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1 Release type

Product/solution	UULA 2.3.0	
Release type	Demo	☐
	Proto	☐
	New product	☐
	Additional features /functionalities	☐
	SW product	☒
	Document update	☐
	Correction revision	☐
	Other [state here what]	☐

2 Release components

Release component	Name and version
HW + version	
SW name + version	UULA 2.3.0
Camera firmware	

Documentation	Name and version	
User manual	UULA user manual 2.3.0 After installation it is recommended to use User manual html version which can be found from header Help	☒
Installation guide	Setup program with a readme file	☒
Release note	Release Note UULA 2.3.0	☒

Recommended configuration is	
Uula SW	2.3.0
Camera FW	LCI 401, LCI1200, LCI1201 and LCI 1600: 4.9.1
	LCI1220 and LCI1620: 1.4.0
Motor FW (XY)	290319020
Height FW (RZ)	60818010

If your camera FW or UULA motor or height FW are not up-to-date, LMI Support is happy to help you. Please submit a technical support request through https://support.lmi3d.com (recommended) or by email at support@lmi3d.com.
Released SW version also requires that the calibration files are saved on the sensor, LMI support can help in this too if needed.

3 UULA 2.3.0 release features

Updated Windows Driver

The device driver is updated for LCI401, LCI1200, LCI1201 and LCI1600 sensors. This update is mandatory for Windows 10 build 2004 and later.

Find Saturation Limit

Maximum LED pulse width without saturation for the current camera signal can be found by pressing 'Saturation Limit'-button from the Preview Camera Signal view.

Optional Z-compensation

A strong surface texture may cause edge artifacts in Z values. In order to reduce edge artifacts, the sensor can be calibrated for Z-Compensation. In this case, a Z-compensation block is used and available from LMI as a new UULA accessory.

4 UULA 2.2.1 release features

UULA 2.2.1 makes it possible, if needed, to move the table manually in Y-direction at calibration phase. In addition, calibration with manual Z-move (U-XY) has been made easier.

5 UULA 2.2.0 release features

Uula support for sensor LCI1220 and LCI1620

FocalSpec Map not included in installer.

- Focalspec Map / Mountains Map software is recommended analysis tools for Uula scanner. Uula 2.2.0 installation package does not include before mentioned programs, but those need to be installed separately. Map installers are available on support pages.
- Updating Uula SW does not require reinstalling Map SW.

Intensity calibration

- User can use any sample for the intensity calibration and intensity compensation is done real-time.

Multiple layers displayed in Camera Preview window.

- Surface selection by top, bottom or brightest.

Simplified peak detection configuration based on material type

- Available material types are Opaque, Mirror and Transparent.

Advanced camera parameters

- Average Z

- Average Intensity
- Median Z
- Median Intensity
- Fill Gap Max
- Trim Edges
- Noise Removal X and Y
- Clustering Distance X and Z
- Minimum Length for Cluster
- Missing First Layer Distance
- Missing First Layer X Distance
- Missing First Layer Min Length
- Intensity Calibration (supported only by UULA with motor Z-move)
- Surface Mode
- Layer Sorting Order
- Effective Refractive Index
- Max Thickness
- Intensity Type

Height coloring with intensity in Pcd Viewer.

6 Known issues and problems

Known issues and problems

Old recipes, which are using Half Step Scan, need to be saved with Uula 2.2.0 before they are used for scanning.

If you have LCI1600 or LCI1620, add a paper (such as a Post-it Note) to hide the left side of the groove specimen, see user manual 2.3.2 Calibrating UULA.

Parameters of old Recipes with Jobs are advised to be checked before scanning. If parameters are not right, it is recommended to recreate the Jobs from the start.

7 Additional information

If there are any questions, please contact LMI by submitting a technical support request through https://support.lmi3d.com (recommended) or by email at support@lmi3d.com.

8 Disclaimer

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