

## Firmware Release Notes

Release Date 05/11/2020

Release Number v1.13.6

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### Support

Please report all issues to [support@blickfeld.com](mailto:support@blickfeld.com).

### Updates

#### v1.13.6

##### Changed

- ✓ [FPGA v1.9.2, refs #25759, refs #26059] LVDS Pulse generator fixed.
- ✓ [FPGA v1.9.2, refs #26359] BDU-Control: Synchronize external RTR triggers correctly. Resolves jitter during BSW tests.

#### v1.13.5

##### Changed

- ✓ [BSS v1.14.6, refs #25937] Safety margin increased from 5% to 10% and the minimum angle spacing is constrained to 0.4 deg.
- ✓ [BSS v1.14.6, refs #25937] Use LUT of Cube for Cube Range & Cube Range 1.6

#### v1.13.4

##### Changed

- ✓ [BST v0.3.4] Increase allowed bang bang frequency deviation to 3 Hz (previously 1.5 Hz). Required due to wider backbone curve of LW 1.6 mirrors.

✓ [BSS v1.14.5, refs #25741] Bugfix: Apply scale factor to legacy LDM configurations.

## v1.13.3

### Changed

✓ [BSS v1.14.4, refs #23596] Bugfix: Only enable laser voltage read-back for v1.0 MSBs.

## v1.13.2

### Added

✓ [BSS v1.14.2, refs #23596] Validate laser voltage with ADC after re-configuration

### Changed

✓ [BSS v1.14.2, refs #25173] Bugfix: Invalid memory access after set\_scan\_pattern configuration caused unrecoverable aborts after 10 processed frames.

✓ [FPGA v1.9.1, closes #25481] QR-Ranger: Fixed intensity over-estimation, which caused intensity and distance outliers.

✓ [BSS v1.14.3, refs #25481] Bugfix: QR-Ranger increased to version v0.0.8.

## v1.13.1

### Changed

✓ [BSS v1.14.1] Bugfix: Cube Range angle spacing was applied incorrectly and caused validation error on startup.

✓ [WebGUI-Frontend v0.13.2] Bugfix: Packets in NPM BSL package could get out of order, resulting in "An error occurred" messages even though device was fully functional.

✓ [WebGUI-Backend v0.12.3] Bugfix: Packets in NPM BSL package could get out of order, resulting in an instable REST server and JSON errors.

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## v1.13.0

### Added

- ✓ [WebGUI-Frontend v0.13.0, closes #24992] Download recordings with REST API. List, observe and manage active recordings and start new recordings in Dashboard view.
- ✓ [WebGUI-Backend v0.12.0, refs #24982] Throttle package traffic dynamically to stay alive with the low-bandwidth connections and prevent memory leaks.
- ✓ [WebGUI-Backend v0.12.0, closes #24991] Added recording REST calls.
- ✓ [BSL v2.13.0, Introduced in firmware v1.13] Separate API request for raw file streams. This allows file recordings with Python on low-performance clients.
- ✓ [BSL v2.13.0, Introduced in firmware v1.13] Server section to status message. Reports connected clients and network statistics.
- ✓ [BSL v2.13.0] Add protocol files to install target.
- ✓ [BSL v2.13.0, Introduced in firmware v1.13] Extend advanced configuration with `default_point_cloud_subscription`.
- ✓ [BSL v2.13.0, Introduced in firmware v1.13] Request to attempt error recovery.
- ✓ [BSS v1.14.0, closes #24694] Support for API request for raw file streams.
- ✓ [BSS v1.14.0] Server section to status message. Reports connected clients and network statistics.
- ✓ [BSS v1.14.0] Version check of TDC IP.
- ✓ [BSS v1.14.0] Request to attempt error recovery.
- ✓ [BSS v1.14.0, closes #23478] Support background subtraction in the BSS.

### Changed

- ✓ [refs #24694] Disable response buffering lighttpd proxy to allow file streams.
- ✓ [WebGUI-Frontend v0.13.0, closes #24982, refs #24479] Improved the overall performance of the point cloud viewer. Users now can cancel the loading of a recording file and can see the loading progress.
- ✓ [WebGUI-Frontend v0.13.0] Bugfix: Playback error that happens when file chunks have similar size as protobuf messages.

- ✓ [WebGUI-Frontend v0.13.0] Bugfix: Default filter values were not properly being applied when default values are received before the current scan pattern.
- ✓ [WebGUI-Backend v0.12.1] Bugfix: Handle BSS connection failure.
- ✓ [WebGUI-Frontend v0.13.1] Bugfix: Error messages were reported incorrectly.
- ✓ [WebGUI-Backend v0.12.2] Bugfix: Handle BSS connection failure and close event in recording service.
- ✓ [BSL v2.13.0] Python: Improved examples and refactored arguments.
- ✓ [BSL v2.13.0] CPP: Refactored point cloud recording class.
- ✓ [BSL v2.13.0] CMake: Improved the approach of linking dependent library to make the install package relocatable.
- ✓ [BSS v1.14.0, refs #8497] New result filter, currently emulating old behavior. Extended functionality via developer requests.
- ✓ [BSS v1.14.0, refs #25173] Improve potential root cause of crashes in status reporting.
- ✓ [BSS v1.14.0] Python: Fixed blickfeld\_scanner version dependency of developer blickfeld\_scanner\_internal packages.
- ✓ [BSS v1.14.0] Bugfix: The start\_time\_ns of a frame was referring to the first pulsed point but not to the real start time of the frame.
- ✓ [BSS v1.14.0] Bugfix: The device failed with a postprocessing error if the last point in a frame had multiple returns.
- ✓ [BSS v1.14.0, refs #24914] Decreased CHANNEL\_COUNT to 7 in TDC.
- ✓ [BSS v1.14.0] Bugfix: TDC was not initialized because it had no assigned active\_hw\_cfg, changed that to ALL\_HARDWARE.
- ✓ [BSS v1.14.0] Bugfix: Lightweight mirrors were permitted with legacy LDM BLAST calibration.

## Removed

- ✓ [BSL v2.13.0, Removed in firmware v1.13] Drop deprecated legacy scan patterns.
- ✓ [BSS v1.14.0] Drop support for deprecated legacy scan patterns.

## Free and open source software

An overview can be found here:

<https://docs.blickfeld.com/cube/latest/licenses/licenses.html>