

Dispensing Software Revision History

Version 3.7.0

General Notes

- This release synchronizes the D100 Dispensing software and the D300 Dispensing software
- General bug fixes

New Features

- D100 and D300 Dispensing Software can load respective protocols with unsupported fluids. (Note: Will only show these fluids, will not allow you to dispense unsupported fluids)
- Introduces multiple cell dispensing (up to 25 per well), user-definable junk well, and multiple 96-well plate cell dispensing (up to 4 per C1a cassette)

Bug Fixes and Improvements

- Fixed plate layout projection in the pre-dispense run window
- Installer will now uninstall the previous version of the software if a new version is being installed
- New icons for No Dispense and No Shake (slash through icon instead of red “no” dot/symbol)
- PC will no longer sleep when dispensing
- Fixed version number issue where Non-US PC’s lacked a version number
- Name of C1 cassette changed to C1a
- When a plate has cells in a protocol and a user marks the plate as “do not dispense” the cells for that plate won’t be marked with an “X” after the user runs the protocol
- Post run summary screen will now only show single cell dispense statistics (multiple cell dispense statistics in report file)
- Added combo box in the ribbon that allows for the post dispensed plate to show cell count of what was dispensed instead of what was requested
- Improved software speed and performance
- Various improvements to software stability
- Various cosmetic and non-critical bug fixes and improvements

Version 3.6.2

General Notes

- This release brings the D100 Dispensing software into synchronization with the D300 Dispensing software
- Any general bug fixes or applicable new features will be made available for D300 users in a future release

New Features

- New Proteomics fluids for D100 Digital Dispenser that requires surfactant free (SF) cassettes
- Support for Extra Small (XS) cell fluid class for D100 Digital Dispenser
- Improved zoom ability for plates above 384 in some wizards

Bug Fixes and Improvements

- Better organization of standard and custom plates to make plate selection simpler
- Dispensed concentration is made uniform through "tabular detail" "Tabular" and "1 Disp Conc" in report file
- CustomA1 setting in a custom well plate file is now depreciated
- Various improvements to software stability
- Various cosmetic and non-critical bug fixes and improvements

Version 3.6.1

General Notes

- This release brings the D300 Dispensing software into synchronization with the D100 and QA versions, which did not include D300 releases
- Users of the previous 3.4.3 release of the D300 software will find most noteworthy various improvements and updates to the user interface

New Features

- Better organization and labeling of custom plates in plate editor for usability
- Protocol files may be opened via drag and drop of file from desktop into application

Bug Fixes and Improvements

- Faster software startup time
- Custom plates can now have a default assay volume of zero
- Plate shake option now controllable via main plate display via "Shake" icon
- Current Protocol shake option checkbox value now honored when creating new plates
- When Current Protocol shake option is changed, user is given option to apply change to all plates or to just subsequent new plates
- When creating new fluids, default name creation modified for simpler/clearer naming
- Correct issue where failed cell dispense wells not correctly marked with D100 Digital Dispenser
- Correct issue where plate rows and columns could not be selected in some wizards
- Various improvements to software stability
- Various cosmetic and non-critical bug fixes and improvements

Version 3.6.0

General Notes

- This release is just for the D100 version of the Dispensing software, and not for the QA or D300 versions
- Any general bug fixes or applicable new features will be made available for D300 users in a future release

New Features

- Added support for single cell dispensing with D100 Digital Dispenser
- New Aqueous, Cell, and Acetonitrile fluid classes
- Support for new Surfactant Free (SF) cassettes

Bug Fixes and Improvements

- Expanded post run summary screen with option for direct opening of report file folder
- Reports updated to include single cell dispense information
- Updated fluid editing to better manage the growing number of supported fluids
- Various improvements to software stability
- Various cosmetic and non-critical bug fixes and improvements

Version 3.5.0

General Notes

- This release is just for the D300 QA (Quality Assurance) version of the Dispensing software, and not for the D100 or D300 general versions
- Any general bug fixes or applicable new features will be made available for D300 users in a future release

New Features

- Added support for GxP Quality Assurance audit logging as a separately purchased software option
- Post run summary screen shows greater detail of dispense on completion
- Revised user interface styling and updates to plate and fluid editing for unified design

Version 3.4.3

Bug Fixes and Improvements

- Corrected issue where wrong LEDs were activated on D4 cassettes when loading fluid
- Revised columns and column labels in Tabular and Tabular Detail sheets to clarify data shown when dispensing fluids by volume or by concentration

Version 3.4.2

Bug Fixes and Improvements

- If user overrides plate assay volume value and plate type is changed, override value is now preserved.

- Fixed issue where dispensing with partially used cassettes could lead to HW_ERROR_BADDHPOSIDX error in some cases.

Version 3.4.2

Bug Fixes and Improvements

- If user overrides plate assay volume value and plate type is changed, override value is now preserved.
- Fixed issue where dispensing with partially used cassettes could lead to HW_ERROR_BADDHPOSIDX error in some cases.
- Fixed issues related to report file value rounding which caused a slight difference between “Total dispensed volume” and “Total well volume” values.
- In some country locales, date and time format in protocol files would lead to errors on file loading.
- Fixed issue with automation where DATA.xml files generated with 3.4.1 could not be run.

Version 3.4.1

Bug Fixes and Improvements

- Miscellaneous bug fixes. Includes an issue where default fluid values (Settings) were reset to application defaults each session.
- PCR bug fixes and enhancements.

Version 3.4.0

Changes or Improvements

- Supports updated hardware.
- PCR feature enhancements.
- Changes to master mix fluid classes.
- Aqueous plate limit increased.

Bug Fixes

- Miscellaneous bug fixes.

Version 3.3.5

Bug Fixes

- Fix to resolve an issue where the dispenser very rarely did not dispense until power-cycled.

Version 3.3.4

New Features

- Protocol Run:
 - Notes can be added for each fluid, included in reports.
 - Fluid load volumes can be modified at load time to match actual.

Version 3.3.3

New Features

- PDF reports.
- Small Molecule option added for aqueous fluids with stock concentration specified in mass units.
- Protocol revision tracking.
- Run-Only version of software available (protocols can be run, but cannot be modified).

Version 3.3.2

Bug Fixes

- Fixed printed report issue where information could be overwritten.

Version 3.3.1

Bug Fixes

- Fixed issue where protocol files saved in some regions could not be opened.

Version 3.3.0

Changes include:

Feature	New with 3.3.0
<i>User interface</i>	<ul style="list-style-type: none">• Simplified fluid list and new edit experience for fluids. Many Normalization and Show features have been moved to a flyout box to simplify the fluid list region.• Mass/molarity conversion calculator available for specifying fluid concentration.• In Synergy and other locations, it is possible to copy titration values from one fluid to the next.

Feature	New with 3.3.0
<i>Expanded and modified features</i>	<ul style="list-style-type: none"> • Additional units are available for specifying fluid stock concentration. • Specific dilutions of a fluid can be created and will be used for titrations when applicable (to shift or extend a fluid). • Linear titration from highest/lowest concentration or volume is supported. • Guided Alignment supports iterative A1 alignment using a single dispense head and without loading a protocol.
<i>Protocol run and reports</i>	<ul style="list-style-type: none"> • Run experience has been changed to highlight the most relevant features. • Detailed dispense information is shown for fluid being dispensed, along with the current and next plate to be dispensed. • When the dispenser is waiting on the operator, a prominent banner is displayed. • While filling dispense heads, they can be Locked to temporarily prevent dispense of the locked fluids. • During dispense Pause, the plate can be moved to the load position for examination. • During dispense Pause, un-dispensed fluid can be Cancelled and re-scheduled using a new dispense head. This allows for recovery from certain fluid load errors. • At end of run, the plate holder can be parked (drawn back into the dispenser).

Version 3.2.5

Changes or Improvements

- Modification to plate sense process during protocol run.

Bug Fixes

- Fix for obscure device ROM corruption issue.

Version 3.2.4

New Feature

- Print Report added to print a report from the most recent protocol run.

Bug Fixes

- Miscellaneous bug fixes.

Versions 3.2.1-3.2.3

Changes or Improvements

- Minor additions to PCR feature.

Bug Fixes

- Miscellaneous bug fixes.

Version 3.2.0

Support for PCR has been added. Features that support PCR include:

Feature	PCR notes
<i>PCR feature</i>	<ul style="list-style-type: none">• A PCR feature has been added for easy creation of PCR experiments.
<i>Expanded dispense</i>	<ul style="list-style-type: none">• Master mix fluid classes have been added.• DNA dispense limits are specified.• High-volume cassettes (D4+) can be used for bulk dispense in addition to normalization. Maximum load volume for T8+ cassettes has been increased for bulk dispense.
<i>Dispense mode</i>	<ul style="list-style-type: none">• Protocol programming mode (concentration or volume) has been removed.• Each fluid can be dispensed by concentration or by volume. Stock concentration is optional for fluids dispensed by volume.
<i>Additional volume</i>	<ul style="list-style-type: none">• Assay volume has been renamed to Additional volume. Additional plate volume can be zero (0).
<i>Concentration calculation</i>	<ul style="list-style-type: none">• Total well volume – Additional volume plus volume dispensed by the Digital Dispenser – is used to calculate the dispense volume required to achieve the specified fluid concentration. This calculation is iterative.
<i>Total volume normalization</i>	<ul style="list-style-type: none">• The total volume in a well can be normalized, in addition to normalizing specific fluid classes.

Version 3.1.3

Miscellaneous bug fixes.

Version 3.1.2

Bug Fixes

- Fixed bug where maximized window would crop a portion of the title bar.

Versions 3.1.1 and 3.0.3

Bug Fixes

- Fixed bug where titration popup (also set concentration/volume, targeted titration) would fail to display when application was maximized on certain displays.

Version 3.1.0

Support for branded software. Miscellaneous bug fixes.

Version 3.0.2

Driver digital signature fix.

Version 3.0.1

Miscellaneous bug fixes.

Version 3.0.0

Support for aqueous dispensing has been added.

Feature	Aqueous dispense notes
<i>Cassettes</i>	<ul style="list-style-type: none">• Aqueous cassettes are required for any protocol run which includes aqueous dispensing.• Aqueous cassettes can be used for DMSO dispensing.
<i>Normalization</i>	<ul style="list-style-type: none">• Normalization includes aqueous normalization; separate for each fluid class.• Cannot normalize with biomolecules (e.g. BSA).
<i>Limits</i>	<ul style="list-style-type: none">• Aqueous protocol run is limited to 1536 wells or 4 plates due to evaporation effects.• Aqueous dispense limit (default is 5%) is independent of DMSO limit.

Enzyme Profile

- New feature to simplify enzyme studies, similar to Synergy and Quick Plate.

Other changes include:

Feature	New with 3.0.0
<i>User interface</i>	<ul style="list-style-type: none">• Option to minimize fluid region, providing more plate edit space.• Plate information is shown above each plate.• Plate row and column selection are supported.• Wells can be locked to prevent modification.
<i>Expanded and modified features</i>	<ul style="list-style-type: none">• Quick Plate has a cleaner, graphical layout selection.• Synergy supports Set Concentration/Volume for fluids.• Paste Special allows row/column transposition.• Plate randomization map can be copied and pasted into another protocol.• Related fluids: extended/shifted fluids are tied to the original fluid.• Multiple plates can be selected to Clear or Remove.• Installer sets a default association of protocol files to the application; protocols can be opened in a running application from Windows file view.
<i>Protocol run and reports</i>	<ul style="list-style-type: none">• During run, both plate and cassette can be acknowledged as loaded; verification occurs sequentially.• When Skipping a dispensehead or on protocol Abort, user can choose to mark dispenseheads as Used.• Option to validate plate ID (entered and compared for each plate).• Option to enter a cassette ID which is written to reports.

Version 2.3.3

Bug Fixes

- Fixed bug where normalization is temporarily calculated incorrectly for new shift/extend fluids created in Quick Plate or Synergy.

Version 2.3.2

Bug Fixes

- Fixed bug where very large normalization fluid volume would be planned for a T8 dispensehead when D4 and T8 cassettes were used under specific conditions.

Version 2.3.1

Miscellaneous bug fixes.

Version 2.3.0

Changes or Improvements

- When suggesting a fluid shift or extension, an existing fluid with the same source fluid and dilution factor will be re-used.
- Multiple plates can be selected for removal.
- Dispense increment has been adjusted to improve dispensing performance with hydrated DMSO. For dispense volumes between 17pL and 3.5nL, the dispense increment is now 20pL. Previously, the dispense increment in this volume range was either 13pL or 20pL. The minimum drop volume remains 13pL.

New Features

- A*B A*C A*D style of Synergy has been added.
- Quick Plate and Synergy have the option of normalizing and/or randomizing all wells.
- Cassette ID (optional) is requested during protocol run and written to reports.

Version 2.2.2

Bug Fixes

- Fixed fluid extension bug where DMSO limit could be exceeded under specific circumstances.
- Don't Shake for a plate was causing the plate to shake during dispense.

Version 2.2.1

Miscellaneous bug fixes.

Version 2.2.0

Bug Fixes

- D4 cassette dispense has been adjusted to avoid running out of fluid with wet DMSO.
- Copy Randomization to plates of different size is not allowed (and will not cause an error).
- Miscellaneous bug fixes.

Changes or Improvements

- Multiple fluids can be selected in the fluids list for deletion.

- Normalization is now included in cut/copy/paste. This is not the case when using the Clipboard with other applications (e.g. Excel).
- Individual plates can be selected as “don’t dispense” for protocol runs (temporary setting).
- Individual plates can be set for “no shake” even when shaking is set for the protocol.
- Optional “remove plate lid” reminder.
- “Include zero” option is available for both logarithmic and linear titrations in Synergy.
- Normalization can be added to a plate being viewed randomized as long as all randomized wells are included in the selection.
- Run notes (written to report) can be entered at the beginning of a protocol Run.
- DMSO% available as reporting option.

New Features

- Support for 1536 well plates.
- Three or more fluids can now be planned into a Synergy experiment.
- Mass/volume concentration units are supported (in addition to molarity units).
- Cassette check added to verify what dispenseheads are available without starting a protocol Run.
- Device identifier can be written to a device, and will included in all reports run on that device.
- New simulation mode will always run protocols as simulations even if device is connected.
- Excel spreadsheets included to assist matching plate reader data to a randomized protocol.

Version 2.1.0

Bug Fixes

- Regionalization fixes, including disallowing the thousands separator to avoid confusion in user input.
- Miscellaneous bug fixes.

Changes or Improvements

- Modified ability to load plates and cassettes simultaneously. The order of operation is still flexible, but the user cannot load plates and cassettes at the same.
- Low-density plates (48 wells or less) use lower acceleration to avoid fluid sloshing.
- When a low-density plate (48 wells or less) is created, “Shake during dispense” is enabled.

New Features

- Support for high-volume D4 dispensehead cassettes used for normalization.
- Fluid shift and extend. If a titration would result in wells below the minimum dispense volume, a diluted fluid is suggested to accomplish the titration by shifting or extending.

Version 2.0.1

Miscellaneous bug fixes.

Version 2.0.0

Beta release only.

Feature	New with 2.0.0
<i>Multiplate Set-Up</i>	<ul style="list-style-type: none">• Unlimited plates per protocol• One click plate replication• Copy randomization patterns• Mixed plate types per protocol
<i>Synergy Set-Up</i>	<ul style="list-style-type: none">• Titrate two drugs together directly within UI• Auto inclusion of single drug titrations
<i>Targeted Titration</i>	<ul style="list-style-type: none">• Much simpler to design targeted titrations directly in UI
<i>Cut and paste well info</i>	<ul style="list-style-type: none">• Directly cut and paste fluid concentrations from the UI to Excel
<i>Reporting</i>	<ul style="list-style-type: none">• Save time: seconds• Excel compatible xml, generic xml and csv
<i>Viewing</i>	<ul style="list-style-type: none">• View many plates in UI• Zoom into wells within plates• Check boxes to view randomize or normalize
<i>Run Process</i>	<ul style="list-style-type: none">• Flexible order for loading plates, cassettes and fluids• Shaking specified in protocol or at run time
<i>Normalization</i>	<ul style="list-style-type: none">• Can specify to any normalization volume• Auto creates normalization fluid• Normalization automatically updates when wells change
<i>Randomization</i>	<ul style="list-style-type: none">• Underlying titration layout retained after randomization
<i>Quick Plate</i>	<ul style="list-style-type: none">• Easy multi-plate and multifluid set-up direct in UI
<i>Concentration Units</i>	<ul style="list-style-type: none">• All previous options plus LogM available
<i>Dilution Options</i>	<ul style="list-style-type: none">• All previous options plus 1:N enables any dilution series

Feature	New with 2.0.0
<i>Dispense Order</i>	<ul style="list-style-type: none"> Modified dispense order to follow “snake” pattern (left-to-right, then right-to-left) to increase plate throughput

Version 1.11

Bug Fixes

- Firmware and software modifications to correct intermittent issue of D300 pausing indefinitely after dispensing from a dispensehead. The pause occurs with the wellplate in the dispensing position and the pogo mechanism still engaged with the cassette.

Version 1.10

Beta release only.

Version 1.09

Bug Fixes

- Corrected issues of incorrect fluids and/or concentrations being applied to wellplate wells when changing the fluid concentration in the fluids list in a multiplate protocol.

Version 1.08

Bug Fixes

- Corrected issue with wellplate A1 alignment auto-adjust that was present in SW 1.06. Lower density wellplates' A1 positions now correctly follow the 384 wellplate A1 position if it is adjusted by the customer.

Version 1.07

Beta release only. Miscellaneous bug fixes.

Version 1.06

Bug Fixes

- Changing fluid colors in certain situations should no longer cause a SW crash
- Loading certain invalid protocols should no longer cause a SW crash

Changes or Improvements

- Destination plate now passes under ionizer bar twice before dispensing starts
- Updated FW to reduce the possibility of certain errors related to stage motion while shaking
- Updated FW to reduce the possibility of certain errors related to bent or broken pogo pins
- Updated FW to improve the dispensing performance across the volume range
- In the Tabulated Results tab of the Report File, the Fluid column now shows the fluid name if the only other fluid in the well is the normalization fluid
- Expanded compatible wellplate thickness to be: 11 -21mm

New Features

- Added 3 new default plates types – 12, 24, and 48 wellplates are now available through the drop down menu

Version 1.05

Bug Fixes

- Adjusted window sizing and positions to correct for issues on Japanese language PCs
- Corrected D300 response to condition of no wellplate installed
- Made some adjustments to report saving function to eliminate errors or warn users of errors
 - A non-writeable folder cannot be selected to save into
 - If the previously-defined folder does not exist at save time, the user is warned
 - If there is a problem writing the Excel file, a warning is displayed; for reports, it is suggested to manually save the report (allowing a new location to be selected)
- Undo function was corrected to work for all plates

Changes or Improvements

- Changed the name of “configuration” to “protocol”
- Folders created by the installer will change – folder previously called “configs” will not be created, and folder called “protocols” will be created
- Changed the name of “jitter” to “shaking”
- In operating manual, modified input voltages to cover a wider range of input voltages (for use in Asia)
 - For CV079A, input voltage is now listed as 100-120V
 - For CV080A, input voltage is not listed as 220-240V
- In operating manual, added instructions for how to install/update D300 SW
- In operating manual, updated recommended pipetting method to recommend users contact the fluid cup with the pipette tip

New Features

- Added a normalization fluid to normalization mode dispensing

- A single fluid per protocol may be designated the Normalization Fluid.
- The dispense range for dispenseheads using the Normalization Fluid is 1nL to 20µL. Max dispense volume for all other fluids remains at 10uL.
- The Normalization Fluid will only be available in the Normalize function and will not appear as an editable fluid for other functions.
- Old protocols can be used in the new SW revision. New protocols can also be used with the old software (normalization fluid treated like the other fluids), but if the protocol is saved, normalization information is lost.

Version 1.04

Bug Fixes

- Microcontroller bug fixed the issue leading to the “no cassette detected or no useable dispenseheads” error.
- Upon new SW installation or update, the 96 wellplate A1 position will be linked, through an offset, to the specific instrument’s 384 wellplate A1 setting. This will happen automatically when 1.04 software is first run with a new instrument, so the use of 1.04 software is mandatory for every new installation or else the 96 wellplate position may be incorrect.

Changes or Improvements

- Maximum dispense volume per compound increased to 10uL without effecting CV.
- Linked the default 96 wellplate A1 position to the default 384 wellplate A1 position with an offset. Realignment of the 384 wellplate will cause the 96 wellplate A1 location to be adjusted automatically.
- Removed the ability to open a report in the report viewer (reports can still be saved and opened in MS Excel and reports can still be viewed after each run).

New Features

- Added multiplate functionality to enable using up to five well plates in a single run. Replicate plates can now be run using a single dispensehead for each compound.
- Old configurations may be opened in version 1.04, but configurations created in 1.04 cannot be used with previous versions of the software.
- In the load plate prompt box, the multiple plates are labeled by plate number and by the user-entered plate IDs
- Report file structure has some adjustments due to multiplate capabilities
 - The Tabulated Results sheet has 2 new columns, plate ID and plate #, which results in a different data column order than previous
 - Report file worksheet names are amended to include plate number, and order is adjusted so that all three worksheets pertaining to plate 1 are together first (1 Dispensed Conc, 1 Dispensed Volume, 1 Dispense Start Time), then the sheets with information for each subsequent plate are provided in similar fashion
 - Reports take longer to save with multiplate configurations
- Added a “New Configuration” option to the file menu to clear the plate and the fluids lists.

- For off-line mode (when a D300 Digital Dispenser is not connected to the computer running the software), added a simulation speed option under *Setup>Options>General>Offline Mode>Simulation Speed*, to enable simulated runs to take different amounts of time.
- Added a maximum load volume required indicator on the Fluid Load Dialog Box. This can be used to set a multi-channel pipettor or to set a single channel pipettor once for all the fluids in the current cassette.

Version 1.03

Bug Fixes

- Fixed bug in Wizard where number of dispenseheads calculation was not updating properly
- Fixed bug in Wizard where fluid extension not used if two or more points did not exceed limit

Changes or Improvements

- Reduced device power-up time from 45 sec to 2 sec
- Modified the dispense head start-up to improve low volume CVs
- Replaced the word “sequence” with “titration” throughout software
- Set titration command moved above set conc/set vol command in Edit, Well Plate menu
- Changed default report folder to <wherever hpdd.exe is>\Reports
- Changed default report name to start with “HP-D300” instead of “HPDD”
- Wizard changes:
 - “Linear” and “Log” drop-down boxes no longer have arrows
 - Titrations are now auto fill defaults for both min/max instead of min only
 - Removed Y axis label in graphs
 - Log/Linear label in graph is now a button

New Features

- Fluids in the Paste Special menu now auto-increment to the next available fluid
- HP D300 Digital Dispenser Software Revision History document added to the SW installer and the installation directory. This document summarizes SW changes to date.

Version 1.02

Bug Fixes

- Fixed bug where Excel operations (config/report save/load) could not execute on PCs configured for non-English; culture is now hard-coded to English number format and language

Version 1.01

Bug Fixes

- Fixed bug where the instrument would not work when plugged into a USB 3.0 port
- Fixed bug where, if the firing system controller is unpowered or not plugged into the motherboard, the startup updater would still prompt to update its firmware
- Fixed bug where, if the startup updater fails in the middle of updating the ROM, the ROM could subsequently not be flagged as still needing an update
- Fixed bug where, if the firing system microcontroller is blank, the startup FW updater would sometimes fail, requiring a SW restart to complete the programming
- Fixed bug where stalling the stage in a certain way would not trigger a stall error
- Fixed bug where, in the report, data from splits would get overwritten by the latest entry:
 - Dispensed volumes/concentrations now show total values
 - Start Time now shows the first value
- Fixed bug where, if the plate is tilted toward the user, the failure would show “plate too thick” error instead of “tilted plate”
- Fixed bug where clicking Abort at just the right time during dispense would cause a “crash”, along with incomplete report data
- Fixed bug where canceling and then resuming at the fluid load prompt could cause the SW to hardcrash
- Fixed bug where clicking Abort would always abort, regardless of what was chosen in the retry prompt; clicking Abort now suspends the dispense operation and shows a confirmation prompt: OK aborts, Cancel resumes
- Fixed bug where offline reports did not always match online report volumes and concentrations

Changes or Improvements

- Changed well mouseover tooltip to show either a) desired volumes, b) dispensed volumes, or c) both; set this option in *Setup>Options>General*
- During GO, a plate spacing check failure, followed by retry, now always causes the stage to rehome
- Dispense is now suspended when canceling at the fluid load prompt and user is asked if they want to terminate the filling operation or not: yes terminates filling, no returns to dispensing where it left off
- Changed report to always show actual dispense volumes
- Changed messages during GO to conform to user terminology
- Power-up “cylon” on pogo board now ends with all LEDs on, followed by all LEDs off

New Features

- Added ability to set jitter threshold volume (*Setup>Options*); well volumes must be at least this value for jitter to occur for that well.

Dispensing Software Revision History

Revision AL