WaveLight®

WLZ-Export Tool

Instructions

Alcon

CONTENTS

1. INTENDED USE

The WLZ-Export Tool gives the user the ability to export planned treatment data and ablation patterns from the WAVENET™ Planning Software into a csv file format, and the HOA-image in a png file. The WLZ-file can be exported from the WAVENET™ Planning Station to a USB drive, using the export function of the software, and afterwards it is imported in the WLZ-Export Tool. This tool is installed on a separate computer and has no physical connection to the WAVENET™ Server or the network.

Any further processing of the data provided by the WLZ-Export Tool falls under the responsibility of the user.

2. MY SQL SERVER APPLICATION

2.1. Uninstall MySQL Server Application

- Uninstall any MySQL Server Application (if a version of the application is already installed) from your personal computer.

2.2. Copy Installation File

- Copy the file “Integration_WLZTool_Rev01.exe” to the hard drive of your computer.
- Start installation of “Integration_WLZTool_Rev01.exe”.
- Select destination for file export.

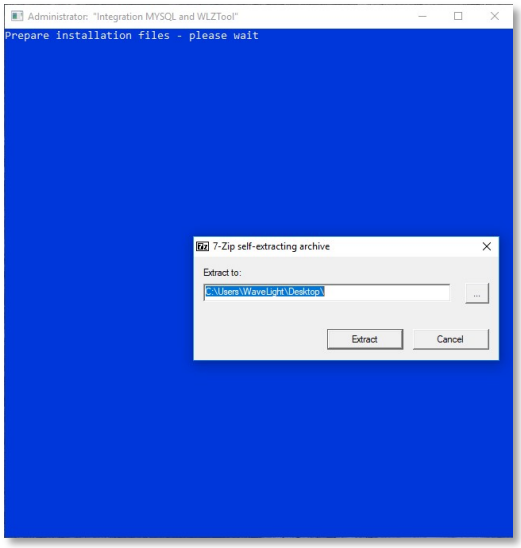


Figure 1: Select Installation folder designation

Installer adds folder “WaveLight” to the hard drive C:\ with the following subfolders:

- DB (Database files)
- WLZTool (WaveLight WLZ-Export Tool)

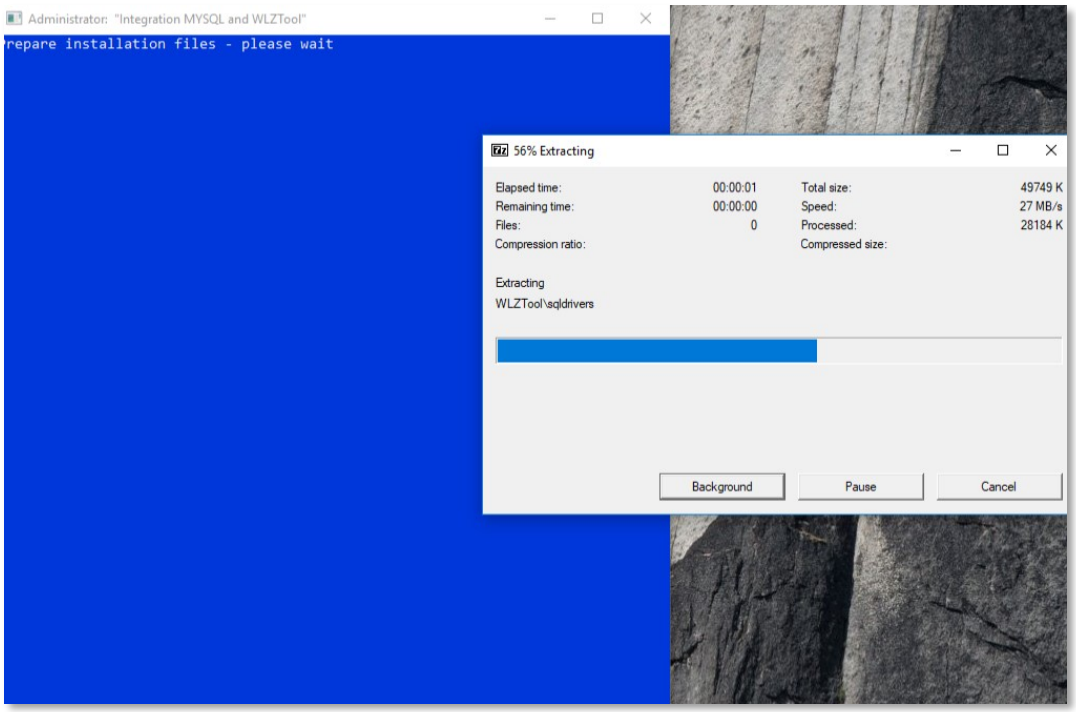


Figure 2: Installer Copies Files On The Computer

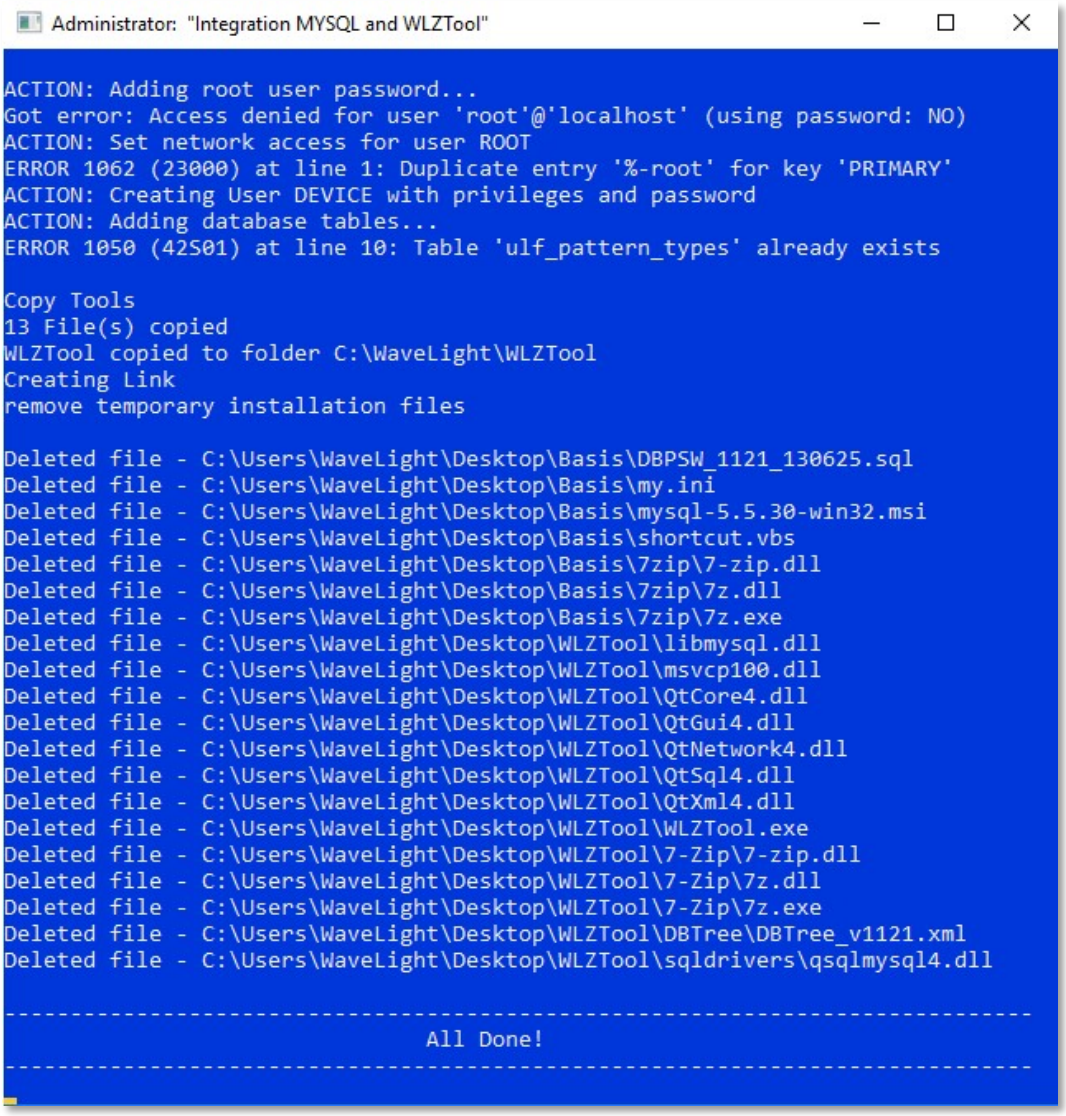


Figure 3: Installation complete

3. PLAN TREATMENT

Plan your treatment as you have learned from your Alcon CAS and save it in the database of the WAVENET™ Server.

4. EXPORT WLZ-FILE

Export Treatment:

- To export a treatment (planned, aborted, completed), select the treatment first and then press 

.

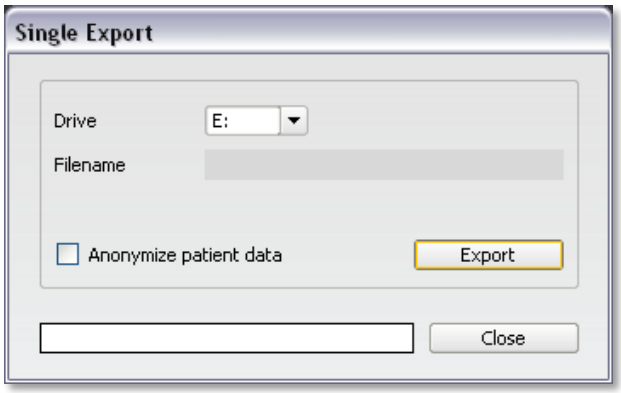


Figure 4: Popup Window - Export Treatment

When connecting a USB stick to the Planning station, make sure you use a formatted, virus free USB-stick.

5. EXPORT TOOL

5.1. Import And Export Settings

The Import and Export Settings will be set in the WLZTool.ini File. You will find it in the WLZTool subfolder under C:/WaveLight/WLZTool.

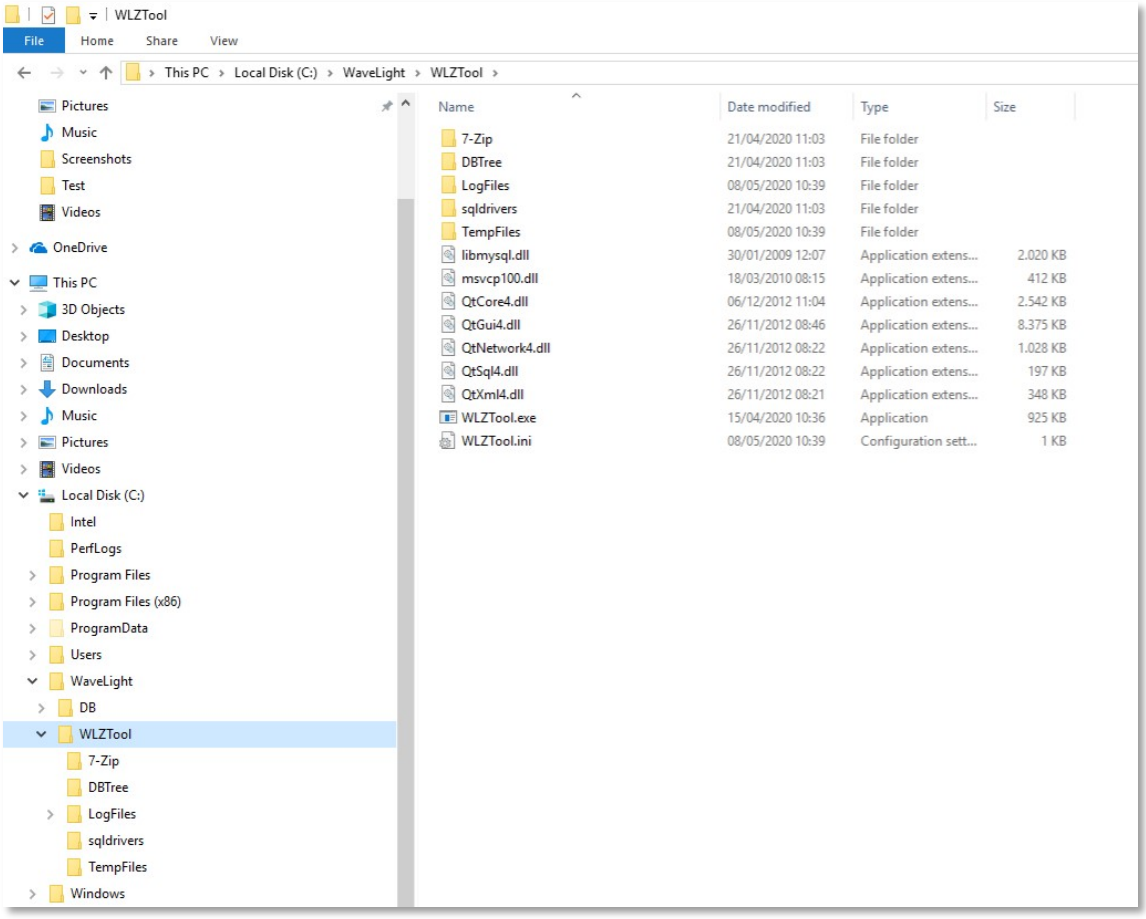


Figure 5: Import And Export Settings

The Import and Export folder can be individually set in the file WLZTool.ini. The files will be imported from the Input directory and the exported files will be saved in the Export directory.

Set path for Import folder: InDir=C:/ XXXXX
Set path for Export folder: OutDir=C:/ XXXXX

NOTE

Save file after editing and restart the tool.

Figure 6: Select Import and Export Directory

5.2. Open Export Tool

- Click on the WLZTool Shortcut icon in the Windows Start Menu

or

- go to C:\WaveLight\WLZTool and open file “WLZTool.exe”.

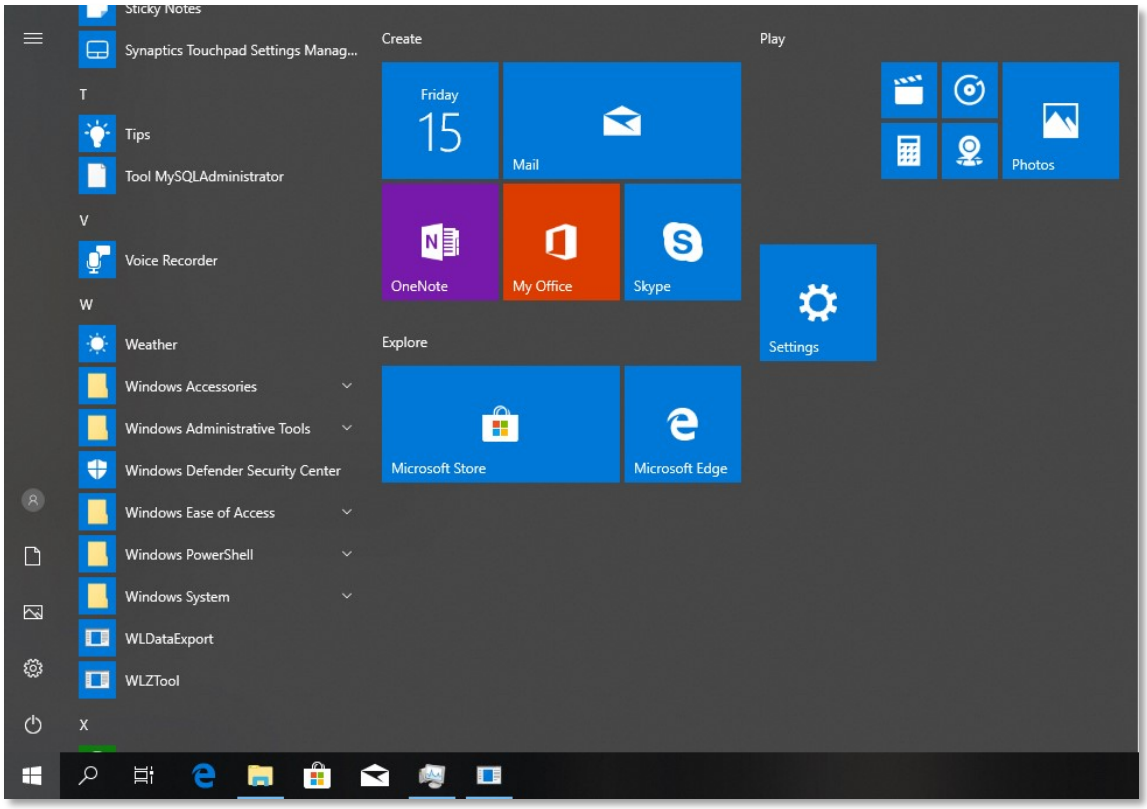


Figure 7: WLZTool Shortcut

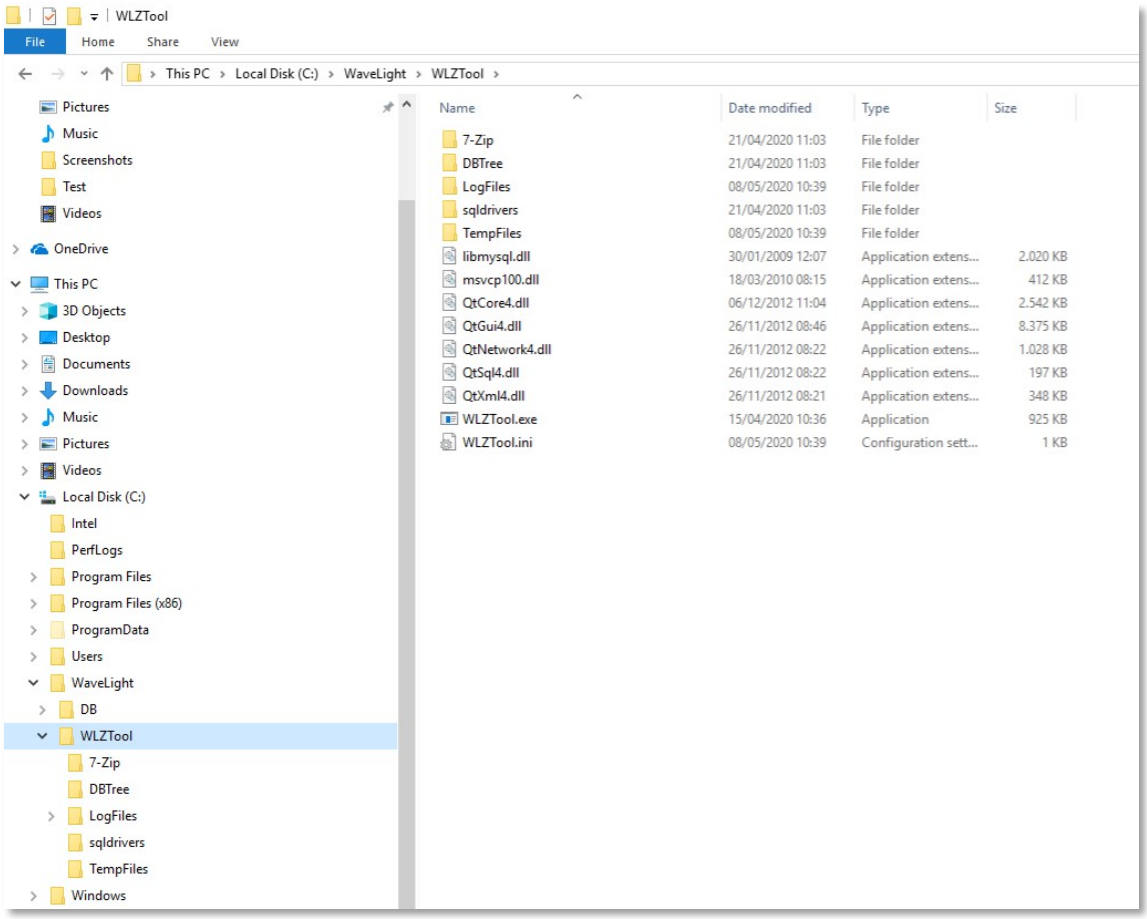


Figure 8: Open “WLZTool.exe”

The tool opens and shows the files in case a USB drive is connected and selected.

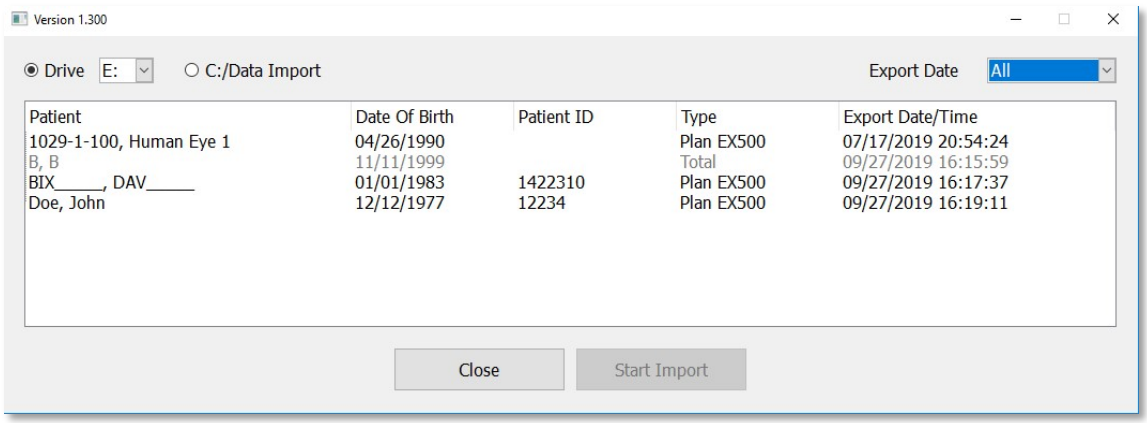


Figure 9:

5.3. Select Files To Be Processed

Options:

- Select USB drive (files need to be saved in the folder WLExport) or select import path (path needs to be set in WLZTool.ini)

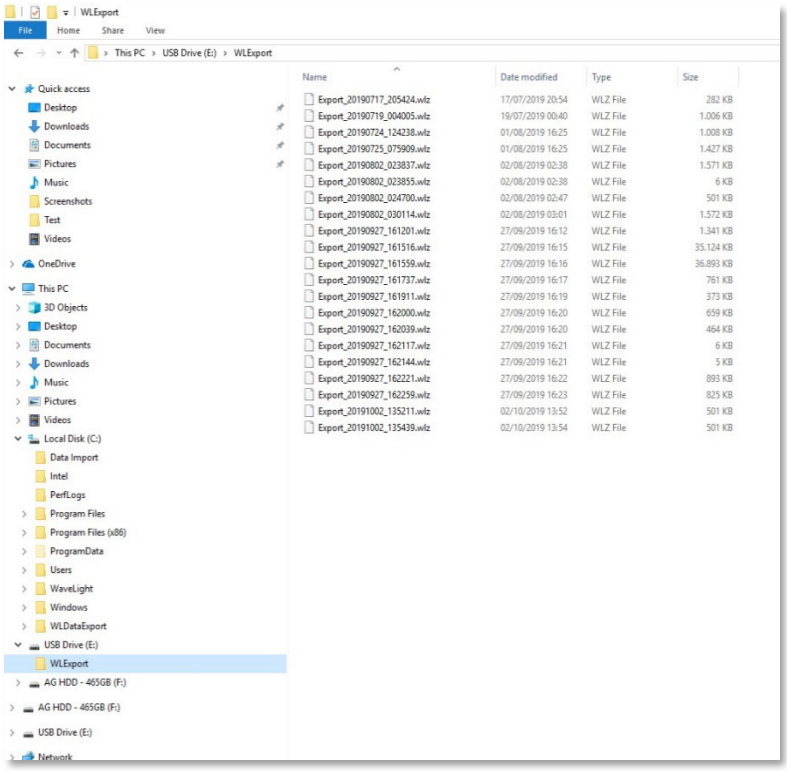


Figure 10: USB file structure

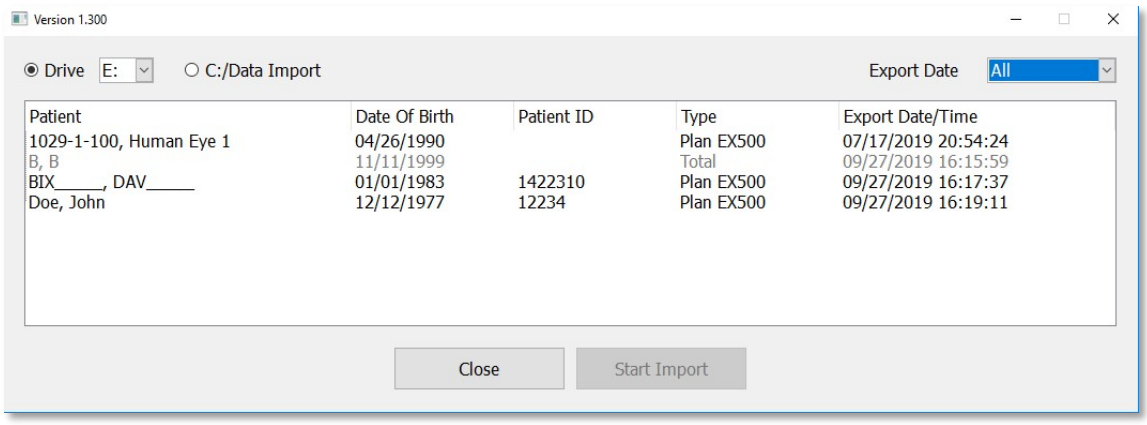


Figure 11: Export Filter

- Select Export Date
- Select Patients

NOTE

A few restrictions apply to the usage of the tool:

- Multiple files can be processed by selecting files when holding Ctrl.
- Only Planned treatments can be processed (no aborted or finished treatments).
- Only Single planned treatment files can be processed (Plan EX500).
- Files are highlighted in grey cannot be processed.
- Only WAVEFRONT OPTIMIZED™ and Topo-G/CONTOURA™ treatments can be processed.

5.4. Importing Data

By clicking on “Start Import”, the data will be processed.

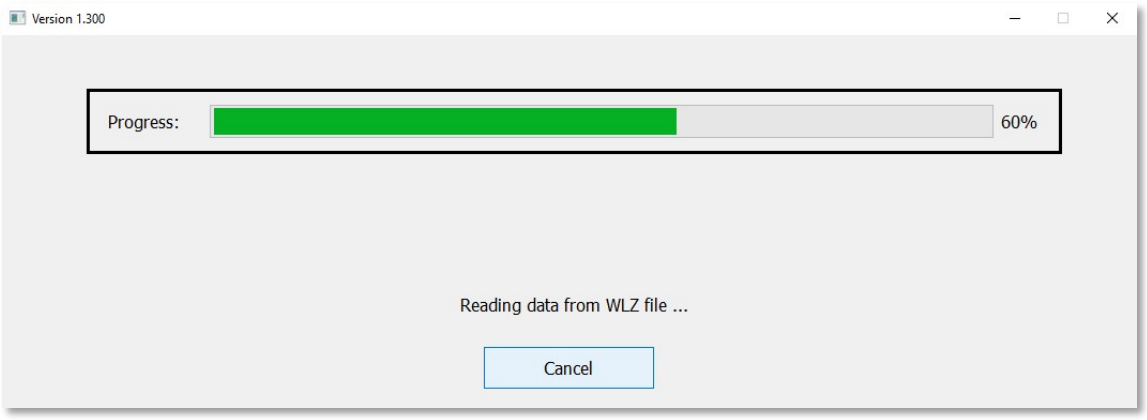


Figure 12: Import Progress

5.5. Import Completed

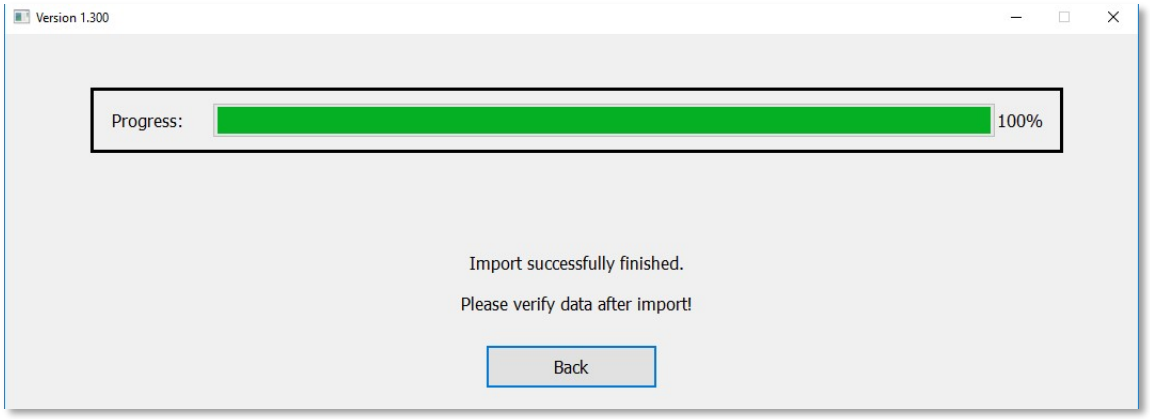


Figure 13: Import Completed

6. EXPORTED FILE STRUCTURE

There will be two files generated and saved in the previous selected output folder, which consists of a csv-file containing patient data and an image of the Higher Order aberration ablation file.

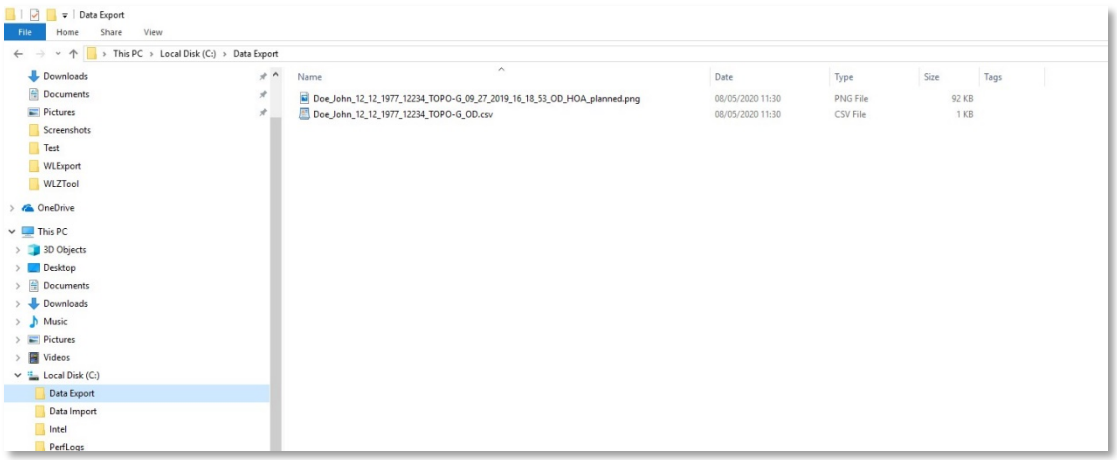


Figure 14: File Structure

6.1. Exported CSV File

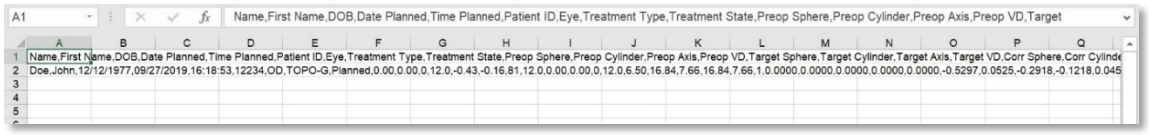
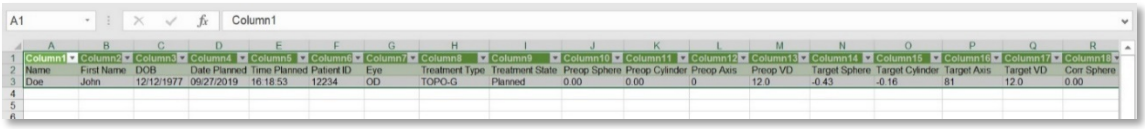


Figure 15: Exported CSV File

CSV file structure: Name_First name_DOB_Treatment Type_Eye_.csv

6.2. Exported CSV File converted to Excel



Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column16	Column17	Column18
Name	First Name	DOB	Date Planned	Time Planned	Patient ID	Eye	Treatment Type	Treatment State	Preop Sphere	Preop Cylinder	Preop Axis	Preop VD	Target Sphere	Target Cylinder	Target Axis	Target VD	Corr Sphere
Doe	John	12/12/1977	09/27/2019	16:18:53	12234	OD	TOPO-G	Planned	0.00	0.00	0	12.0	-0.43	-0.16	81	12.0	0.00

Figure 16: Exported CSV File (File Already Imported Into Excel)

6.3. HOA - Ablation Profile

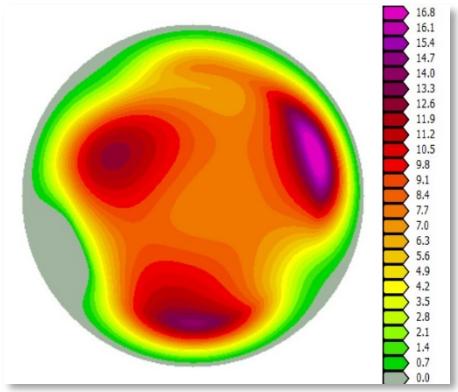


Figure 17: HOA Ablation Profile (Example)

File Name structure: Name_First name_DOB_Treatment Type_Date Planned_Time Planned_Eye_HOA_planned.png

7. LOGFILE

A logfile is being created to document the usage of the tool. The logfiles are located in a subfolder of the WLZTool root folder.

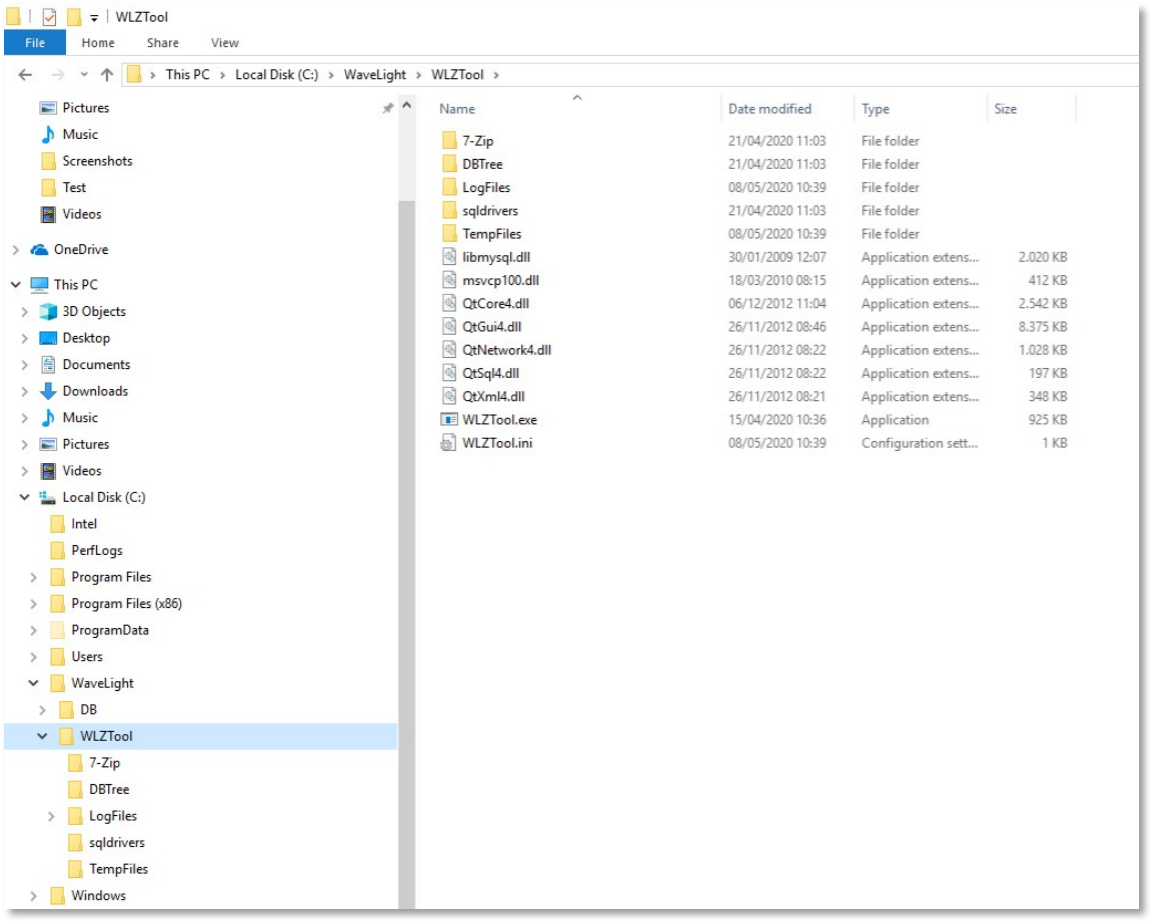


Figure 18: Logfile folder location

The logfile traces errors, which happened during the use of the tool. Every time the tool is started, a new logfile is being created.

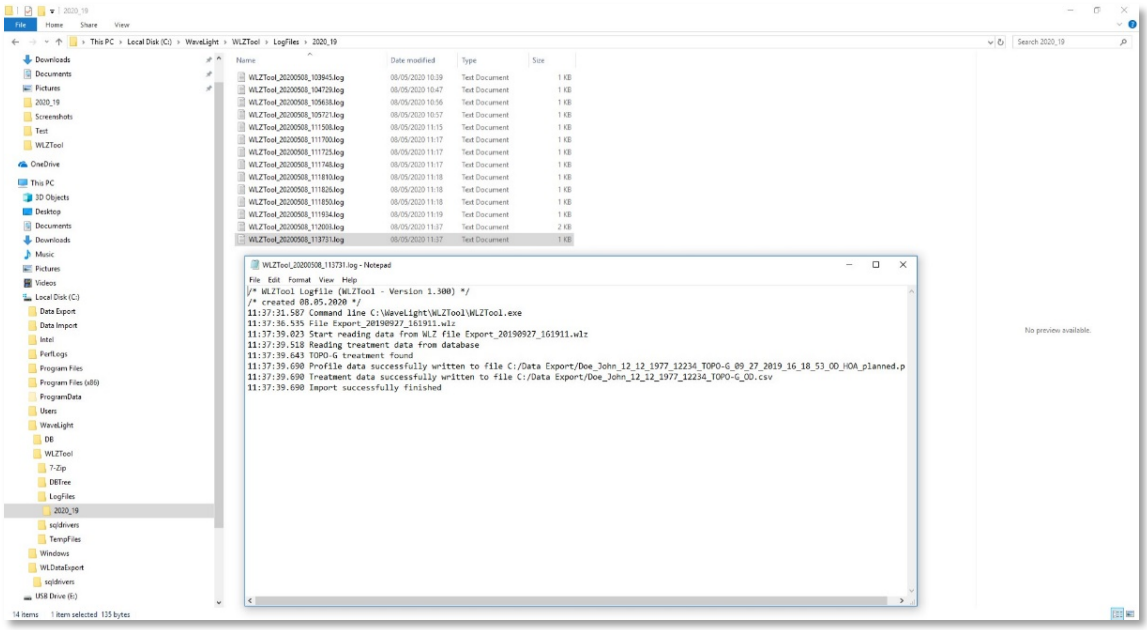


Figure 19: Logfiles

The following errors are documented:

0 = No error
1 = Invalid settings
2 = No WLZ file found
3 = Error during DB creation
4 = Error during initialization
5 = Error during start of import
6 = Output file open error
7 = Output file write error
8 = No treatment found in WLZ file

8. RUNNING THE TOOL USING A COMMAND LINE

The tool can be run also using command line syntax. Here are two examples:

C:/WaveLight/WLZTool/WLZTool.exe --files C:/Data_Import/*.wlz --outdir C:/Data_Export

- All WLZ files which are located in folder C:/Data_Import will be processed and saved in the folder C:/Data_Export

C:/WaveLight/WLZTool/WLZTool.exe --files E:/WLExport/*.wlz --outdir C:/Data_Export

- All WLZ files which are located in the USB drive will be processed and saved in the folder C:/Data_Export

Once the command line is activated, the tool will show the following screen and closes, when the data is processed.

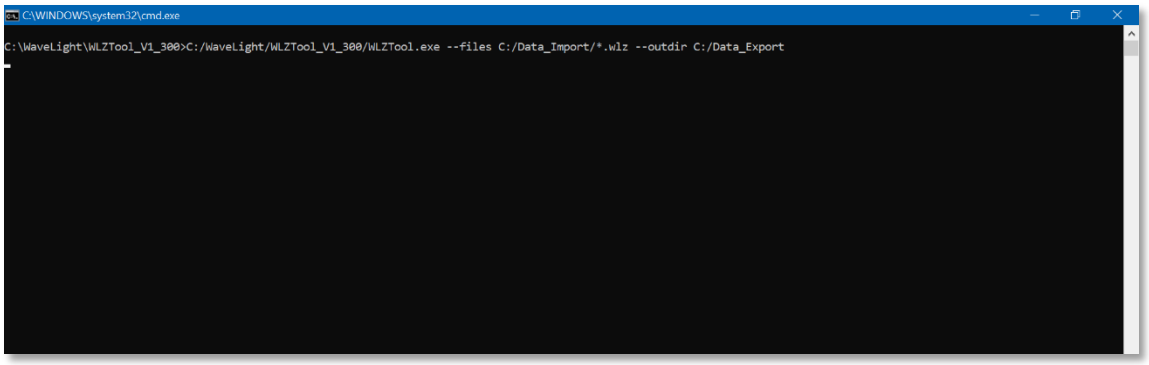


Figure 20: Command Line

8.1. Exported Data

If data is imported into Excel, the columns contain the following parameters:

Column	Name in Excel file	Explanation
Column 1	Name	Family name
Column 2	First name	First name
Column 3	DOB	Date of Birth
Column 4	Date Planned	Date Planned
Column 5	Time Planned	Time planned
Column 6	Patient ID	Patient ID number
Column 7	Eye	Eye OD/OS
Column 8	Treatment Type	WFO of Topo-G
Column 9	Treatment State	Always “Planned”
Column 10	Preop Sphere	Preop Sphere
Column 11	Preop Cylinder	Preop Cylinder
Column 12	Preop Axis	Preop Axis
Column 13	Preop VD	Preop Vertex distance
Column 14	Target Sphere	Measured (Topo-G) / Target Sphere (WFO)
Column 15	Target Cylinder	Measured (Topo-G) / Target Cylinder (WFO)
Column 16	Target Axis	Measured (Topo-G) / Target Axis (WFO)
Column 17	Target VD	Measured (Topo-G) / Target Vertex distance (WFO)
Column 18	Correction Sphere	Spherical correction
Column 19	Correction Cylinder	Cylinder correction
Column 20	Correction Axis	Corrected Axis
Column 21	Correction VD	Corrected VD
Column 22	Optical Zone	Optical zone
Column 23	Max Ablation	Maximum Ablation
Column 24	Central Ablation	Central Ablation

Column	Name in Excel file	Explanation
Column 25	Maximum Ablation HOA	Maximum Ablation HOA
Column 26	Central Ablation HOA	Central Ablation HOA
Column 27	Tilt	Tilt
Column 28	C01	Zernike coefficient C1-C27
Column 29	C02	Zernike coefficient C1-C27
Column 30	C03	Zernike coefficient C1-C27
Column 31	C04	Zernike coefficient C1-C27
Column 32	C05	Zernike coefficient C1-C27
Column 33	C06	Zernike coefficient C1-C27
Column 34	C07	Zernike coefficient C1-C27
Column 35	C08	Zernike coefficient C1-C27
Column 36	C09	Zernike coefficient C1-C27
Column 37	C10	Zernike coefficient C1-C27
Column 38	C11	Zernike coefficient C1-C27
Column 39	C12	Zernike coefficient C1-C27
Column 40	C13	Zernike coefficient C1-C27
Column 41	C14	Zernike coefficient C1-C27
Column 42	C15	Zernike coefficient C1-C27
Column 43	C16	Zernike coefficient C1-C27
Column 44	C17	Zernike coefficient C1-C27
Column 45	C18	Zernike coefficient C1-C27
Column 46	C19	Zernike coefficient C1-C27
Column 47	C20	Zernike coefficient C1-C27
Column 48	C21	Zernike coefficient C1-C27
Column 49	C22	Zernike coefficient C1-C27
Column 50	C23	Zernike coefficient C1-C27
Column 51	C24	Zernike coefficient C1-C27
Column 52	C25	Zernike coefficient C1-C27
Column 53	C26	Zernike coefficient C1-C27
Column 54	C27	Zernike coefficient C1-C27

Table 1: Exported Parameters

9. INDEX

- End -