Limes 2000 Release Notes 16.0303.756

These release notes are covering changes in Limes 2000 since Version 15.0925.681

Robot goniophotometer GO-R

- A new goniophotometer type (GO-R) has been integrated into Limes 2000. In C-plane mode it behaves similar to a GO- V turning device but offers in addition B-plane measurement and extra comfort for luminaire mounting. B-plane scans will be implemented within one of the next versions.
- The distance between the light source centre and adapter plate can be set by software for the GO-R system. It is saved with the luminaire data – similar to the computer controlled table for GO-H. The light source centre can be adjusted using the laser cross mounted perpendicular to the measurement axis. The maximum distance amounts to 450mm.
- For the time being the weight of the luminaire needs to be entered manually in order to properly use the gravitational correction. It is planned to automate this in future versions.
- GO-R offers three different speeds: Speed 1 = 5°/s; Speed 2 = 10°/s; Speed 3 = 20°/s the maximum angular acceleration was limited to 50°/s² since large weights would stress the system too much.
- All gears are active during movement. After the measurement the brakes are activated and power is switched of for all drives. In case the laser canners detect an object or an emergency button is hit, the robot is stopped and cannot be started unless the safety circuit has been restarted. Correspondingly, error dialogues are triggered.
- Scans with the GO-R are always run at angular maximum resolution. After the scan the data are reduced to the required interval.
- LimesControl does not display a Control unit for GO-R (there is none) but only angles will be displayed.
- Hardware settings allow limiting the maximum speed in order to protect the DuT. The speed limit is active as well during positioning.

Spectroradiometer usage

- Using the spectroradiometer with a sphere requires activation via a check box "use spectrometer for sphere measurements" in options-hardware-lmtspec (similar to using a colorimeter). Subsequently, the settings have to be saved to limes.ini and LimesControl needs initializing.
- The dialogue for calibrating the spectrometer was removed from Limes 2000. Spectrometer calibration (both spectral and absolute scales) is now done exclusively via the spectrometer display client.
- Setting the absorption correction for spectroradiometer measurements in the sphere (including fixture influence) has been as well transferred to the spectrometer display client since it is part of the calibration process and needs to be known by the spectrometer service. Therefore, Limes 2000 now reads already absorption corrected data from the spectrometer service.

- However, the factor itself is determined with the auxiliary lamp using the photometer via the Limes 2000 software. In order to easily transfer the correction factor to the spectrometer client, its value is copied to the clipboard by double-clicking onto the value.
- The test report has been extended for lamps measured in the sphere using a spectroradiometer. The dialogue „select reports" now offers graphics and tables for sphere measurements as follows:
    - Flux/time table
    - Color Rendering index table
    - Spectral Data
    - Burn-in diagram
    - Flux/temperature diagram
    - Flux/time diagram
    - Temperature/time diagram
    - CIE 1931 colour diagram
    - CIE 1976 colour diagram
    - Spectrum analysis
- The interpolation of wavelength data was improved for spectroradiometers using the 360 to 830 nm range.
- Wavelength data are now shown only for the calibrated interval. Additional wavelength areas which may be available by the grating are ignored.
  Therefore, the Ini-file of the spectroradiometer needs to be known to Limes 2000 and its path needs to be set within the "edit hardware dialogue" (red marking below).
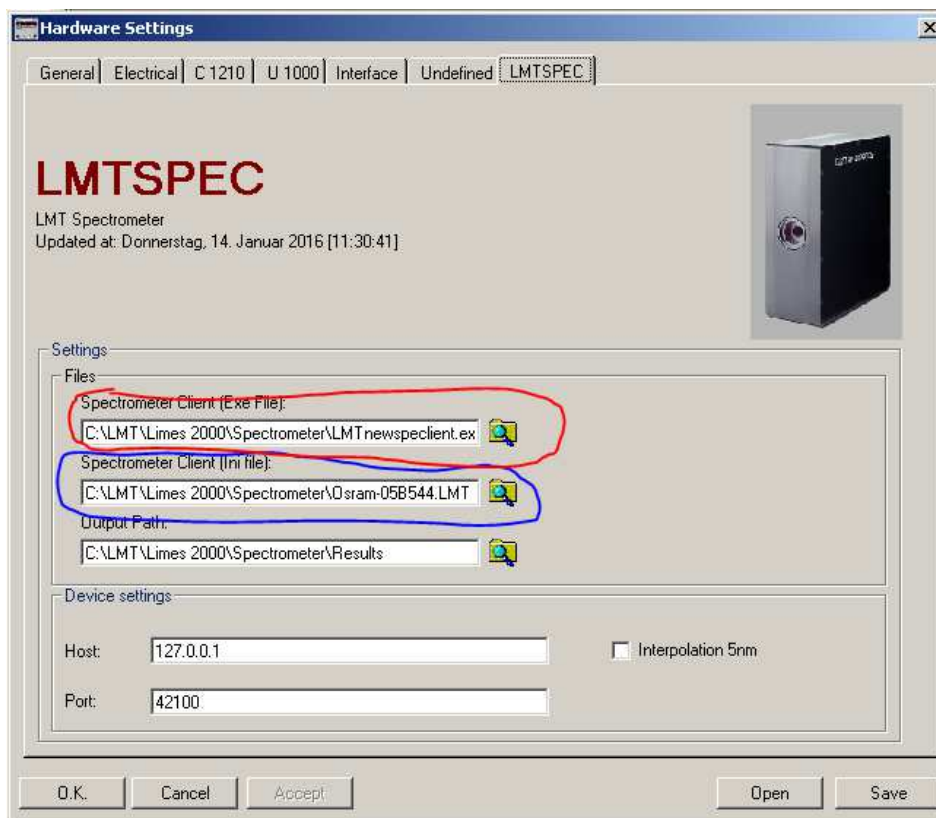
- The spectrometer client can now be started directly from the Limes 2000 window.

- In case the spectroradiometer is used with a sphere, distance information makes no sense. Therefore, this field has been removed from the hardware section (see screenshot above).

General topics

- Some dialogues have been made more clearly, for instance exiting Limes without correct password (yes/no)
- The check box "use max value for line scan" in GO-H applications was erroneously shown for grid data. It has been removed.
- Import of DOS data does function again due to proper alignment of data types.
- In automotive applications the check box "stabilize before every C-plane" was visible although not usable. It has been removed for automotive GO-H applications. The status of the check box is now saved when exiting Limes 2000.
- In case the file XYZDATA was not found, the plot within the colour triangle plot cannot be performed. In the past there was no warning which has been corrected now, i.e. now a warning is issued.
- In old databases sometimes the flash meter entry was not permanent. This has been corrected.
- A new power supply (Chroma 61605) was added. However, it needs to be explicitly selected since it uses a different instruction set than the Chroma 6415.
- A bug was fixed in the power supply option for FUG 2 (Window Hardware-Settings-Electrical → More). Especially, the assignment parameters were not properly read in sphere applications. This caused issues when both AC and DC power supplies are connected.
- If available, the power factor label is now shown in the power supply controls
- Initializing of the power supply parameter sometimes caused an error and the ramping speed was not properly set. These can be now individually changed in Options-Hardware-more-controls for all ramping speeds.
- In the past during vertical colour scans of turning device GO-V (γ moving) using colorimeter or spectroradiometer C=180° was measured twice. This was corrected.
- GO-H 1000 is now able to address horizontal angles from +182° to -182°