OptiSystem 15.2 Release Notes

IMPORTANT - PLEASE READ ME

Installation Notes:

- If you have an earlier version of OptiSystem on your computer, OptiSystem 15.2 will be automatically installed in a separate directory.
- OptiSystem 15.2 includes the option to install OptiSystem samples during (or any time after) installation. The installation location for the samples folder can be defined (by default the samples folder will be installed in "C:\Users\username\Documents\OptiSystem 15.2 Samples"). If you have saved any projects to the target installation location it is highly recommended to save this folder to a backup folder).

Minimum hardware and software requirements

OptiSystem requires the following minimum/recommended system configuration:

- Minimum PC configuration: PC with Pentium 4 processor or equivalent with 4G GB RAM.
- Recommended PC configuration: PC with a clock speed > 2 GHz with 2-4 cores (e.g. Intel i7 3rd/4th Gen, AMD Athlon/Athlon II) and 8 GB RAM.
- Operating Systems: Microsoft Windows 7/8.1/10 (**64-bit only!**)
- 400 MB free hard disk space
- 1024 x 768 graphic resolution, minimum 65536 colors
- Internet Explorer 5.5 or higher (to enable VBScript functionality)

Application execution

- When running OptiSystem under a Restricted User Profile, place all sample files in the Restricted User's folder, or wherever the user has Read/Write access. It may also be necessary to remove the Read-only flag from the file after the copy is made. This has to do with file permissions - OptiSystem needs to open the file in a read/write mode. Please contact your network administrator if you need assistance. Also when opening an OptiSystem project it will be necessary to open OptiSystem using the "Run as Administrator" command (right click to see this menu option command)
- There are some MATLAB files (.m) included that are necessary to make the samples work properly. Another important point - the path in the MATLAB search path (Main tab of the MATLAB component) has to be updated with the path to the MATLAB files, otherwise the samples will not work.
- The path to the Scilab/bin folder has to be added to Scilab component (a parameter field has been created for this purpose), otherwise the Scilab component library will not work.
- For the OptiSystem Help feature to function properly, Adobe Acrobat Reader must be installed. To get the latest version please visit the Adobe website at http://www.adobe.com/.
- Some computers provide a power saving feature, Hibernation. If available, this feature is controlled by opening Power Options in Control Panel. Clicking the Hibernate tab, and then selecting the Enable hibernate turns it on. After the computer goes into hibernation, it won't find the Optiwave protection key, and the

simulation will stop with a message that the protection key can't be found. Disable the hibernation feature of the computer in order to avoid this problem.

OptiSystem Version 15.2 list of updates

Components

Component(s)	Library	Changes/Updates
Electrical Nonlinear Device	Signal Processing Library/Tools/Electrical	The new Electrical Nonlinear Device component enables users to model or synthesis nonlinear electrical devices such as an op-amp. Users can enter the coefficients of the nonlinear equation representing the device to the 10th order in the modeling setup feature of the component, or enter relative power levels of certain harmonics compared to the main harmonics in the synthesis setup feature. The synthesis option allows the output of the component to be either input and output intercepts for each nonlinear order considered in the simulation or intercepts and additional nonlinear equation for the 3rd order only.
LOS FSO Channel	Free Space Optics Library	A new Line of Sight (LOS) Free Space Optics (FSO) Channel component replaces the diffused channel component to correctly use the models of the component.

Other features and improvements

Other features	Changes/Updates
Python Scripting	OptiSystem 15.2 enables users to script a project using Python language similar to VB scripting. A new icon is added to the tool bar named “Generate Python Script”. The process can also be accessed through Script field in the tool bar of OptiSystem GUI. In order to create OptiSystem project from the python script, the user needs to run the python script using Anaconda Prompt or Windows PowerShell (run as administrator). First save the OptiSystem project script file (filename.py) in a TEMP directory on C drive, then using Windows PowerShell or Anaconda Prompt follow the commands below. C:\Users\xxxxxxx> cd C:\TEMP C:\TEMP> python “filename.py”
Large Electrical Input Signal to Empirical Laser Measured	The new release of OptiSystem allows users to apply large input electrical signal to the Empirical Laser Measured component. This feature will avoid generating false frequencies of optical signal

Documentation

Document	Changes
OptiSystem Component Library	-New data sheet is created for the Electrical Nonlinear Device component. -The Diffused Channel component data sheet is used for the LOS FSO Channel component, where new icon is created and added to this component.

OptiSystem Version 15.2 Improvements & Fixes

Additional release notes issues

- The Error Vector Magnitude (EVM) displaying of the 16QAM case (only) was not done properly compared to other mQAM cases, where the calculation and displaying were OK. OptiSystem 15.2 resolve this issue.
- OptiSystem 15.1.1 has conversion issues when the Nonlinear Optical Fiber component. This issue is resolved in version 15.2.
- The “Nonlinear Optical Loop Mirror.osd” example was crashing when opening the report page in OptiSystem 15.1.1. The issue is resolved in OptiSystem 15.2.
- New examples are added for the Electrical Nonlinear Device component (Nonlinear electrical device.osd) and FBG loop mirror sensor (FBG fiber loop mirro.osd).
- Fix accessing data sheets from “Help” button for “Ideal Frequency Converter”, Electrical Sgn” and Bidirectional Optical Fiber” components.