
User Release Notes

SonoLab Version 8.5

5 March 2020

Introduction to SonoLab 8.5 Software

SonoLab version 8.5 operates the following Covaris instruments:

LE220-plus
LE220R-plus
LE220Rsc

SonoLab software is necessary to run any of these Covaris instruments and will be provided at time of purchase. A laptop containing the software is sold with the instrument and connected via USB. The user can create, edit and save methods with varying acoustic treatments modifying duty factor, cycles per burst, peak incident power, duration, and other parameters based on the protocol being applied. SonoLab software gives a real-time display of bath temperature, average power and treatment time remaining. It also controls all hardware running and setting water temperature, degassing and acoustic treatments.

Installation Guide/System Requirements

Steps for Install:

Please refer to the appropriate appendix of the LE220-plus User Manual or contact Covaris technical support for installation instructions.

System Requirements:

Operating System Compatibility: Microsoft Windows 10.
A USB 2.0 or 3.0 communications port must be available.

For more information or questions please contact:

techsupport@covaris.com

[781-932-3959](tel:781-932-3959)

Version Changes

Version 8.5.0.1066

March 5, 2020

Bug Fixes

- SonoLab 8.5 crashes when double clicking on day in the scheduler
- The Green Door button does not light and unlock when method is paused on LE220PR and LE220PRSC

SonoLab 8.5 requires a firmware update, if updating from SonoLab 8.3 or earlier.

SonoLab 8.5 is compatible with drivers built against earlier versions of the SonoLab 8.x API.

Version 8.5.0.1064

February 28, 2020

New Features

- LE220Rsc support
 - Handle extended bath in LE220Rsc
 - Support Scan steps for LE220Rsc
 - LE220Rsc requires signed plate definitions
 - LE220Rsc requires RFID validation for Scan steps
 - Display history details for Scan steps
- Allow user to open door during prompt steps
- Steps that perform dithering without treatment
 - Process steps can be created that contain only Delay steps without Treatment steps
- Control temperature and degas override in method
- Reduce time between column treatments
- Purge degas line upon entering standby mode
- Display message to user when part numbers in RFID and plate definitions do not match
- Get RFID requirement from signed plate definitions or from list
 - If a plate definition has a valid signature then its RFID requirement used
 - Else, only plate definitions with a consumable part number of 520249 or 520272 are RFID validated
- LE220-plus and LE220R-plus can use both existing, non-signed plate definitions, and new signed plate definitions

Bug Fixes

- Countdown timer continues when Scan Step is Paused
- History file Starting Water Level is taken before filling
- Move Load after running a Scanning method generates blank error message
- Treatment validation is handled only for Treatment Steps inside a process step.

- "Blinking" of Move Buttons in the motion panel after move to start completed
- Degas timer starts counting down again after homing
- Red Abort Light is flashing before treating a column during a method run.
- Induced RF error pauses method but user is unable to resume.
- SonoLab Failure to handle 'Fan Failures'.
- SL 8.5 crashes when opening history files created in SL8.3.
- Green door light does not turn on after a method is completed with some instrument types.

SonoLab 8.5 requires a firmware update, if updating from SonoLab 8.3 or earlier.

SonoLab 8.5 is compatible with drivers built against earlier versions of the SonoLab 8.x API.

[Version 8.4.0.18034](#)

December 20, 2018

New Features

- Steps that perform dithering without treatment
 - Process steps can be created that contain only Delay steps without Treatment steps

SonoLab 8.4 requires a firmware update.

[Version 8.4.0.18029](#)

November 27, 2018

New Features

- RFID Support
 - RFID-enabled plates (AFA-TUBE) will be RFID scanned and validated when a Method is run. The Method will not be allowed to run if RFID tag is invalid.
 - RFID Serial Number and Lot Number will be written to LIMS and History files
 - RFID Serial Number and Lot Number will be returned via the Integration Interface and API
 - RFID-enabled plates will be rescanned if door is opened or light curtain breached while running a method
- Repeat Steps
 - Repeat Steps contain one or more child steps and a Repeat Count, specifying the number of repetitions
 - Repeat Steps can be created at the top level, and can contain one or more Process Steps
 - Repeat Steps can be created as a child of a Process Step, and can contain one or more Treatment, Delay and Prompt steps
- Enter decimal numbers in method editor parameters
 - Can enter values with a single decimal place

- Timing Improvements
 - Optimized acoustic treatment to support “Pulsing”, i.e. repeatedly running short treatment and delay steps. To use, create a Process step with a child Repeat step which contains treatment and delay steps.
- Added Operator Role
 - Operators can run methods, but cannot create or edit methods
 - Editors (formerly called Users) can run, create and edit methods
- Integration Interface Improvements
 - Added StatusCode
 - Added MoveRFIDScan position command
 - Return MethodFailureInfo property explaining why a method failed
 - Return DegasTimeRemaining and TemperatureSetPoint properties
- LIMS File Improvements
 - Optional copy of LIMS file to customer-specified location
 - File is copied to location specified by the LIMSFileCopyPath setting
 - Start and End times written to LIMS File
 - Sample ID always set to N/A – placeholder for possible future improvement
 - Consumable Barcode – scanned barcode or blank if none
 - If the consumable is a 96 well plate, the same plate barcode will be used for each column of 8 samples, and will be populated into each treatment and method row in the CSV file.
 - If the consumable is an 8 position strip rack (with 2D barcode on the side) The individual strip barcode will be used for corresponding column on the plate, and will be populated into treatment rows in the CSV file. If a strip has more than one treatment, the strip barcode will be repeated several times.
 - RFID Serial Number and Lot Number columns added
 - Changed column name “Run Completed (Y/N)” to “Status”
 - Changed status text
 - “Sample Completed” to “Treatment Completed”
 - Added “Method Completed”
 - Changed Duration column format to hrs:min:sec
- History File Improvements
 - Write RFID Serial Number and Lot Number
 - Write Acoustic Efficiency

Bug Fixes

- When Autofill times out the water inlet valve must shut off.
 - SonoLab now closes the water inlet valve if Autofill times out.
- Pressing Disconnect button in toolkit UI Disconnects, but the text of the button does not change to Connect.

SonoLab 8.4 requires a firmware update.

SonoLab 8.4 is compatible with drivers built against earlier versions of the SonoLab 8.x API.

Bug Fixes

- When Autofill times out the water inlet valve must shut off.
 - SonoLab now closes the water inlet valve if Autofill times out.

SonoLab 8.3 is compatible with drivers built against earlier versions of the SonoLab 8.x API.

Bug Fixes

- Autofill should not attempt to fill again once it has timed out.
 - When Autofill times out, SonoLab now disables Autofill. This also effectively prevents methods from being run. To re-enable, SonoLab must be restarted. The reason for this is that if Autofill timed out then there is likely some condition that requires manual intervention to resolve. For example, if there is no water supply, or if the valve is closed then Autofill will time out. Another possible (though low probability) cause is that the water level sensor has failed and is reporting a low water level. This would cause Autofill to run until timeout, then keep repeating every 15 minutes. Disabling Autofill prevents this from repeatedly overfilling the tank.

New Features

- New Autofill feature
 - Autofill runs at start and end of method
 - Autofill runs every N minutes, based on AutoFillInterval setting in configuration file. Default value is 15 minutes (00:15:00)
 - Degas time depends upon volume of water added:

Volume added	Degas time
< 1 liter	No wait time
1 to 2 liters	30 minutes
> 2 liters	45 minutes
 - Autofill will start filling when the water level is ≤ 62.5 mm, and will stop filling when the water level is ≥ 63.5 mm
- Redesign motion to account for mounted RFID scanner
 - For downward motions (e.g. Start position), the downward motion is performed first, then lateral motion

- For upward motions (e.g. Home), the lateral motion is performed first, then upward motion
- FillTank and StopFill commands added to Client API
 - FillTank initiates automatic filling of the water bath
 - StopFill ceases filling, regardless of water level

Bug Fixes

- Process stuck when initiating Degas after performing Autofill and method run
- Current LE220-plus Plate Adjustment (relative to Water Level) prior to Method can submerge tubes for 1-2 seconds
- Degas pump is not turned on after an autofill
- Press Autofill button and then Standby mode
- Disable Manual fill/stop fill buttons while method is running.
- Pause Method to override degas cycle not working.
- Bar Code Scanning not working correctly
- SonoLab UI frozen
 - Fix resulted in improved performance and reliability, and fewer errors
- API - Not working in emulation mode
- SonoLab crashes when starting a method
- No manual fill prompt on Move to Start
- Plate is submerged in water when moving from home to start.
- Autofill is overfilling in some circumstance
- On Manual Move to Start autofill kicks off for every plate adjustment.
- Collision occurs when moving from Service to Load Position

New Features

- Autofill feature
 - Provides self-adjusting water levels
 - Enabled/disabled via AutoFillWater (True or False) setting in configuration file
- Manual water fill changes
 - New prompt will instruct user to add water volume between low and high level
- Redesigned barcode scanning logic added to UI
 - Minor UI change
- Light Curtain
 - Checks for breaches with robotic arm
- Load position
 - Configurable positioning via LoadPosition setting in configuration file
- SonoLab 8.2ClientAPIExample
 - Provide the end user with documentation and software example to remotely control a Covaris instrument and integrate its operation with other equipment

Bug Fixes

- Message to Add 0L of water displays before method Run
- Autofill - If unable to reach temperature at start of method valve shuts on/off repeatedly
- Instrument Cannot Home from Load Position
- Messaging for Light Curtain breach needs to be updated
- Dithering in Y-axis is displayed as Z dithering in LE220-plus History Viewer
- Z offset is always reported as '0' in the history file
- 8.2 shortcut and config file display as 8.1
- SonoLab log file not be created
- Typo on barcode window
- Copyright date on Splash screen needs to be updated
- Number of samples functionality not working
- The order of operations for starting a treatment needs to be optimized
- Need a preset position for plate holder to a position that robot can access
- SonoLab 8.1 version 1045 infrequently crashes on long runs
- Need warning messages for File checks

Bug Fixes

- Acoustic Treatment continues after SonoLab / Controller Board fails to stop it (LE220P)
This added a DTR on/off function to ensure acoustic timing is absolutely correct
- SonoLab Logger needs to be accessible to non admin users.
Moved Logs folder to new location:
C:\Users\Public\Public Documents\Covaris\SonoLab 8\Logs

Bug Fixes

- A method is now paused when temperature falls below the minimum limit.
- The correct unit is now displayed when informing the user to refill the water tank.

First released version