



SIEMENS EDA

**PADS**

# Release Highlights

Software Version: PADS VX.2.12  
September 2022

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## Introduction

This document provides a high-level summary of the PADS® VX.2.12 release. Refer to the Release Notes on Support Center 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 release. Refer to the Release Highlights document on Support Center for the most up-to-date release information.

## Support Information

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Support Center features an extensive knowledge base to quickly troubleshoot issues by product and version. You can also download the latest releases, access the most up-to-date documentation, and submit a support case through a streamlined process.

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If your site is under a current support contract but you do not have a Support Center login, register here:

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## New Features Introduced in PADS VX.2.12

This is primarily a release aimed at adding new functionality and fixing customers' logged defects - Service Requests (SRs). The following new products, features, and enhancements are introduced in the PADS VX.2.12 release.

## PADS Layout and PADS Router

PADS Layout and Router now support Windows 11.

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# PADS AMS

PADS AMS includes the following new features and updates in release VX.2.12

## Setup Schematic Wizard Updates

You can add custom sources and loads, modeled in either SPICE or VHDL-AMS, to the Add Sources and Add Loads lists. In addition, the wizard content automatically synchronizes source and load details with schematic property information and warns of connectivity changes.

## SPICE Syntax Checker

SPICE models are automatically checked for compatibility with Eldo SPICE syntax. The syntax checker makes corrections where needed and saves a backup copy of the original model. You can turn the syntax checker on (the default) and off using the “Check syntax in Spice model files” checkbox in the AMS Settings dialog. (Note: This syntax checker is for standard SPICE models that may contain incomplete or incorrect syntax. If you are starting with a PSpice model, use the PADS AMS PSpice Converter to convert the model.)

## Bus Netlisting

In releases prior to VX.2.12, the PADS AMS netlister supports the “VB[x:y]” bus naming syntax. For the VX.2.12 release, the netlister adds support for the alternate “VBx, VBy” bus naming.

## Tutorial Updates

Tutorial updates include changes to the Power Systems and Magnetics tutorials. All tutorials are available from the Help > AMS Tutorials > Tutorial Index menu selection.

## Waveform Analyzer Help Information

Improved links to Waveform Analyzer help information.

## PADS Logic

Now PADS Logic supports Windows 11.

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# HyperLynx® DRC

HyperLynx DRC adds some important new functionality and defect fixes. The sections below provide details on some of the new capabilities. Additional HyperLynx licensing may be required to fully utilize all the new HyperLynx DRC functionality detailed for VX.2.12.

## New Rules

Two new rules are available for HyperLynx DRC 401

- Nets Copy
- Total Via Count

## Other major improvements

DDR Wizard enhancement

- Support global rule parameters, which collectively control common parameters for each rule
- Simplified the parameter settings process

# HyperLynx SI/PI/Thermal

This release contains improvements in SERDES analysis, DDRx analysis, and DC Drop analysis, as well as some notable usability improvements. Additional HyperLynx licensing may be required to fully utilize all the new HyperLynx SI/PI functionality detailed for VX.2.12.

## SERDES

- Batch S-parameter simulation in the SerDes Compliance Wizard. Allows users to sweep through a set of pre-solved/measured channel models with the same simulation parameters in the Wizard.
- Additional option for generating simplified reports, particularly useful when simulating large numbers of channels at once

## DDRx and Power-Aware Analysis

- Revised monotonic measurement methodology for all generations of DDRx to ensure correct voltage thresholds were being used
- Made CA input mask width defined only for 1T timing
- Removed DBI for DDR5 (left in for LPDDR5)
- New advanced simulation flow for DDR5 which includes a new statistical solver capable of verifying BER down to 1e-16 and including non-LTI effects

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## Power integrity

- Modified source pad modeling to mimic pin being placed on the pad: equipotential source is now  $\frac{1}{2}$  the size of the pad and centered within the pad. Allows for more realistic current profiles around source pads.
- Improved integration with FLOEFD/Flotherm products for PI/Thermal co-simulation

## Automation Enhancements

1. Advanced Coupling/Crosstalk Settings
  - **New Objects**
    - CrosstalkSettingsEx
    - TraceCoupling
    - AreaFillCoupling
    - SParameterCoupling
  - **New Properties**
    - Design.CrosstalkSettingsEx
    - Schematic.CrosstalkSettingsEx
2. 3D Area Automatic Search
  - **New Objects**
    - Auto3DAreaParams
  - **New Properties**
    - Design.Auto3DAreaParams
3. Schematic Symbols
  - **New Objects**
    - IcBoxPort
    - ScmIcBox
    - ScmPwrGndPin
  - **New Properties**
    - ScmComment.Text
  - **New Methods**
    - Schematic.CreatePwrGndPins
4. BoardSim Objects
  - **New Properties**

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- Pin.X, Pin.Y, Pin.Via
  - 5. Unified method for specifying DC connections for any type of component
    - **New Method**
      - Comp.AddDCConnection
  - 6. PowerScope
    - **New Method**
      - Representation.Comment
    - **New Property**
      - SimPlane.Layer
  - 7. Touchstone Viewer
    - **New Methods**
      - Model.GetCausalityLevel
      - Model.GetWorstCausalityFreq

## App Explorer Enhancements

- Access with standard licensing.
- SerDes App:
  - New parameters (3D Area Solver, solver options, etc.).
  - SWS file determines min/max frequency for 3D Areas.
  - Greatly improved robustness.
- DC Drop App enhancements – new parameters.
- Loop Inductance App enhancements – new parameters.
- Usability improvements:
  - Better tool buttons and layout.
  - Improved board viewer experience & performance.
  - Better progress reporting and error handling.
  - Clear selection, filters, invert filters when selecting Nets/Components.
  - Drag and drop design files; save/restore current tab; timestamp sync.

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## Licensing

The PADS VX.2.12 release utilizes the SALT (Siemens Advanced Licensing Technology) MSL software version 1.6. Due to continued use of MSL v2020\_1 by the installer and some legacy applications, the user should set both the SALT\_LICENSE\_SERVER and the MGLS\_LICENSE\_FILE variable to point to their license server.

The latest version of licensing software is always available on Account Center:

[support.sw.siemens.com/en-US/product/905395197/downloads](https://support.sw.siemens.com/en-US/product/905395197/downloads)

This version of PADS requires a PCLS FlexNet license server running at version v11.16.4.0 or higher. If you use floating licenses and your license server is not at least a FlexNet v11.16.4.0, you will need to update the license server.

## Authorization Codes

To use PADS VX.2.12, a minimum license version (Exact Access Date) of 2022.08 (August 2022) is required.

You may download your existing authorization codes from Account Center:

[account.sw.siemens.com/en-US/licenses](https://account.sw.siemens.com/en-US/licenses)

For additional information on licensing, refer to the Siemens Digital Industries Software Licensing Manual for Mentor® Products.

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# 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.

## File Storage

You can install the libraries and share them for group use across a local area network (LAN). We do not recommend use of shared libraries across a wide area network (WAN) due to issues with latency. Storage of any files on Network Appliance Servers (NAS) are not supported with PADS.

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## Microsoft Windows 10

Microsoft Windows 10 (version 1909 or later, 64-bit), 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.

**Kernel Configuration:** N/A

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

**Memory:** 8GB recommended

**Swap Space:** 2x the amount of RAM

## Microsoft Windows 11

Microsoft Windows 11 (version 21H2, 64-bit), Enterprise Edition and Pro Edition are supported.

While there is no known issue with running Microsoft Windows 11 Home Edition or Educational 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:** 8GB recommended

**Swap Space:** 2x the amount of RAM

## Windows Server 2016

**The following configurations are only supported for the sharing of libraries. All other PADS VX.2.12 products are not supported on any Windows Server platforms:**

Microsoft Windows Server 2016 with all current updates via Windows Update.

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

**Memory:** 8 GB recommended (per simultaneously logged in user)

**Swap Space:** 2X the amount of RAM

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## Windows Server 2019

**The following configurations are only supported for the sharing of libraries. All other PADS VX.2.12 products are not supported on any Windows Server platforms:**

Microsoft Windows Server 2019 with all current updates via Windows Update.

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

**Memory:** 8 GB or more recommended (per simultaneously logged in user)

**Swap Space:** 2X the amount of RAM

## Windows Server 2022

**The following configurations are only supported for the sharing of libraries. All other PADS VX.2.12 products are not supported on any Windows Server platforms:**

Microsoft Windows Server 2019 with all current updates via Windows Update.

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

**Memory:** 8 GB or more recommended (per simultaneously logged in user)

**Swap Space:** 2X the amount of RAM

## Java Support

The version of the Java Runtime Environment that's provided is the OpenJDK 11.0.14.1. The OpenJDK version of Java is free from the licensing restrictions imposed on Oracle Java versions released after Oracle's change in Java licensing terms in January 2018.

This version of Java is the latest available at the time the contents of this release were established. The Java Runtime Environment is included in the product such that it is only used by Siemens EDA products and such that it does not conflict with any other version of Java installed on the target system. Because this version has been tested for use with the Siemens EDA products, ***replacement of the JRE with any other JRE version is not supported.***