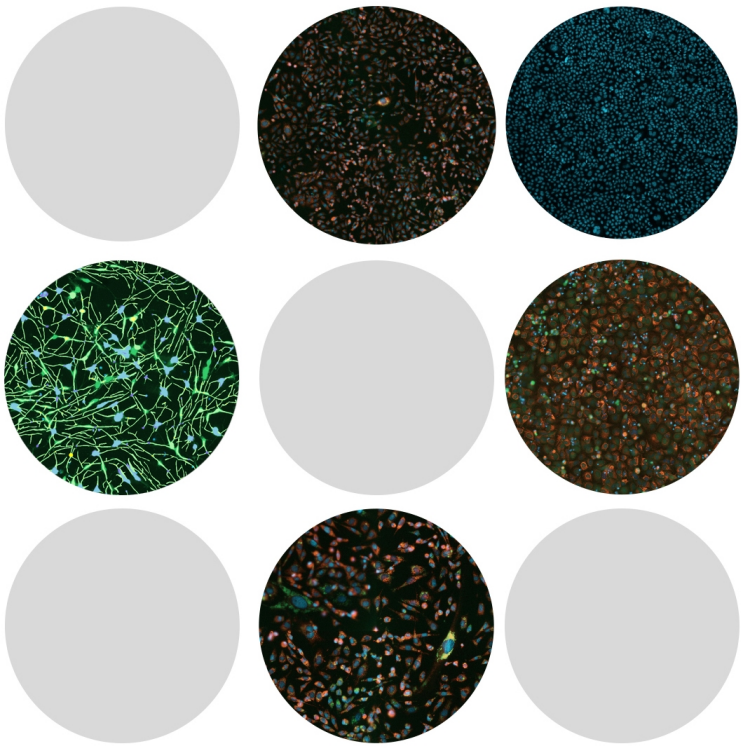

CellReporterXpress™

Image Acquisition and Analysis Software

Version 2.1

Release Notes

MOLECULAR DEVICES

CellReporterXpress Software, Version 2.1
December 2018

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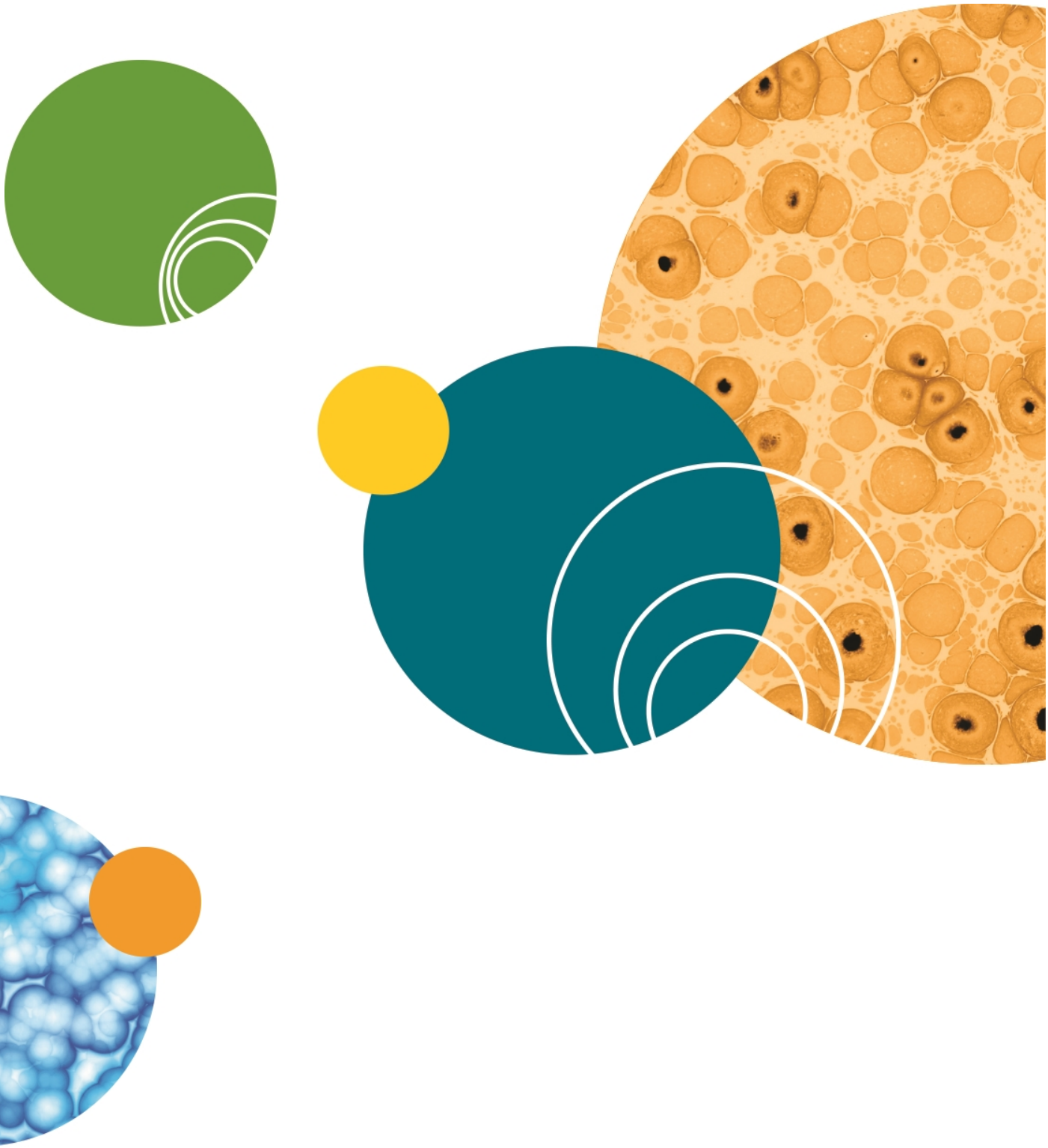


Chapter 1: CellReporterXpress Image Acquisition and Analysis Software

1

The CellReporterXpress Software integrates image acquisition and analysis into a unified workflow. Along with the ImageXpress Pico System, the CellReporterXpress Software streamlines automated imaging to offer a simplified solution for scaling up microscopy. Its features include:

- A web-based interface that runs on many browsers, including those found on iPads and Android tablets.
- Over 25 available predefined experimental protocols.
- High-powered analysis tools equivalent to those found in desktop applications.
- Easy-to-manage data with no requirement to configure a database.
- A simplified user interface that is easy to learn and easy to use.

Obtaining Support

Molecular Devices is a leading worldwide manufacturer and distributor of analytical instrumentation, software, and reagents. We are committed to the quality of our products and to fully supporting our customers with the highest level of technical service.

Our Support website, www.moleculardevices.com/service-support, has a link to the Knowledge Base, which contains technical notes, software upgrades, safety data sheets, and other resources. If you still need assistance after consulting the Knowledge Base, you can submit a request to Molecular Devices Technical Support.

Technical Support

You can contact Molecular Devices Technical Support by submitting a support request through the Knowledge Base or by phone. To find regional support contact information, visit www.moleculardevices.com/contact.

You will need the instrument serial number and the software system ID.

Documentation

Review the product documentation on the Knowledge Base, including installation guides and user guides. In addition, online Help is available within the CellReporterXpress Software. Press **F1** to access Help for the active page.

Additional Resources

Web-based microscopy courses:

- www.leica-microsystems.com/science-lab
- www.ibiology.org/ibioeducation/taking-courses/ibiology-microscopy-short-course.html

The Molecular Probes Handbook offers advice on fluorescent probes and can help you determine if there are better stains available for your analysis:

- www.lifetechnologies.com/us/en/home/references/molecular-probes-the-handbook.html

Product Documentation

The following guides are available on the Molecular Devices Knowledge Base at mdc.custhelp.com:

- *CellReporterXpress Installation Guide*
- *CellReporterXpress Release Notes*
- *CellReporterXpress User Guide*
- *ImageXpress Pico Pre-Installation Guide*
- *ImageXpress Pico Installation Guide*
- *ImageXpress Pico User Guide*
- *ImageXpress Pico Calibration Kit Guide*

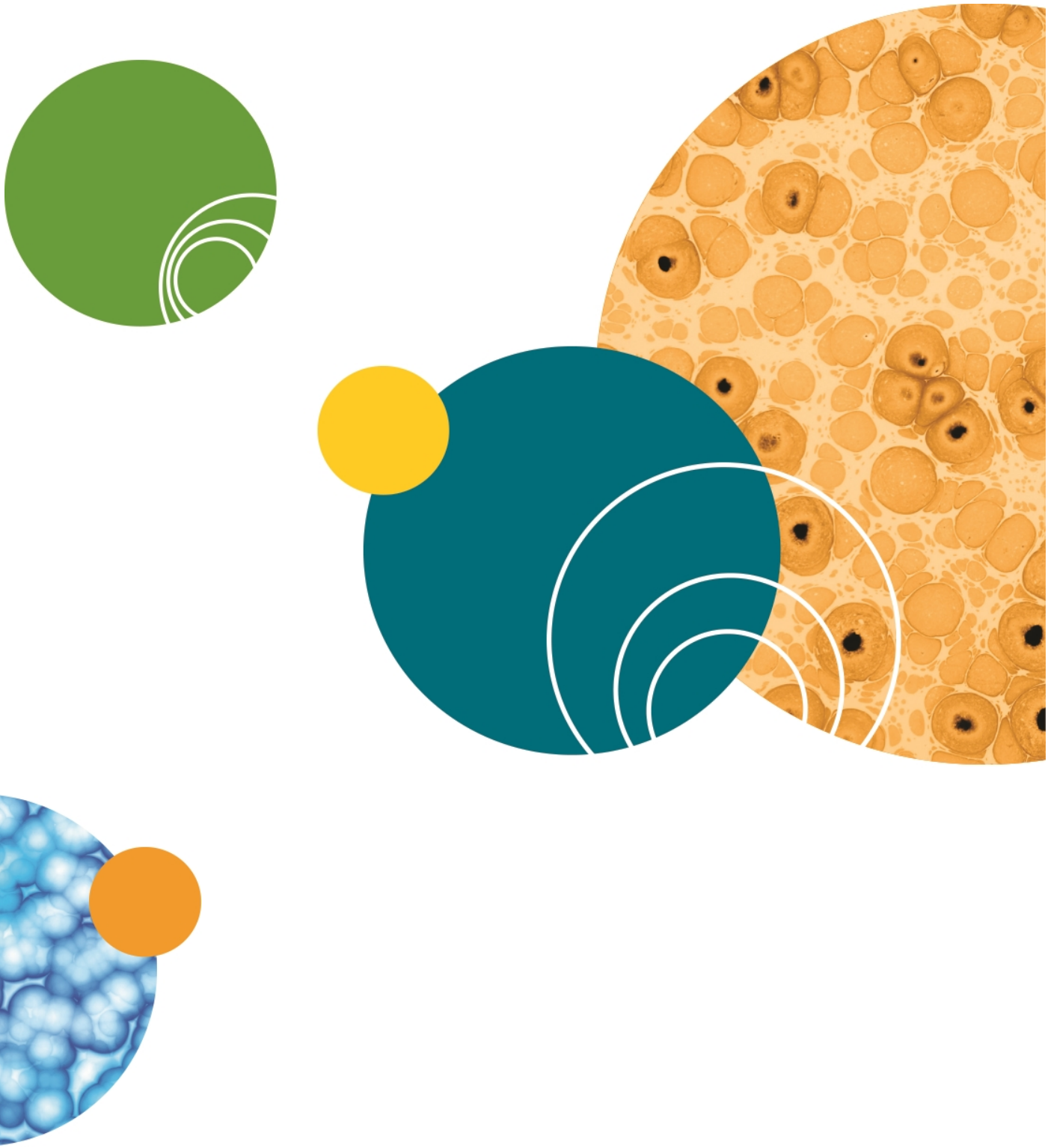
In addition, the CellReporterXpress Software includes context-sensitive Help that you can access from within the software. Just press the **F1** key from within the software to view Help for the current page.

Tip: Molecular Devices recommends that you review the documentation before installing or using the ImageXpress Pico System or the CellReporterXpress Software.

About This Guide

This guide is intended for the scientist or IT professional who will be installing and configuring the CellReporterXpress Software. This guide describes the notable changes in this release of the CellReporterXpress Software.

The information in this guide is subject to change without notice. Molecular Devices recommends that you review the guide on the Knowledge Base for the most up-to-date information.



Chapter 2: CellReporterXpress Software Version 2.1

2

The CellReporterXpressImage Acquisition and Analysis Software version 2.1 is a minor release. This section summarizes the changes incorporated since the last general release of the CellReporterXpress Software.

New in Version 2.1 of the CellReporterXpress Software

The following new features are included in version 2.1 of the CellReporterXpress Software.

Environmental Control System

The optional environmental control system enables you to maintain an environment for multi-day, live-cell, time-lapse imaging using a plate. You can regulate temperature, humidity, CO_2, and O_2 inside the environmental control cassette so that cells in the plate can be kept alive for several days, growing at a rate comparable to that expected with a standard cell culture incubator.

Note: Environmental control is fully supported for plate acquisitions only. For slide acquisitions, only temperature control is available; humidity, CO_2, and O_2 control is not available.

The environmental control system offers the following controls:

Component	Set Range	Notes
CO_2	1% to 15%	
Humidity	85%	Humidity level is fixed.
O_2	1% to 15% and ambient	
Temperature	25°C to 40°C (77°F to 104°F)	Environmental control cassette is not required. Minimum achievable temperature setting is: 6°C (11°F) above ambient without cassette. 8°C (14°F) above ambient with cassette.

Z Stacking

With the optional Z stacking feature, you can view previews of the acquisition by snapping Z stack images. A Z stack is comprised of a series of images captured at the specified focus offsets using the selected objective, wavelength, slide, region, focus settings, and exposure settings. Z stack images can be helpful if your sample includes any of the following:

- More than one focus plane within the field of view.
- Objects of different depths.
- Objects with varying depths relative to the focus plane.
- Thick objects.

As you set up the acquisition, you can view and download individual planes of the Z stack or the entire Z stack projection. The Z stack projection is saved with the experiment data when you run the protocol.

Note: Only the Z stack projection is saved with the experiment data. Images for individual planes are not saved.

Additional Filter Cubes

To enable you to work with your preferred fluorophores, the software now supports the following additional filter cubes, which are available as options on the ImageXpress Pico System:

Filter	Excitation	Emission	Dichroic
Texas Red	560/50 nm	645/70 nm	654 nm
CFP	400/30 nm	480/40 nm	475 nm

Multi-Wavelength Cell Scoring

A new, optional analysis for plates and slides (Cell Scoring: 3 Channels) provides the ability to perform double marker expression analysis, enabling multi-wavelength cell scoring. This make several new applications possible, including the following:

- Multi-parametric cell toxicity
- Live/dead with nuclear stain

Workflow Improvements

Several features have been added to the software to improve the workflow and enhance usability.

Snap Overview Button

The  **Snap Overview** button snaps a low-resolution overview image of the entire slide in the single slide map. This can help you identify the region of interest for your experiment. The overview image is created using the secondary camera, which uses no objective.

My Devices Tab

The My Devices tab helps you manage your instruments by displaying a personal list of the instruments available to you. A list of all registered instruments available to the software appears on the Add Device tab.

Display Pixel Histogram for Image Display

When the software displays an image, a histogram display of pixel distribution is available for each channel.

Restore Instrument Configuration

The Restore Instrument Configuration maintenance enables you to revert the instrument firmware to the factory settings or to a recent snapshot. This maintenance is for use only at the direction of Molecular Devices and only in cases of unexpected instrument failure.

Documentation Changes

The *CellReporterXpress IT Configuration Guide* has been removed from the documentation set. All technical information intended for IT professionals supporting the installation and configuration of the software is now in the *CellReporterXpress Installation Guide.*

Issues Addressed in Version 2.1 of the CellReporterXpress Software

The following issues were addressed in version 2.1 of the CellReporterXpress Software.

Calculate Focus Offset: Transmitted Light Image Displayed After Calculation Does Not Have Offset Applied

Tracking ID: EAT-1357

The transmitted light image displayed after a calculate focus offset is not acquired correctly. A second snap produces the appropriate image.

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Slide Labware Definition: Opening Depth Not Calculated Properly for Negative Support Ledge Height

Tracking ID: EAT-1492

When the coverslip is on the bottom of the slide, the software incorrectly calculates a negative ledge height (that is, the coverslip is below the edge of the holder).

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Unable to Acquire Images with Long Exposure Times

Tracking ID: EAT-1629, EAT-2488, EAT-2489

With an exposure time of longer than approximately 4 seconds, the instrument may be unable to acquire images or may acquire black or duplicate images. In addition, the software may time out when a stitching protocol is used.

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Stitching Transmitted Light Images Containing the Well Edge Can Produce Incorrect Results

Tracking ID: EAT-1644

The software misaligns stitching results due to the contrast of the well edge. Artifacts appear as duplicated, blurry cells in blended regions.

Resolution:

Improved the stitching algorithm for transmitted light, particularly with black plastic plates.

Impact of fix:

This fix has no impact on current workflow or data.

Sensor Monitoring User Interface Is Not Updated During Protocol Run

Tracking ID: EAT-1763

During protocol run, the user interface is not updated as the sensor detects temperature changes.

Resolution:

Temperature status now properly updates during an acquisition.

Impact of fix:

This fix has no impact on current workflow or data.

Well Offset Parameter Changes in Labware Definitions Are Not Saved

Tracking ID: EAT-1922

Changes to the well offset parameters (Left Edge to Left Center and Top Edge to Top Center) on the Edit Labware page are not saved.

Resolution:

Corrected the issue. Changes to the Edit Labware page are now saved as expected.

Impact of fix:

This fix has no impact on current workflow or data.

Adding New Objective Through Wizard Resets All Existing Objective Calibrations

Tracking ID: EAT-2022

Swapping objectives resets to the default calibration and a recalibration is required.

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Neurite Tracing Will Not Run Over Entire Image Depending on Settings

Tracking ID: EAT-2039

With neurite tracing analysis, only the top portion of the image is analyzed.

Resolution:

Corrected the issue. Neurite tracing no longer stops measuring cells part way through the image.

Impact of fix:

This fix has no impact on current workflow or data.

Unable to Analyze Time Series Data If Moved to Another Location

Tracking ID: EAT-2075

If an experiment data folder with time series data is moved to a new folder and that folder is added to the CellReporterXpress Software, attempts to run an analysis on the experiment fails.

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Experiemnt Loading Timeout

Tracking ID: EAT-2077

The software times out when loading an experiment. The user is informed that the experiment is not present and is prompted to delete it.

Resolution:

Corrected the issue.

Impact of fix:

This fix has no impact on current workflow or data.

Canceled Time Series Should Be Treated as a Success Not a Failure

Tracking ID: EAT-2079

Canceled experiments are treated as failures. However, any data accumulated is stored with the "failed" experiment.

Resolution:

Canceling during a time series marks the experiment as a success. As before, any data accumulated is available in the experiment.

Impact of fix:

This fix has no impact on current workflow or data.

Snap and Read Should Not Continue If Door Is Prevented from Closing

Tracking ID: EAT-2299

System tries snap or acquire when the stage door is open.

Resolution:

Corrected the issue. Snaps and acquisitions are prevented unless the stage door is closed.

Impact of fix:

This fix has no impact on current workflow or data.

Home Stage Before the First Time Point of an Experiment

Tracking ID: EAT-2306

The stage position for the first time point of an acquisition may not be accurate compared to ensuing time points.

Resolution:

The accuracy of the stage position at the first time point has been improved.

Impact of fix:

This fix has no impact on current workflow or data.

Numeric Annotations: Cannot Apply Zero Values

Tracking ID: EAT-2406

User cannot apply zero value to numeric annotation.

Resolution:

Corrected the issue. Annotations allow any numeric value.

Impact of fix:

This fix has no impact on current workflow or data.

Stitching Protocol with Single Site Per Well Gets Stuck on the In Progress Tab of the Monitor Page

Tracking ID: EAT-2451

Stitching protocol with single site per well gets stuck on the In Progress tab of the Monitor page.

Resolution:

Corrected the issue with stitching when only one site per well is acquired.

Impact of fix:

This fix has no impact on current workflow or data.

Contact Us

Phone: +1-800-635-5577
Web: moleculardevices.com
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