

Users of syncAXIS control version 1.5.0 are strongly advised to upgrade to version 1.5.2 due to critical bugfixes concerning laser control.

1. Bug Fixes of syncAXIS control 1.5.2

- Fixed: Binary simulation files generated by 64-bit syncAXIS 1.5 cannot be loaded by the viewer
- Fixed: Calling `slsc_list_set_jump_speed` directly after a jump command affects that previous jump command

2. Bug Fixes of syncAXIS control 1.5.1

- Fixed: Missing laser switches in some cases during subcycle switching
- Fixed: Output of "Laser Active" signals right before job start for a duration of up to 50 microseconds
- Fixed: If in the xml Laser Configuration the Laser Control Flag "PulseSwitchSetting" is set to true, Laser Standby pulses are suppressed
- Fixed: In the xml Laser Configuration the parameters `QSwitchDelay` and `FirstPulseKillerLength` have no effect, i.e. they are always effectively 0
- Fixed: Problem where a job with 0 length would hang indefinitely

Please find new features and functions of previous version **syncAXIS control 1.5.0** listed hereafter for your convenience:

1. Bug Fixes of syncAXIS control 1.5.0

- Fixed: When a syncAXIS control instance is initialized in ScannerAndStage mode and thereafter the mode is changed to ScannerOnly without resetting the used RTC6 boards first the Automatic Laser Control settings for this ScannerOnly instance are ignored
- Fixed: Radius factor curve is not correctly synchronized with the other signal parameters
- Fixed: Radius factor curve takes combined position in ScannerAndStage instead of ScanDevice position
- Fixed: Radius factor curve for ActiveChannel parameters is not correctly read from the xml
- Fixed: DelayShift in StageConfig only accepts positive values

2. New Features syncAXIS control 1.5.0

• Subcycle Switching

This feature allows the laser to be turned on and off up to once every microsecond which allows for shorter lines while scanning speed can be increased.

For ease of programming commands for dashed lines are added which enables the user to comfortably supply laser switch points for a given mark command instead of low level programming with jump and mark commands. In addition, these commands have return values which can be leveraged to instantly check for wrong parameters.

- The simulation file now contains any changes made to the configuration after initialization by `api_cfg_` commands
- Added configuration commands to set and retrieve dynamic limits, dynamic monitoring level, dynamic violation reaction and simulation mode

- Added more details to log and error message if there is a warning or a job is aborted due to dynamic violation
- Added new job characteristics for minimal and maximal position values of scanner and stage, either in general or just when the laser is on
- Added xml-tag HeuristicForJumpsOnly. If set to true, the dynamic reduction function is only applied to jump commands
- **slsc_ctrl_stop_controlled**
This command ends the execution of the current job by inserting a controlled breaking movement enabling smoother stops. This function is added to the end of the step commands on the RTC and executed after all previously added commands have been executed.

3. Changes within syncAXIS control 1.5.0

- Changed minimal value of xml-tag LaserMinOffTime to 1/64 μ s to allow for Subcycle Switching
- Several improvements to error handling and logging
- Reworked jumps and skywritings to be more straight, symmetrical and rotation-invariant
- ACSC.dll is now linked at runtime and is no longer contained in the syncAXIS release package. Instead the one installed on the user PC is used.

4. New Functions syncAXIS Viewer 1.5.0

- Added ability to save the configuration header (XML) portion of a simulation file
- Added drag and drop for opening files
- Added support for subcycle switching (laser events less than 10 μ s)
- Added load options that display data with and without Laser Offset and Pretrigger Offset times
- Added absolute option for axis type
- Added the ability to set guides to specific values
- Added configuration information dropdown
- Expanded the file load dialog to allow for multiple files to be opened/appended at once
- Added the ability to crop data when reading files in. Cropping can be set to start/end data time and job function.

5. Changes within syncAXIS Viewer 1.5.0

- Device type options will only be enabled for the ones used in the opened simulation file (e.g. Scanner will not be enabled when opening Stage Only files)
- Added more display granularity for axes (1 μ s)
- Cancel now halts the act of reading in files which was not happening before

6. New Functions syncAXIS Configurator 1.5.0

- Added Drag and Drop ability for loading files
- Added validity check and error popup for Motion Decomposition data

7. Changes within syncAXIS Configurator 1.5.0

- Updated controls to support 1.5 configuration schema
- Changed On/Off controls to Show/Hide now that most of the optional elements of the configuration xml schema are now required
- Removed Max Galvo Angle
- Improved UI controls for Motion Decomposition dialog
- Added support for negative time shifts and time shifts less than 10 μ s