

LEICA BLK ARC-UI

AUTONOMOUS REALITY CAPTURE

RELEASE NOTES

BLK ARC-UI VERSION 2.1.0 – 5th SEPTEMBER 2023

These Release Notes contain essential information about the Leica BLK ARC-UI latest version 2.1.0 which can be installed on Spot CORE IO and Spot CORE from Boston Dynamics.

It is highly recommended to always use the latest version of the BLK ARC-UI and BLK ARC firmware in a compatible configuration. Downgrade to older BLK ARC-UI version is not recommended.

BLK ARC firmware	3.2.0 or later
BLK ARC-UI	2.1.0
Cyclone 3DR scripts for offline mission planning	3.0
Cyclone 3DR (scripts pre-installed)	v2023.1.4 or later
Spot firmware	3.3.x
Spot CORE firmware	3.2.x
Spot CORE I/O firmware	3.3.x
Portainer	2.1.1 or later
Cyclone REGISTER 360 PLUS	v2023.0.3 or later
Cyclone REGISTER 360 PLUS BLK Edition	v2023.0.3 or later

The BLK ARC-UI installer can be downloaded from myWorld @ Leica Geosystems customer portal.



WHAT'S NEW

- **New GOA (Global Obstacle Avoidance) exchanging Improved Local Obstacle avoidance introduced in v2.0.0 and changes in autonomous indoor missions**

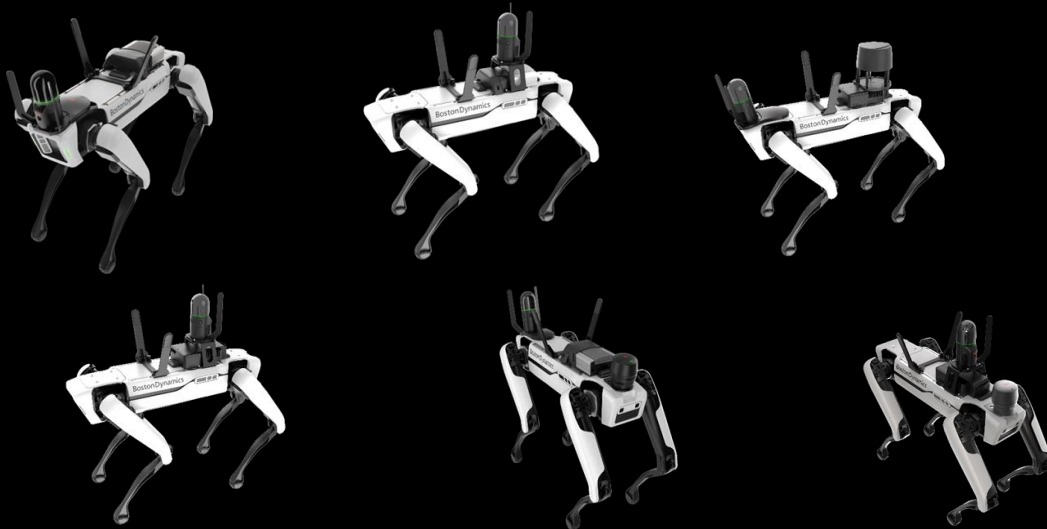
The new solution is no longer based on straight line, waypoint to waypoint workflow. The user does not need to carefully plan path through doors and around obstacles anymore, instead the GOA allows to plan in room-to-room system. That practically means that user can plan a mission not by specifying an exact path and placing a lot of waypoints, as before, but by simply picking points where the carrier must reach, and the system will autonomously plan an obstacle-free path to get there.

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- Support new v3.0.0 scripts for path planning
 - Change from OBJ to GLB filetype of the 3D model used for pose optimisation – improved performance of the pose optimisation and ensured smooth autonomous path planning (GOA)
 - Introduction of GO & NO-GO zones – as a safety measure for the GOA, the newest version of the path planning script in C3DR allows to specify GO and NO-GO Zones. The GO Zone is a desired area of planned mission, the NO GO Zones are areas which the user wishes to exclude from the mission; therefore, the system will not plan a path through those places
 - BLK ARC UI version 2.1.0 keeps compatibility with the script version 2.0, nevertheless it is recommended to always use the most up to date releases
- Support new GAD131 overcore mount for BLK ARC and introducing additional configurations on Spot

Currently supported configurations:



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- **UI improvements**

Map graphics and symbols update:

- Path:
 - Grey dashed line – designed path.
 - Blue dashed line – currently planned and executed path.
 - Green line – already visited part of path.
- Waypoint symbols:
 - Circle - no action
 - Square - static scan
 - Triangle - docking action.

- **Workflow change in outdoor mission with GA03**

The new workflow introduced for the outdoor autonomous missions with GA03 allows to plan waypoints just after pressing the **Initialize mission** button. It is possible now to plan the path, after that go through the calibration and then use the **GO** button to let the carrier execute the mission.

- **SLAM Drift Check**

A new function providing SLAM quality check while an autonomous mission is being executed. In case a SLAM drift is detected, the mission will be ended automatically and informing message will appear.

All details about the available features and how to use our integration system can be found in **BLK ARC-UI - How to use v2.1.0** which has been updated.

KNOWN ISSUES

- In rare cases, the Leica GA03 could not be reached in the BLK ARC-UI
 - Please restart the stack and try again.
- BLK ARC encounters Lidar failure during an autonomous mission.



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- Restart the BLK ARC from device webpage (10.1.1.1 / WiFi) or by unplugging power & USB cables.

For details on how to update the version on the BLK ARC-UI, see the **BLK ARC-UI How to use** guide available on myWorld @ Leica Geosystems customer portal. For additional support, please contact your local reseller for first level support.

