



Personal Automated Design System

Release Highlights

Software Version: PADS VX.1.2

November 2015

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Introduction

This document provides a high-level summary of the PADS VX.1.2 release. Refer to the Release Notes on SupportNet for the list of specific known issues and workarounds.

This document includes a summary of the new features in this release. It also includes, if applicable, any authorization code changes required, any major installation changes, and any transitioning issues you should be aware of before installing. Additionally, any last-minute issues found in the final stages of testing are included.

Changes may be added to this document after the release. Refer to the Release Highlights documents on SupportNet for the most up-to-date release information.

New Features Introduced in PADS VX.1.2

The following new features and enhancements are introduced in the PADS VX.1.2 release:

Windows 10

The Windows 10 operating system is now supported.

Note: The new Microsoft Edge Browser delivered with Windows 10 is not supported.

If you are installing PADS VX.1.2 on a Windows 10 VMWare based virtual machine see the installation notes at the end of this document prior to installation.

Documentation Videos

Videos have been added to the documentation of some of the tools but are available in a separate install. Please use the installation for videos to add access to videos from within the documentation.

Improvements to Migration

With each release, improvements and enhancements will be continually delivered for both migration within MGC flows and translations from competitive tools.

- **Migration between MGC flows**
 - PCB migration from PADS to Xpedition

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- Added migration of PADS Netlist Variant Manager data to PADS Professional and Xpedition Enterprise
 - **Library Migration**
 - xDX Designer and PADS Netlist libraries to Central Library
 - **Translation from competitive tools**
 - PCB migration has improved translation to PADS Layout, PADS Professional and Xpedition Enterprise



PADS 3D

The PADS VX.1.2 release delivers the new PADS 3D design solution for the first time in both PADS Standard and PADS Standard Plus.

PADS 3D is developed on the same commercial grade 3D engine that is used and proven in Xpedition PCB and PADS Professional and provides unrivaled capacity and performance.

PADS Standard and PADS Standard Plus customers will be migrated free of charge to new part numbers that include the new 3D functionality.

- PADS Standard Suite Ap SW, PN: 263510 customers will be transitioned to PADS Standard Suite 3D Ap SW, PN 265887
- PADS Standard Plus Suite Ap SW, PN: 263521 customers will be transitioned to PADS Standard Plus Suite 3D Ap SW, PN: 265888

Note: Customers should request and configure the new license keys from SupportNet before attempting to install any PADS VX.1.2 products

PADS Standard

- **Photorealistic visualization**
 - Including components, pads, traces, vias and plane data
 - Solder mask and silkscreen layers
 - Dynamic object synchronization between 2D and 3D views
- **STEP Import/Export**
 - Import component models, enclosures and board assemblies
 - Export STEP of complete assembly
 - Other export formats include 3D PDF, BMP, GIF, JPEG, PNG, SAT and TIFF

- **Model mapping and management**
 - 3D component models can be assigned and aligned (mapping) with the decal locally in the design
 - You have the option of saving the mapping information to either the central library location (for an integrated project) or the Reuse folder location (for a netlist project).
 - The mapping can then be re-used in other designs that use the same part and decal
- **Measurements**
 - Minimum distance between objects to object
 - Between Board level objects and mechanical models
 - Measure actual distance between object to object
 - Snap to Closet, Face, Edge, Axes etc.
- **Cross Sectional Views**
 - Cross sectional views, or “cutaways” can be created in the 3D view that allow you to view board level objects that might otherwise be obscured by an enclosure or other objects
 - Cut planes can be created in the X, Y and Z planes

PADS Standard Plus

All of the functionality delivered in PADS 3D with PADS Standard is included with PADS Standard Plus with the addition of the following functionality:

- **Concurrent 2D – 3D placement**
 - Component move, flip side
 - Radial move
 - Rotation and spinning
 - Keyboard accelerators
 - E.g. component move (CTRL+E) and rotate (CTRL+R)
 - Modeless commands
- **3D Clearance checking**
 - Clearance definition in Constraint Manager
 - Override locally within 3D view
 - Online 3D DRC during placement
 - With dynamic visual feedback
 - Batch 3D DRC for the entire design
- **New MCAD Collaborator (Optional)**
 - Fully integrated with PADS 3D with new and updated functionality
 - Event monitor alerts ECAD of impending MCAD changes

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- Provided real time previews and animation of changes proposed by MCAD
 - Avoid physical interferences between boards, components and enclosures
 - Synchronize with MCAD using incremental data exchange

Padstacks Editor Improvements

- **Shift/ Control selection to modify size of pad on all levels**
 - Now the user can modify several pad layers at the same time. Multi selection in that area is available
- **Remove the drop-down style setting for Pad, Thermal and Antipad**
 - The combo box for pad styles was replaced with tabs
- **Copy and paste buttons to copy data from one layer to another**
 - Now the user can copy one pad layer and paste it to several other layers

Physical Design Reuse Improvements

- **Preserve Reference Designator Location**
 - This feature allows repeating reference designators to appear exactly the same way as in the reuse definition
 - It is controlled by the “*Tools>Options>Design>Apply reuse Ref Des placement*” checkbox (the default state is “Checked”)



In order to simplify the user experience “out of the box” when transitioning from PADS Logic to xDX Designer, some UI and other start up functionality has been improved.

- **Simplified UI**
 - The Default UI and Toolbars for new installations are configured so that only the most commonly needed/used commands are displayed by default
 - Other toolbars and commands can be added as necessary and the user can also customize these as needed

- **Advanced UI**

- As your proficiency increases and needs grow, a more comprehensive toolbar is also available
- Details of how to enable the Advanced toolbars can be found in Introduction of the PADS Evaluation guides. See the section named "SIMPLIFIED and ADVANCED Toolbars

- **Sample Library**

- A new sample library, that is built on the same structure as the ODA Starter library is provided out of the box and contains:
 - Default sheet size & sheet borders with correct zones defined
 - Commonly used parts including Resistors, Capacitors and Connectors etc.
 - Correct 'special' components pre-defined
 - The ODA Starter Library can be installed directly into the same Library location as the structures are the same. The ODA Starter Library provides access to thousands of additional parts/symbols

- **DxDatabook**

- When starting a new project and opening xDX Designer, xDX Databook will be open by default ready for part/symbol placement using the Sample Library as described above



Some of the top IDEAS submitted by users have been addressed.

- **IDEA D110 Renumber reference designators on the schematic**

- Customers can now auto renumber reference designators in the schematic, much in the same way that can be done in PADS Layout.
- Renumbering can be controlled to increment the start value of the reference designators on a per sheet basis such as R101, C101, D101 for sheet 1 and R201, C201, and D201 for sheet 2.

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- An ECO file is automatically generated in order to pass the changes to PADS Layout
 - **IDEA D2593 Component numbering/renumbering in Logic**
 - Predefine the reference designator starting values on a per sheet basis using the new control in Setup > Sheets. New components can be added to the schematic with numbers like R101, C101, and D101 for sheet 1, and R201, C201, and D201 for sheet 2
 - **IDEA D1812 BOM report - show all reference designators**
 - An updated BOM Report control allows for separate reference designators to be displayed on a single line in the output file. This provides an output that looks like this: C1, C2, C3, C4 in addition to the existing available output formats
 - There is a new setting to control this in “*File > Reports > Bill of Materials > Setup > Format*”

Licensing

The PADS VX.1.2 release utilizes the Mentor Standard Licensing at the v2013_1 level. This version requires a FLEXnet license server running at version 11.10 or higher. If you use floating licenses and your license server is not at FLEXnet v11.10 or higher, you will need to update the license server. If you see an error message that says “vendor daemon too old,” that is usually an indicator that the license server needs to be updated to run this version of the client software. For additional information on licensing, refer to the Licensing Mentor Graphics Software manual.

Note: Customers desiring to run their Licensing Server on Windows 10 operating systems, should install Mentor Graphics Standard Licensing v2015_1 with FLEXnet v11.13.0.2 (or newer) currently only available from SupportNet.

Related TechNote:

- [MG66951 Why upgrade to FLEXnet v11.13.0.2? Download the latest licensing software](#)

Authorization Codes

To use PADS VX.1.2, you must be on support contracts for these products as of November 2015. For more information about "Exact Access" authorization code formats, see the explanation on SupportNet at:

http://supportnet.mentor.com/about/other-info/exact_access.cfm

You may download your site's existing authorization codes from SupportNet at:

<http://supportnet.mentor.com/myaccount/index.cfm?fa=user.licenses>

For additional information on licensing, refer to the *Licensing Mentor Graphics Software* manual.

Note: Customers should request and configure the new license keys from SupportNet before attempting to install any PADS VX.1.2 products. A software module for the new PADS 3D is automatically installed based on the updated PADS Standard and Standard Plus licensing features. If you install PADS VX.1.2 without the new license features available you will need to reinstall the software with the updated PADS Standard or Standard Plus license features present to access the new 3D tools or manually enable installation of the 3D module.

Installation Information

This release uses the Mentor Graphics Standard Installation program. For additional information on installation, refer to *Managing Mentor Graphics PCB Systems Software* manual and the help system within the installation software. You can view this manual at the top level of the CD and on SupportNet.

Platform Support Changes

The following Windows platforms are no longer supported with the release of PADS VX.1.2:

- Windows XP
- Windows Server 2003

The PADS VX.1.2 flow release will be the last PADS flow release that supports the following Operating Systems:

- Windows Vista
- Windows Server 2008

Support Information

If you have questions about this software release, please log in to SupportNet. You may search the KnowledgeBase with thousands of technical solutions or open a Service Request online at:

<http://www.mentor.com/supportnet>

If you do not have a SupportNet login, you may easily request one by filling out a short form:

<http://www.mentor.com/supportnet/quickaccess/SelfReg.do>

For phone support in the United States or Canada, please call 1-800-547-4303. For phone support in other locations, please contact your local sales office or distributor. All Customer Support contacts can be found on our web site at:

http://www.mentor.com/supportnet/support_offices.html

Graphics Card and Driver Version for 3D Support

The following graphics cards and drivers were used when testing the VX.1.2 release of PADS Layout:

GFX card	Platform	
	W7 64	WIN 2012
AMD Radeon HD 5770	14.10.1006	---
AMD Radeon HD 5830	14.10.1006	---
AMD FirePro V5900	13.352.1009	---
AMD FirePro V7900	13.352.1009	13.352.1009
AMD FirePro W7000	13.352.1009	---
NVidia Quadro NVS 295	337.88	---
NVidia GeForce GTX460	337.88	---
NVidia Quadro 600	337.88	---
NVidia Quadro 2000	337.88	337.88
NVidia Quadro K2000	337.88	---
Intel HD Graphics	8.15.10.2014	---

Supported Platforms

Overall Notes

- Specified patches below are minimum levels. Later versions of the patches are valid, supported configurations.
- Except as noted, all products are supported on all platforms.
- Processor and Memory requirements vary based on the mix of applications being used, the design complexity, and infrastructure requirements. Individual needs may vary from those published below.

Processor Note for Intel/AMD Processors

All Windows OS variants run on Intel or AMD x86 or x64 processors. In the past, the processor GHz speed determined the performance, but recent changes in the internal architecture of both Intel and AMD processors have made these comparisons difficult. Therefore, the following recommendations are being made for **all** Windows systems:

- Supported processors and systems are those manufactured since 2008 which conform to the subsequent requirements
- Intel Celeron processors are not recommended
- Minimum requirement is a dual-core (or dual processor) system. A quad core is recommended for improved overall system performance. A hyper-threaded processor should be considered a single processor, not a dual processor.
- For best results, maximize processor speed and L1/L2/L3 processor cache memory.
- Typically, cost is the best indicator of performance, and extra investment in processor capability returns better system performance.

Microsoft Windows Vista (32 and 64 bit versions), Ultimate Edition, Business Edition, and Enterprise Edition

While there is no known issue with running Microsoft Windows Vista Home Basic Edition and Microsoft Windows Vista Home Premium Edition, the product has not been tested with these editions, and therefore is not supported.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended

Swap Space: 2x the amount of RAM

Microsoft Windows 7

Microsoft Windows 7 (32 and 64 bit versions), Professional Edition, Ultimate Edition, and Enterprise Edition are supported.

While there is no known issue with running Microsoft Windows 7 Starter Edition and Microsoft Windows 7 Home Premium Edition, the product has not been tested with these editions, and therefore is not supported.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended

Swap Space: 2x the amount of RAM

Windows Server 2008 & 2008 R2

Additional OS Patches:

The following configurations are only supported for the sharing of libraries. All other PADS VX.1.2 products are not supported on any Windows Server platforms:

- Microsoft Windows Server 2008, Standard Edition with all current updates via Windows Update, both 32-bit and 64-bit versions.
- While we expect no issues unique to Microsoft Windows Server 2008, Enterprise Edition or Datacenter Edition, they have not been tested and therefore are unsupported.
- **Windows Server 2008 for Itanium-based Systems are not supported.**

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended (per simultaneously logged in user)

Swap Space: 2X the amount of RAM

Microsoft Windows 8.0 & 8.1

Microsoft Windows 8.x (32 and 64 bit versions), Enterprise Edition and Pro Edition are supported.

While there is no known issue with running Microsoft Windows 8.0/8.1 Basic Edition, the product has not been tested with this edition, and therefore is not supported.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4GB Minimum, 8GB recommended

Swap Space: 2x the amount of RAM

Windows Server 2012 & 2012 R2

The following configurations are only supported for the sharing of libraries. All other PADS VX.1.2 products are not supported on any Windows Server platforms:

- Microsoft Windows Server 2012, with all current updates via Windows Update
- Microsoft Windows Server 2012 R2, with all current updates via Windows Update

Processor: Dual-core Intel or AMD processor minimum. See [Processor Note for Intel/AMD Processors](#) above.

Memory: 4 GB Minimum, 8 GB recommended (per simultaneously logged in user)

Swap Space: 2X the amount of RAM

Microsoft Windows 10

Microsoft Windows 10 (32 and 64 bit versions), Enterprise Edition and Pro Edition are supported.

While there is no known issue with running Microsoft Windows 10.0 Home Edition or Educational Edition, the product has not been tested with these editions, and therefore is not supported.

Warning: The new Microsoft Edge Browser delivered with Windows 10 is not supported with PADS VX.1.2. Users should continue to use the Firefox or Chrome Browsers.

Kernel Configuration: N/A

Processor: Dual-core Intel or AMD processor minimum. See Processor Note for Intel/AMD Processors above.

Memory: 4GB Minimum, 8GB recommended

Swap Space: 2x the amount of RAM

VMWare Based Virtual Machine Installation

PADS VX.1.2 installation may not complete on VMWare based Virtual Machines running Windows 10. To allow proper completion of the PADS VX.1.2 installation, follow these steps: Setting the System Variable **_JAVA_OPTIONS=-Dsun.java2d.d3d=false**

Steps:

1. Go to System Properties -> Environment Variables -> New and add the following variable.

Please pay attention to the details. (Variable Name has an “underscore” in the beginning - **_JAVA_OPTIONS** and the value begins with a “dash” - **Dsun.java2d.d3d=false**)

Please make sure to enter dash “-” at the beginning of the value and all lower case “false” in the end.

Variable name: **_JAVA_OPTIONS**

Variable value: **-Dsun.java2d.d3d=false**

2. After you save it make sure to double check that this System variable set as documented.
3. Invoke PADS VX.1.2_mib.exe to start the PADS VX.1.2 Installer.

Note: See the images on the next page for additional instructions.

