
User Release Notes

SonoLab Version 10.2

14 April 2023

Introduction to SonoLab 10.2 Software

SonoLab version 10.2 operates the LE220-plus, LE220R-plus, LE220Rsc, E220-plus, and E220R-plus ultra-sonicator instruments.

SonoLab software is necessary to run these instruments.
It is pre-installed on the computer that comes with the instrument.

Installation Guide/System Requirements

Steps for Installation

Please refer to the appropriate appendix of the E220 & LE220 (-plus, R-plus, Rsc) Setup & Instruction Manual or contact Covaris technical support for installation instructions.

Computer Requirements

Operating System: Microsoft Windows 10 or higher

Memory: 8 GB

Disk: 100 GB available

A USB port must be available.

Instrument Firmware Requirements

Controller Firmware Version: 10378 or higher

Power Board Firmware Version: 10378 or higher

Check the SonoLab “About” tab to see the firmware versions installed in your instrument.

Do not attempt to install SonoLab 10.2.1 if your instrument does not have compatible firmware versions installed.

Please contact Covaris technical support to arrange to have a Covaris technician install the latest firmware version.

For more information or questions please contact:

techsupport@covaris.com

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

Version Changes

Here is **what's new** in **Version 10.2.1.1318 (second release of SonoLab 10.2)**

22 February 2023

Introducing predefined templates to assist with creating complex new treatment methods.

With this new release, users can save time by selecting from available templates that simplify the process of creating commonly used method patterns. Predefined templates auto-populate with steps that are required to complete a certain type of treatment operation (i.e., when pulsing one column at a time before delay, pulsing multiple columns at a time before delay etc.). In previous releases, the user was required to input all steps manually whenever creating a new method.

To account for decreasing water level, instrument will adjust the positioning of the sample holder.

For the LE220R/LE220Rsc, if water levels drop, SonoLab will readjust the vertical positions of the sample holder and transducer. If the water level in the tank is now below the minimum water level for the method, then the method will fail. This feature is particularly important for methods that are long-running or use higher power.

Convenience of automatically moving the instrument to “load” position at the end of each method run.

When enabled, SonoLab v10.2 will automatically move the instrument to the “load” position after completion of a method without having to take any extra steps or press any additional buttons.

Easily view and edit method creation notes.

Creation of method notes was already possible, but this new release allows method notes to be viewed at any point and by any user.

SonoLab informs users of any untreated positions.

Now there is a dialog box that visually and textually notifies the user of any untreated positions in a run.

Support for handheld barcode and RFID reader to allow for expanded data collection and traceability.

Support for handheld barcode reader now allows customers to track laboratory samples and store that information with their sample data. Handheld RFID scanning now enables users to use multiple RFID-enabled consumables in a single method.

Configure the system to be READY ahead of a scheduled run at the start of the day.

Previously, the Scheduler Ready action would degas the water, set the temperature to that specified by the scheduled method, and check water levels. Now it also homes the instrument to ensure proper calibration prior to beginning an important day of sample running.

Instrument automatically configured for easy removal of water bath in OFF state.

In addition to turning off the degasser and temperature controls, the Scheduler Off action now automatically moves the instrument to the service position (i.e., removing the sample holder and transducer out of the water) for easy removal and cleaning of the water bath and to avoid corrosion.

Easily delete unwanted or unused methods.

With this new release, users can delete unwanted methods on the user interface without having to leave SonoLab.

Reduce time to diagnose a problem by sending diagnostic data files to Covaris support.

With this new release, customers can save time by downloading a compressed data file, which includes all system-related information, and email to Covaris support to efficiently diagnose any issues.

Quality check feature that notifies users when instrument board settings have been changed unexpectedly.

The board setting validation feature will now notify users if it detects any instrument parameter changes and then prompt the user to continue.

Easily configure automation systems using the SonoLab user interface.

Users can now set up and/or change their automation software configuration via the SonoLab v10.2 user interface.

Consumable-based method selection will now only populate methods that contain the selected consumable.

Enabling consumable-based method selection offers the convenience of decluttering the methods drop down menu to only show those that contain the selected consumable.

Cosmetic changes related to 384-well plate use.

384-well plates are depicted correctly and history files accurately reflect 384-well plate use.

Improved cosmetic changes to SonoLab user interface for message communication.

Changes to user interface aesthetics (e.g., display message boxes with icons and color banners) for usability improvements.

Improved interface and load performance of the history screen.

Improvements to the graphics and functional performance of the history screen allows users to obtain information for every treatment method run without long loading delays.

Additional options to customize the water behavior upon SonoLab initiation.

Startup water behavior now includes “Ask User” option which prompts users before adjusting water bath temperature and level based on the formerly selected method. Previously, SonoLab would automatically set temperature and water level based on the selected method.

Based on customer feedback, here are the **bugs** we've **fixed**:

Periodic fill will no longer cause the sample holder to be moved from Load position.

Improved reliability of AFA power levels

Improved reliability of communications between SonoLab software and instrument hardware, improved recovery from temporary error conditions, improved monitoring of power levels.
Requires firmware update to handle all known error conditions.

Prevent rare issues with invalid motion controller state from causing motion failures.

Reduction in the time to run multiple successive scan steps.

Scanning time has been modified to reduce method run cycle time and perform slightly faster than SonoLab 8.5.

Reduction in the time to process multiple columns in a process step.

Column-to-column move times have been modified to reduce method run cycle time and perform slightly faster than SonoLab 8.5.

Data converter now correctly handles the 520185 plate definition.

When updating from SonoLab v8.x to SonoLab v10.2, data converter will accurately populate 520185 plate definition. Customers will no longer need to call technical support to resolve the prompted error.

History detail view now displays overall treatment time correctly.

Improved accuracy of method remaining time calculation.

Version 10.2.0.1360

30 August 2021

Initial release of 10.2

SonoLab 10.2.0 provides the following features. Please see the user manual for details.

- Run/Pause/Resume/Abort methods
- Display instrument status
- Motion and water control
- Display water level & temperature, method treatment time, and time to degas
- Override temperature and degas
- RFID-based consumable validation
- Consumable-based method selection
- Create and edit methods
- Rearrangement of method steps via drag and drop
- Bi-directional scanning
- Create and edit scheduled operations
- Periodic fill
- Fill on startup
- View method history

- View instrument information such as instrument type, serial numbers, versions, etc.
- User login/logout
- Administrative control over user accounts and other settings
- Default user
- API automation support
- Covaris Downholder support
- Allow expired consumables to run with user consent

Upgrading from SonoLab 8.x to 10.2

Overview

LE220-plus, LE220R-plus, and LE220Rsc instrument were initially released with SonoLab 8.1 through 8.5 (referred to as SonoLab 8.x). You may have an instrument with one of those versions.

SonoLab 10.2 provides the following performance, reliability, functionality, and user interface improvements over SonoLab 8.x:

1. Improved user interface
 - a. Main window can be resized to improve readability
 - b. System status, motion control, water control, and method option window can be kept open, allowing user to see instrument state details while a method is running
 - c. Schedule user interface redesigned for clarity
 - d. When a method is running, the current executing step is highlighted. This makes it easier to see the state of the method
2. Support for partial methods
 - a. SonoLab 10.2 allows you to specify that only a subset of columns used in a method be treated. This eliminates the need to create multiple methods that vary only in which columns are treated.
3. Executes scan steps in the correct order
 - a. SonoLab 8.x incorrectly executed scan steps in descending column order (e.g., 12 to 1)
SonoLab 10.2 correctly executes scan steps in ascending column order (e.g., 1 to 12)
4. Supports all plate sizes
 - a. SonoLab 8.5 supported only 96- and 24- well plates
5. Improved user management functions
 - a. Administrator can reset passwords
 - b. Administrator can delete user accounts
 - c. Three user roles: administrator, editor, and operator
 - d. Administrator can grant a user access to all methods without having to explicitly list each method
 - e. Option to run SonoLab without logging in
 - f. The "Default" user allows an administrator to specify permissions when a user is not logged in
6. Simplified setup
 - a. SonoLab 10 does not use the SQL Server database, making installation on other computers much simpler and more reliable
7. Reduced time to start running a method
 - a. Option to fill the bath when SonoLab starts running
 - b. Methods can be started even when temperature is out of range
 - i. SonoLab 10.2 waits until the temperature is in range before starting treatment
8. Consumable-based method selection
 - a. Eliminates the chance of selecting the wrong method for a plate
9. Method editor usability improvements
 - a. Supports rearranging method steps by drag and drop
 - b. Parameter ranges and errors are displayed
 - c. Ability to delete methods

10. History improvements
 - a. History view is rendered much faster when there are many records to display
 - b. New file formats are used to:
 - i. Improve history writing performance
 - ii. Capture more information
 - iii. Make it easier to read history files
11. Uses the same API as other editions of SonoLab 10
 - a. This allows a single driver to work with any instrument supported by SonoLab 10
12. Improved installation and troubleshooting by Covaris field personnel
 - a. More information written to log files allowing issues to be diagnosed more quickly
 - b. Built-in setup and configuration tools
 - i. SonoLab 8.x used different tools, which complicated troubleshooting
13. Supports the optional Covaris Downholder accessory

SonoLab 8.x to 10.2 Data Converter

As described above, SonoLab 10.2 uses new file formats for methods, plate definitions, history, and log files.

To facilitate customers who have been running SonoLab 8.x to upgrade to 10.2, a “SonoLab 8.x Data Converter” application is included with SonoLab 10.2. It can be used to convert methods, plate definitions, and history files from 8.x to 10.2 format.

See Appendix A of the User Manual for details on using the data converter.