Bio-Rad
Laboratories, Inc.

Release Notes for QX Manager Software

Version 2.1

June 2023

Contents

Introduction

QX Manager Software, when connected to your QX200™ Droplet Reader or QX600™ Droplet Reader, provides the necessary functionality to create, run, and analyze Droplet Digital PCR™ (ddPCR™) experiments on your samples.
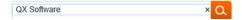
Supported Operating System

QX Manager Software is supported on 64-bit Windows 10 and 64-bit Windows 11 operating systems.

Upgrading to New Versions

This section explains how to download and install Standard Edition. If you are using Premium Edition, contact Bio-Rad Technical Support.

To upgrade the software to this version

1. Open bio-rad.com and enter QX Software into the Search field.

   QX Software

2. Click the search icon to display the search results.

3. Click QX Software to open the corresponding page.

4. Scroll to the Download section and under QX Manager Software Standard Edition for the current version, click Log in to download software.

5. Log into the website with your Bio-Rad™ username and password.

6. In the Software Download window, select the *I agree with the compliance requirements* checkbox, and then click Download.

7. A zip file is downloaded and appears in your Downloads folder. The download process can take a few minutes.

8. Open the Downloads folder on the computer and select the QXManagerStandard_v<x.x> zip file.

9. Right-click and select Extract All.

10. Select a destination folder and then select the *Show extracted files when complete* checkbox, and then click Extract.

11. Open the folder containing the extracted files and locate the .exe file.

12. Double-click the file to begin the installation.

13. Follow the prompts to install QX Manager Software Standard Edition.

New Features

QX600 Droplet Reader, Capillary Monitoring

The QX600 software now detects and warns the user when Capillary Maintenance is required. Failing to perform the Capillary Maintenance in a timely manner can lead to a decrease in performance. When presented with the warning, please contact Bio-Rad Technical Support to schedule a service visit as soon as possible.

QX200 Droplet Reader, EcoTank Support

The QX200 now supports the use of the EcoTank to replace individual oil and waste bottles by tracking the number of plates run.

Consumable Checks for Prime and Flush Operations

When running maintenance activities from Settings > Tools (Prime or Flush), QX Manager Version 2.1 now performs a pre-run check on consumables and alerts the user if there are any issues on the instrument that could prevent a successful run.

QX Manager Software, Premium Edition, Assay Protocol File Support

QX Manager Software Premium Edition, Version 2.1, now includes support for Assay Protocol Files (APF). The feature allows you to run locked assay protocols that pre-define various aspects of the plate run, such as plate layout, plate run settings, automated thresholding, and custom result calculations. The software also provides a customizable results display.

To apply an APF to a plate run, a drop-down option is added to the Add Plate screen. An APF Management tab is added in the Lot Management section of the Templates tab, which enables you to import APFs from other locations on their computer.

An APF Results tab is added to the Data Analysis module, from which you can change the layout to display custom results, along with any user-defined quality rules that are applied to the run data. Additionally, APFs enable you to define thresholds ahead of time, providing consistency across multiple runs and analyses.

Last, the upcoming release of QX Designer will enable you to create, save and modify your own APF files for use within QX Manager Software, Premium Edition.

For more information, refer to the QX200 or QX600 Droplet Reader and QX Manager Software Premium Edition User Guide.

Improvements to Existing Functionality

QX600 Droplet Reader, Run Plates with DR Oil or Waste Bottle Nearing Critical Levels

After evaluation, the behavior for the DR Oil and Waste level detection has changed on the QX600 Droplet Reader to more closely match the behavior of the QX200 Droplet Reader. In QX Manager Version 2.1, if the oil or waste levels are nearing critical you can still proceed with a new plate run. However, when the Oil or Waste bottles actually reach a critical level, you cannot start a new plate run. This behavior has not changed.

QX200 Droplet Reader, Resume Run after Bottle Door Opens

When you open the bottle door mid-run, the software automatically pauses the run and shows the Bottle Door Open dialog box. This enables you to replace the oil or waste bottle and continue the run after the bottle door is closed and the user has addressed the "Bottle door has opened" dialog.

Smaller Droplet Size for Increased Accuracy

The droplet volume that QX Manager Software uses to calculate concentration was changed in QX Manager Software Version 2.0 from 0.85nL to 0.795nL. The change resulted in a 7-8% higher concentration for experiments where all other variables are identical, thereby improving measurement accuracy on the QX200 Droplet Reader. System precision remains unchanged.

With QX Manager Version 2.1, the user can select the more accurate smaller volume or the historical volume. To modify the droplet volume, navigate to System Settings > Instrument tab. When QX200 is selected, Preferred Droplet Volume appears and the user can select either droplet volume.

Selected droplet volume is reflected in the Run Details, as well as any associated logs and reports for all ddPCR experiments performed on the QX200 or QX600 Droplet Readers, when opened with QX Manager Version 2.1 and above.

QX Manager Software, Premium Edition, Audit Trail Viewer

Using QX Manager Software Premium Edition, you can view the Audit Log in the Analysis module. Open a .ddpcrs run file and select Run Information, and then select the Audit Log tab. From the new UI, users can do the following:

- View Audit Log entries without running a report
- View detailed descriptions for each Audit Log entry, making it easier to identify and understand changes
- Apply filters to sort the Audit Log by username and/or change type
- Search by text to quickly locate specific Audit Log entries

Fixed Issues

The following issues are fixed in Version 2.1:

- The application did not correctly load ddPCR data into the Gene Study application.

- The application allowed you to close the Analysis Window while the PDF report was being generated. This action canceled the generation of the report and displayed an exception. The button to close the window is now disabled.

- The application did not allow you to specify the order of items in the report from the Plate Setup tree view.

- After a report has been generated with a threshold, the application sometimes crashed when you modified that threshold.

- When generating reports containing 2D charts, the application failed to include charts and thresholds for data collected from channels 5 or 6 on the QX600.

- When displaying 1D Amplitude data, if the scale was changed from Auto to Fixed, the X-axis labels and grid lines occasionally disappeared, making the chart difficult to interpret.

- Threshold lines were not correctly modified when you switched between thresholding multiple wells and thresholding a single well.

Known Issues

The following issues might occur when using QX Manager Software:

- On QX200, when the EcoTank is installed, the status icon on the QX Manager header might periodically disappear for a few seconds at a time. No data is lost and runs complete successfully.

- Analysis reports might not display Thresholds if SD Threshold is selected.

  Workaround: Select SD Threshold to add threshold to the display, then select the Manual thresholding view, without adjusting the threshold, and generate a report. The report generates with the SD thresholds.

- During Analysis, if the dashboard view is configured to include 1 row and 1 column, the well selector will be zoomed in on all analysis tabs and not all wells will be accessible.

  Workaround: Configure the Dashboard to restore default view or select the Well Data view.

- During Analysis, when viewing multiple wells in the 1D tab, when using a Fixed scale, the chart might not render as expected; loss of divider lines and incorrect X scaling has been observed.

  Workaround: Select Auto Scale. Alternatively, after switching to Fixed scale, toggling the wells selected has been shown to resolve some rendering issues.

- Outlines of threshold boxes, lassos and hand drawn thresholds are not visible in the report.

- Multiple amplitude charts are displayed in the dashboard view, but the Chart Display > Axis > Dye Import/Export > Export Visible Charts and Print Visible Charts buttons are non-functional.

  Workaround: Print or export charts individually or change Chart Display > Axis > Channel.

- If you install QX Manager Version 2.1 on a computer where the default language is set to a language other than English, the installation might fail due to a missing Users profile in local groups.

  Workaround: Complete the following steps:

  1. In the Windows Search field (lower–left corner), enter Computer Management.

  2. Select Local Users and Groups, and then double click Groups.

  3. Verify the Users profile is missing from the list.

  4. In the left panel, right click Groups and select New Group.

  5. For Group Name, enter Users and click Create.

  6. Restart the computer and then reinstall QX Manager Software.

- QX Manager sometimes stalls while rendering charts, with Windows displaying a Not Responding error message and then closing the application. If you encounter this issue, contact Bio-Rad Technical Support for a workaround.

  Important: If you have applied the BRChartSettings.json workaround provided by Bio-Rad for QX Manager Software, Version 2.0, we recommend contacting Bio-Rad Technical Support to obtain the latest copy of the BRChartSettings.json, which includes updated settings that may further improve performance.

- In the APF Management tab, the only the date of import is visible in the Import Date/Time column.

  Workaround: To find the time of import, navigate to Tools > Event Log. The date/time of import is recorded for every APF import.

Documentation

Information about the instrument and software is available in the following resources:

- QX200 Droplet Reader and QX Manager Software, Standard Edition, User Guide

- QX200 Droplet Reader and QX Manager Software, Premium Edition, User Guide

- QX600 Droplet Reader and QX Manager Software, Standard Edition, User Guide

- QX600 Droplet Reader and QX Manager Software, Premium Edition, User Guide

Contacting Technical Support

The Bio-Rad Technical Support department in the U.S. is open Monday through Friday, 5:00 AM to 5:00 PM, Pacific time.

Phone: 1-800-424-6723, option 2
Email: Support@bio-rad.com (U.S./Canada Only)

For technical assistance outside the U.S. and Canada, contact your local technical support office or click the Contact Us link at bio-rad.com.

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