OSLO

Optics Software for Layout and Optimization

Update Guide
Release 6.6

Revised: 7-May-2012

Lambda Research Corporation
25 Porter Road
Littleton, MA 01460
USA

support@lambdares.com
www.lambdares.com

COPYRIGHT AND TRADEMARK ACKNOWLEDGMENTS

COPYRIGHT

The OSLO software and manual are Copyright © 2012 by Lambda Research Corporation. All rights reserved.

This software may only be used by one user per license obtained from Lambda Research Corporation.

The OSLO manual contains information protected by US and international copyright laws. This information as well as the rest of the manual may not be copied in whole or in part, or reproduced by any means, or transmitted in any form without the prior written consent of Lambda Research Corporation.

TRADEMARKS

TracePro and OSLO are registered trademarks of Lambda Research Corporation.

TracePro Bridge is a trademark of Lambda Research Corporation.

Adobe and Acrobat are trademarks of Adobe Systems Incorporated.

FLEXlm is a trademark of Acresso Software Incorporated.

Sentinel and SuperPro are trademarks of SafeNet Incorporated.

Windows and Microsoft are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

All other names and products are trademarks of their respective owners.

Contents

Introduction 1

What's New in OSLO 6.6? 1

STEP File Exporter 1
Notepad++ 1
Step 1 Install Notepad++ 2
Step 2 Import the CCL language definition into Notepad++ 2
Step 3 Install the NppExec plugin 2
Step 4 Turn on the function parameters 2
TOPS merit function 2
Simultaneous operation with earlier versions 2
User selectable private folder 3
Q-type Asphere DLL (Premium only) 3
Updated Help System 3
Important: Updated Through Focus MTF Menu Command 3

INTRODUCTION

Major changes for OSLO 6.6 include a STEP file exporter, adding support for Notepad++ as the text editor, adding the TOPS merit function, enabling OSLO 6.6 to operate simultaneously with earlier versions and allowing the user to select the location of the private folder.

In addition, a number of minor enhancements and bug fixes are included.

WHAT'S NEW IN OSLO 6.6?

Changes in OSLO 6.6 compared to the 6.5.x series are summarized as follows:

- STEP file exporter
- Notepad++
- TOPS merit function
- Simultaneous operation with earlier versions
- User selectable private folder

STEP File Exporter

The world of mechanical CAD has made major advances in the last decade. Foremost among these is the switch to 3D modeling, which has made development of complex products much easier. To keep in pace with these developments, a STEP file exporter has been added to OSLO. It is accessible from either the File menu or the command line. Typing `step` on the command line, optionally followed by the name of the .stp file will produce a STEP file in the same directory as the original lens. If no file name is typed, the new file will have the same name as the current lens, but with a .stp extension. Selecting *Export Lens to CAD…* from the file menu will also export the lens. You will have to type a name unless you want the file name to be oslo.stp.

Notepad++

Notepad++ is an open source text editor that is useful for many general tasks. Lambda Research has added language definitions to Notepad++ that enhance its usefulness for CCL programming. Support for Notepad++ capabilities that relate specifically to OSLO, such as CCL syntax coloring and function parameter hints, is provided by Lambda Research, but support issues that relate only to Notepad++ should be addressed via the Notepad++ support forum. You can get to this forum through the Notepad++ Help menu.

The OSLO Setup program optionally installs Notepad++. Because Notepad++ is a standalone editor that is useful in general applications (it is an excellent upgrade to Microsoft's NotePad) it is installed in its own directory, and uses its own Setup program. To customize Notepad++ for use with OSLO, the OSLO installer must first complete the normal Notepad++ setup then make Notepad++ aware of CCL. In detail, the procedure is as follows.

Step 1 Install Notepad++

As part of the OSLO installation process, you will be prompted to install Notepad++. If you already have the latest version installed, or if you don't want another text editor on your system, you may skip this step. After Notepad++ is installed (or the installation is skipped), two OSLO-specific files need to be copied to the appropriate directories.

Step 2 Import the CCL language definition into Notepad++

Start Notepad++ and open the User Defined Dialog from the View menu. Click the "Import" button near the top, and navigate to the "import_ccl.xml" file that came with OSLO (It is in the OSLO public folder, in the Notepad++ subfolder). Select it and click on Open. From now on, when you click on the Language menu, CCL should show up near the bottom of the list. In addition, when you load a CCL file, the CCL keywords will be colored.

Step 3 Install the NppExec plugin

From Notepad++, open the Plugins menu. If NppExec is not on the list, click Plugin Manager and select Show Plugin Manager. Select NppExec from the list and click Install. This will enable you to compile CCL from within Notepad++.

Step 4 Turn on the function parameters

From Notepad++, click on the Settings menu and select Preferences. Open the Backup/Auto-Completion tab. In the Auto-Completion area near the bottom, check the "Enable auto-completion on each input" box. Then enter a number in the "From _ th character" space. Choose 2 or 3 if you want a hint on available functions often and a higher number if you don't. Also select Function completion and check "Function parameters hint on input". This will give you a reminder of what parameters are required by a CCL function as you type.

TOPS merit function

This new merit function is based on those developed in the 1960s and 70s by Prof Charles Wynne, Mrs Prudence Wormell, Dr Michael Kidger, David Freeman and others. One version (tops) will only work with the Standard and Premium editions of OSLO, but a simpler one (tops_edu) will work with OSLO EDU. Both will generate an error function which can be used "off the peg" for rapid improvement of many types of rotationally symmetric lens, or tailored to finalize the design by adjustment of weights and targets. To use this merit function, simply open a lens, define some variables, and type `tops` or `tops_edu` on the command line. The function will define all of the appropriate operands, and you will be ready to optimize.

Simultaneous operation with earlier versions

Earlier versions of OSLO always used the same location for all of OSLO's data files, for instance `C:\Users\Public\OSLO EDU`. Each version of OSLO has a corresponding set of compiled resource (.amo) files, so it is necessary to keep them separate, meaning that an optical designer could only operate one version at a time. Starting with version 6.6, OSLO will use a different directory for the data files that includes the version number, for example `OSLO66 EDU`. This will make it possible to compare the results from a new version with those of the old without uninstalling and reinstalling.

User selectable private folder

A second change to the OSLO file system allows each user to choose the location of their private folder. This allows several optical designers to use OSLO on one computer without interfering with each other. For instance, each designer can have an OSLO folder in their "My Documents" directory, with their own customized `a_menu.ccl` file. They can also use the same name for a lens without overwriting each other's. Best of all, this increases security for each user.

When you launch OSLO 6.6 for the first time, you will be prompted to enter a location for the new private folder. A default path is provided, but you are free to put it anywhere convenient. If you want to change the location later, you will have to edit the oslo.ini file in %APPDATA%\Roaming\Lambda Research Corporation\Oslo when OSLO is not open and either move the folder to the new location or allow OSLO to create a new one with the factory defaults.

Q-type Asphere DLL (Premium only)

By industry consensus, Forbes aspheres have been renamed as Q-type aspheres. This change has been incorporated into OSLO. Additional details are in the OSLO Help system.

Updated Help System

All of the new features are documented in the much-improved OSLO Help system.

Important: Updated Through Focus MTF Menu Command

Due to some changes in the OSLO resource compilers, one line in a_menu.ccl is too long. If you do nothing, the through-focus MTF button in the MTF section of the graphics window toolbar will give an error message. The simplest way to fix this is to copy the revised a_menu.ccl file from public/ccl to your private/ccl folder. However, if you have changed a_menu.ccl to suit your own preferences, you will have to manually edit the change into the file. To do this, change the second-to-last line of the "menu toolbar36" section to match the corresponding line in the public/ccl/a_menu.ccl file. The line starts with "plt_tfo,Plot Through-focus MTF".