Bio-Rad Laboratories, Inc.

Release Notes for QX Manager Software, Standard and Premium Editions

Version 2.4

November 2025

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Introduction

QX Manager Software from Bio-Rad™, 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.

The information in this document is intended for research use only and applies to QX Manager Software when used with the droplet readers specified above. For QX Manager functionality that is specific to the QX600 Dx Droplet Reader, refer to the QX Manager Software Premium Edition Release Notes, v2.4 (catalog no. LB003567).

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. To upgrade your version of QX Manager Software, Premium Edition, contact your sales representative for access to this latest version.

Checking the Firmware Version

You must check the firmware version before you upgrade the software.

To check the firmware version for compatibility

1. Open QX Manager Software.
2. From the left pane, select the  tab to display the software information window.
3. Click the link stating the current name and version of the software (for example, QX Manager Standard Edition Version 2.2.0.67) to display a table containing all system specifications, including the firmware version.

Important: For the QX600 Droplet Reader, QX Manager Software, Version 2.2 and later is compatible only with firmware versions 1.5 and later. *To upgrade your firmware, contact Bio-Rad Technical Support.* Version 2.4 is compatible with all QX200 Droplet Reader firmware versions.

Upgrading the Software

To upgrade the Standard Edition to this version

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

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 and Enhancements

The following features and enhancements have been added to QX Manager Software, Version 2.4.

Automatic Export (Premium Edition)

Using the new automatic export functionality, QX Manager can transfer selected templates and run files to a specified folder immediately after the run concludes, thereby eliminating the need to open the Analysis module and manually export each file sequentially.

Automatic export is configured in the Data Transfer tab and requires the Manage Data Transfer user privilege. An authorized user can select the files to be automatically exported. Optionally, the user can also specify a dedicated local folder to receive the files. Except for the audit logs, run detail file, and templates (.ddplt and .ddpltapf), all files are automatically exported in .csv format.

If secure data transfer is also configured, the specified files are zipped into an encrypted file and then exported; see the next section for more information. If not, then the files are exported individually in a subfolder that shares the .ddpcrs file name.

Secure Data Transfer (Premium Edition)

To ensure tamper-proof data exchanges between QX Manager Software and client software, the new Data Transfer tab contains a section to set up certificate functionality for secure data exchange. Secure data transfer applies to both automatic and manual secure data exports. After successfully exchanging certificates, the system ensures the following:

- Encrypted plate templates are unencrypted, validated, and verified after they are imported
- Exported run data is encrypted and protected during transport to designated local instrument folders
- Files that are securely transferred (automatic or manual) are placed in an encrypted zip file

For instructions to configure the Secure Data Transfer function, refer to the applicable Premium Edition user guide (see the Documentation section).

Secure Data Export for Manual Exports (Premium Edition)

Added a new Export Secure Data option to the manual export menu in the Analysis module. If the Automatic Export and Secure Data Transfer functions are configured, then you can select Export Secure Data and the files specified for automatic export will be securely transferred using the manual method. The files are saved directly to a zip file that is named to match the .ddpcrs file name. You can still choose to manually export each available file type individually

Additional Security for Data Storage Folders

In QX Manager Version 2.4, the Modify and Delete user permissions are no longer required for data file storage folders. Instead, system admins can configure Windows folder permissions to prevent users from changing or removing stored data files. Previously, such privileges were necessary, which posed the risk of unlogged or untracked actions. For recommended configurations, refer to the applicable Premium Edition user guide (see the Documentation section).

Support to Calculate Absolute Concentration

In the Well Information window, users can enter a dilution factor and specify the unit type for one or more wells. As you define each unit type it is added to the dropdown list, which displays the 10 most recent unit types entered. If a Dilution Factor is added in the Well Information window, absolute concentration is calculated and an Absolute Concentration column is added to the data table.

General Improvements

- Data for merged wells in APF Results is calculated first by Sample ID, and then by Sample ID and Well Type, and then by the standard merged well calculations.
- APF validation messaging for plate setup has been improved to add specific requirements.
- Users who are assigned the Manage Data Transfer user privilege can configure the Amplitude Data CSV export to exclude all target result information from the exported CSV file. (QXMGR-13746)

Fixed Issues

The software issues listed below are fixed in Version 2.4.

File Names and Labels

- In the Plate Setup window of the Templates tab, the Instrument Type label did not show a space between Instrument and Type.
- After reprocessing and saving a run file containing an underscore in the file name, the software added Reprocessed and the date stamp to the file name (as expected) but deleted the portion of the initial file name that followed the underscore.

Saving Files

- Users are no longer prompted to resave a file in which no changes have been made.

APF Functionality and Data (Premium Edition)

- Intermittently, when changes were made in an APF run file (for example, different well type selected or sample ID changed in the Analysis plate editor), data for some samples might be absent from multiple tabs in the Analysis module.
- Requirements specified in the selected APF (for example, sample IDs, total number of positive or negative control wells, and so forth) were not reinforced during the plate setup.
- If an assigned Well Type in the plate did not contain *any* wells of a required Sample Type, QX Manager ignored the APF requirement for number of wells for that Sample Type and allowed the run to proceed.
- When an APF did not contain custom calculations, the APF reanalysis (APF Tools) failed instead of recalculating the data with standard calculations.
- If a file that was run with an APF applied was reanalyzed using the option in APF Tools, the date format specified in the Output datafile name field in the APF Reanalysis dialog was incorrect (YYYYDDMM instead of YYYYMMDD).

- In a run data file, if multiple wells had the same Sample ID but different
  - Sample Types, the APF Results data for the selected well displayed incorrect or no results
  - Well Types, the APF Results and APF Results Data Table appeared blank for those wells
- If a conversion factor was defined in the APF for an RDQ experiment type, and the APF defined fixed wells, then the conversion factor for fixed wells did not appear in QX Manager when the APF was applied.
- Users were unable to start an APF run after adding a QX Dx consumable lot in the Plate Setup Lot Selector window, even though the consumable was specified in the APF.

CSV APF Templates

- The fixed well configurations in an APF were modified in error when a CSV APF template was applied to a plate layout.
- In the Plate Information window, when importing a CSV APF template that did not match the applied APF configuration, no validation occurred, and an error message did not appear,

Logs

- In certain time zones, instead of simply retrieving the log files, the system sometimes erroneously overwrote firmware logs on the system.

Run Information

- Without affecting run data, the application sometimes produced a data file in which the run status was shown as N/A, and the run complete time was shown as “1/1/0001 12:00:00 AM” instead of the system date and time.

Data Analysis

- The Ratio and Fractional Abundance charts in the respective tabs did not display merged well data, although the data appeared in the data table. QXMGR-13036
- In the analysis data table, the software reversed the positive and negative cluster calculations for the ThresholdSigmaAbove and ThresholdSigmaBelow values.

User Management

- In the User Management window, if a user with the Manage APFs user privilege was selected before a user who was assigned only the Run APFs privilege, the display erroneously showed the Run APFs checkbox as cleared, even though the user had the privilege and could run APFs without incident.
- When an initial user was timed out by the system before logging out, and a new user logged in afterward, event and audit trail logs contained login data for both users instead of just the second user.

Preferred Storage Location

- QX Manager saved folder paths specified in Datafile and Template Storage Preferred Locations when the folder did not exist on the computer hard drive.

Known Issues

The following issues might occur when using OX Manager Software:

- When the EcoTank is installed on the OX200 Droplet Reader, the status icon in the Instrument Status header row in OX Manager Software might disappear for a few seconds at a time. No data is lost and runs are completed successfully.
- Analysis reports might not display Thresholds if SD Threshold is selected.

  Workaround:
  1. Select SD Threshold to add threshold to the display.
  2. Select the Manual thresholding view without adjusting the threshold.
  3. Generate a report. The report includes the SD threshold.

- Multiple amplitude charts are displayed in the dashboard view, but when the chart Axis is set to Dye rather than Channel, you might encounter issues with exporting or printing charts.

  Workaround: Print or export charts individually or change the chart Axis to Channel.

- If you install QX Manager 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:
  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 that 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.

- After generating a report encrypted with a password, you can open the report in the same instance of QX Manager Software without entering a password. However, the password is still required if you open the PDF in a third-party reader.
- If calibration values are entered manually when reprocessing data, the reprocessed data does not show any concentration values. In some cases, using the instrument calibration values might also result in some targets showing errant concentration values.

  Workaround: Click Use these values to apply the data file calibration values first and then apply either the instrument calibration values or manual calibration values as desired.

- In some cases, while running the software when it is not connected to the instrument, the software crashes when you generate a PDF report that uses a report template.

  Workaround:
  1. Click the System tab.
  2. Click System Settings and select the Instrument tab.
  3. Select the connected instrument. The software restarts automatically.
  4. After you sign into the software, generate the PDF report again.

- When manually exporting secured data from the Analysis module, the files in the secured zipped folder retain their original names, which include the run timestamp. This is different from the behavior when you manually export the individual files.

- If a user logs out of the software and a second user logs in and accepts the EULA, the event log record correctly cites the second user in the log message but still attributes the action to the previous user in the log's User column. *This can cause confusion when the logs are reviewed.*
- If users modify their own user privileges, the UI does not reflect the changed privileges until the user logs out and then logs back into the software. *This is a UI issue only, the correct privileges are applied.*
- After running a plate with an APF applied on the QX600 Droplet Reader, the APF appears as disabled in the Template Setup > APF Management tab.

  Workaround: Close, and then relaunch, QX Manager Software.
- If you apply standard deviation (SD) thresholding to a well in which no other thresholding is applied, the Audit Log does not reflect that SD thresholding was used.

  Workaround:
  1. Open the data file in the Analysis module and select a well and channel.
  2. Apply any thresholding option but do not save.
  3. Select SD threshold for the channel and then save the changes.
- If a run data file is not successfully copied to the user's personal storage folder after the run concludes, QX Manager displays a red exclamation point (ⓘ) in the Run Status window but does not display an error message after clicking the icon. *No data loss occurs*.

  Workaround: Recover the data file from the RIP folder.
- When a user opens a data file from the personal storage folder (displayed under My Datafiles in User Preferences) and reprocesses the file, the new file with the reprocessed data is not immediately available until the user logs out and then logs in again.

  Workaround: Log out of QX Manager and then log in again to view and open the file.
- In System Settings, when the same file path is specified for the Preferred Location storage folder and the primary Shared Settings storage folder (Datafile Storage Location), the file is not saved to the secondary Shared Settings storage folder (Datafile Storage Location 2) if one is defined.
- **Workaround:** Manually copy the file to the secondary folder.
- Any mismatch between an APF and an applied .csv template can prevent execution of the run.
- **Workaround:** Before starting the run, verify the .csv template matches the APF configuration.
- When a user changes the My Templates folder location in User Preferences from a Read-Only folder to a folder with Write privileges, QX Manager does not enable the Save button and displays an error message that the user has no read or write access, even when they do.
- **Workaround:** Log out and then log in again to clear the error.
- QX Manager Software can crash if a user prints a PDF report when a printer is not connected.
- **Workaround:** Ensure the printer is connected locally or through the network before prompting the print job.

- During analysis of 1D and 2D amplitude in an APF run, when Automatic Thresholding for Positive Control Wells is applied to a selection of wells that share the same well type, thresholds are generated for each channel based on *all* positive control wells with that well type instead of just the selected positive control wells.

  Workaround: In the Plate Editor, change the sample type to Unknown for the positive control wells that should NOT be included in the calculation, and then recalculate.

- If the user expands a 2D Amplitude chart in the Dashboard and then changes the axis scale, the scale and new data does not appear in the expanded view until the Dashboard chart is minimized and then subsequently expanded.

  Workaround: Return the chart to its original Dashboard sizing and then expand the chart again.

- (QX200 Droplet Reader only) During the pre-run consumables check, QX Manager does not advise the user if there is insufficient space for a run.

  Workaround: Check the disk space indicators in the top banner of QX Manager and if necessary, move files to free up disk space before you start the run.

- (QX200 Droplet Reader only) When an EcoTank is installed, the EcoTank icon in the top banner of QX Manager might disappear for a few seconds during a run and then reappear. *No data loss occurs and the run finishes successfully*.

- When an APF requires multiple lot types and after the APF is applied to a plate layout, only some of the required lot types are selected, QX Manager shows all lot types as missing.

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 -.

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