PAC-Designer Installation Notice

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Type Conventions Used in This Document

Convention	Meaning or Use
Bold	Items in the user interface that you select or click. Text that you type into the user interface.
<Italic>	Variables in commands, code syntax, and path names.
Ctrl+L	Press the two keys at the same time.
Courier	Code examples. Messages, reports, and prompts from the software.
...	Omitted material in a line of code.
. . .	Omitted lines in code and report examples.
[ ]	Optional items in syntax descriptions. In bus specifications, the brackets are required.
( )	Grouped items in syntax descriptions.
{ }	Repeatable items in syntax descriptions.
|	A choice between items in syntax descriptions.

Installing PAC-Designer Software

System Requirements

The following are the basic system requirements for installing the PAC-Designer software:

- ▶ Pentium Compatible PC
- ▶ 1 GB of RAM (2 GB highly recommended)
- ▶ Mouse and mouse driver
- ▶ Windows 8 or Windows 7
- ▶ IE Version 5.x or later
- ▶ USB port for downloading designs

Pre-Installation Notes

The following notes describe other requirements for installing PAC-Designer and the Lattice Diamond software.

- ▶ In order to perform all the download and licensing steps that follow, you must have a valid Lattice website account and be logged in. If you do not already have a Lattice website account, you can register for a free account by completing the necessary form located here on the Lattice website:

  latticesemi.com/Home/Accounts/SignIn

  Click the **Create New Account** button on the page. Please provide a valid e-mail address before proceeding. This will become your Lattice user name. Fill out and submit the registration form. After registration is completed, a confirmation mail will be sent automatically to the mail address you specified. You can then log in to your account.

▶ For Platform Manager device support, you must first install or update to the latest version of Lattice Diamond. All internal options of Lattice Diamond must be installed before you can use PAC-Designer to create Platform Manager designs. If you already own a full version of Diamond, you must ensure that it has been upgraded to the current version and that all associated internal components have been installed.

If you plan to use PAC-Designer only for Power Manager II products and not for the newer Platform Manager devices, you can install and run PAC-Designer as stand-alone software and skip the download, installation and licensing steps for Lattice Diamond.

▶ The installation of Diamond requires a valid software license. You can request a license for Diamond at the Lattice licensing page:

latticesemi.com/Support/LicensingReq

License files are supplied by Lattice via e-mail. See the section on obtaining a license below, following the section on installation of Lattice Diamond.

▶ A more extensive Installation Notice is available for Lattice Diamond at the following link:

latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/
LatticeDiamond.aspx

Select **Diamond Downloads & Documentation** from the Jump To list, and then select **Installation Guides**.

Downloading the Required Software

If you plan to use PAC-Designer for creating Platform Manager designs and have not previously installed the necessary software, you must first download and install Lattice Diamond. If you plan to use PAC-Designer only for Power Manager devices, you can skip the procedure for downloading Diamond and go on to the PAC-Designer download procedure.

To download Lattice Diamond:

1. Go to the Lattice Diamond Software page at:

   latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/
   LatticeDiamond.aspx

2. Select **Diamond Base Downloads** from the Jump To list, and then select the appropriate version of Lattice Diamond (32-bit for Windows or 64-bit for Windows).

3. Read the license agreement, select the box to acknowledge that you agree to it, and then click **Download**.

   You will be prompted by default to select one of three options: open the file without saving it, save the file and place it in the default user download folder, or use "Save as" to save the file to a predetermined directory. In

most cases, it will be necessary for you to have administrator privileges to download the software installation files.

Note

Without a modern fiber-optic Internet connection, this download process could take up to an hour or more.

To download PAC-Designer:

1. Go to the PAC-Designer Software Download page:

    latticesemi.com/Products/DesignSoftwareAndIP/MixedSignalDS/ PacDesigner.aspx

2. Select **Software Downloads & Documentation** from the Jump To list, select **Downloadable Software**, and select **PAC-Designer <*version number*> for Windows**.

3. Read the license agreement, select the box to acknowledge that you agree to it, and then click **Download**.

    You will be prompted by default to select one of three options: open the zip file without saving it, save the file and place it in the default user download folder, or use "Save as" to save the file to a predetermined directory.

Installing Lattice Diamond

If you plan to use PAC-Designer for creating Platform Manager designs, you must first install Diamond. If you plan to use PAC-Designer only for Power Manager devices, you can skip the Diamond installation procedure.

To install Lattice Diamond:

1. Close all applications before starting the Diamond installation.

2. Double-click the **Diamond** executable you downloaded to launch the installation process.

    The Welcome To Lattice Semiconductor Diamond Setup dialog box opens.

3. Click **Next** to open the License Agreement dialog box.

4. Read the license agreement. If you agree, click **Yes** to open the "Choose Destination Location" dialog box.

5. It is highly recommended that you use the default destination folder, which is C:\lscc. To choose a different location, click **Browse** and change the drive or destination folder.

6. Click **Next** to open the Product Options dialog box.

7. Select the Diamond components that you want to install by selecting or clearing each of the listed options. If you have purchased third-party synthesis and simulation tools directly from the third-party vendors, you

can clear the Synplify Pro for Lattice and Active-HDL Lattice Edition product options.

The FPGAs product option has additional options for selecting the Lattice FPGA devices that you want to install. To set the additional options, select **FPGAs** and click **Change**.
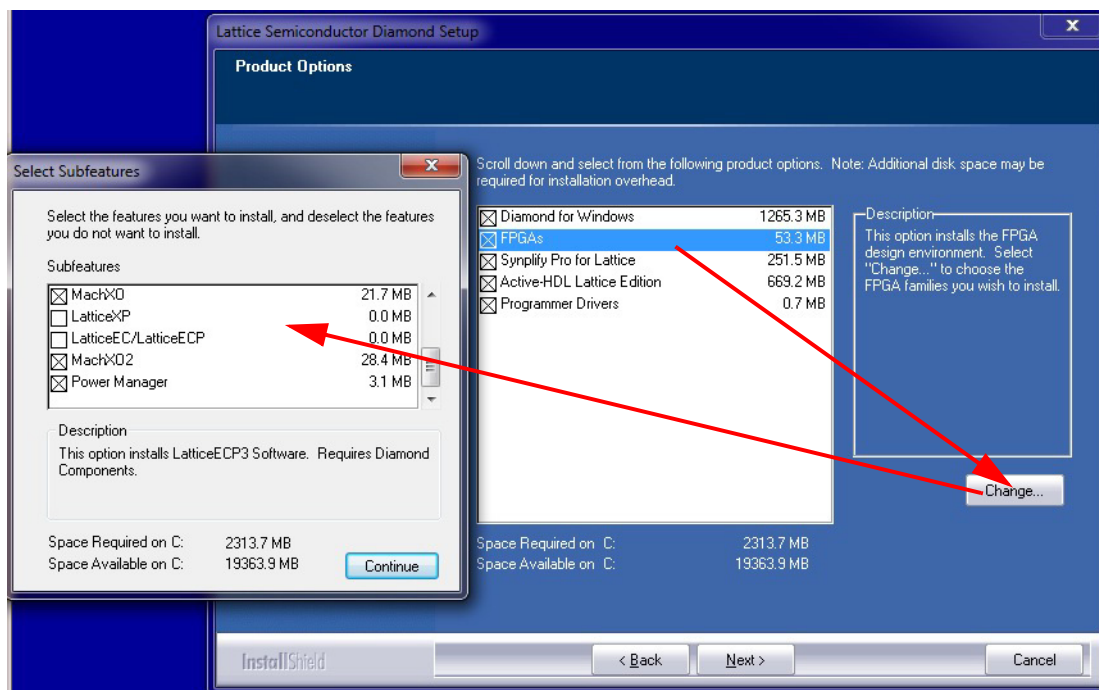
In the pop-up Select Subfeatures dialog box, you can select or clear the features from the list. Afterwards, click **Continue** to go back to the Product Options dialog box.

Minimum options for full Platform Manager design support include:

▶ Diamond for Windows

▶ FPGA support (MACHXO, MACHXO2, Power Manager)

▶ Syplify Pro for Lattice (unless full version is purchased and installed)

▶ Active-HDL Lattice Edition (unless full version is purchased and installed)

▶ Programmer Drivers

The image in Figure 1 shows the dialog boxes with all necessary options selected.

Figure 1: Diamond Minimum Options for Platform Manager Support

8. Click **Next** to open the Select Program Folder dialog box. The default name of the program group is Lattice Diamond. If you want to change the name, change it in the Program Folder text box.

9. Click **Next** to open the Start Copying Files dialog box.

10. Verify the settings when displayed.

11. Click **Next** to start installing the Diamond components.

These steps are for a simple limited installation of Lattice Diamond to support the proper operation of Platform manager devices. You can download the full *Lattice Diamond Installation Notice for Windows* from the Lattice Diamond Software web page at:

latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/
LatticeDiamond.aspx

Select **Software Downloads & Documentation** from the Jump To list, and then select **Installation Guides**.

Installing PAC-Designer

If you plan to use PAC-Designer for creating Platform Manager designs, make sure that Diamond is already installed on your system.

To install PAC-Designer:

1. Close all applications before starting the PAC-Designer installation.

2. Double-click the **PAC-Designer** executable you downloaded earlier to launch the installation process. Administrative privileges are required.

3. Click **Next** to continue.

4. When the User Access Control Window (UAC) pops up, click **Yes** to proceed. This is normal behavior.

5. Read the license agreement. If you agree, select the "I accept" option and click **Next**.

6. If you have Diamond installed, a message box will appear that shows where PAC-Designer will be installed. Click **OK.** This will ensure that it works properly as a component of Diamond.

7. In the Program Folder dialog box, specify a different folder name or accept the default. Click **Next** to open the PAC-Designer features list.

8. Click **Next** to begin the installation.

9. When the installation process is complete, reboot your computer.

Running PAC-Designer and Diamond Software

To create or open a PAC-Designer (.PAC) file, start PAC-Designer and either select **File > New** to create a new design file, or select **File > Open** to open and resume design on an existing design file.

Note

To permanently associate PAC-Designer with its default design file type extension (.PAC), use Windows File Explorer or Control Panel functionality. This will make PACDesigner the default program that runs when .PAC design files are double-clicked. The location for the PAC-Designer executable is:

"C:\\lscc\diamond\<*version numbe*r>\pac\PACD<*version numbe*r>.exe"

when Windows asks for the program to associate with .PAC file types.

For more information about running PAC-Designer, see the online Help and the *PAC-Designer Software User Manual*.

For advanced Platform Manager design for PAC-Designer, the Lattice Diamond software is also used. Normally, Diamond sits in the background and is called by PAC-Designer. But for more advanced design entry, the installed Lattice Diamond can be run directly.

For more information about running Lattice Diamond, see the Diamond online Help and the *Lattice Diamond User Guide*, available at:

latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond.aspx

Select **Software Downloads & Documentation** from the Jump To list, and then select **User Manual**.