time you are installing PSCAD V4 and the License Manager will require a new product license - select **Yes - install/update product licenses**. If this is not your first installation of the License Manager or you prefer not to install or update your license, select **No - don't install/update product licenses**. See the notes below if you are not sure. Click **Next**. If **No - don't install/update product licenses** is selected, proceed to Step 24.

### NOTE:

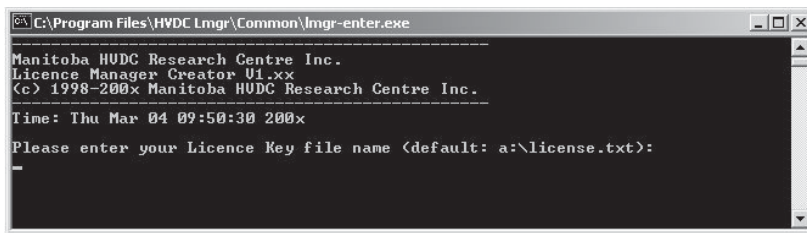
Select **Yes**:

- If this is the first time you are installing the License Manager on this machine, or
- If you are adding a new license (V4 for instance) to an existing license database file, or
- If you are updating or modifying a license, which is already in the existing license database file.

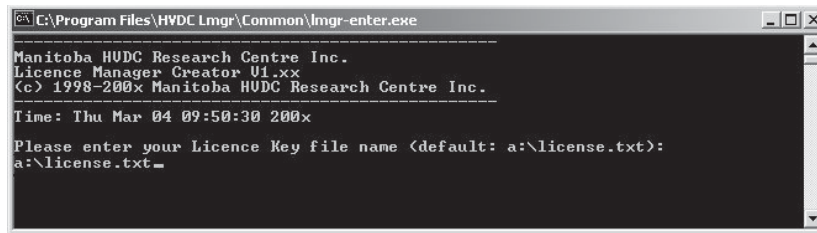
Select **No**:

- If you have no new licenses to add to the license database file, or
- If you do not wish to update or modify any licenses already in your license database file.

21. The Installer will then invoke the 'Enter License Key' program, and a Command Prompt window should appear asking you to enter the License Key File Name. This file is located on the floppy disk provided with PSCAD, entitled 'License Manager: License.txt'.



22. Place the License Floppy Disk into your floppy drive and enter '**a:\license.txt**,' as shown below, where '**a**' represents the drive letter. If your License File is located at another location, such as on the network, enter the absolute path to the file or contact your system administrator for help.



```
C:\Program Files\HVDC Lmgr\Common\Imgr-enter.exe

-----
Manitoba HVDC Research Centre Inc.
Licence Manager Creator V1.xx
(c) 1998-200x Manitoba HVDC Research Centre Inc.
-----
Time: Thu Mar 04 09:50:30 200x

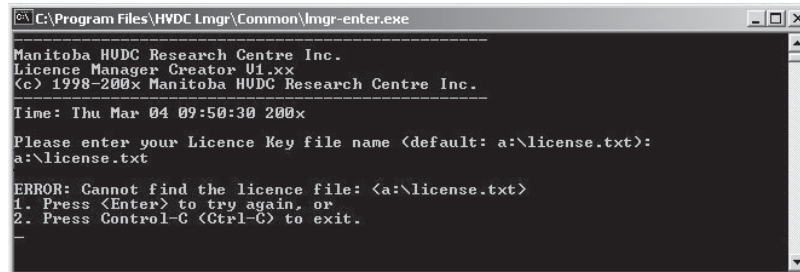
Please enter your Licence Key file name <default: a:\license.txt>:
a:\license.txt_
```

Press the **Enter** key when you are finished.

### *Troubleshooting*

License File Cannot be Found:

If the 'Enter License Key' program is unable to find the license file, you may receive the following message:



```
C:\Program Files\HVDC Lmgr\Common\Imgr-enter.exe

-----
Manitoba HVDC Research Centre Inc.
Licence Manager Creator V1.xx
(c) 1998-200x Manitoba HVDC Research Centre Inc.
-----
Time: Thu Mar 04 09:50:30 200x

Please enter your Licence Key file name <default: a:\license.txt>:
a:\license.txt

ERROR: Cannot find the licence file: <a:\license.txt>
1. Press <Enter> to try again, or
2. Press Control-C (Ctrl-C) to exit.
_
```

If so, make sure that the path to the license file is indeed correct. Also, make sure that there are no problems with the floppy disk or drive (if your License File is on a floppy disk). Press the **Enter** key.

License File and License Database Do Not Match:

This problem usually arises during a new installation when License Manager software was previously installed on this computer. The licensing information is stored on a file called 'Imgr-hvdc' (with no extension), which is usually located in your Windows or WINNT directory. This file is not deleted when the License Manager is uninstalled. If this is indeed the case, select **Option 3** as indicated below:

```

C:\Program Files\HWDG Lmgr\Common\lmgr-enter.exe
-----
Manitoba HWDG Research Centre Inc.
Licence Manager Creator UI.xx
(c) 1998-2000x Manitoba HWDG Research Centre Inc.
-----
Time: Thu Mar 04 09:50:30 200x

Please enter your Licence Key file name (default: a:\license.txt):
a:\license.txt

Searching for a Licence Manager lock device...
ERROR (enter.exe): The lock and license.txt do not match the Licence Manager dat
a file.
  customer ID (lock device)      :      1234
  customer ID (license.txt)      :      1234
  customer ID (lmgr-hwdc file):  158003

You have the following option(s):
Option 1: Press <Ctrl-C> to exit.
Option 2: Insert the correct USB or serial port lock 158003,
          and then press <Enter> to try again.
Option 3: Press the <D> key to delete all existing licences for lock 158003
          then install the new licences for lock 1234 (currently plugged in).

```

If problems persist, press **Ctrl + C** to exit the 'Enter License Key' program and continue with the installation. When the installation is completed, attempt to add your license again by following the directions given in 'Adding/Upgrading Licenses' in this chapter. If this fails, follow the directions in 'Getting License Information.' Send the 'getinfo.txt' file to PSCAD Support Services (support@pscad.com) with a description of the problem.

```

C:\Program Files\HWDG Lmgr\Common\lmgr-enter.exe
-----
Manitoba HWDG Research Centre Inc.
Licence Manager Creator UI.xx
(c) 1998-2000x Manitoba HWDG Research Centre Inc.
-----
Time: Thu Mar 04 09:50:30 200x

Please enter your Licence Key file name (default: a:\license.txt):
a:\license.txt

LICENCE 1:
  added new licence to licence database.
  HWDG product      : Professional 4.0
  Quantity of licence: 1 SU
  Port number       : 2053
  Entered on        : Mon Nov 17 10:44:17 2003
  Expiry date       : Sat Jan 31 23:59:59 2004
WARNING: in order to use the license(s) just entered,
         you must stop, then restart the Licence Manager.

Press <Enter> to exit...

```

23. The Install program will now scan both the dongle and the license file and check for validity. The output will be similar to that shown above. Press the **Enter** key to exit.
24. This completes the License Manager installation process. It is highly recommended that you view the 'Read Me' file when prompted, as it contains useful information to users.

If you did not choose to install the GNU Fortran compiler in Step 5, then installation is now complete (unless you selected to install the RTP demo software). Please review Finalizing Your Installation.

### Installing EGCS/GNU Fortran

If you chose to install the GNU Fortran compiler in Step 5, the Installer will now begin to install it.

25. The GNU compiler installation is quite straightforward. Press **Finish** when complete.
26. This completes the EGCS/GNU Fortran installation process. It is highly recommended that you view the 'Read Me' file when prompted, as it contains useful information to users.

### Installing LiveWire/LiveWire Lite

If you chose to install LiveWire in Step 5, the Installer will now begin to install it.

27. The LiveWire installation is quite straightforward. Press **Finish** when complete.
28. This completes the LiveWire installation process. It is highly recommended that you view the 'Read Me' file when prompted, as it contains useful information to users.

## UPGRADING YOUR V4 SOFTWARE

This section is exclusively for those who are upgrading a previous version of PSCAD V4. If this is the first time that PSCAD and/or the License Manager is to be installed on a particular machine, see 'Installing V4 for the First Time' in this chapter.

### Upgrading a Previous Installation with a Patch

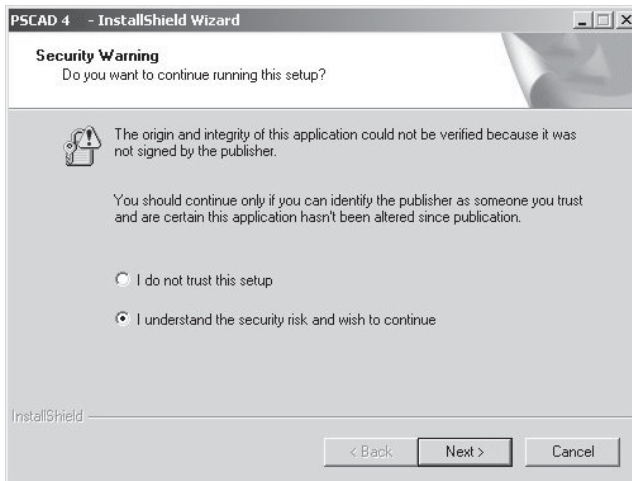
Patch upgrades are available for download on the official PSCAD website ([www.pscad.com](http://www.pscad.com)).

**NOTE:** Patching is not a full install and so you must have previously installed an older version of PSCAD V4.x.x before you can continue.



Please perform the following steps:

1. Go to the official PSCAD website ([www.pscad.com](http://www.pscad.com)) and select the Downloads section from the main menu bar. You will be asked to enter your PSCAD Member ID and Password before being allowed access to the download site. If you do not have a Member ID and Password, you can become a member by selecting the register link on the page. Contact us at [support@pscad.com](mailto:support@pscad.com) if you experience problems.
2. Once you are in the Downloads area, select the desired **Download, Update or Patch PSCAD V4** link under **PSCAD V4** heading. This will direct you to a new page corresponding to the PSCAD Edition type selected. Please review the information presented in this page before proceeding. Select the link entitled **Patch PSCAD™ V4 <xxx> Edition to V4.x.x**.
3. On the resulting page, click the **Install** button.
4. Set-up will initiate and you should see a dialog indicating the security risk of downloading the patch directly from our website. Please read carefully and select **I understand the security risk and wish to continue** and click **Next** IF this is indeed what you wish to do. If you wish to cancel the patch installation, click the **Cancel** button.



5. The installer will then check your system for the required base installation. You must have previously fully installed a PSCAD v4.x.x version in order to proceed with the patch process. If this is indeed the case, then refer to Steps 6 and 7 in the next section.

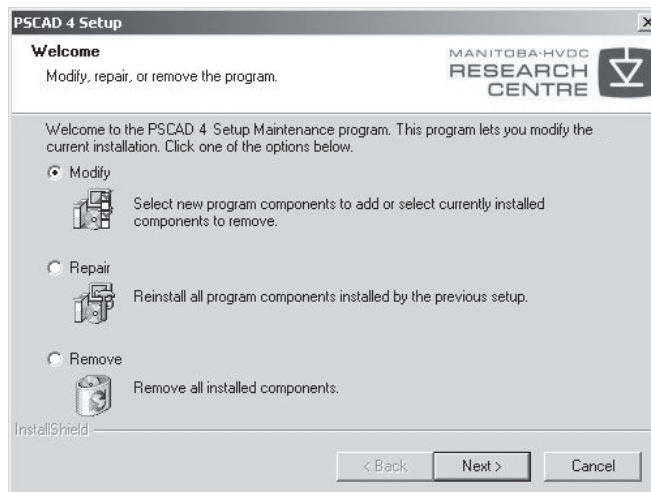
### Modifying a Previous Installation

An option is provided to modify the PSCAD software components that were installed by a previous set-up. If your operating system is Windows NT4, XP or 2000, you **must** have administrator or power user access to your machine, in order to modify an installation.

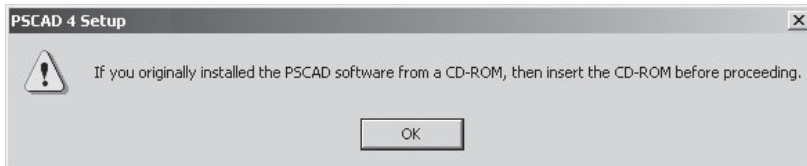
**NOTE:** In order to install a patch, you have already installed a previous full version of PSCAD v4.x.x. \*\*\*REMOVE\*\*\*

Please perform the following steps:

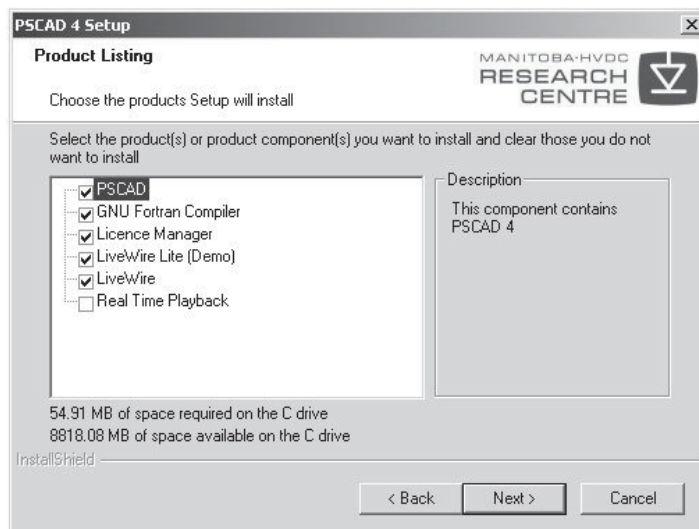
1. If a Standalone License Manager was previously installed on this PC, it must be stopped before you continue. See 'Manually Stopping the License Manager' in this chapter for more details.
2. Insert the PSCAD CD (from which you previously installed your software) into your CD-ROM drive.
3. The installer should start automatically and in a few moments, you should see the following screen:



4. Select **Modify** and then click **Next**. Each screen that requires important user input will have a corresponding step to it in the following pages.
5. The following warning should pop-up. If this warning is not heeded, the Installer may not be able to perform the modifications. Click **OK**.



6. You will be presented with the following screen, on which options are available for your install. The options previously selected should appear. Select how you would like to modify your installation.



**NOTE:** All components selected will be installed or upgraded. **All components that are deselected will be uninstalled!**

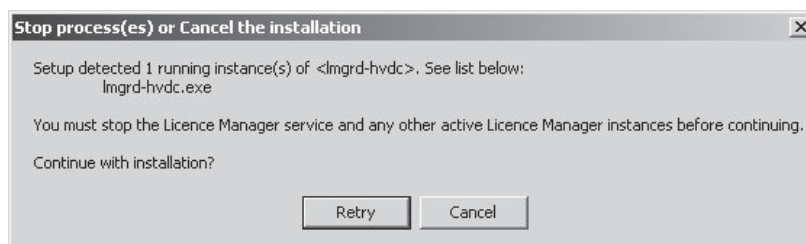
Explanations for each of the above options are given below.

- **PSCAD:** Select this option to install PSCAD. Although all PSCAD editions (i.e. Student, Educational and Professional) are included on the CD, you must be properly licensed to use any edition other than the Student Edition!
- **GNU Fortran Compiler:** If you do not currently have either the Digital or the Compaq Fortran 90 compiler installed, select the GNU Fortran compiler. A Fortran compiler is **required** for any PSCAD project to simulate (run).
- **License Manager:** Only select to install the License Manager if you intend for this machine to be the License Manager server on a network (Standalone Licensing).
- **LiveWire Lite (Demo):** Select this option to install the evaluation version of LiveWire. LiveWire is the primary data analysis and post-processing software tool recommended for use with PSCAD. You can get more information on this software at [www.zsystems.ca/products.htm](http://www.zsystems.ca/products.htm).
- **LiveWire:** Select this option to install the full version of LiveWire. Note that you must be licensed to run the full version. Please contact us at [sales@pscad.com](mailto:sales@pscad.com) for more details on obtaining a full license.
- **Real Time Playback:** If you wish to evaluate the Real Time Playback (RTP) demo software (or install the commercial version), select this option. For more on the RTP, see our website at: [www.pscad.com/](http://www.pscad.com/)

### Possible Messages

License Manager is Currently Running:

If you selected to either install or uninstall the License Manager software and an instance of the License Manager is detected as running on this PC, you will receive the following dialog.



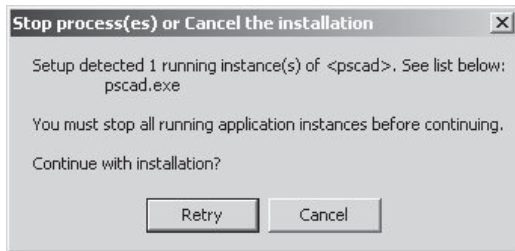
## PSCAD

---

See Manually Stopping the License Manager for more details. Click **Retry** once the License Manager process has been stopped.

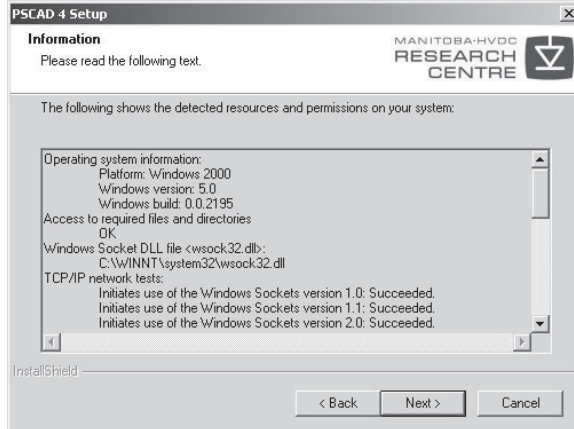
PSCAD is Currently Running:

If you selected to either install or uninstall the PSCAD and an instance of PSCAD is detected as running on this PC, you will receive the following dialog.



Close PSCAD and click **Retry**.

7. The Installer will now perform a variety of tests to verify system settings and to ensure that everything is OK to proceed. If you would like to see the results of these diagnostics, please have a look at the report dialog window (similar to that shown below):



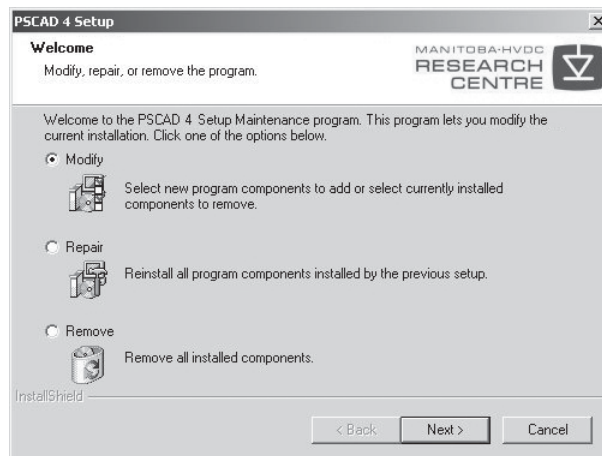
At this point, the Installer will attempt to install or uninstall components as selected in Step 6.

### Repairing a Previous Installation

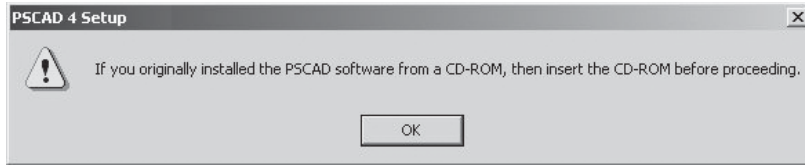
An option is provided to repair any PSCAD software components that were installed by a previous set-up. If your operating system is Windows NT4, XP or 2000, you **must** have administrator access to your machine, in order to repair an installation.

Please perform the following steps:

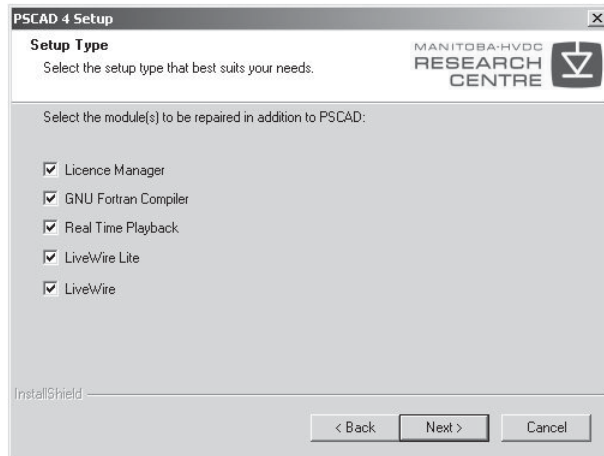
1. If a standalone License Manager was previously installed, it must be stopped before you continue. See 'Manually Stopping the License Manager' in this chapter for more details on how to stop the License Manager.
2. Insert the PSCAD CD (from which you previously installed your software) into your CD-ROM drive.
3. The installer should start automatically and in a few moments, you should see the following screen:



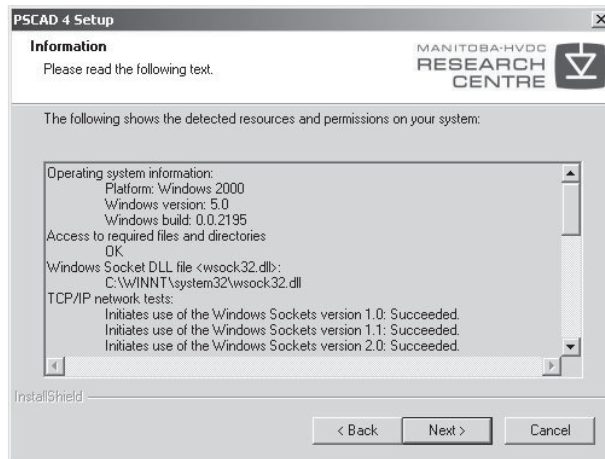
4. Select **Repair** and the click **Next**. Each screen that requires important user input will have a corresponding step to it in the following pages.
5. The following warning should pop-up. Click **OK**.



6. You will be presented with the following screen, on which software modules are available for your repair. Select which ones you would like to repair.



7. The Installer will now perform a variety of tests to verify system settings and to ensure that everything is OK to proceed. If you would like to see the results of these diagnostics, please have a look at the report dialog window (similar to that shown below):

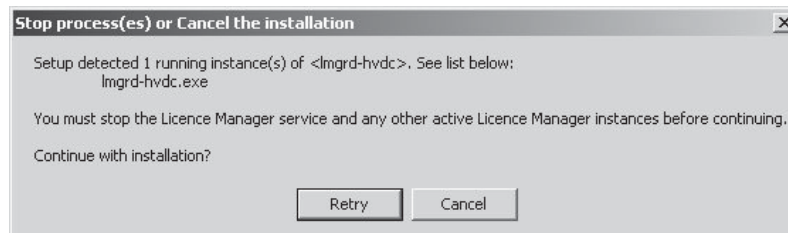


At this point, the Installer will attempt to re-install all components installed in the previous set-up.

### *Possible Messages*

License Manager is Currently Running:

If you selected to repair the License Manager software and an instance of the License Manager is detected as running on this PC, you will receive the following dialog.

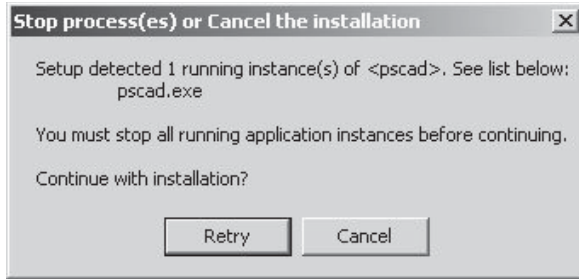


See [Manually Stopping the License Manager](#) for more details. Click **Retry** once the License Manager process has been stopped.

PSCAD is Currently Running:

If you selected to repair PSCAD and an instance of PSCAD is detected as running on this PC, you will receive the following dialog.





Close PSCAD and click **Retry**.

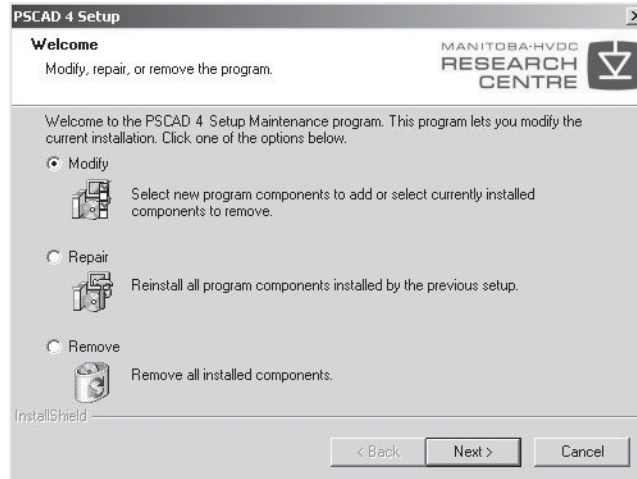
### Uninstalling

An option is provided to remove (uninstall) all PSCAD software components that were installed by the previous set-up. If your operating system is Windows NT4, XP or 2000, you must have administrator or power user access to your machine, in order to uninstall.

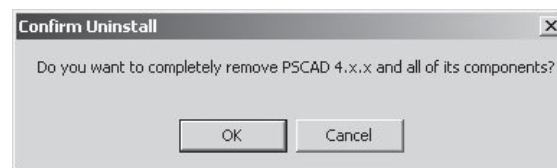
**NOTE:** The uninstall program will not remove any modified files. This includes the \*.emt directories created by PSCAD at runtime. These must be removed manually.

Please perform the following steps:

1. If a standalone License Manager was previously installed, it must be stopped before you continue. See 'Manually Stopping the License Manager' in this chapter for more details on how to stop the License Manager.
2. Insert the PSCAD CD, from which you previously installed your software, into your CD-ROM drive.
3. The installer should start automatically and in a few moments, you should see the following screen:



4. Select **Remove** and then click **Next**.
5. The following confirmation warning should pop-up. Click **OK**.

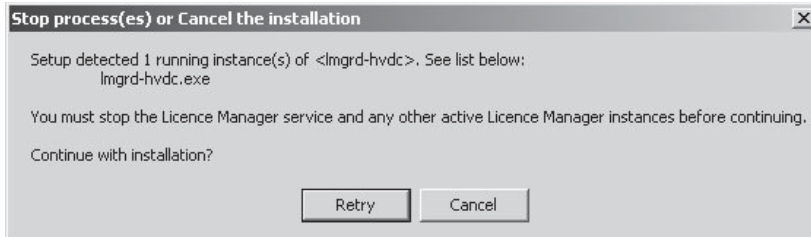


At this point, the Installer will attempt to re-install all components installed in the previous set-up.

### ***Possible Messages***

License Manager is Currently Running:

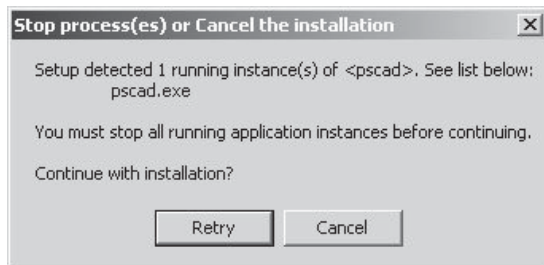
If you selected to remove the License Manager software and an instance of the License Manager is detected as running on this PC, you will receive the following dialog.



See Manually Stopping the License Manager for more details. Click **Retry** once the License Manager process has been stopped.

PSCAD is Currently Running:

If you selected to remove PSCAD and an instance of PSCAD is detected as running on this PC, you will receive the following dialog.



Close PSCAD and click **Retry**.

## FINALIZING YOUR INSTALLATION

There are a couple of loose ends to tie-up before you begin using PSCAD V4.

### Windows 98/ME Only

If you installed the EGCS/GNU Fortran 77 compiler or the License Manager, then you must reboot in order to set-up environment information.

If you chose to manually start the License Manager, then be sure to do so upon reboot, before starting PSCAD. See 'Manually Starting the License Manager' in this chapter for more details.

### Windows NT4/XP/2000 Only

Once installation is complete, you must manually start the License Manager service if you decide not to reboot your machine. See 'Manually Starting the License Manager' in this chapter for more details.

If you installed the EGCS/GNU Fortran 77 compiler, then you must log-out and then log-in in order to update the environment information.

### Adding a Shortcut to the PSCAD Executable

All editions of PSCAD V4 now come complete as one executable file. Therefore, when creating a desktop shortcut, add one of the suffixes described below to your shortcut path.

Professional Edition:

"C:\Program Files\PSCAD4xx\bin\win\PSCAD.exe" **PRO**

Educational Edition:

"C:\Program Files\PSCAD4xx\bin\win\PSCAD.exe" **EDU**

Student Edition:

"C:\Program Files\PSCAD4xx\bin\win\PSCAD.exe"

Of course, if you have used something other than the default installation directory, the above paths will differ.

## RUNNING PSCAD FOR THE FIRST TIME

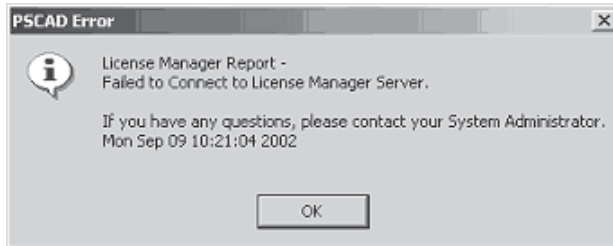
To run PSCAD, simply click on START | Programs | PSCAD and select whichever PSCAD edition you are licensed for. The program should now load without any problems. You are now ready to simulate cases!

There are however, a couple of problems that may be encountered at this point. The most common are described below.

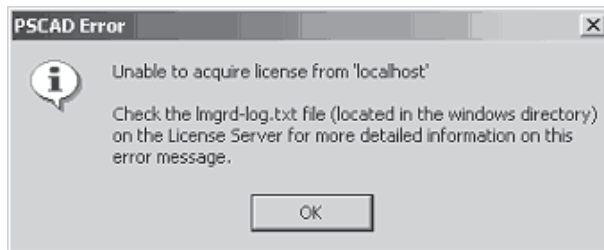
### Failed to Connect to License Manager Server

If there has been a problem with your License Manager installation, have lost contact with the License Manager, or have not started it, it will most likely be noticed when you first start PSCAD. When

PSCAD is invoked, it will ask the License Manager if there is a license available. If PSCAD cannot communicate with the License Manager at all, the following screen will be encountered upon attempting to start PSCAD:



Followed by:



**NOTE:** 'localhost' is the host name of the License Manager server. The host name indicated could also be another computer on the network.

This usually indicates one of the following possible problems:

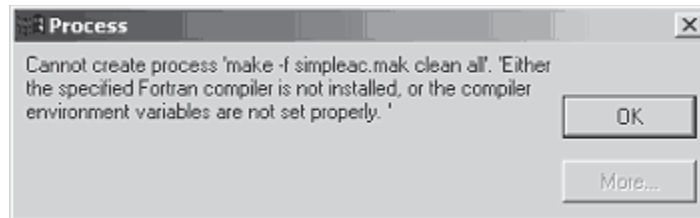
- The License Manager is installed but either not configured properly or not running at all. This may include problems with the dongle (i.e. it is not connected or corrupt).
- The License Manager server on the network is down, or communication with the server is impossible.
- The machine name (or IP address) of the License Manager server is incorrect.
- The user failed to run the Enter License Key program to enter their license information.

**Solution:** First check the dongle's physical connection. If this machine is on the LAN, ask your system administrator for help. Ensure that the machine name that you entered is correct and that there are no spaces in the name. Check the License Manager Log file (i.e. Lmgr-log.txt or PscadLmgr.txt in your Windows or WINNT directory) for clues: Did you enter your License Key? If using Windows NT4, XP or 2000, did you start the License Manager service? See 'Adding / Upgrading Standalone Licenses' or 'Adding / Upgrading Single-User Licenses' in this chapter for more details on how to add a license.

If all else fails, contact us by email at PSCAD Support Services (support@pscad.com). Attach the 'lmgrd-log.txt' file and the 'PscadLmgr.txt' files from your Windows or WINNT directory for us to analyze.

### Running a Simulation Generates a 'make -f' or 'nmake -f' Error

You may encounter a 'make -f' or 'nmake -f' error when attempting to run a simulation for the first time.



**NOTE:** The 'make -f' error means that PSCAD is configured to use the GNU Fortran compiler, while 'nmake -f' refers to one of the Fortran 90 compilers.

This error indicates that PSCAD is unable to connect with a Fortran compiler so as to build an executable for simulating. This can be caused by one of the following reasons:

- The specified Fortran compiler is not installed.
- A virus scanner is blocking TCP/IP communication.
- The compiler environment variables are not installed properly.
- Another program uses a utility program with the same name (i.e. 'make' or 'nmake') and is defined first in either the

'autoexec.bat' file, or in the system environment variables. In other words, this other utility is being called.

**Solution:** Ensure that the specified Fortran compiler is installed. Make sure that your virus scanner is configured to allow the required communication. Check that the compiler environment variables are set properly. Check either your 'autoexec.bat' file or your environment variables (depending on your OS) to see if there is a conflicting utility. If so, you may be able to solve this problem by placing the utility definition statement, related to the PSCAD compiler, before the other. When in doubt, ask your system administrator for help.

If all else fails, contact us by email at PSCAD Support Services (support@pscad.com) with a detailed description of the problem.

## SETTING COMPILER ENVIRONMENT VARIABLES

Each compiler installer program should automatically set the environment variables for the corresponding Fortran compiler. However, there are instances where this may fail. The following are instructions on how to manually set these variables as per compiler and operating system:

### EGCS/GNU Fortran 77 Compiler

Windows NT4/XP/2000:

1. Right-click on your 'My Computer' icon and select **Properties...**
2. Click the **Advanced** tab and select **Environment Variables.**
3. Ensure that the following User Variable is set:

Variable	Value
GCC_EXEC_PREFIX	C:\progra~1\egcs\lib\gcc-lib\
PATH	C:\progra~1\egcs\bin

**NOTE:** The environment variable paths should be in 8-character DOS format.

Windows 98/ME:

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The above changes need to be made by editing the 'autoexec.bat' file according to standard formats. For help on this, contact your system administrator.

### Digital Fortran 5 Compiler

Windows NT4/XP/2000:

1. Right-click on your 'My Computer' icon and select **Properties...**
2. Click the **Advanced** tab and select **Environment Variables**.
3. Ensure that the following System Variables are set:

Variable	Value
FPS_LIB	C:\Program Files\DevStudio\VC\LIB
INCLUDE	C:\Program Files\DevStudio\DF\INCLUDE; C:\Program Files\DevStudio\VC\INCLUDE
LIB	C:\Program Files\DevStudio\DF\LIB; C:\Program Files\DevStudio\VC\LIB
Path	C:\Program Files\DevStudio\SharedIDE\BIN; C:\Program Files\DevStudio\DF\BIN; C:\Program Files\DevStudio\VC\BIN

Windows 98/ME:

The above changes need to be made by editing the 'autoexec.bat' file according to standard formats. For help on this, contact your system administrator.

### Compaq Fortran 6 Compiler

Windows NT4/XP/2000:

1. Right-click on your 'My Computer' icon and select **Properties...**
2. Click the **Advanced** tab and select **Environment Variables**.
3. Ensure that the following System Variables are set:



Variable	Value
INCLUDE	C:\Program Files\Microsoft Visual Studio\DF98\INCLUDE; C:\Program Files\Microsoft Visual Studio\VC98\INCLUDE
LIB	C:\Program Files\Microsoft Visual Studio\DF98\LIB; C:\Program Files\Microsoft Visual Studio\VC98\LIB
Path	C:\Program Files\Microsoft Visual Studio\Common\Tools; C:\Program Files\Microsoft Visual Studio\Common\ Msdev98\BIN; C:\Program Files\Microsoft Visual Studio\DF98\BIN; C:\Program Files\Microsoft Visual Studio\VC98\BIN

Windows 98/ME:

The above changes need to be made by editing the 'autoexec.bat' file according to standard formats. For help on this, contact your system administrator.

### Intel Fortran 9 Compiler

Windows NT4/XP/2000:

1. Right-click on your 'My Computer' icon and select **Properties...**
2. Click the **Advanced** tab and select **Environment Variables**.
3. Ensure that the following System Variables are set:

Variable	Value
INTEL_LICENSE_FILE	C:\Program Files\Common Files\Intel\Licenses
LIB	C:\Program Files\Intel\Compiler\Fortran\9.0\IA32\lib
Path	C:\Program Files\Intel\Compiler\Fortran\9.0\IA32\Bin

If Microsoft Visual Studio C++ .NET 2002 is installed, the following values are additionally required:

Variable	Value
LIB	C:\Program Files\Microsoft Visual Studio .NET\VC7\PlatformSDK\lib; C:\Program Files\Microsoft Visual Studio .NET\VC7\lib
Path	C:\Program Files\Microsoft Visual Studio .NET\VC7\bin; C:\Program Files\Microsoft Visual Studio .NET\Common7\IDE

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If Microsoft Visual Studio C++ .NET 2003 is installed, the following values are additionally required:

Variable	Value
LIB	C:\Program Files\Microsoft Visual Studio .NET 2003\Vc7\PlatformSDK\lib; C:\Program Files\Microsoft Visual Studio .NET 2003\Vc7\lib
Path	C:\Program Files\Microsoft Visual Studio .NET 2003\Vc7\bin; C:\Program Files\Microsoft Visual Studio .NET 2003\Common7\IDE

Windows 98/ME:

The above changes need to be made by editing the 'autoexec.bat' file according to standard formats. For help on this, contact your system administrator.

### TRIAL LICENSES

If you have already installed the PSCAD V4 Student Edition and require more than the fixed 15 electrical node limit, or if you would like to review the component design features, you may be interested in a time limited evaluation license for the PSCAD V4 Professional Edition. If interested, please follow the procedures below to receive your Trial License.

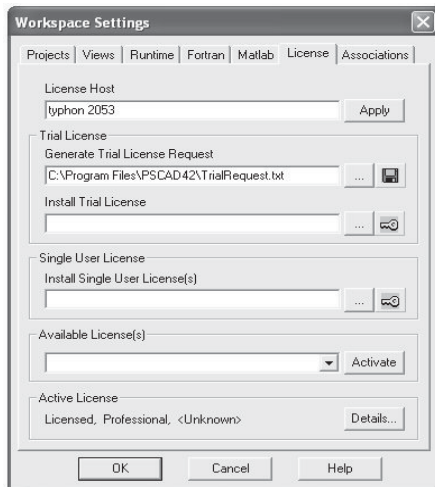
**NOTE:** Once you have submitted Trial License request, a new License Key will be sent pending approval. Trial licensing is only available for the PSCAD V4 Professional and Educational Editions.

#### Requesting a Trial License

As part of the Requesting a Trial License procedure, you must provide us with some specifics on the PC you will be using to run PSCAD. This information is supplied to us in the form of a text file, which contains important machine metrics, such as computer name and other operating system information. This data is required to create a Trial License file and is held in the strictest confidentiality.

The following procedure outlines how to request a Trial License:

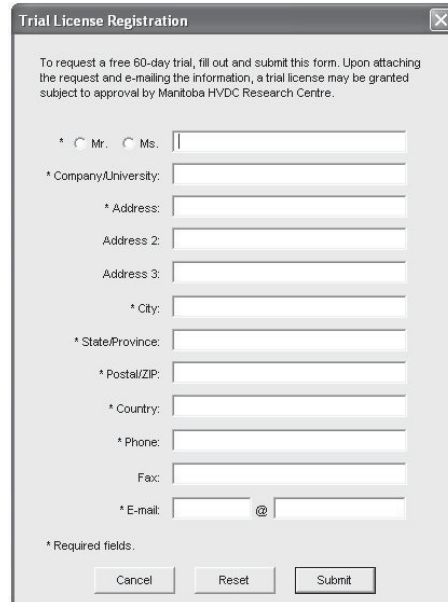
1. Open the PSCAD Student Edition and go to **Edit | Workspace Settings...** in the main menu bar to open the Workspace Settings dialog.
2. Select the **License** tab near the top of the dialog.



3. In the **Trial License** area of this dialog, enter a filename and path in the input field entitled **Generate Trial License Request** or use the **Browse** button to navigate to the desired directory. This will specify where PSCAD is to place the Trial License Request file once it is generated. To avoid confusion, leave this path and filename as default. Press the **'Generate'** button directly to the right of this field.



4. A Trial License Registration entry form will appear. Enter all required information into the form and then click the **Submit** button near the bottom of the form.



**Trial License Registration**

To request a free 60-day trial, fill out and submit this form. Upon attaching the request and e-mailing the information, a trial license may be granted subject to approval by Manitoba HVDC Research Centre.

\* ☐ Mr. ☐ Ms.

\* Company/University:

\* Address:

Address 2:

Address 3:

\* City:

\* State/Province:

\* Postal/ZIP:

\* Country:

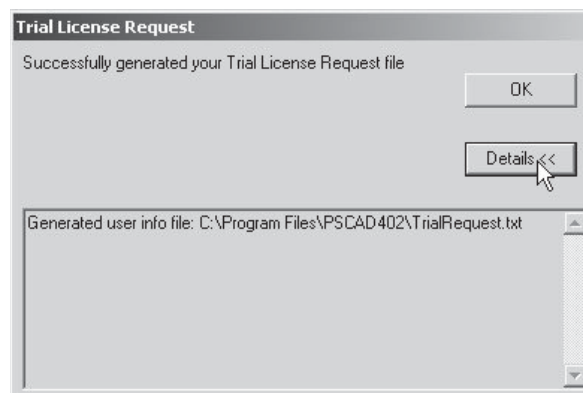
\* Phone:

Fax:

\* E-mail:  @

\* Required fields.

5. If all fields in **Step 4** were entered correctly, PSCAD will generate the Trial License Request file and place it in the directory specified in **Step 3**. A Trial License Request dialog will appear confirming the placement of the file.



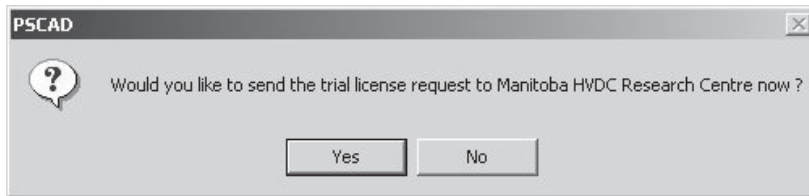
**Trial License Request**

Successfully generated your Trial License Request file

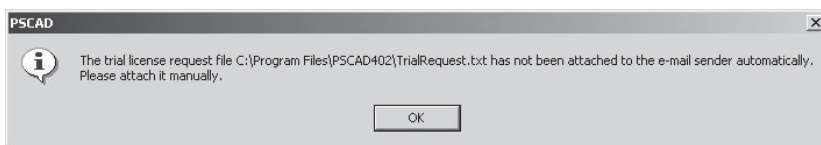
Generated user info file: C:\Program Files\PSCAD402\TrialRequest.txt

6. A dialog will appear asking if you would like to email the Trial License Request file now. Click **Yes** to proceed to **Step 7**. Click **No** if you wish to email the Trial License Request file at a later time. If you decide to send the file at a later

time, you can start at **Step 8** of this procedure, as the file has already been created.

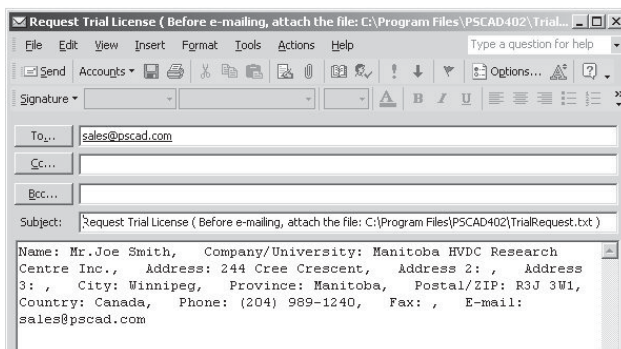


7. Another dialog will appear with a simple warning. Please read carefully:



8. PSCAD will then open a new email form from your default email tool. The body of the email will contain the information given in **Step 4** and the sending address is set to PSCAD Sales (sales@pscad.com).

**NOTE:** If you generated your Trial License Request file at an earlier time, you do not need to add the text to the body of the email, as this is contained within your Trial License Request file anyway.



- Remember to manually attach the Trial License Request file to email in **Step 8** (the file will be located in the directory specified in **Step 3**). **Send** the email to PSCAD Sales (sales@pscad.com). You should receive a response within the next couple of days. See the next section entitled 'Installing a Trial License' upon receipt of your Trial License key.

**NOTE:** Do not upgrade your operating system, change your system clock, or change any hardware configuration (i.e. hard drives, motherboard, etc.) while waiting for your Trial License Key.

### Installing a Trial License

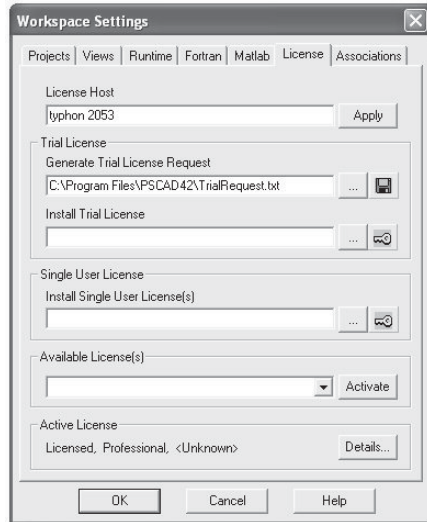
Upon approval of your Trial License request, you will receive an email from us with your Trial License key attached (i.e. 'Trial.txt').

Before proceeding with installation, please note the following important points:

- The Trial License can only be installed on the computer from which it was requested.
- When operating under a Trial License, PSCAD will only run if it is the only PSCAD instance active on your machine. Quit all other instances of PSCAD (both V3 and V4), prior to starting with a Trial License.
- The Trial License will not operate if certain computer system configurations are changed. **Do not** upgrade your operating system, change your system clock, or change any hardware configuration (i.e. hard drives, motherboard, etc.) during the course of the Trial License period.
- If you encounter problems during this process, contact us at PSCAD Support Services (support@pscad.com).

The following procedure outlines how to install a Trial License:

- Save the Trial License key (i.e. 'Trial.txt' file) somewhere on your hard drive (say C:\temp).
- Open the PSCAD Student Edition and go to **Edit | Workspace Settings...** in the main menu bar to open the Workspace Settings dialog.
- Select the **License** tab near the top of the dialog.

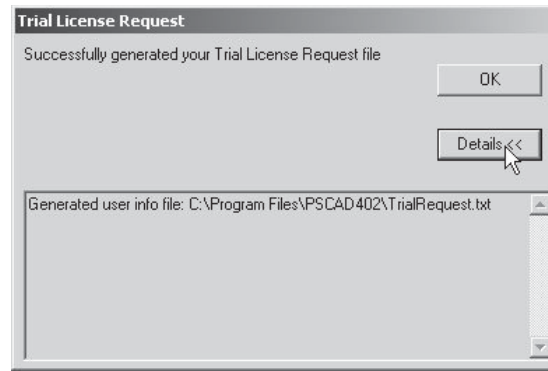


4. In the Trial License area of this dialog, enter the filename and path to your 'Trial.txt' file in the input field entitled **Install Trial License** or press the **Browse** button to navigate to the file. Once entered, press the **Install** button directly to the right of this field.



5. If Trial License is installed correctly, a Trial License Installation dialog will appear confirming this, along with the expiry date of the Trial License. Click the **OK** button.

**NOTE:** If the license does not install correctly, please contact us at PSCAD Support Services (support@pscad.com).



6. Close the PSCAD Student Edition and then open the PSCAD Professional Edition. See 'Viewing Active License Information' in this chapter for details on checking if your Trial License is running properly.

**NOTE:** Please see 'Adding a Shortcut to the PSCAD Executable' in this chapter if you plan to add a shortcut to the PSCAD Professional or Educational Edition on your desktop.

### ADDING/UPGRADING STAND-ALONE LICENSE MANAGER LICENSES

You do not need to reinstall the License Manager in order to update or add a Standalone License Manager License. You will simply need to update the License Manager database file, which resides on your computer's hard drive.

To update or add a new Standalone License Manager License to your license database file, use the 'Enter License Key' program:

1. Go to START | Programs | HVDC Lmgr and select 'Enter License Key.'
2. Follow Steps 21 to 23 in 'Installing V4 for the First Time' in this chapter.

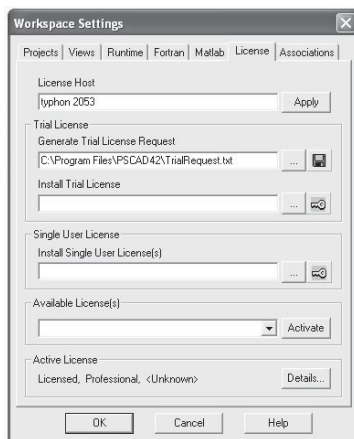


### ADDING/UPGRADING A SINGLE-USER LICENSE

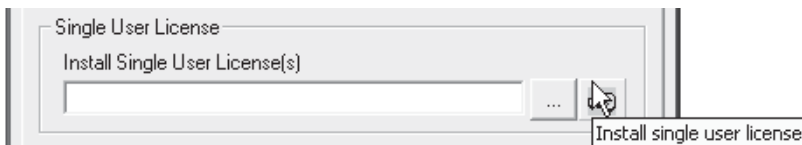
You do not need to reinstall the License Manager in order to update or add a single-user license. You will simply need to update the License Manager database file, which resides on your computer's hard drive.

To update or add a new license to your license database file:

1. Save your license file (located on the floppy disk provided with PSCAD, entitled 'License Manager: License.txt') to a convenient directory (say C:\temp).
2. Open PSCAD V4 Student Edition and go to **Edit | Workspace Settings...** in the Main Menu Bar. Click the **License** tab.



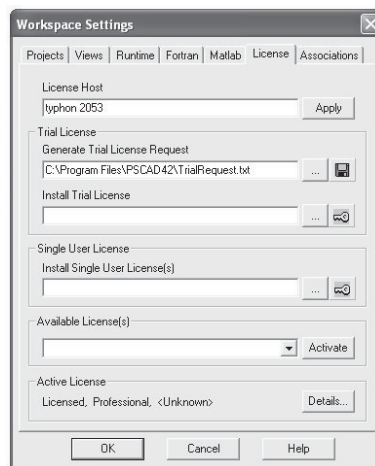
3. In the **Single User License** area of this dialog, enter the filename and path to your Single User license file in the input field entitled **Install Single User License(s)**. Press the **Install** button directly to the right of the input field and navigate to the saved 'license.txt' file. Select **OK** in the pop-up dialog window.



4. Click **OK** on the **Workspace Settings** dialog and exit the PSCAD Student Edition.
5. You should now be able to load the PSCAD edition for which you are licensed.

### CHANGING ACTIVE LICENSING SETTINGS

PSCAD allows you to alter your present (i.e. 'active') license settings without the need to close and reopen the program in a different mode. You can change the License Manager host computer, and/or the license type (i.e. Professional, Educational or Student) directly from the Workspace Settings dialog. To open this dialog, go to **Edit | Workspace Settings...** in the main menu bar and click the **License** tab.



#### Changing License Manager Host

To change the License Manager host computer, simply enter the name of the new host (along with 2053) and click the **Apply** button.



### Changing Active License Type

To change the active license type, click the down arrow in the selection box under the **Available License(s)** area and select the required license. Click the **Activate** button.

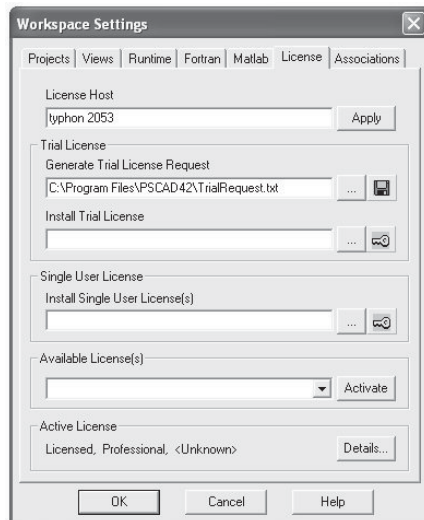


**NOTE:** You must be properly licensed in order to change license type!

### VIEWING ACTIVE LICENSE INFORMATION

At any time, you can review the status of your active license.

1. Open PSCAD and go to **Edit | Workspace Settings...** in the Main Menu bar. Select the **License** tab.



2. Near the bottom of the dialog, there is an area entitled **Active License**. Some preliminary information is given

directly within this area. For more detailed information, click the **Details...** button. A dialog should pop-up displaying all available information regarding your current licensing. If you wish you can save this data to a text file or copy it to the Windows clipboard. Select **OK** to close the dialog.



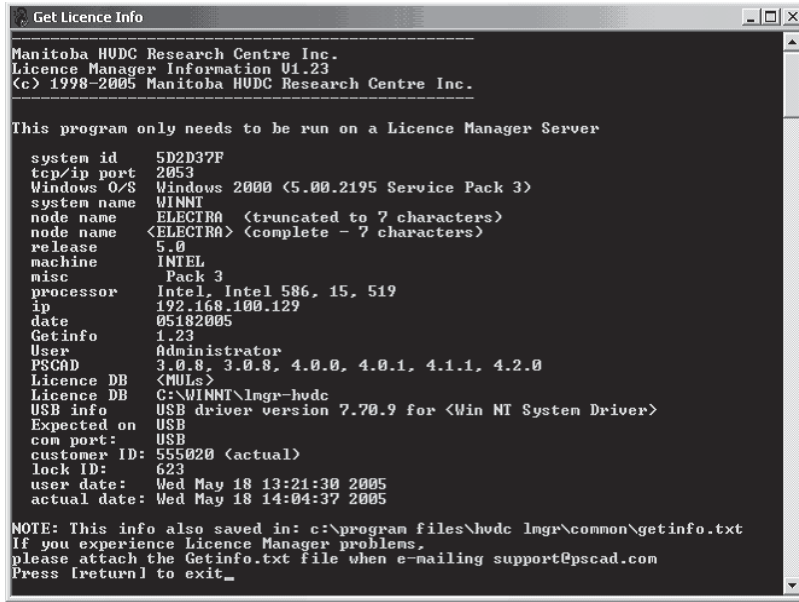
### GETTING LICENSING INFORMATION

If you would like information about your licenses, you can get this directly from the dongle itself. This information is also helpful in troubleshooting if a problem arises, and is used by PSCAD Support to help solve License Manager issues.

#### Standalone License Manager Information

To view your Standalone License Manager information, use the 'Get License Info' program:

1. Go to **START | Programs | HVDC Lmgr** and select 'Get License Info.'



```
Get Licence Info
-----
Manitoba HVDC Research Centre Inc.
Licence Manager Information U1.23
(c) 1998-2005 Manitoba HVDC Research Centre Inc.
-----

This program only needs to be run on a Licence Manager Server

system id      5D2D37F
tcp/ip port    2053
Windows O/S    Windows 2000 (5.00.2195 Service Pack 3)
system name    WINNT
node name      ELECTRA (truncated to 7 characters)
node name      <ELECTRA> (complete - 7 characters)
release        5.0
machine        INTEL
misc           Pack 3
processor      Intel, Intel 586, 15, 519
ip             192.168.100.129
date           05182005
Getinfo        1.23
User           Administrator
PSCAD          3.0.8, 3.0.8, 4.0.0, 4.0.1, 4.1.1, 4.2.0
Licence DB     <MULs>
Licence DB     C:\WINNT\lmgr-hvdc
USB info       USB driver version 7.70.9 for <Win NT System Driver>
Expected on    USB
com port:      USB
customer ID:   555020 (actual)
lock ID:       623
user date:     Wed May 18 13:21:30 2005
actual date:   Wed May 18 14:04:37 2005

NOTE: This info also saved in: c:\program files\hvdc lmgr\common\getinfo.txt
If you experience Licence Manager problems,
please attach the Getinfo.txt file when e-mailing support@pscad.com
Press [return] to exit_
```

When you run this program, a DOS based window should appear similar to that shown above.

A text file will also be created at the same time called 'getinfo.txt' (as indicated above). This is an important file to include when contacting PSCAD Support Services by email (support@pscad.com).

## Active Licensing Information

See 'Viewing Active License Information' in this chapter for more details.

## MANUALLY STARTING THE LICENSE MANAGER

The method for starting the License Manager is different for the various Windows platforms:

### Windows 98/ME

- Go to START | Programs | HVDC Lmgr. Select 'Start License Manager.'

### Windows NT

- Go to START | Settings | Control Panel | Services. Select the HVDC License Manager and select 'Start.'

### Windows XP/2000

- Right-click on your **My Computer** desktop icon and select **Manage**.
- Double-click on the **Services and Applications** entry and then double-click **Services**.
- Highlight 'HVDC License Manager,' right-click and select 'Start.'

## MANUALLY STOPPING THE LICENSE MANAGER

The method for stopping the License Manager is different for various Windows platforms:

### Windows 98/ME

- Press **Ctrl + Alt + Del** to bring up the Task List and then use End Task to stop any instances of 'lmgrd-hvdc.'

### Windows NT

- Go to START | Settings | Control Panel | Services. Select the HVDC License Manager and select 'Stop.'

### Windows XP/2000

- Right-click on your **My Computer** desktop icon and select **Manage**.
- Double-click on the **Services and Applications** entry and then double-click **Services**.
- Highlight 'HVDC License Manager,' right-click and select 'Stop.'