**Release Notes – guavaSoft™ Software version 3.1.1**
*February 2015*

## Introduction

This document contains information about EMD Millipore Corporation guavaSoft™ Software version 3.1.1 for your 2nd and 3rd generation EMD Millipore Corporation easyCyte™ or easyCyte™ HT System.

*Note for easyCyte™ or easyCyte™ HT 5, 6-2L, and 8 System owners:* the previous guavaSoft™ Software version 3.0 release was only intended for use on EMD Millipore Corporation easyCyte™ 12 or easyCyte™ 12HT Systems. Do not use this version on any other platforms.

The contents of this document are:



## Important Notices

guavaSoft™ Software version 3.1.1 is currently only intended for use on 2nd and 3rd generation EMD Millipore Corporation easyCyte™ or easyCyte™ HT 5, 6-2L, 8, and 12 Systems.

2nd generation systems will have serial numbers prefixed by *6735* and *6620.* General serial number formats for these instruments are as follows:

- 6735xxxxxx
- 6620xxxxxxx

3rd generation systems will have serial numbers prefixed by *8470 and 8472.* General serial number formats for these instruments are as follows:

- 8470xxxxxx
- 8472xxxxxx

*guavaSoft™ Software version 3.1.1 is **NOT** intended for use on 1st generation EMD Millipore Corporation easyCyte™ or easyCyte™ HT 5, 6-2L, and 8 Systems* or other previous generation Guava systems.

1st generation systems will have serial numbers prefixed by *543* and *558.* General serial number formats for these instruments are as follows:

- GTI-543xxxxxxx
- GTI-558xxxxxxx

Do not install guavaSoft™ Software version 3.1.1 on 1st generation easyCyte™ or easyCyte™ HT system computers, or a Guava® PCA, Guava® PCA-96, Guava® PCA-96 AFP, Guava EasyCyte™ Mini, Guava EasyCyte™, Guava EasyCyte™ Plus system computer for acquisition purposes.

To run guavaSoft™ Software v3.1.1 for acquisition purposes, you will need an EMD Millipore Corporation-configured Dell™ laptop running 32-bit Windows 7 Ultimate, and including Microsoft Excel®. (Recommended configuration: Intel Core i5-3210M processor (2.5 GHz), 4 GB RAM, 320 GB hard drive, 2 USB ports, CD or DVD drive, wide screen display resolution 1366 x 768, discrete Graphics Card).

**Summary of New Features, Changes and Enhancements since guavaSoft™ Software v3.1.1**

*Guava easyCheck™ Software Module - Issues Addressed*

- In easyCheck™ 3.1, incorrect signal intensities potentially resulting in failing easyCheck results were observed for 2$^{nd}$ generation EMD Millipore Corporation easyCyte™ or easyCyte™ HT Single Laser instruments. This issue is only applicable to single laser, 2$^{nd}$ generation easyCyte™ or easyCyte™ HT configurations and has been addressed in easyCheck™ 3.1.1.

**Summary of New Features, Changes and Enhancements since guavaSoft™ Software v3.0**

*Guava Incyte™ Software Module - New Features*

- Addition of support for easyCyte™ or easyCyte™ HT 5, 6-2L, and 8 system configurations
- Addition of support for gating and statistics using Time plot axes
- Retrieval of analysis methods, instrument settings, and compensation are now allowed on the "Prepare for Acquisition" dialog for GuavaOperator Access level users:
- InCyte FCS file Event Logs can now be exported.

*Guava Incyte™ Software Module - Issues Addressed*

- Using the "Export to FCS 2.0" feature previously resulted in a program crash.
- Exported FCS 2.0 files displayed "striping" in plots when viewed in a third party program. This issue has been addressed.
- FCS 2.0 files exported from a 5-decade InCyte FCS file did not display appropriately scaled data in plots when viewed in a third party program.
- Semi-automated compensation was previously not enabled for FCS files acquired using Area mode. This issue has been addressed.
- TIME Long/Stain Parameter name was found to take the name used for the FSC Long/Stain Parameter name entry.
- InCyte Tube Maps that were copied to clipboard and pasted into another program were only partially displayed.
- When moving the mouse cursor over tube positions on the tray map, tooltips did not indicate the correct position.
- GuavaOperator Access level users were previously able to switch between Area Mode and Height Mode in Adjust Settings. A GuavaOperator is no longer allowed to switch between these modes.
- GuavaOperator Access level users were previously able to select Area/Width parameter in Adjust Settings. A GuavaOperator is no longer allowed to change this setting.

*Guava easyCheck™ Software Module - New Features*

- Addition of support for easyCyte™ or easyCyte™ HT 5, 6-2L, and 8 system configurations

*Guava Clean Software Module - New Features*

- Addition of a Guava Clean Event Log
- Addition of a Guava Clean History Page

*Guava Clean Software Module – Issues Addressed*

- Lasers were discovered to be powering on for certain Guava Clean protocol steps. Lasers will no longer power on during Guava Clean.

**Summary of New Features, Changes and Enhancements since guavaSoft™ Software v2.7**

This section lists changes that were implemented in the guavaSoft™ Software version 3.0 release. Please read this section if upgrading from guavaSoft™ Software version 2.7.

*Guava Incyte™ Software Module - New Features*

- Three Laser instrument support.
- Support for 12-channel data acquisition.
- All-area mode for data acquisition.
- Improved plot axis parameter selection.
- Simplified acquisition workflow- allows user to specify FCS file name and location, analysis method retrieval source, instrument settings retrieval source, and compensation settings retrieval source.
- Ability to designate capillary park location after completion of an InCyte™ work list.
- New parameter names.
- Laser power On/Off cycling during adjust settings and sample acquisition protocol
- Unique long or stain names for log parameters are no longer used. The same long or stain name will be used for a channel regardless of whether Log or Lin axis scale is used.
- Methods and settings files from earlier versions of InCyte™ cannot be used for InCyte™ 3.0 data acquisition.
- Methods from earlier InCyte™ versions cannot be used in analysis mode.

*Guava Incyte™ Software Module - Issues Addressed*

- Under certain conditions during Adjust Settings, the software could be slow to respond to gain adjustments, this has been fixed.
- Introduced corrections to area and width calculations for 5-decade high flow rate acquisitions.

*Guava easyCheck™ Software Module - New Features*

- Service check file export feature - the service check file contains FCS files for last three easyCheck™ replicates and easyCheck™ history. This file can be provided to tech support to assist in diagnostics.
- Updated user interface.

*Guava easyCheck™ Software Module – Issues Addressed*

- BackFlush for easyCyte™ systems was not working in easyCheck 2.7. This issue has been addressed.

*Guava Clean Software Module - New Features*

- Enhanced easyCyte™ cleaning protocol.
- Updated user interface.

**Installing guavaSoft™ Software v3.1.1**

To install guavaSoft™ Software v3.1.1, perform the following steps.

1. Log into the computer with Administrative rights. This is the default at installation; consult your local system administrator if necessary.

2. If you have been using a previous version (guavaSoft™ Software v1.0, guavaSoft™ Software v1.1, guavaSoft™ Software v2.0, guavaSoft™ Software v2.1, guavaSoft™ Software v2.2.3, guavaSoft™ Software v2.6, guavaSoft™ Software v2.7, or guavaSoft™ Software v3.0), the previous version will be automatically uninstalled (the easyCheck™ log and event log files will be saved and copied to the new installation). In case Installation issues are encountered, please use the Windows Control Panel to uninstall the older guavaSoft™ program

3. Insert the CD-ROM into the computer and open its contents, where you will see a folder labeled "guavaSoft™ 3.1.1". You can use the contents of this folder to install the software on the laptop that is connected to the instrument. You may also install the software for off-line data analysis on any computer running, at a minimum, Windows 7; however, note the disclaimer at the end of this document.

4. Open the folder and double-click on the Setup.exe file to start up the installer.

5. You should then see a window titled "Welcome to the InstallShield Wizard" (in some cases, this window may be hidden behind other windows, so you may need to use the Windows task bar to bring it to the front). The InstallShield® Wizard will lead you through a series of screens for the various installation steps. Simply follow the instructions and accept the default settings by clicking the Next button. Note the following, however:

    a. When the "License Agreement" window appears, EMD Millipore Corporation recommends that you read it carefully in case it has changed since the previous release. You must select the radio button that indicates your acceptance of the license terms before you can click on the Next button to continue.
    b. If the "Customer Information" window appears, be sure to select the option to "Install this application for anyone who uses this computer (all users)," then click Next. Do **not** select the option to "Install the software only for me" as the software may not install correctly.

    c. When installing the software for off-line data analysis on a computer not attached to an instrument, select “Skip” on the “Instrument detection” window in order to access the “Setup Type” window. Select the instrument type by clicking on the appropriate radio button.

6. After the software has been installed and the last screen appears, click on the "Finish" button to complete the process. You are now ready to use the new software.

**Using guavaSoft™ Software v3.1.1**

Please refer also to the User Guide appropriate for your system which can be found on the software distribution CD-ROM. The following notes apply to all users of guavaSoft™ Software:

1. Running Excel, Internet Explorer, or any other program while using guavaSoft™ Software to acquire data from your system is not recommended. guavaSoft™ Software requires the full resources of your laptop during data acquisition; running other programs at the same time (even if you are not actively using them) may interfere with its ability to acquire data reliably.
2. When acquiring data with guavaSoft™ Software, always store the data onto the laptop's local hard drive. Do not use a remote file server on a network, as network connections are often intermittent or busy, and this may interfere with the software's ability to acquire data reliably. If you want to archive data to a remote file server, wait until the session is finished. Then exit the assay (i.e., return to the guavaSoft™ Software main menu), and copy or move the data to a remote file server.

3. For best performance, EMD Millipore Corporation recommends that you use the Medium flow rate, except for the Guava Cell Cycle Software Module, which uses Low or Very Low flow rates only. The Guava ViaCount®, Guava Check, and guava easyCheck™ Software Modules allow samples to be run only at the Medium flow rate.

4. Always make sure the power is off for both the instrument and the laptop before inserting or removing

the USB cable, otherwise damage or erratic operation may result.

5. EMD Millipore Corporation recommends that you re-boot the laptop at least once each day, e.g., in the morning before beginning to use your system.

**Cautions**

1. In order to view the Access Control screen, you must be a Guava Administrator. In order to change the settings, however, you must also be logged in a Windows administrator.

2. Setting the threshold too close to a population may cause some events close to the threshold to be rejected as noise.

3. In Analysis Mode, if you enter new values into the Dilution Factor or Total Volume fields in the ViaCount®, ExpressPlus and ExpressPro Software Modules, the changes will not register until you click on a different item.

4. In Analysis mode, the ExpressPlus Software Module v3.6 (which is included in this installation) can convert files acquired in ExpressPlus Software Module v3.4 and earlier versions. In addition, files generated with guavaSoft™ Software v2.1 are compatible with earlier versions of software for the EasyCyte System (versions 3.0 and later), Guava PCA software (versions 2.1 and later), and Guava PCA-96 software (versions 2.5 and later) for ViaCount, Nexin, MultiCaspase, TUNEL and Cell Cycle. guavaSoft™ Software v2.2will also correctly display and analyze data acquired on the PCA-96 or PCA even for the CellPaint, and CellToxicity Software Modules in which the fluorescence parameters used are different between CytoSoft Software v5.3 and v2.5.7 or v6.0.2

5. For more reliable operation, the shortcut keys have been disabled on some software modules.

6. On rare occasions, the software and the instrument may pause to resynchronize with each other. If this occurs, the system will pause for 20-30 seconds and a message will appear in the status bar at the bottom of the screen indicating a “Tray Hold-Off.” Although this is not serious and the system should resume again after resynchronizing, be aware that after the tray hold-off occurs, the tray may move without warning.

7. Unplugging a network cable when a network printer is installed and selected as the default printer will result in CytoSoft and guavaSoft™ Software Modules being unable to launch. This problem only occurs on laptops. An error message will appear stating that the application has generated errors and will be closed by windows. A workaround is to select "Fax" as the default printer.

8. All Errors and Warnings are noted in the Event Log. All Errors and Warnings that occur while a sample is being acquired will also be posted to the Errors and Warnings counter located at the bottom right of the acquisition screen and added to the appropriate column in the CSV file (for ExpressPlus and ExpressPro only). Errors and Warnings that occur after a sample acquisition has been closed will not be posted to the CSV file and may or may not be added to the Errors and Warnings counter located at the bottom right of the acquisition screen, depending on the type of error or warning.
9. The position of the histogram markers should be used to define populations and not the color of the events included in the marker. The color indicating events included in a particular marker can be offset by 1 or 2 pixels to the left of the marker ends and hence does not quite correctly indicate which events are included in the marker.

10. When in batch printing mode, even if double sided printing is selected through the “properties” button on the print dialog window, the printout will be single-sided only.

**Disclaimers**

Due to the wide variety of PC configurations, EMD Millipore Corporation does not warrant the use of guavaSoft™ Software to obtain results when used on platforms other than the supported laptop.

Export to the FCS 2.0 data format is provided for the convenience of our customers (see Appendix A). However, EMD Millipore Corporation has not validated the analysis of data from the system using third-

party programs and cannot warrant that the results will be correct, nor does EMD Millipore Corporation provide any support for such analysis.

**Customer Support Contact Information**

For ordering information or technical support:

http://www.millipore.com/reply/form/techservice

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In addition, Millipore and its distribution network will provide Guava® Products to all sectors of life science research in certain countries outside of North America and Europe. To find the office nearest you, go to www.millipore.com/offices
Field service for all EMD Millipore Corporation' instrumentation for all the geographies above will be carried out by EMD Millipore Corporation (www.millipore.com/techservice).

**Appendix A. Analyzing EMD Millipore *easyCyte™ or easyCyte™ HT* System Data Using FCS 2.0 File Export**

The FCS file format is an open standard for the exchange of flow cytometry information. The original format was proposed by Bob Murphy of Carnegie Mellon University, and it has since been widely adopted in the industry.

EMD Millipore Corporation stores binary run data in the FCS 3.0 file format. However, some third-party programs have not been upgraded to read this format. For increased compatibility, therefore, data acquired using guavaSoft™ Software may be exported in the older FCS 2.0 file format, so that you can use most third-party applications on either a PC or a Macintosh® to analyze and explore the data. Consult the *guava easyCyte System User Guide, guava easyCyte HT System User Guide* or *Guava EasyCyte Plus System User Guide* for more details. When using third party programs to analyze exported data, please be sure to read the disclaimers in a previous section of this document.

When you acquire data in guavaSoft™ Software, all the runs in a session are grouped into a single file in FCS 3.0 format so that you can conveniently navigate between runs, and easily copy the entire session as a single file. However, when data is exported in FCS 2.0 format, a single file is produced for each run. The file name is a concatenation of the data set name and the run (or sample) number. Each FCS file exported is given the extension ".FCS" to identify it as an FCS data file. The files adhere to the FCS 2.0 standard.

On the PC, you can use WinMDI for analysis (WinMDI is freely distributed over the Internet). Other third-party programs are available on the PC for analysis of FCS data.

You can also transfer FCS files from the PC to the Macintosh (e.g., with a flash drive, or via a file server). However, the Macintosh does not automatically know which application is supposed to open FCS files, and you will need to use the File Exchange control panel to "assign" the FCS data files to the appropriate Macintosh application. This only needs to be done once, before the first time you want to analyze the data. Consult the Macintosh help guide for more details out how to do this.

If you experience difficulty when using the File Exchange control panel, you may need to "rebuild the desktop." Consult the Macintosh help guide for more information on how to do this.

EMD Millipore guavaSoft™ Software v3.1.1 is for Research Use Only. Not for use in diagnostic procedures.

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