

# PAC-Designer 6.27 Installation Notice



January 2014

---

## Copyright

Copyright © 2013 Lattice Semiconductor Corporation.

This document may not, in whole or part, be copied, photocopied, reproduced, translated, or reduced to any electronic medium or machine-readable form without prior written consent from Lattice Semiconductor Corporation.

## Trademarks

Lattice Semiconductor Corporation, L Lattice Semiconductor Corporation (logo), L (stylized), L (design), Lattice (design), LSC, CleanClock, Custom Mobile Device, DiePlus, E<sup>2</sup>CMOS, Extreme Performance, FlashBAK, FlexiClock, flexiFLASH, flexiMAC, flexiPCS, FreedomChip, GAL, GDX, Generic Array Logic, HDL Explorer, iCE Dice, iCE40, iCE65, iCEblink, iCEcable, iCEchip, iCEcube, iCEcube2, iCEman, iCEprog, iCEsab, iCEsocket, IPexpress, ISP, ispATE, ispClock, ispDOWNLOAD, ispGAL, ispGDS, ispGDX, ispGDX2, ispGDXV, ispGENERATOR, ispJTAG, ispLEVER, ispLeverCORE, ispLSI, ispMACH, ispPAC, ispTRACY, ispTURBO, ispVIRTUAL MACHINE, ispVM, ispXP, ispXPGA, ispXPLD, Lattice Diamond, LatticeCORE, LatticeEC, LatticeECP, LatticeECP-DSP, LatticeECP2, LatticeECP2M, LatticeECP3, LatticeECP4, LatticeMico, LatticeMico8, LatticeMico32, LatticeSC, LatticeSCM, LatticeXP, LatticeXP2, MACH, MachXO, MachXO2, MachXO3, MACO, mobileFPGA, ORCA, PAC, PAC-Designer, PAL, Performance Analyst, Platform Manager, ProcessorPM, PURESPEED, Reveal, SensorExtender, SiliconBlue, Silicon Forest, Speedlocked, Speed Locking, SuperBIG, SuperCOOL, SuperFAST, SuperWIDE, sysCLOCK, sysCONFIG, sysDSP, sysHSI, sysI/O, sysMEM, The Simple Machine for Complex Design, TracelD, TransFR, UltraMOS, and specific product designations are either registered trademarks or trademarks of Lattice Semiconductor Corporation or its subsidiaries in the United States and/or other countries. ISP, Bringing the Best Together, and More of the Best are service marks of Lattice Semiconductor Corporation.

Other product names used in this publication are for identification purposes only and may be trademarks of their respective companies.

## Limited Warranty

Lattice Semiconductor Corporation warrants the original purchaser that the Lattice Semiconductor software shall be free from defects in material and workmanship for a period of ninety days from the date of purchase. If a defect covered by this limited warranty occurs during this 90-day warranty period, Lattice Semiconductor will repair or replace the component part at its option free of charge.

This limited warranty does not apply if the defects have been caused by negligence, accident, unreasonable or unintended use, modification, or any causes not related to defective materials or workmanship.

To receive service during the 90-day warranty period, contact Lattice Semiconductor Corporation at:

Phone: 1-800-LATTICE or (503) 268-8001  
E-mail: [techsupport@latticesemi.com](mailto:techsupport@latticesemi.com)

If the Lattice Semiconductor support personnel are unable to solve your problem over the phone, we will provide you with instructions on returning your defective software to us. The cost of returning the software to the Lattice Semiconductor Service Center shall be paid by the purchaser.

---

## Limitations on Warranty

Any applicable implied warranties, including warranties of merchantability and fitness for a particular purpose, are hereby limited to ninety days from the date of purchase and are subject to the conditions set forth herein. In no event shall Lattice Semiconductor Corporation be liable for consequential or incidental damages resulting from the breach of any expressed or implied warranties.

Purchaser's sole remedy for any cause whatsoever, regardless of the form of action, shall be limited to the price paid to Lattice Semiconductor for the Lattice Semiconductor software.

The provisions of this limited warranty are valid in the United States only. Some states do not allow limitations on how long an implied warranty lasts, or exclusion of consequential or incidental damages, so the above limitation or exclusion may not apply to you.

This warranty provides you with specific legal rights. You may have other rights which vary from state to state.

## Type Conventions Used in This Document

| Convention   | Meaning or Use  |
|--|---|
| <b>Bold</b>  | Items in the user interface that you select or click. Text that you type into the user interface. |
| <i>&lt;Italic&gt;</i>                              | Variables in commands, code syntax, and path names.   |
| <b>Ctrl+L</b>                                      | Press the two keys at the same time.  |
| <code>Courier</code>                               | Code examples. Messages, reports, and prompts from the software.                                  |
| <code>...</code>                                   | Omitted material in a line of code.   |
| <code>.</code><br><code>.</code><br><code>.</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 7, Vista, XP, or NT/2000
- ▶ 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](http://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 6.26 only for Power Manager II products and not for the newer Platform Manager devices, you can skip the download, installation and licensing steps for Lattice Diamond. Instead, simply download and install the latest version of PAC-Designer.

- ▶ 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](http://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/DesignSoftwareAndLDS/LatticeDiamond](http://latticesemi.com/Products/DesignSoftwareAndLDS/LatticeDiamond)

Select the **Documentation** tab, and then select **Installation Guides** from the Documents list on the left.

## Updating PAC-Designer 6.27

If you already have PAC-Designer 6.1 or 6.2 presently installed with Lattice Diamond, there are update versions of both software packages that simplify the process of bringing your design software up to date. Follow this abbreviated update process if this applies to you (you already have Diamond and PAC-Designer).

1. Check for the PAC-Designer 6.27 update:

[latticesemi.com/Products/DesignSoftwareAndIP/MixedSignalDS/PacDesigner](http://latticesemi.com/Products/DesignSoftwareAndIP/MixedSignalDS/PacDesigner)

Select the Downloads tab, select **Downloadable Software** from the Downloads list, and select the PAC-Designer 6.27 version update.

2. Check for the latest version of Lattice Diamond:

- a. If you are not using the latest version of Lattice Diamond (v3.1), check for its update and download it to your local machine from here:

[latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond](http://latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond)

- b. Select the Download tab, and select and install the Lattice Diamond 3.1 update, if needed.

3. Next execute the PAC-Designer 6.27 installer executable. If you are already running a previous version of PAC-Designer, the installation program will remove the old version.

Once removed, you must double-click the 6.27 installer executable again, and the new version of PAC-Designer will then be automatically installed. In other words, if a previous version of PAC-Designer exists on your machine you have to run the installer program twice—once to remove the old version and once to install the current 6.27 version.

If these steps succeeded, you can skip down to the last section below, “[Running PAC-Designer and Diamond Software](#),” and begin using the updated version of PAC-Designer 6.27 immediately.

## 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 3.1. If you plan to use PAC-Designer 6.27 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 3.1:

1. Go to the Lattice Diamond Software page at:  
[latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond](http://latticesemi.com/Products/DesignSoftwareAndIP/FPGAandLDS/LatticeDiamond)
2. Select the Downloads tab, and then select the appropriate version of Lattice Diamond 3.1 (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**.

If you are using Windows 7, 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

---

This download process could take up to an hour or more, even if using a broadband internet connection.

---

### To download PAC-Designer:

1. Go to the PAC-Designer 6.27 Software Download page:  
[latticesemi.com/Products/DesignSoftwareAndIP/MixedSignalDS/PacDesigner](http://latticesemi.com/Products/DesignSoftwareAndIP/MixedSignalDS/PacDesigner)
2. Select the Downloads tab, select **Downloadable Software** from the Downloads list, and select **PAC-Designer 6.27 on Windows**.
3. Read the license agreement, select the box to acknowledge that you agree to it, and then click **Download**.

If you are using Windows 7, 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 3.1

If you plan to use PAC-Designer for creating Platform Manager designs, you must first install Diamond 3.1. If you plan to use PAC-Designer 6.27 only for Power Manager devices, you can skip the Diamond installation procedure.

### To install Lattice Diamond 3.1:

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:\lsc. 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**.

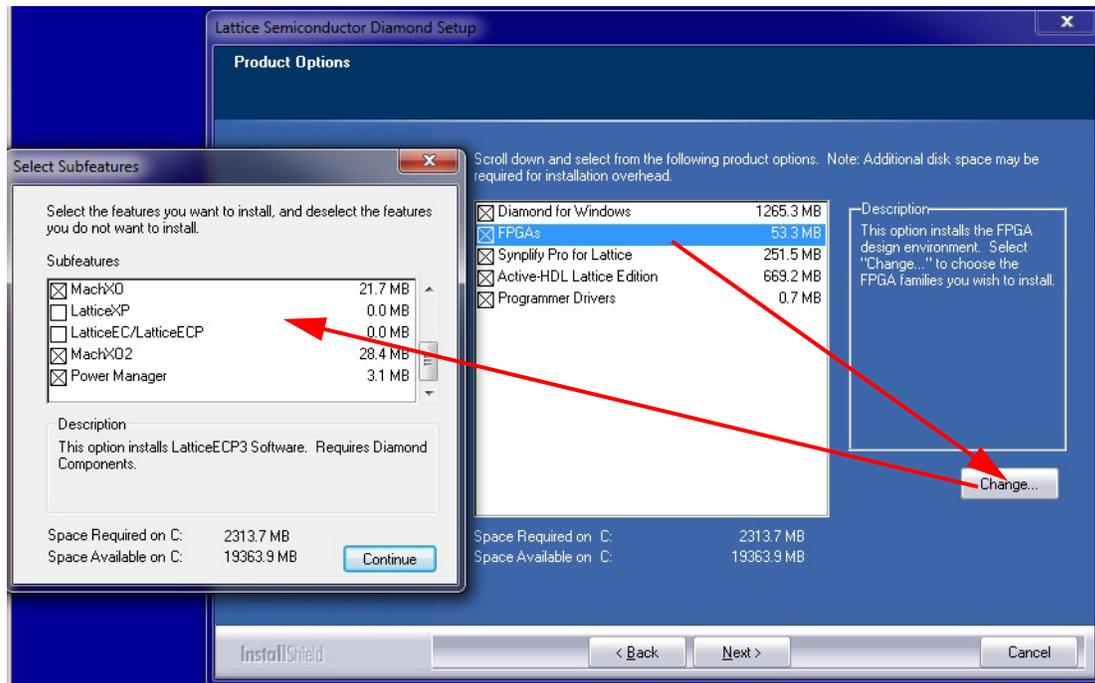
In the pop-up Select Subfeatures dialog box, you can select or clear the features from the list. Afterwards, click **Continue** to go back to the Product Options dialog box.

Minimum options for full Platform Manager design support include:

- ▶ Diamond for Windows
- ▶ FPGA support (MACHXO, MACHXO2, Platform Manager)
- ▶ Synplify 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 3.1. 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 3.1 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 from the Lattice Diamond Software web page at:

[latticesemi.com/Products/DesignSoftwareAndLDS/LatticeDiamond](http://latticesemi.com/Products/DesignSoftwareAndLDS/LatticeDiamond)

Select the **Documentation** tab, and then select **Installation Guides** from the Documents list.

## Installing PAC-Designer 6.27

If you plan to use PAC-Designer for creating Platform Manager designs, make sure that Diamond 3.1 is already installed on your system.

**To install PAC-Designer 6.27:**

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. If you are installing under Windows 7 or Vista, 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 3.1 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 3.1.
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 by exiting and restarting Windows.

## Running PAC-Designer and Diamond Software

To create or open a PAC-Designer (.PAC) file, start PAC-Designer 6.27 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. For more details on the operation and usage of PAC-Designer, refer to the user manual or select the internal HELP utility.

### Note

---

To permanently associate PAC-Designer 6.27 with its default design file type extension (.PAC), use Windows File Explorer or Control Panel functionality. This will make PACDesigner 6.27 the default program that runs when .PAC design files are double-clicked. The location for the PAC-Designer 6.27 executable is

"C:\\scc\\diamond\\3.1\\pac\\PACD627.exe" (or similar)

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 6.27, 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 3.1 User Guide. The Diamond 3.1 User Guide is available at:

[latticesemi.com/Products/DesignSoftwareAndLDS/LatticeDiamond](http://latticesemi.com/Products/DesignSoftwareAndLDS/LatticeDiamond)

Select the **Documentation** tab, and then select **User Manual** from the Documents list.