SmartSoft-VersaProbe Software Release Notes

Release 3.4.3 – June, 2024 (Win10\Win11: 64-Bit)

OVERVIEW

Genesis Improvements, Clear Queue, Bug Fixes.

NEW FEATURES

Configuration

1. Change default System Type to 'None' to force first installs to select a system type causing other parameters to get set to proper defaults
2. Support more devices baud rates in ConfigManager Properties.phi

UI

3. Menu Bar>Tools>Outgas Conditioning…: Improve Analyzer Outgas
4. Menu Bar>Tools>Acquisition Data Tuning…: Improve Acquisition Data Tuning
5. Menu Bar>Tools>Hardware Utilities>Hardware Manager: Change MOD970 UV Shutter, AR Shutter, and Motor Power Voltage parameters to service level
6. Header Bar: Shorten "AES LaB6" to "AES"
7. Queue: Improve 'Clear Queue' functionality to be more intuitive interacting with Queue-1 setting
8. Queue: Add validation of Settings being loaded by queue Load Settings tasks
9. Ribbon/Dashboard>Queue: Display Queue Setting loaded in Queue
10. Dialog Audible 'Beeps': Restore audible notifications to dialogs such as queue task prompts so that audible notifications occur during processes such as sample transfers

System

11. Startup/Shutdown: Retract AR Shutter on startup and shutdown if software controlled
12. Vacuum: Add dialog prompt before launching service level vacuum tasks

Sample

13. Stage>Hot Cold Stage> Properties…: Add "Max Heater Current (A)" control for 20-311B controllers
14. Stage>Properties…: Add Z-Height Correction control which enables a Z correction to Y movements during SXI point and click movements
15. Sample Manager: Add 80 mm Transfer platen type for Genesis configurations
16. Position List>Position: Add current positions and support driving stage using U, V, Z, R, T
17. Position List>Alignment: There are now 8 renamable sets of alignment pins to use. Numbered prefix has changed from a dash to an underscore. Will be backwards compatible with dashes, and will change to underscores when renamed

XPS

18. Mosaic: Add check for SmartMosaic path at start of Mosaic queue

AES

19. Acq Setup: Improve error reporting if selected SEM Setting was deleted and/or missing
20. SEM: Clean up SEM errors on startup

Hardware

21. Update the communication support for serial and ethernet hardware devices to make them more robust

22. GCIB: Add validation for GCIB Iso valve

BUG FIXES

1. Menu Bar>Tools>Hardware Utilities>Hardware Manager: When card rack enable executed on non 20-377 analyzer configurations, do not re-enable SEE logging for SCA Analyzer to prevent data shifts that could occur
2. UI: Improve Z ordering of windows to fix issues caused by hidden prompt dialogs locking up the UI
3. SEE: Add missing sample current readbacks to SEE data
4. Header Bar: Fix flashing occurring at startup
5. System>Vacuum: Fix some vacuum tasks executing “Backfill Intro” instead of their own tasks starting in V3.4.2. “CloseDiffVlv” and “TransferVessel” vacuum tasks
6. System>Intro: Do not return stage to clear position and square platen on stage if platen transfer destination is not Stage
7. System>Intro>Application Log (Platen): Fix Platen application log being empty
8. Sample>Sample Manager: Fix problem with 80 mm platen size being limited to 25 mm (Genesis)
9. Sample>Stage>Properties…>Rotation: On Versaprobe stages reverse directions of center of rotation offsets
10. Sample>Stage>Diagnostics: Fix Park C Platen Status not showing up as Read-Only
11. Sample>Stage>Diagnostics>Stage Exercise: Fix Stage exercising failing during transfer platen (Genesis)
12. XPS>Data Acquisitions: Fix Invalid Parameter error when attempting to run more than single More Acquisition
13. Hardware>GCIB: Fix problem that after card rack reset GCIB is not setting raster size and offset until SmartSoft is restarted
14. Hardware>Tungsten E-Gun: Add software support to handle firmware returning unexpected values for reading filament on time
15. Hardware>Ion Gun: Fix issue where I-Neut settings were getting set to zero emission current

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties.
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved.
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.4.2 – April, 2024 (Win10\Win11: 64-Bit)

OVERVIEW

Single shared Intro TMP support, Bug Fixes.

NEW FEATURES

Configuration

1. Add support for Single and Dual TMP intro pumping

UI

2. Enable maximize button for sizable views throughout the UI
3. Status Line: Make Arm Ext and Arm Rot position changes more apparent (also stage application log)

System

4. System>Chamber Camera: Disable chamber light controls for VersaProbe configuration
5. System>Vacuum: For vacuum operations involving Genesis systems and single shared intro TMP, turn off Ion Gun and UPS before Intro vacuum operations

Sample

6. Sample>Z-Align: Improvements: Start/Stop button to plot and log views, Refresh button to log, Copy/Print functionality

BUG FIXES

1. System: Fix issue where even if user had done a 'Save All' or had periodic save on, a SmartSoft crash and restart would still appear to lose some settings such as position list
2. Sample>Stage: Fix closing the initialize stage dialog using 'X' button, will act as if selecting 'No'
3. XPS>Data Display: Fix spectral data viewer not updating when starting Profile Acq when window size is small
4. Hardware>Ion Gun: Fix "Neut Emission" in data file headers always recording zero emission
5. Hardware>E-Neut: Fix 2nd E-Neut not switching emission control mode correctly
6. Hardware>UPS: Fix support of Omicron manual UPS configuration not able to run acquisitions

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties.
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved.
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.4.1 – March, 2024 (Win10\Win11: 64-Bit)

OVERVIEW

Save Alignment Pinning (And add 4th set), Mosaic ZRT, REELS Queue Support, 80 mm Handling, Bug Fixes.

NEW FEATURES

UI

1. Main Menu>View: Add Reset Layout menu option
2. Header Bar: Add support for GCIB and UPS busy status (hourglass)
3. Header Bar: Restore Stop support for Sample Handling, with warning confirmation
4. Queue: Show confirmation dialog when running STARTUP or SHUTDOWN queues

System

5. System>Intro: For Genesis, add Slow Pump Intro context menu in Intro station
6. System>Aux Intro Photo: Add support to take intro photo from Aux station
7. System>Sample Extract: With VersaProbe configuration with Hot/Cold Stage, Rotation Limit Switch, Pneumatic Cold Probe, check Intro Rod Inserted sensor status to make sure cold probe is retracted before sample extraction

Sample

8. Sample>Platen Image View: Show rotation limits box instead of zalar range circle for 40 mm platen types with Genesis configuration
9. Sample>Sample Manager>Platen Type: Add '40 mm Transfer' type for 40 mm Transfer Vessel
10. Sample>Position List>Alignment: Add 4th set of Alignment Pins
11. Sample>Position List: With 80 mm platen, set R based on U V value

XPS

12. XPS>Data Viewer>Map: Add copy button back to toolbar for copying images to the clipboard with spatial area definitions
13. XPS>Profile>Angle Profile: Update Tilt range in Angle Table to reflect range of tilt platens with Genesis systems
14. XPS>Mosaic: Add support for saving Z R T position with Mosaic areas
15. XPS>Mosaic: Add application log for Mosaic
16. XPS>Acq Setup>Periodic Table: Add Vb1, Vb2, WF1 custom UPS regions

AES

17. AES>Data Viewer>Map: Add copy button back to toolbar for copying images to the clipboard with spatial area definitions
18. AES>Profile Data: Remove 'Show All' spectra option to match XPS options, only show latest

Options

19. Options>REELS: Added Open Queue, Add to Queue, and Clear Queue support to REELs acq setup view

Hardware

20. Hardware>Analyzer>Diagnostics: Add reinitialize button in analyzer diagnostics for the ethernet/usb controller
21. Hardware>Analyzer: Various updates to Analyzer Outgas parameters

22. Hardware>E-Neut: Increase max wait time for tolerance to 600 seconds from 120 seconds
23. Hardware>GCIB: Prompt user to open iso valve, if closed, when switching gun to on
24. Hardware>UPS: Add He gas pressure regulation before UV Ignition
25. Hardware>X-Ray>Properties>Scan Pattern: Add Tilt Corrections (Stretch, Shear) to replace Skew Corrections
26. Hardware>X-Ray>Diagnostics: Add readings for HP Deflection Watchdog values (watchdog mode, watchdog expired, egun disabled) to diagnostics

BUG FIXES

1. System>Sample Transfer: Check for arm extension before closing Intro Valve V1
2. System>Sample Transfer: Fixed 'Outside Request Refused' vacuum error when transfer from Stage to Intro
3. Sample>Platen Image View: Fix FOV doghouse management with Genesis navigation
4. Sample>Position List>Point Generation: Keep point generated R values within range of stage travel for configured stage
5. Sample>Stage>Comp R: Fix CompR button loses communication with stage control, problem with 80mm and tilt platens (Genesis)
6. Sample>Stage>Zalar: Fix attempting to run zalar outside rotation limits causing stage control lockup and needing SS restart
7. Sample>Stage: Genesis with 80 mm platen, move XY to zero before rotating
8. XPS>Queue: Fix AUTO PIN setting being editable when it should be a reserved setting
9. XPS>Queue: Check UPS On during queue validation, don't block queue with warning dialog
10. XPS>Acq Setup: Fix load of Cr data file capping region table range values to 3200 eV
11. XPS>Z-Align in Queue: Skip to next position in position list if Z-Align fails during queue
12. XPS>Z-Align: Display notification if HP Z-Align fails due to no HP X-Ray Setting set for Z-Align
13. XPS/AES>Data Files: Clean up plot and lab book, but don't delete intermediate data files on acquisition error
14. AES>Profile: Fix Ole error when removing regions from AES Profile More acquisition setup
15. AES>Profile: Fix GCIB setting in sputter table changing to PREVIOUS setting when acq runs
16. AES>SEM: Add back Auto Video dialog to offer user choice of Retry or Stop on failure
17. Options>LEIPS: Keep intermediate data files on LEIPS error, also don't pause queue
18. Hardware>Analyzer>Properties>Retard: Allow negative values to be entered into UPS Acquired Peak 2
19. Hardware>E-Neut: Improve handling of E-Neut Out of Tolerance errors, based on Source Tolerance Required enabled
20. Hardware>UPS: Fix UV shutter handling when configured with pneumatic UV shutter
21. Hardware>X-Ray: Fix Beam Park Scan Pattern using skew corrections
22. Hardware>X-Ray: Fix mode changes in UI not updating during X-Ray Reinitialize
23. Hardware>Tuning: When tuning reserved settings, skip 'Initial', 'Zero', 'Default', and 'Previous' settings

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties.
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved.

3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.4.0 – December, 2023 (Win10\Win11: 64-Bit)

OVERVIEW

Genesis, Easy UI Navigator, Header Bar, Intro Photo Pinning Improvement, Outgas, Auto Tuning, Weekly Settings Backup, E-Neut Filaments, Bake Control, Startup/Shutdown Process, LEIPS Improvement, UPS Improvement, GCIB Cluster Size, RSF Based Sweeps, HXPS Prescan, Bug Fixes.

NEW FEATURES

Configuration

1. Add Genesis and Genesis w/ AES system types
2. Add S3 Option
3. Add Dual Source Ion Gun and GCIB
4. Add FXS Shutter
5. Add AR Shutter
6. Add UPS UV Shutter
7. Add SPS Support
8. Add X-Ray Crystal Heaters Support
9. Add Dual E-Neut support for LEIPS and filament types
10. Add GCIB Quad Steering
11. Add Sample Parking
12. Add 20-377 Analyzer
13. Support 20-376A on VP II systems
14. Support Bias Box 80A vs 80B
15. Ask user and reset default COM port numbers if system type changed

Utilities

1. CommChecker: Rework CommChecker in SS bin directory to fix functionality
2. SS Installation sets up weekly backups of SS Settings in Task Scheduler, backs up settings to ‘SettingsBackup’ folder

UI

1. Simple UI Navigator: Add Simple UI Navigator
2. Header Bar: Support system information, status, control through new Header Bar
3. Status Bar: Information reduced with addition of Header Bar
4. Ribbon/Dashboard>Sputter Tool: Add Sputter Setting
5. Multiple UI changes supported for Genesis systems (Bird’s Eye View etc…)
6. Support more configurable UI experience (pin tabs, SXI vertical slider)
7. Settings supports marking/unmarking Favorites
8. Gun Status colors updated (On=Green, Blank/Standby=Yellow, Off=White)
9. Menu Bar>Tools>Hardware Utilities>Test Hardware…: Add support for Mod 970 controls when configured
10. Menu Bar>Tools>Acquisition Data Tuning…: Add new support
11. Menu Bar>Tools>Outgas Conditioning…: Add new support
12. Application Log refactored, error handling support
13. Diagnostics: Allow basic User level to access Daignostics views, but not able to access controls that are service only related

System

14. System>Vacuum: New SmartPumping support for Genesis systems

15. System>Chamber Camera>Chamber Camera Image: Add chamber camera light and dimming control

Sample

16. Sample>Sample Manager: Add new platen types supported for Genesis systems
17. Sample>Platen Image View: Implement auto alignment pinning routine to simplify process
18. Sample>Stage: Support new Stage for Genesis systems (See Stage Properties)
19. Sample>Stage>Diagnostics: Add support to disable motors after move
20. Sample>Stage>Diagnostics: Update Stage Exercise routine (more like SS-XPS routine)
21. Sample>Z-Align: Scan area size used by Imaging Z-Aligns is now defined here
22. Sample>Z-Align: Remove AES Z-Align option for Genesis systems
23. Sample>Sample Manager>Lab Book>Properties…>Directory: Restore Auto Directory feature

XPS

24. XPS>Acq Setup: Add RSF button to set region sweeps based on region RSF values
25. XPS>Acq Setup>Region: Add HXPS Prescan option, which reduces noise in HXPS data when scanning large eV ranges
26. XPS>Acq Setup>Periodic Table: Update Periodic Table (remove H, He, configurable behaviors…)
27. XPS>Refresh: Add mode to display counts with background subtraction, FWHM display
28. XPS>XPS Setup…: Move narrow acceptance to Acq Setup for consistency
29. XPS>XPS Setup…: Disable Acceptance Angle controls if configuration does not support
30. XPS>SXI: Add Grab cursor to SXI Imaging, now the default cursor mode
31. XPS>SXI: Add Show/Hide support for cursor toolbar
32. XPS>Spectrum: Save data after each cycle

AES

33. AES>Acq Setup>Periodic Table: Update Periodic Table (remove H, He, configurable behaviors…)
34. AES>Spectrum: Save data after each cycle

Options

35. LEIPS: Queue support
36. LEIPS: Save out data after each cycle

Hardware

37. Hardware>Analyzer: Add support for Fine Focus and Rotator for 20-377 Analyzer
38. Hardware>Tuning: Add tuning support for E-Neut, Ion Gun, GCIB, C60
39. Hardware>Dual Source Ion Gun: Support DSIG for Genesis systems
40. Hardware>E-Neut: Support different filament types
41. Hardware>GCIB: Support GCB Nozzle Heater
42. Hardware>GCIB: Support GCIB Quad Steering
43. Hardware>GCIB: Add GCIB Cluster Size Measurement button
44. Hardware>GCIB: Add emission current readback to main view like other guns
45. Hardware>UPS: Support regulating target pressure using gas regulation %
46. Hardware>UPS: Support automation of UV shutter
47. Hardware>X-Ray: Beam Size and Beam Power refactored, support continuous beam size and beam power for tuning
48. Hardware>X-Ray: Beam Power now has unique scan X/Y offsets used instead of X-Ray settings X/Y offsets during Beam Power operations
49. Hardware>X-Ray>Diagnostics: Add support for 11-426 DENKA LaB6 filament
50. Hardware>C60: Remove old C60 Auto Startup after new Outgas support

BUG FIXES

24. System>Vacuum: Fix Pumpdown Intro finishing early
25. System>Intro Photo: Dither out Take Intro Photo when no Intro Camera configured
26. System>Intro Photo: Fix issue where GigE Camera fails to take intro photo due to trying to set light status
27. Sample>Stage>Diagnostics: Fix Set Motor Position not working
28. Sample>Position List>Point Generation: Fix support for stages with rotation range -180.0 – 180.0
29. XPS>Mosaic: Multiple bug fixes
30. XPS>Line/Map: Fix starting acquisitions not starting, error about HP setting even though selected X-Ray setting not HP
31. XPS>Test Acquire/Refresh: Fix crashing, Fix restart, Fix button staying pressed after acquisition fails
32. XPS>SXI>SXI Image: Fix clicking on gray area of SXI Image Viewer enabling positions in position list, related to SXI Images disabled in position list
33. XPS/AES Acquisitions: Shorten timeouts for abort acquisitions which was 5 mins to 1 min so users don't think SS is locked up
34. AES>Acq Setup: Fix how Acquire/Start button status is updated, sometimes buttons would still be pressed after errors
35. Hardware: Notify users of USB disconnect events of PHI devices
36. Hardware>Ion Gun: Fix Filament usage not updating
37. Hardware>E-Neut: Change min pulse frequency to 2 to avoid Data Acq errors with SXI
38. Hardware>E-Neut: Fix bug where extractor/deflection stuck at -50V switching auto emission mode while gun is On
39. Hardware>X-Ray: Do not allow X-Ray mode to be changed while SEM running
40. Hardware>X-Ray: Remove skew correction from Beam Size Scan Patterns
41. Hardware>X-Ray>Properties…>Service: Add Crystal Heater Temp controls
42. Hardware>UPS: Fix bug where mode radio buttons would maintain focus causing errors about mode changes
43. Aux Platen Transfer: Fix bug where unable to transfer Prep to Stage, waiting for V110 Open task
44. Data File Header: Restore filling in Solid Angle, update for VP-4/Genesis
45. Data File Header: Fix Presputter Yes/No not always being correct, implemented new way to keep track of acquisition position being sputtered as presputter now handled through queue sputter tool task

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties.
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved.
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

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Release 3.3.3 – February, 2023 (Win10: 64-Bit)

OVERVIEW

Feature enhancement build for User Displayed System Type control.

NEW FEATURES

Configuration

1. Expand configuration properties ‘SystemEx’ support, including Splash Screen picture.

BUG FIXES

1.

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties. (V3.3.0 feature change)
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved. (V3.3.0 feature change)
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.3.2 – October, 2022 (Win10: 64-Bit)

OVERVIEW

Bug fixes for Intro Pumpdown and Transfer from Aux Prep to Stage.

NEW FEATURES

1.

BUG FIXES

1. System>Intro: Fix Intro Pumpdown finishing before Intro Pressure Setpoint.
2. System>Intro: VersaPrep: Fix Transfer from Prep to Stage getting stuck on Open V110 task.

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties. (V3.3.0 feature change)
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved. (V3.3.0 feature change)
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.3.1 – March, 2022 (Win10: 64-Bit)

OVERVIEW

Add Support for Imaging Source GigE Intro Camera, Bug Fixes

NEW FEATURES

Configuration

1. Add configuration options for ‘Imaging Source’ intro camera.

BUG FIXES

1. XPS>SXI>Mosaic: Fix mosaic data file header information having incorrect position information.
2. XPS>Map>Mosaic: Fix mosaic maps appearing distorted after stitching together.

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties. (V3.3.0 feature change)
2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved. (V3.3.0 feature change)
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.3.0 – October, 2021 (Win10: 64-Bit)

OVERVIEW

VersaProbe 4, Mosaic Image, Dynamic Correction Factors, Continuous Z-Align, Improved E-Neut, Bug Fixes.

NEW FEATURES

Configuration

1. Add support for VersaProbe 4.
2. E-Neut: E-Neut Filament type can be set. Please check 'E-Neut Filament' type in System Configuration.
3. Options: Add Mosaic Map option.
4. Launch ConfigurationSetup automatically after installations complete.

SEE

1. Data Sampling: Disable data sampling of Data Acq during Beam Size and Anode Imaging acquisitions.

UI

1. Status Line: Display Queue remaining sleep time in status line.
2. Status Line: Added 'Bias' to Acquisition status line when Stage/Sample Bias (5V) is set.
3. Menu Bar>Tools>Ammeter Tool…: Clean up UI, each gun stores its own settings.
4. Menu Bar>Tools>Outgas Conditioning…: Display ramp parameters in Queue Task Summary.
5. Menu Bar>Tools>Chart Recorder…: Add GCIB PressureInKPa to be monitored.
6. Ribbon/Dashboard>Queue: Delete entire job when '-' selected from ribbon view.
7. Ribbon/Dashboard>Queue>Queue Editor: Additional file numbering support, auto increment.
8. Ribbon/Dashboard>Queue>Queue Editor: Add default 'SaveAll.csv' filename for Chart Recorder – SaveData to File task.
9. Ribbon/Dashboard>Queue>Queue Editor: Update editor when selecting or deleting a job from ribbon view.
10. Ribbon/Dashboard>Queue>Queue Editor: Improve Copy/Paste support.
11. Ribbon/Dashboard>Queue>Queue Editor: Remove obsolete 'Tasks' tab.
12. Ribbon/Dashboard>Queue>Queue Editor: Add new 'Sleep Until' task.
13. Ribbon/Dashboard>Sputter Tool: Add E-Neut during sputter support.

Sample

14. Sample>Platen Image View: Add support to move from Intro Photo>SPS>Intro Photo using GoogleBar zoom.
15. Sample>Chamber Camera: For DFK42AUC03 camera, change default video format to 'BY8 (1280x960)' and default frame rate to '25.10'.
16. Sample>Chamber Camera: Read ranges of Gamma, Hue, Saturation from the camera.
17. Sample>Z-Align>Properties: Add 'Stage Movement' mode. 'Step' is original mode. 'Continuous' keeps the stage moving while acquisitions are running (XPS Z-Align only).

XPS

18. XPS>Acq Setup: Add combined 'Add Queue' and '…' buttons to all acq setup menus.
19. XPS>SXI>Mosaic: Add Mosaic option SXI support
20. XPS>Map>Mosaic: Add Mosaic option Map support
21. XPS>Data Manager: Support Add To Position List for .sps, .pho, .sem, .sxi, .map files. Only supports maps acquired from position list (not from AES SEM Image View).

AES

22. AES>Acq Setup: Add combined ‘Add Queue’ and ‘…’ buttons to all acq setup menus.
23. AES>Acq Setup: Single ‘Spe’ acquire button to acquire using position list. Right-click context menu option for acquire using Area Define area(s).
24. AES>Acq Setup>Area Define: Add acq ‘Start’, ‘More’, and ‘Queue’ buttons to Area Define and Line Define views.
25. AES>Acq Setup: Support E-Neut for AES acquisitions. SEM IR will blank E-Neut.
26. AES>Acq Setup>Beam Current: Beam Current Threshold check will be skipped if acquisition is using E-Neut. E-Neut causes threshold check to fail.
27. AES>SEM>Mosaic: Add Mosaic option SEM support
28. AES>Data File Header: Restore E-Neut Active and E-Neut Parameters to AES data file headers.
29. AES>Data Manager: Support Add To Position List for .sps, .pho, .sem, .sxi, .map files. Only supports maps acquired from position list (not from AES SEM Image View).

Options

30. LEIPS: Add ‘Picoammeter Range’ for LEIPS acquisitions (RBD only).
31. LEIPS: Have LEIPS Acq Status show up in Ribbon/Dashboard.
32. LEIPS: Change PMT parameter edit to SuperUser level.
33. LEIPS: Update filter types and energies.

Hardware

34. Hardware>Bias Box: Add support for 26 degree input lens SCA, terminator relays change
35. Hardware>E-Neut: Changing modes and other operations will no longer block UI while operation executes.
36. Hardware>E-Neut: Gain, Time Per Step, and Ramp Rate are now Settings instead of Properties. Settings need to be checked and resaved with these changes.
37. Hardware>E-Neut: E-Neut has a Blank mode for status display only (not selectable mode).
38. Hardware>E-Neut>Properties: Add maximum wait time for ‘Source Tolerance Required’ parameter for adjusting maximum wait time before error occurs.
39. Hardware>GCIB>Properties: Change range of Raster Calibration X/Y from 10.0 to 50.0. 20-066 needs larger range for GCIB calibration.
40. Hardware>Xray: When X-Ray mode is set to ‘On’ force drive to currently loaded anode position.
41. Hardware>Xray: Change default Beam Parking setting to INITIAL instead of PREVIOUS.
42. Hardware>Xray>Application Log: Restore X-Ray filament and emission readings log. New application log name is ‘Xray Filament Emission Log’.
43. Hardware>Detector>Properties>Channels: Add ‘Dynamic Correction Factors’ support, rename classic single pass energy acquisition to ‘Single Point Correction Factors’.

Misc.

44. Installation: Support installing USB drivers through Custom Actions, popup dialog and log file if Custom Actions tasks fail.

BUG FIXES

1. UI: Fix issue where Custom Actions would always run on Startup.
2. Menu Bar>Tools>Outgas Conditioning…: Fix Application Log messages.
3. Menu Bar>Tools>Outgas Conditioning…: Fix Ion Gun Outgas unable to turn Ion Gun to Neutralize when Vacuum Task is running.
4. Ribbon/Dashboard>Acq Status: Fix Map Frames starting at frame ‘2’.
5. Ribbon/Dashboard>Queue: Fix bug where Dual Anode SetMode task hangs.
6. Ribbon/Dashboard>Queue: Fix bug where unable to run SXI with different X and Y FOV.
7. Ribbon/Dashboard>Queue>Queue Editor: Fix bug with Import Settings feature when task selected is the Settings for a task.
8. Ribbon/Dashboard>Vacuum: Fix display of Prep Gauge when no Prep station configured.

9. Ribbon/Dashboard>Vacuum: Cleanup alignment for captions and pressure displays.
10. Ribbon/Dashboard>Sputter Tool: Fix Stopping Zalar causing a long timeout, also fix Zalar Hitting Limit Switch not causing error and stopping zalar during sputter.
11. System>Bird's Eye View: Fix bug where if Intro and Aux stations have different camera types, taking Photo through Aux would use Intro station camera.
12. System>Prep Photo: Don't show Prep Camera when no camera configured for Prep Station.
13. System>Valve Bird's Eye View: Fix right-click set valve state not working.
14. System>System Log: Cleanup mismatch of Pass Energy and Step Size error messages.
15. Sample>Position List: Fix bug where changing default position size through main UI would not set default position sizes for positions in Queue.
16. XPS>Data Manager: Fix bug where while running multiple queue jobs on same platen, was losing lab book entries for previous jobs completed.
17. XPS>Map Acquisition: Fix Stop Failing when Map frame time is fast (ie. 0.5 or 1.0 ms time per pixel, small area).
18. XPS>Map/Line Acquisition: Fix Pixel Size calculator not using highlighted current position in position list.
19. XPS>Profile Acquisition: Fix Alternate Sputter Position depth profile causes subsequent non-althernate sputter position sputtering to fail and time out.
20. XPS>Spectrum: Fix unscanned Spectrum Acq not doing Cycle Stop when Stopping Acq.
21. AES>Acquisitions: Fix bug where aborting AES acquisition with E-Neut and image registration while image registration is running would result in an error about 'Cannot use Set Mode…'.
22. AES>Image Registration: Fix 'Position List' tab displayed in Image Registration Info View when 'IR' option key has not been enabled (required for position list IR support).
23. AES>Map>Acq Setup: Fix IR Region Interval showing up as '1' when should be 'n/a'.
24. AES>Map>Acq Setup: Fix AES Map IR not running.
25. AES>Spectrum>Fix FAT mode region table shows extra eV Step column.
26. AES>SEM>Z-Align: Fix Z-Align button always using AES Z-Align, even when 'Use XPS' option is selected.
27. AES>SEM>SEM Image: Fix Annotation Shape cursor mode not working.
28. AES>SEM>SEM Photo: Fix "Imaging Process Control busy.." error when start SmartSoft, Start SEM Imaging, then start SEM Photo. After which cannot stop SEM Imaging.
29. Options>REELS: Change region information to atomic # 111 and label to 'Sur1' so Multipak recognizes region.
30. Options>LEIPS: Fix Stop not working for LEIPS, not saving file correctly at the end of the cycle.
31. Options>LEIPS: Fix data file header not storing accumulated time per point in seconds.
32. Options>LEIPS: Fix loading LEIPS data file loading filter energy into filter type field.
33. Hardware>E-Neut: Fix bug where File Load would set E-Neut Mode.
34. Hardware>E-Neut: Improve E-Neut error handling in addition to fixing Source Tolerance Required feature.
35. Hardware>GCIB: Fix bug where Blank mode during timed sputter not blanking fast enough (wait for bend before raster Off).
36. Hardware>Xray>Diagnostics: Fix Filament Current readback displaying setpoint instead of readback from hardware.
37. Data Acquisition: Data Acq DLL attempts Abort and Mode Reset operations to address SXI Gauze Lens Not Ready errors.

KNOWN BUGS

1. USB Camera DFK42AUC03: Setting camera properties Hue, Saturation, Gamma does not work through SmartSoft when video format is BY8 (1280x960).

NOTES

1. When changing E-Neut Filament type in Configuration Setup, if this is not a first time install (EGunNeut Settings present), E-Neut Work Function and Software Limit (A) will need to be manually updated for the new filament type in E-Neut Properties.

2. With E-Neut changes making Gain, Time Per Step, and Ramp Rate Settings, need to set and resave E-Neut settings. These parameters will be default values if Settings are not changed and resaved.
3. Make sure to run ConfigurationSetup to make sure all configuration files are present for new Dynamic Correction Factors support.

Release 3.2.1 – Feb, 2021 (Win10: 64-Bit)

OVERVIEW

Add 777B Pressure Control Monitoring

NEW FEATURES

Sample

1. Sample>Stage>Initialize: Attempt to turn off X-Ray before initializing stage motors. Do not continue with initialization if X-Ray -> Off fails.

XPS

1. XPS>Spectrum Acq Setup: Remove 'Auto-Multiplex' feature which currently is not supported with new Queue Editor.

Hardware

1. GCIB/IonGun: 777B: Monitor pressure control power. Restore ON state if power OFF.
2. X-Ray: Don't allow mode change to Park or On when stage is not initialized.
3. X-Ray: Anode Motor Initializes on startup.
4. X-Ray>Properties>Service: Anode Motor will initialize before Beam Power and Beam Size when enabled (default enabled).
5. UPS: Add properties parameters for controlling stepping of Current and Gas Pressure when transitioning between source types.

BUG FIXES

1. System: Change to prevent SmartSoft from refreshing display on Windows group policy updates, causing a lot of flickering of UI.
2. Sample>Navigation: Fix bug where after Queue finishes, Platen Name would change to 'Navigate…', also changes to position list would not be made to correct setting unless platen was reloaded through Platen Manager (or loading Platen).
3. AES>REELS: Fix recent bug where Tungsten E-Gun REELS acquisitions would give error about 'no defined area'.
4. AES>SEM: Fix bug where SEM without I-Neut suspended by acquisition with I-Neut would restore SEM after acquisition, but leave I-Neut ON.
5. AES>SEM: Fix bug where SEM Photo while SEM Imaging is running could result in unable to start the SEM Photo due to "Imaging Process Control is busy" error.
6. XPS>UPS and FXS Acquisitions: With Queue editor fix a bug where FXS region values were clipped by UPS limits.
7. XPS>XPS Setup…>Region: Fix bug where default step size values would disappear from combo box selections if another step size was selected.
8. Hardware>E-Neut: Improve error handling when Source Tolerance is not reached. Mode will change to Standby on error. More information logged in application log.
9. Hardware>E-Neut: Fix problem where E-Neut Source Out of Tolerance error would result in E-Neut being left on after acquisitions.
10. Hardware>Ar Gas Pressure Control: Fix reading of gas control power status being reversed.
11. Hardware>Tungsten E-Gun: Fix bug where loading setting with emission control mode different from current mode would not set emission or filament correctly.

Release 3.2.0 – September, 2019 (Win10: 64-Bit)

OVERVIEW

Improved Queue, Ribbon/Dashboard, Bug Fixes.

NEW FEATURES

SEE

1. The System Evaluation Environment (SEE) is a new service utility built into the SmartSoft software which periodically records all system parameters while SmartSoft is running. Notes: By default this utility is not activated; and Proprietary analytical data is never collected with SEE.
2. Menu Bar>Hardware>System Configuration>System…>SEE: SEE data collection can be fully activated or deactivated in the configuration menu.
3. Menu Bar>Hardware>System Log Setup>Data Sampling: SEE data collection can be partially activated or deactivated for individual hardware devices by selecting Data Sampling. Note that Data Sampling for individual devices is only valid when SEE data collection is activated in the System Configuration.

UI

4. Ribbon/Dashboard: Queue Status: Display Status and Stop/Abort of running Queue.
5. Ribbon/Dashboard: Acq Status: Display Status and Stop/Abort of running Acquisition.
6. Ribbon/Dashboard: Queue: Overview and basic control of Queue. Access to Queue Editor for modifying Queue Tasks.
7. Ribbon/Dashboard: Data Manager: Easy access to common Data Manager parameters.
8. Ribbon/Dashboard: AES Acquisition: Control of most common AES Acquisition Properties.
9. Ribbon/Dashboard: XPS Acquisition: Control of most common XPS Acquisition Properties.
10. Ribbon/Dashboard: Sputter Tool: Easy access control for timed sputtering with configured sputter guns.
11. Ribbon/Dashboard: Stage: Easy access control for stage control.
12. Ribbon/Dashboard: Vacuum: Display vacuum pressure status.
13. Menu Bar>Automation>Queue…>Queue Editor: New Tree View style Queue Editor allows editing queue even while queue is running.
14. Menu Bar>Automation>Queue…>Queue Editor>Tool Palette>Service: Outgas can now be performed through the Queue.
15. Menu Bar>Tools>Outgas Conditioning…: Control parameters for Outgas procedures can be setup here.
16. Parameter Hints: Hint display duration now depends on hint text length.
17. Menu Bar>Tools>Chart Recorder…: The Chart Recorder now displays pressure values in scientific notation.
18. Menu Bar>Tools>Ammeter Tool…: Ammeter Tool has been improved to be more functional for more gun types. When Sample Current readings are launched from the Hardware session, Ammeter Tool will display Gun Type correctly.

Sample

19. Sample>Stage: Stage rotation limit increased from 360.00 to 360.05 to take into account stage error and accommodate position verification checks.
20. Sample>SXI: Change min persistence of N-frame SXI acquisitions (Preview, IR) to 2 frames.
21. Sample>SXI Image: Added Z-Align with SXI button.
22. Sample>SXI Image>SXI Image Properties>Photo-Acq: Added SXI Photo options for acquisitions separate from SXI Photo button options.
23. Sample>Stage>Properties: Add ‘Enable All’ and ‘Disable All’ motors buttons.
24. Sample>Position List>Toolbar: Across the UI, made list controls more consistent. (ie. Move up/down, add/delete, delete all).

XPS

25. XPS>Acq Setup: Remove Default Pass Energy combo box. Default new element region added Pass Energy to previous region Pass Energy in region table.
26. XPS>Acq Setup>XPS Setup…>Region: -5V Sample Bias is now available for all acquisition types. Used to be only for UPS configured systems and UPS acquisitions.

AES

27. AES>Acq Setup: Default new element region added Resolution to previous region Resolution in region table.
28. AES>SEM: Protect from point & click stage moves when SEM Imaging is Off.

Hardware

29. Hardware>E-Neut>Diagnostics: Add ADC parameters.
30. Hardware>E-Neut>Add read emission current button.
31. Hardware>Schematics: Update hardware schematics diagrams that were missing or needed updating.
32. Hardware>FXS>Lab6: Change emission current threshold from 1.0 uA to 0.8 uA.
33. Hardware>FXS>Diagnostics: Removed
34. Hardware>C60: Auto-Startup removed as it is replaced by Outgas Conditioning Tool.
35. Hardware>GCIB: Add warning when SmartSoft starts up after previously turning GCIB Off at shutdown. This is the same as what is done for C60.

Service

36. USB Connection Monitor: SmartSoft logs USB connect and disconnect events in the system log.
37. Key Click Logging: Log UI buttons and components interacted with to system log for assisting troubleshooting.

Misc.

38. Installation: Add Eucentric Tilt Excel spreadsheet to installation (“Other” directory).
39. Installation: Add 64-bit versions of Microsoft dlls msvcp100.dll and msvcr100.dll to 64-Bit SmartSoft installations. This fixes a problem where IC Imaging cameras were not working with 64-bit installations.

BUG FIXES

1. UI>Shutdown: Fix problem where SmartSoft could hang on shutdown if SXI is running.
2. Menu Bar>System>Zip Log Files…: Fix bug where Zip Tool could fail due to missing timestamps at end of system log files.
3. System>Vacuum>Main Turbo: Fix bug where call to turn Main Turbo ‘Off’ would not work.
4. System>GigE Intro Camera: Fix bug where GigE camera control error messages were not printing to the system log correctly.
5. AES>Profile Setup: Fix bug where AES Profiles could potentially get set to run in FAT mode, which would fail.
6. AES>Acq Setup>AES Regions Table>Test Acquiure: Add missing context menu “Test Acquire …” option.
7. AES>SEM: Improve performance of SEM tuning; Focus/Stig1/Stig2.
8. XPS>Refresh Acq: Fix problems w/ refresh acquire button press and button state in data viewer.
9. XPS>Map Acq>XPS Regions Table: Fix first component in ‘Frame’ list column looking different and not having right-click ‘set all’ option.
10. XPS>Profile Setup: Fix problem where in ‘Continuous’ or ‘No Sputter’ mode the Ion Gun Settings combo box appeared to update rapidly and flicker.

11. XPS> Depth Profile: Fix bug where Depth Profile with IR enabled fails, then Ion Gun or GCIB auto-shutdown occurs before user reacts to IR failure. Selecting 'Stop' would cause a lockup in this state. Fixed 'Stop' not working.
12. XPS>Spectrum>Element Database: Fix bug with Element Database Editor where editing Xe transition names would be converted to "CustomXe…".
13. XPS>Spectrum>XPS Setup…>Region: Fix typo that prevented setting default ratio for PE 140 and 224 to 1 (was minimum of 2).
14. XPS> Timed I-Neut During Acq: Fix bug where timed I-Neut pulse before Z-Align would cause acquisition to lockup trying to switch back to continuous I-Neut after Z-Align.
15. Hardware>X-Ray>When turning Heat Exchanger Off, prompt users to turn X-Ray Off (if not already Off). This is to prevent an error state in the hardware that is difficult to recover from.
16. Hardware>X-Ray>Diagnostics: Removed 'Read' prefix from captions.
17. Hardware>Ion Gun: Fix bug where Z-Align pulsed I-Neut or SXI IR with I-Neut could lock up the UI for several minutes while the Ion Gun mode changed for I-Neut.
18. Hardware>Ion Gun (777B Pressure Control): Fix bug with Extractor Pressure edit box displaying wide open range in scientific notation.
19. Hardware>GCIB: Fix a bug where loading GCIB setting from a Queue would load parameters correctly, but not the setting name.
20. Hardware>C60>Diagnostics: Change Filament Current caption units from uA to A.
21. Hardware>C60: Fix bug where sometimes after loading a setting and switching to 'Standby' mode, temperature readback (heater power) does not change until temperature field is toggled.
22. Hardware>Ion gun:Fixed a bug where Auto Argon and Auto Diff Pump status would not save between exit and startup.
23. Hardware>UPS(20-280):Fix bug where UPS being turned off on SmartSoft exit was not completing properly.
24. Hardware>UPS(20-280):Fix bug where Auto-Tuning of switching between He1 > He2 could end up stepping gas pressure wrong direction due to readback value offsets.
25. Hardware>UPS(20-280):Fix bug when UPS mode is turned On (Ignition), would sometimes get error "V4 Status: Closed. Turning off UPS".

KNOWN BUGS

1. None.

NOTES

1. None.

Release 2.10.2 – March, 2019 (Win7: 32-Bit)
Release 3.1.2 – March, 2019 (Win10: 64-Bit)

OVERVIEW

Additional support for LEIPS,UPS, 777B Pressure Control, Bug Fixes.

NEW FEATURES

SEE

1. The System Evaluation Environment (SEE) is a new service utility built into the SmartSoft software which periodically records all system parameters while SmartSoft is running. Notes: By default this utility is not activated; and Proprietary analytical data is never collected with SEE.
2. Menu Bar>Hardware>System Configuration>System…>SEE: SEE data collection can be fully activated or deactivated in the configuration menu.
3. Menu Bar>Hardware>System Log Setup>Data Sampling: SEE data collection can be partially activated or deactivated for individual hardware devices by selecting Data Sampling. Note that

Data Sampling for individual devices is only valid when SEE data collection is activated in the System Configuration.

UI

4. Menu Bar>Data>System Colors>Sample Viewer: Add ability to change platen thumbnail caption color.

System

5. System>Create Sample: GigE: Add LEIPS platen default platen image.

Sample

6. Sample>Stage: Rotation range updated to -258 to 100 degrees for H/C stages with limit switches.

Options

7. Options>LEIPS Data File Header: Updated fields in data header to be more compatible with Multipak.

XPS

8. XPS>Data File Header: For both XPS and AES data files, storing Ion Gun Neutralizer parameters separate from Ion Gun Presputter parameters.
9. XPS>Data File Header: For both XPS and AES data files, storing Ion Gun Neut On/Off.

AES

10. AES>Spectrum: SEM Setting changed back to read only field.

Hardware

11. Hardware>E-Neut: For LEIPS support, there is now a way to set E-Neut Extractor Blanking Voltage for Standby Mode.
12. Hardware>Source>UPS: Support 'Auto' Photon Source tuning for switching to second line (ie. He1 -> He2).
13. Hardware>Source>UPS: When V4 interlock is triggered, turn UPS UV state to Off so that Pressure Control is stopped and Rough Pump Valve is closed. 20-280 Control.
14. Hardware>GCIB>Diagnostics: Disable Heat Exchanger State and Heat Exchanger Interlock with 777B Control.

BUG FIXES

1. System>Turbo Status: For Leybold Turbo Control, check turbo speed status to determine On/Off status.
2. System>Shutdown: Fix missing logic to shutdown SXI and SEM imaging on SmartSoft shutdown.
3. XPS/AES>Profile>Profile Properties: Fix bug where when running zalar sputter at alternate sputter position (Sputter Offset), zalar was occurring at incorrect X and Y position.
4. AES>More Acq: Fixed bug where AES acquisition 'More' would load incorrect resolution values into the region table.
5. Options>LEIPS: Fixed bug where failed LEIPS acquisitions did not clean up data plot area.
6. AES>Energy Range: Min energy range updated to 10 eV to prevent issue of possible drop-off of collected data when starting at 0 eV.
7. AES>IR Info: Fix imags shift X/Y Offsets accumulating when setting up Registration Area.
8. Hardware>Ion Gun: Fix 'Auto' pressure control not getting set on startup of SmartSoft with 777B pressure control.
9. Hardware>Ion Gun: Fix 'Auto' pressure control checkbox status not being saved between restarts of SmartSoft with 777B pressure control.

10. Hardware>Ion Gun: Update sizing of Ion Gun view to help with scroll bars appearing when not needed.
11. Hardware>Ion Gun: Fix bug where when neutralizing or sputtering, previously loaded setting extractor pressure could get used.
12. Hardware>GCIB: GCIB Diagnostics: Fix “Power Status” being displayed backwards with 777B pressure control.
13. Hardware>GCIB: Fix when presputter or timed sputter completed, GCIB would not ‘Auto’ close the Ar leak valve.
14. Hardware>UPS: With 20-280 control, fix Rough Pump Valve Status not being updated on change.
15. Hardware>UPS: With 20-280 control, fix V4 Interlock message popping up about turning UPS ‘Off’ when UPS is already in ‘Off’ mode.
16. Hardware>Detector>Properties>MCD: Fixed X-Ray Settings being shown instead of SEM Settings, since AES MCD acquisition always uses SEM Settings.

KNOWN BUGS

1. Before acquisitions with Ion Neutralization are queued, the Ion Gun mode should be set to ‘Standby’, so that it is returned to this mode after the acquisition. If the mode is ‘Off’, the Ion Gun will be restored to the ‘Off’ mode.
2. Ion gun pulsed neutralization before Z-Align feature is broken in this release. This will be fixed in future releases.

NOTES

1. None.

Release 2.10.1 – November, 2018 (Win7: 32-Bit)
Release 3.1.1 – November, 2018 (Win10: 64-Bit)

OVERVIEW

Bug Fix Release

BUG FIXES

1. Sample>Position List>: Default Exception Error when editing position list when IR option not enabled.
2. XPS>Depth Profile: IR Setup is visible in Depth Profile Setup tab when IR option not enabled
3. Menu Bar>Hardware>System Configuration: Turbo Pump Type change is not saved.

Release 2.10.0 – October, 2018 (Win7: 32-Bit)
Release 3.1.0 – October, 2018 (Win10: 64-Bit)

OVERVIEW

SEE Diagnostics, REELS, LEIPS, PHI-UPS Controller, SXI Image Registration Enhancements, Bug Fixes.

NEW FEATURES

<u>SEE</u>

1. The System Evaluation Environment (SEE) is a new service utility built into the SmartSoft software which periodically records all system parameters while SmartSoft is running. Notes: By default this utility is not activated; and Proprietary analytical data is never collected with SEE.

2. Menu Bar>Hardware>System Configuration>System…>SEE: SEE data collection can be fully activated or deactivated in the configuration menu.
3. Menu Bar>Hardware>System Log Setup>Data Sampling: SEE data collection can be partially activated or deactivated for individual hardware devices by selecting Data Sampling. Note that Data Sampling for individual devices is only valid when SEE data collection is activated in the System Configuration.

UI

4. Menu Bar>Tools>System Configuration: Simplified UI: configuration options are organized by sessions; property dialogs are added for configuration details.
5. Menu Bar>Tools>System Configuration>Options: Add REELS option. Activation key required.
6. Menu Bar>Tools>System Configuration>Options: Add LEIPS option. Activation key required.
7. Menu Bar>Tools>System Configuration>Options: Add PHI-UPS option.
8. Menu Bar>Tools>System Configuration>Chamber Camera: Add support DFK 42AUC03 USB camera.
9. Menu Bar>Tools>System Configuration>Turbo Pump Type: Add Configuration Support for Leybold Turbos
10. Menu Bar>Tools>System Configuration>Electron Gun. Add support for Tungsten filament electron gun which is used for REELS.
11. Menu Bar>Tools>System Configuration>Ion Gun: Add support for the 777B Piezo Valve.
12. Menu Bar>Tools>Chart Recorder…: The Chart Recorder now includes an 'Auto Scale' feature which optimizes the data displays for all plots.
13. Menu Bar>Tools>Resource Monitor: Add monitoring of C: hard disk space. A warning message is displayed when the available disk space falls below an enterable threshold value.
14. Menu Bar>System>Task Scheduler: A 'Once' checkbox option is added to the task scheduler to run task only one time.
15. Menu Bar>System>Zip Log Files: Include timestamp in the default filename.
16. Status Bar: Add Acquisition Setup Properties indicators.

System

17. Intro>Intro Camera: GigE: Log error description along with error code in system log.

Sample

18. Sample>Z-Align: Check if Z-height is equal to or lower than initial Z-Align drop. If this is true start Z-Align at current Z-height.
19. Sample>Stage>Stage Properties: Add *Protection During Acquire* and *Protection During Drive*. Protection During Acquire: lowers the Z and R when the stage is moved to the next analysis point during an acquisition; Protection During Drive: lowers the Z and R when stage is moved using the stage Drive All feature.

XPS

20. XPS>Data Manager>Lab Book: The lab book can now include an unlimited number for data file entries. Previous limit was 150.
21. XPS>Spectrum>Properties: Support selecting pre-sputter gun type.
22. XPS>Acquisition Setup>Refresh Acquisition Viewer: Add *Restart* button.
23. XPS>Acquisition Setup>Refresh Acquisition Viewer: Add FWHM reading to data display.
24. XPS > SXI Properties>Image: Add enhanced live image processing options: Bright Band Correction, Noise Reduction, and Contrast Enhancement.
25. XPS >SXI Viewer>Image Registration: The saved reference image is now displayed as part of the image registration setup dialog.
26. XPS > SXI Viewer>Image Registrations>Properties: One can now pre-select the acquisition behavior when an image registration fails (Prompt User, Continue, Stop). Prompt User - will display a dialog box and wait for operator intervention; Continue - will continue the data acquisition without image registration; Stop - will stop the acquisition at the current frame or cycle.
27. XPS > SXI Viewer>Image Registrations>Properties: One can now select the number of IR retries before reporting a failure.

AES

28. AES>Spectrum: Add FAT analyzer mode (REELS Option).

Hardware

29. Hardware>C60: C60 diagnostics menu meter range is red when the gun is off. Added support to show the range is unknown [- - -] when the gun is off.
30. Hardware>Analyzer: Add unique Gauze Lens Spans and Offsets for HP.
31. Hardware>Analyzer: Calibration: *TFC coefficient A* range max increased to 1000.

Service

32. CommChecker.exe: A new utility called CommChecker is included in the SmartSoft-VersaProbe\bin folder. CommChecker is used to check the communication channels as defined in the SmartSoft-VersaProbe configuration properties file for trouble shooting purpose.

BUG FIXES

1. UI>Tab Stop: Tab stops are removed for all menus.
2. UI>Menu Bar>System>Task Scheduler…: Fixed problem where the Task Scheduler incorrectly reports “AutoTool is already running”.
3. System>Intro Photo>Take Intro Photo: Corrected bug where intro photo is taking many minutes.
4. Sample>Position List>Z Position = 0.0: A default Z position of 0.0 indicates that the Z position is unknown at the time the position is created (e.g. platen not on the stage; import from defect file). *Drive to Position* ignores the Z move when the Z position is 0.0. SmartSoft now displays a prompt which clarifies that a default value of 0.0 maintains the current Z position; while a value of 0.001 drops the Z to a minimum Z position.
5. Sample>Position List: When driving to position stage sometimes moves even when already at position. Increase X/Y tolerance.
6. Sample>Platen Viewer: Photo appears washed out, too light. Changed default gamma from 0.6 to 1.0.
7. XPS>SXI: SXI files (.sxi) are missing the photo file name which causes a problem when displaying spatial areas. Fixed.
8. XPS>Spectrum>Element Database: Default transition energy window for Ru3p3 is 458-478 eV. It should be 453-473 eV. Note that element database must be manually updated to get this fix.
9. XPS>Spectrum>Element Database Element Database: Remove spaces from transition names and replace with ‘_’ character to prevent problems managing between SmartSoft and Multipak. Note that element database must be manually updated to get this fix.
10. XPS>Depth Profile: During GCIB depth profile with ion neutralization, the profile often fails by *Timed Sputter Failure*. (OLE Error).
11. Hardware>X-Ray>Diagnostics: Log application error when arc is detected.
12. Hardware>C60/GCIB: Persist lifetime value to file when values change to protect against crash or forced shutdown. Note that Ion Gun lifetime times are in saved in the firmware and do not need to be persisted in SmartSoft.
13. Hardware>GCIB: PHI USA GCIB: Loading setting file while in standby mode should not load the high voltage.

KNOWN BUGS

1. Before acquisitions with Ion Neutralization are queued, the Ion Gun mode should be set to ‘Standby’, so that it is returned to this mode after the acquisition. If the mode is ‘Off’, the Ion Gun will be restored to the ‘Off’ mode.

NOTES

1. None.

Release 2.9.0 - October 2017 (Win7; 32-Bit)
Release 3.0.0 - October 2017 (Win10; 64-Bit)

OVERVIEW

Windows 10 support, SXI Image Registration, Element database editor, Bug Fixes

NEW FEATURES

UI

1. SmartSoft-VP Icon: New Icons.
2. Configuration Manager: Exit dialog is now more intuitive with 'Save' options.
3. Configuration Manager: '4-Contacts' Hot/Cold Stage selection renamed to 'PreVac 4-Contacts' to avoid further confusion.
4. Configuration Manager: Support both 'DFx41BU02' and 'DFK41BU02' Chamber Camera models.

System

5. Tools: Chart Recorder: Revamped Chart Recorder tool for plotting short-term history of designated parameters.
6. Tools: System Log Setup: Add right-click context menu to "System Log…" button for selecting system log viewer to use.

Sample

7. SXI: Add SXI Image Registration Support

XPS

8. Element Database: Element Database can now be edited through right-click context menu on periodic table elements.

AES

9. Element Database: Element Database can now be edited through right-click context menu on periodic table elements.
10. Acq Setup: Change min KE to 10 eV from 30 eV.

Hardware

11. GCIB: Display dialog when GCIB interlock is tripped to notify users.
12. FXS: Add 'Clear Registers' button to FXS Registers Diagnostics View. Clear Registers on Reinitialize automatically.
13. Ion Gun: Added logging to Application Log for Ion Gun.

Misc.

14. Vacuum Pressure Log: A simple version of a vacuum pressure log is written to a file in the Settings/Log directory. The interval of entries is in Vacuum Settings "Properties.phi" file.
15. Anode Position Delta: Open up "Anode Position Delta (mm)" min/max range so that Stage Settings "Properties.phi" file can be altered to reduce this value if needed.

BUG FIXES

2. AES: Periodic Table: Fix right-click element popup menus for selecting transitions.
3. XPS: Periodic Table: Fix right-clicking on K or Ca to choose alternative regions.
4. Hardware: Analyzer: TFC parameters Narrow or Standard were written to data file header based on analyzer mode when queue started instead of how queued acquisition was designated.
5. Navigation: SXI Position: When adding a analysis position to a non-square SXI Image, acquisition was running at wrong position.
6. System: Intro Camera: Fix issue where single Intro Camera configured systems with GigE camera would require the camera to have "Device User ID" set to "Intro" to work. Now it behaves

like the Canon camera which by default doesn't look for device name with single camera, only with multiple cameras such as SS-VP Prep.

7. Intro: Intro Camera: Fixed bug where GigE Intro Camera configuration would default to GigE camera simulation 'On'.
8. XPS: Data File Header: Fixed bug where wrong Presputter mode would get recorded in data file header.
9. XPS: Presputter, Peak to Noise, Narrow Acceptance Angle, Zalar Rotation Speed: These parameters are set in UI through autotool tasks instead of behind-the-scenes.
10. Hardware: Beam Parking: Maintain beam parking mode differently, which fixes bug of X-Ray mode changing from 'Park' to 'On' after and SXI file save, even though beam is still parked.
11. Hardware: Lab6 E-Gun with AES: When AES acquisitions are stopped, no longer turning the E-Gun off.
12. XPS: UPS acquisitions with FXS acquisitions: Fix bug where transitioning from a UPS acquisition to an FXS acquisition would incorrectly clip region ranges.
13. Sample: Stage Position Check: Increased Rotation tolerance when deciding if stage needs to be moved when starting acquisitions (problem was stage moving when already at acquisition position).
14. Sample: Save SXI E-Neut: Fixed a bug where E-Neut would get turned off when saving SXI Image.

KNOWN BUGS

1.

NOTES

1. SCA Lens Table Updates: To pick up SCA Lens Table changes when updating existing software, move or rename SCA Lens Table files in SmartSoft 'Configuration' directory and rerun the Configuration Manager to get new files. Or manually copy and rename the files from the 'PredefinedSetting' directory to the 'Configuration' directory.

Release 2.8.0 - January 2017

OVERVIEW

SmartSoft-VersaProbe V2.8.0 adds: Support for 64-Bit OS; New TFC Correction; RBD Ammeter; GigE Intro Camera; Bug Fixes

NEW FEATURES

<u>UI</u>

1. SmartSoft-VP Icon: New Icon.

<u>System</u>

2. Turbo Speed Interlock: Put in check for if turbo speed drops below 80% V4 is closed.
3. Intro/Prep GigE Camera: Implemented support for GigE camera, redesign the intro process to improve clipping and calibration procedure.
4. Dual Anode Stage Init: Request warning when initializing stage to retract Dual Anode.
5. Sample Max Z-Height: If Sample Max Z-Height is set below stage transfer position, user will be notified to change Max Z-Height to allow transfer process to complete.
6. Transfer Vessel: Added "Transfer Vessel" task to SmartSoft so to not have to run only through Watcher.

<u>SEM</u>

7. SEM Image Properties > Added expandable tabs.
8. Histogram Dialog > Ability to resize.

9. SEM: Reduced Image: Automatically take the SEM out of Auto Contrast mode when using reduced. image. Return the Auto Contrast to the previous state when completed.

XPS

10. Acq Setup: XPS: Default Pass Energy is now saved as a Setting.
11. Support 'Use Auto Directory' through Queue.
12. TFC Correction: New TFC Correction function using variable number of data points from TFC curve.
13. Allow 2500V analyzer retard range for Al or Mg dual-anode.
14. Profile Sputter Offset: Added warning to users when 'Sputter Offset' is enabled when adding to Queue.

Hardware

15. RBD Ammeter: RBD Ammeter is now supported.
16. GCIB: Auto Standby mode now supported.
17. Ion Gun/E-Neut: If gun setting is selected in Acquisition Properties and is deleted from Hardware tab, SmartSoft will block the action and show a warning dialog.

Misc.

18. Zip Tool: Provide a tool for users or Service to easily save and zip up log files and settings files for bug diagnostics.

BUG FIXES

1. Configuration Manager > Fixed issue where 20-376A Analyzer configuration was not copying over correct FRR SCA Lens Files into Configuration Folder
2. Configuration Manager > When selecting VP-III configuration (32-channels), the correct lens table files are not being copied into the configuration directory correctly?
3. Spectral data view > Finger Print mode clicking on spectral data causes 'Range check error'
4. Ion Gun > Ion Gun Properties: Unchecking Tracking checkbox does not work
5. Queue Pre-Check > Depth Profile Acquisitions would sometimes fail and state that a sputter gun is not in a ready state when that gun was not set up for that acquisition
6. SXI > Fixed issues with SXI persistence not working as desired
7. Stage with Platen Intro > Fixed a bug where sometimes after Platen to Stage, stage would drive Z-height to max
8. Platen Max Z-Height > Fixed bug where Platen Max Z-Height was not being reflected in Stage Z Motor range
9. Configuration - Analyzer Control product ID > Fixed 20-376A Product ID
10. SXI > Fixed problem where 'Clear Image' would not work
11. Ion Gun Diagnostics > +15V and -15V readbacks were backwards
12. More Map > More Map was not working
13. More Map > Restrict parameters that should not be altered
14. Knob Box Logging > When the knobbox is configured and not connected and not simulated; errors are continuously generated in the system log(s)
15. Turbo Speed Interlock > When Turbo Interlock is tripped in software, performs protection action once and displays alert dialog to avoid multiple interlocks with backfill
16. SXI Anode Imaging > Anode image has too much noise if anode motor is connected
17. Queue Restore Position List > Remove the AutoTool Restore Position List task since it causes loss of any updated Z heights in position list due to Auto Z
18. Motors setup on Startup > For the 4700/4800 where, there's no anode, the Motors dll needs to have information set. Consequence of not setting this up correctly was that Z-motor initialize would not initialize correctly an could continue to rise up towards the optics
19. SEM Date Display > "Date" displayed on SEM view is not reflected even if date is changed. We have to uncheck "Date" checkbox and check it to display correct date
20. AES Map/Line > In case of 2- or 3-point mode, BG1 and BG2 position should be limited
21. X-Ray Diagnostics Arc Count > Removed "Total Arc Count", no different than "Arc Count"
22. Canon Camera > Attempt to fix software freezing issues related to auto focus overdrive

23. Ion Gun > Fix Create Sessions error when reserved settings are deleted from Ion Gun Settings folder before starting SmartSoft
24. Sample > Zalar Range Circle: Fix center location to line up with stage 0,0
25. Sample > Stage Limits Box: Fix range limits and center location to line up with stage 0,0
26. Data Manager > Fix problem where 'Auto Directory' checkbox would automatically uncheck after starting an acquisition
27. Add missing -1600 to -2500 eV range values for 32-channel FAT SCA Lens Table
28. Fix map displayed titles mistakenly given same name when acquiring more map
29. Fix Parent SXI remains unchecked if child point created on unchecked SXI
30. Add new AR lens values for 16-channel FAT SCA Lens Table

KNOWN BUGS

1.

NOTES

1. SCA Lens Table Updates: To pick up SCA Lens Table changes when updating existing software, move or rename SCA Lens Table files in SmartSoft 'Configuration' directory and rerun the Configuration Manager to get new files. Or manually copy and rename the files from the 'PredefinedSetting' directory to the 'Configuration' directory.

Release 2.7.2 - April 2016 (CQR Release Only)

OVERVIEW

SmartSoft-VersaProbe V2.7.2 adds: Save SXI Image During Acq

NEW FEATURES

SXI

1. SXI>Image Properties>Preview Image: Adds support to automatically collect and save n-number of SXI frames.

XPS

2. Acquisition Setup>Properties>Save SXI: Add support to save an SXI image at each analysis position, before the XPS data collection.

KNOWN BUGS

1. With VP-III systems, the configuration manager does not copy the 32-Channel lens tables from the Configuration\PredefinedSetting directory into the Configuration directory and rename them to “ScaLensFat.txt” and “ScaLensFRR.txt” as it should. This will need to be done manually on VP-III systems.

NOTES

1.

Release 2.7.1 - March 2016

OVERVIEW

SmartSoft-VersaProbe V2.7.1 adds: Support for VersaProbe-III; Variable Dwell Time; Bug Fixing

NEW FEATURES

UI

1. Configuration: Support VersaProbe-III

Sample

2. Stage: Add right-click context menu option to toggle stage cursor and FOV display On/Off.
3. Intro Camera: Add new Canon camera SDK support to support newer cameras.
4. Alignment: Remove shortcut icons for alignment pins.

XPS

5. Acquisition: Show warning when starting XPS acquisition if SAM E-gun is On.
6. Acquisition Setup: Support variable scan area dwell time which is tied to time/step of acquisition.
7. Acquisition Setup: Support sputter offset for all sputtering, instead of just GCIB.

AES

8. Acquisition Setup: Support sputter offset for all sputtering, instead of just GCIB.
9. Profile Data: Add View menu option for changing AES profile spectral data display from showing all cycles to just showing current cycle (like XPS).

Hardware

10. C60: Read the user ranges from the controller instead of using hardcoded manufacturer numbers.

BUG FIXES

31. Sample > Stage: Update proper tilt range when Y-axis is changed.

32. Sample > Position List: Fix problem where user could click on position list while acquisitions are running, causing multiple issues.
33. XPS/AES > Clicking 'Next Region' button continually displays "Stopping" message.
34. XPS/AES > Fixed issue where computer delays could cause data retreival from acq hardware control to fail, causing acquisition failures (no data for 20 seconds error).
35. XPS/AES > Fix issue where if FXS source is in 'Park' and SEM or AES spectra is started, FXS source is turned on as well.
36. XPS > UPS selected as source, load FXS acquisition setting, does not load correct acquisition energy range.
37. AES > Wait 'Delay After Sputter Time' before running image registration.
38. Hardware > E-Neut: Extractor voltage range changed to 0-75V.
39. Hardware > Ion Gun: Fix problem where depth profiling with neut would sometimes corrupt emission current.
40. System > Startup: Fixed bug where firmware version checking could report current firmware version as older than expected when actually newer.
41. System > Photo file: Stage rotation saved as 45 degrees.

KNOWN BUGS

1. With VP-III systems, the configuration manager does not copy the 32-Channel lens tables from the Configuration\PredefinedSetting directory into the Configuration directory and rename them to "ScaLensFat.txt" and "ScaLensFRR.txt" as it should. This will need to be done manually on VP-III systems.

NOTES

1.

Release 2.7.0 – December 2015 (AES4800 Only)

OVERVIEW

SmartSoft-VersaProbe V2.7.0 Adds: AES4800 CQR; Common UI Features; Bug Fixing

NEW FEATURES

<u>UI</u>

1. Menu Bar>Tools>System Log: Backup copies of the system log are now stored in the C:\SmartSoft-AES\Log directory
2. Status Bar: The size of the status line fields can now be customized by clicking and dragging the edge of the field. Fields can be returned to their default size by selecting the *Reset Default Size* option from the status line context menu.
3. Status Bar>Highlight: The highlighting tool indicates which menu items are *Settings* and which items are *Properties*. *Settings* are loaded as a group of values using the Settings>Load command; while *Properties* are common across the entire system.
4. Menu Bar>System>E-Mail Notification: One can now send custom email messages or text messages during the running of an AutoTool sequence. This is accomplished by using the AutoTool *Send E-Mail* task.
5. Menu Bar>System>Coffee Timer: This feature adds the capability to schedule the processing of an AutoTool task at a specified day and time.
6. Menu Bar>Tools>System Log: Backup copies of the system log are now stored in the C:\SmartSoft-VersaProbe\Log directory

<u>AutoTool</u>

7. Menu Bar>Automation>AutoTool: The *Active* list item adds the ability to deselect a task from the sequence without permanently deleting the task.

8. Menu Bar>Automation>AutoTool: An AutoTool task has been added to monitor the system pressure and pause AutoTool processing until a target system pressure is achieved.

System

9. System>Intro Camera: External image files (.bmp, .jpg) can now be imported and used to navigate on the sample.
10. Sample>Park Station: SS-VP/4800 now supports a parking station.

Sample

11. Sample>Stage: Stage: Backlash correction can now be enable or disabled. This option is available in the stage properties menu. Backlash correction is used to position the stage more accurately, but sometimes makes is more difficult to position a feature using point and click stage moves.
12. Sample>Stage: Support is added for H/C stage with Pneumatic or Static cold probe. Static cold probe is similar to older cold probe models with a fixed cold probe contact pad.
13. Sample>Stage: Add Z-height parameter for Eucentric Tilt calibration. This is to compensate for sample thickness with 15-680/5000 stages.
14. Sample>Sample Viewer: Valid stage limits are displayed graphically on the Sample Viewer overlay.
15. Sample>Sample Viewer: Valid Zalar limits are displayed graphically on the Sample Viewer overlay.

SEM

16. SEM>Settings>Context Menu>Settings Editor: A new Settings Editor is available for viewing and editing the settings text files. The Settings Editor is accessed through a context menu from the Settings Box. This Settings Editor is available for most hardware applications.
17. SEM: KnobBox support has been added for the SEM application. The knob box buttons can now be customized to change the behavior of the *pressed* and *un-pressed* knob states. Many users find it easier to use the *pressed* state for coarse moves and *un-pressed* state for fine moves. (SmartSoft-VersaProbe\Settings\Properties\Properties.phi).
18. SEM>SEM>AutoContrast: Support is added for 38-101A Data Acq. This improves the image quality w/auto contrast.
19. SEM: SEM/LaB6: An option is added to keep the Lab6 gun running when software is shutdown. This option is included in the properties.phi file.
20. SEM>SEM/LaB6>Reduced Image. Added feature for 4700; already available in 4800.

XPS

21. XPS>Spectrum>XPS Setup...: A Preview feature is added to run n-number of SXI frames; and then save the image to a file. This feature can be configured to save an SXI image prior to each XPS acquisition.
22. XPS>Platen Manager>Lab Book: Lab Book filenames are limited to 200 entries. This is configurable in the Properties.phi file.

AES

23. AES>Survey: The acquisition range has been extended to 0-3200. This requires an analyzer control upgrade from the 20-378 to the 20-378A. The 20-378 has a range of 0-2500; compared to the 20-378A which has a range 0-3200. Note: the analyzer control model number is set in the hardware configuration menu.
24. AES>Profile>Test Acquire: Test Acquire now supports ‘Area’ and ‘Line’ analysis areas. The analysis area mode can be selected from the SEM context menu.
25. AES>Analysis Area: When spatial area lines are drawn snap to horizontal or vertical if endpts within 50 pixels in horizontal or vertical directions
26. AES>Line: Adds high resolution Line acquisitions (1pt, 2pt, 3pt - 512; Window - 512) – AES only configurations
27. AES>Map: Adds high resolution Map acquisitions (1pt, 2pt, 3pt - 1024; Window - 512) – AES only configurations

Hardware

28. Hardware>Ion Gun: Adds support for manual "Neutralization" mode like SmartSoft-AES
29. Hardware>Ion Gun: Adds support for imaging with ion gun using the internal/external raster pattern; requires a hardware jumper in place on the 20-066 control.
30. Hardware>Ion Gun>Diagnostics: Systems configured with the 20-066 ion gun control now take advantage of an extended set of diagnostics read backs. Note: this may require a firmware upgrade.

BUG FIXES
42. Sample>Intro Camera: Update Canon EDSDK toolkit to V3.2
43. Sample>Intro Camera: Improved communication reliability with Canon camera.
44. Sample>SVC/Watcher: Improved USB reliability with SVC/Watcher. Adds configurable delay (3 msec) to ensure that enough response time is available between WriteDevice() and ReadDevice().
45. XPS>Profile Data: Intensity display will sometimes show negative intensity data. - Fixed
46. SEM>Rotation: Image rotation does not rotate around the center of the image as expected. - Fixed

KNOWN BUGS
2.

NOTES
1. SmartSoft-VersaProbe can now be run on either a 32-Bit or 64-Bit OS. Contact your ULVAC-PHI service engineer for more information.

Release 2.6.3 - December 2014

OVERVIEW
SmartSoft-VersaProbe V2.6.3 adds: Improved Gas Gun Emission Current Ramping; Bug Fixing

NEW FEATURES
1. Changed Ar Ion Gun emission current ramping routine for increased stability.

BUG FIXES
1. Fix for XPS Depth Profile Acquisitions that fail with Saving Data busy error.
2. Fixed bug where stopped Angle Resolve Profile would lose last angle data.
3. Fixed bug where Z-Align timed Neut would use sputter setting.

KNOWN BUGS
1. Some USB thumb drives can cause a loss of communication with the Bertan.

NOTES
1.

Release 2.6.2 - September 2014

OVERVIEW
SmartSoft-VersaProbe V2.6.2 Adds: Bug Fixing

NEW FEATURES IN THIS VERSION
1. Support GCIB Standby mode.
2. Canon SDK V2.14

FIXED IN THIS VERSION
1. Removed grey box from bird's eye view.
2. Fixed bug where Image Registration wasn't working when set to frequency > 2.
3. Fixed but where region tables remained disabled after more acquisitions completed.
4. Fixed bug with AES Line 2-pt/3-pt acqs displaying zero intensity data during acquisitions.
5. Fixed bug with AES Depth Profiles not saving last cycle when stopped.

Release 2.6.1 - August 2014

OVERVIEW
SmartSoft-VersaProbe V2.6.1 Adds: Add support for UPS FAT lens table download

NEW FEATURES IN THIS VERSION
1. New UPS FAT Lens table used for UPS acquisitions.

FIXED IN THIS VERSION
1. Fixed problem where main turbo status was not read correctly

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Release 2.6.0 - June 2014

OVERVIEW
SmartSoft-VersaProbe V2.6.0 Adds: FE Gun Support; Dual Sputter Gun Bug Fix; User Settings "Last 5"; Expanded Tabs; Bug Fixing

NEW FEATURES IN THIS VERSION
1. New settings combo boxes save history and categorize user settings.
2. 'Ion Gun Delay' now 'Delay After Sputter' with a 'Only w/ Neut' checkbox to enable old 'Ion Gun Delay' behavior with neutralization.
3. Setting auto filename parameters and platen directory through queue now done through 'Add Q' right-click menu.
4. Properties views now are expandable to view all tabs simultaneously.

FIXED IN THIS VERSION
1. Dual sputter support reworked and improved.
2. E-Neut out of tolerance error will now take longer to fail.
3. Fixed chamber camera bug where SmartSoft was looking for a registry key which is no longer needed.
4. Fixed position list save feature.
5. Fixed bug where Z-Align wasn't working in stage 'relative' mode.
6. Fix issue where Egun Neut emission saved to data file was always 0.0.

Release 2.5.1 - April, 2014

OVERVIEW

SmartSoft-VersaProbe V2.5.1 Adds: Bug Fixing

FIXED IN THIS VERSION

1. 800 degree Hot/Cold stage configuration has -260 to 80 rotation limits.

Release 2.5.0 - January, 2014

OVERVIEW

SmartSoft-VersaProbe V2.5.0 Adds: Support H/C Stage; Deconvolution V2; 777A GCIB Pressure Control;

NEW FEATURES IN THIS VERSION

1. Support 800 degree Hot/Cold stage configuration.
2. Set save directory, auto filename, and file number for each acq in queue.
3. Allow option to keep Ion Gun Neut on in-between positions in queue.
4. More diagnostics support for 20-066
5. Ability to delete multiple positions from position list.

FIXED IN THIS VERSION

1. Changed default lens settings for Auto Z to avoid finding false peaks.
2. Load X-Ray setting into acquisition setup when load file.
3. Improved blank mode support for Fig-5.
4. Fix persistence/histogram/contrast enhancement. Now On/Off running average.
5. Fix bug where XPS line acqs wouldn't run due to AES spatial line validation check.
6. Fix bug where AES Z-Align wouldn't run if AES acquisition wasn't run first.
7. Egun deflection daisy chain address now set by model in configuration manager.
8. Fix bug where UPS acq would sometimes not run due to setting file containing a reference to high power X-Ray setting that wasn't being used.
9. Fix bug where XPS only configuration would display error if right-click on SXI Image area.

Release 2.4.1 - November, 2013

OVERVIEW

SmartSoft-VersaProbe V2.4.1 Adds: Bug Fixing

FIXED IN THIS VERSION

1. AES Z-Align does not work until another AES acquisition is run.
2. 60mm sample tilt limit 0-10 instead of 0-5.

Release 2.4.0 - September, 2013

OVERVIEW

SmartSoft-VersaProbe V2.4.0 Adds: AES/4700 Support from 710; Auto-Multiplex

NEW FEATURES IN THIS VERSION

1. Preview photo mode for SEM.
2. SEM image can now be taken during queue.
3. Color control for Stage Marker and FOV box on Platen Image.
4. Low/High Image Registration.
5. Basic Auto-Multiplex (Survey->PeakID->Import->AcquireMultiplex).
6. Properties and Settings parameter highlighting.

FIXED IN THIS VERSION

1. Intro Pumpdown will not timeout anymore.
2. Chamber Camera active X file and dlls installed with SmartSoft.
3. Fixed issues with Test Acquire annotation on graph and previous/next element buttons.
4. Make righ-click menus and annotation handling more consistent between SXI/SEM/Saved Image views.

Release 2.3.0 - February, 2013

OVERVIEW

SmartSoft-VersaProbe V2.3.0 Adds: Hot/Cold Stage Support; Bug Fixing

NEW FEATURES IN THIS VERSION

1. Prevac Yes/No configuration option changed to Rotation Limit Switch Yes/No to support new Hot/Cold stage which has same limits as Prevac Hot/Cold.
2. Alternate Sputter position is supported for GCIB depth profiling.
3. 32 channel SCA FRR mode supported (New SCA Lens table configuration).

FIXED IN THIS VERSION

1. Multiple step hysterisis correction for large changes to X-Ray Objective.
2. Fix GCIB lifetime timer, which wasn't working.
3. Fix problem where Ion Gun argon On/Off would sometimes say that the process timed out righ away before the normal 30 second timeout.
4. Data files now show source/analyzer angles for different source types.
5. Fixed problems with image registration Shift X/Y parameters editing/updating.
6. Removed restriction to disallow E-Neut during UPS acquisitions.
7. Default Z-Align 375.5 PE is now added to selections for Z-Align.

Release 2.2.1 - November, 2012

OVERVIEW

SmartSoft-VersaProbe V2.2.1 Adds: Dual Intro Cameras Fix, Energy Cursor, SXI/SEM/Saved Copy to Clipboard

NEW FEATURES IN THIS VERSION

1. Add copy to clipboard button for SXI, SEM, and Saved Image viewers.
2. Add intensity value to energy cursor display.

FIXED IN THIS VERSION

1. Fix problem with V2.2.0 where dual intro cameras would only use one set of calibration values.

Release 2.2.0 - November, 2012

OVERVIEW

SmartSoft-VersaProbe V2.2.0 Adds: New FRR Lens Table; Dual Intro Cameras (Intro and Prep); Gauze Lens Retry

IMPORTANT: V2.2.0 introduces a new ScaLensFRR.txt file which adds support for the 0.6% FRR mode. The old file: C:\SmartSoft-VersaProbe\Configuration\ScaLensFRR.txt should be removed or renamed before the installation, as the old file is not automatically overwritten. The ScaLensFRR.txt file can also be manually copied from the installation CD.

NEW FEATURES IN THIS VERSION

1. Use current platen image FOV to generate points (new point generation method).
2. Add 0.6% FRR mode (See important note above).
3. Add X-Ray parking mode during sputtering cycles of depth profile.
4. SmartSoft-XPS now sets the names of the gauges on the Varian control.

FIXED IN THIS VERSION

1. Add support for systems with two intro cameras.
2. Fixed zalar rotation error wording to state that platen must be 'close to flat' instead of '45 degrees'.
3. Fix drag stage move failing with 4-contact prevac stage locked when just U/V move.
4. Fixed energy step size for AES (1.0eV etc).
5. Make FOV of image registration independent of FOV for SEM.
6. Added retry mechanism for data acquisition to help with gauze lens errors.
7. Fix problem of hitting 'Stop' followed by 'Abort' in acq status window not working.
8. Fix problem where target emission for sputter setting would get overwritten with queued acuisitions with pulsed neut Z-Aligns as part of queue.
9. Fix memory management issue that was causing various memory leaks.

Release 2.1.1 - August, 2012

OVERVIEW

SmartSoft-VersaProbe V2.1.1 Adds: PHI USA GCIB Control; Bug Fixing

NEW FEATURES IN THIS VERSION

1. Show center mark option on center of chamber camera.
2. Support new PHI USA GCIB controller.

FIXED IN THIS VERSION

1. Don't allow 'User' password to be changed through Change Password Dialog.
2. Add 0.33 zoom factor so that there is an option that displays full FOV of camera without resizing the window.
3. Remove excessive flashing when 'Close All' performed on muliple open data files.
4. Set ScanX and ScanY increment when clipping error occurs on SXI restart.
5. Add maximum count value back into display of Test Acquire.
6. Fix bug where changing position of Refresh Acquisition while it was starting up would cause hardware parameters to skip getting setup.
7. Open up TFC coefficient max values.
8. Fix bug where stopping an acquisition, then selecting 'More', SmartSoft wouldn't remember how many cycles were completed.
9. Remove 'Low Count Error' from Auto Z.
10. Add support for Chamber Camera communication recovery when computer is rebooted.
11. Increase C60 X & Y steering by one significant digit.
12. Fix bug where AES E-gun Stig 2 wobble gets stuck ON.

Release 2.1.0 - April, 2012

OVERVIEW

SmartSoft-VersaProbe V2.1.0 Adds: CoSputtering; Improved Peak ID; AES updates from 700xi; Bug Fixing

NEW FEATURES IN THIS VERSION

1. Add “Administrator“ user level to access 'Service' features.
2. Save system parameters at selectable intervals or 'Never Save' option.
3. Add option for users to disable prompt when Settings change, but haven't been saved.
4. Auxiliary Prep chamber configuration support.
5. Dual Sputtering with C60 or GCIB and Argon secondary sputtering.
6. Grab cursor in SEM view for interactive image shift.
7. SEM histogram display.

FIXED IN THIS VERSION

1. Do not require stage initialization after motor power cycle, unless SmartSoft was not shut down cleanly.
2. Stage Center position moved to properties page.
3. Pan buttons in Sample google toolbar now control stage similar to SXI and SEM.
4. Improved XPS Peak ID.

5. Improved Deconvolution.
6. Improved Test Acquire.
7. AES analysis points can now be defined on previously acquired map.
8. Current Directory now split into Acquisition Directory and Browse Directory.
9. Fix setting of Peak and Background cursor positions.
10. Fix Image Registration for 2nd or later regions not working properly.
11. Fix SEM magnification value being display correctly when changed.
12. Image Registration FOV is independent of SEM FOV.
13. Improvement with C60 Auto Startup to allow temperature ramping to overshoot
    and move on instead of waiting for temperature to settle back.
14. 10kVC60: Fix X/Y Calibration values and resend size and offsets upon change.
15. 10kVC60: After turning on High Voltage, wait a second before loading setting
    this is the same fix that was done for 20kVC60 w/ V1.2.0.
16. Fix memory leak with Bias Box mode changes and Heat Exchanger On/Off calls.
17. Channel Maxing option is defaulted to 'Enabled'.

Release 2.0.0 - November, 2011

OVERVIEW
SmartSoft-VersaProbe V2.0.0 Adds: Channel Maxing; PreVac Stage Support; Canon X4;

NEW FEATURES IN THIS VERSION
1. Channel Maxing and Deconvolution.

FIXED IN THIS VERSION
1. Fixed AES Beam Size acquisitions with scintillator configured.
2. Fix bug where changing SEM Magnification from combo box wasn't updating the
   AES Beam Size acquisition X-axis

Release 1.2.0 - September, 2011

OVERVIEW
SmartSoft-VersaProbe V1.2.0 Initial Release of SmartSoft-VP for VersaProbe II Instruments

NEW FEATURES IN THIS VERSION
1. Added logging of SmartSoft-VersaProbe's version number in System Logs.
2. Add Support for PreVac stage with 4-Contacts heating module
   (Lock stage, rotation protection)

FIXED IN THIS VERSION
1. 20kVC60 command to set 'Sputter' vs. 'Blanking' was backwards.
2. Fix GCIB tracking beam voltage when raster is changed.

3. Issues reading cold cathode pressure and state, so Sample Transfer procedure will perform Intro Pumpdown when cold cathode pressure readback is questionable.
4. Add delay when switching 20kVC60 mode from Off -> Standby to avoid issue of target temperature not being set correctly while controller is turning on high voltage.
5. Fix C60 pressure display on vacuum glyph. It was not updating the C60 fields with the correct pressure readback.
6. Fix blanking status in 20kV C60 diagnostics menu, change of logic.
7. Fix 20kVC60 Raster Calibration values in Properties view not being set correctly.
8. Change default Max Stage Z height to 20 mm.
9. When running acquisition with UPS allow Neutralization to be On.
10. Disable meters 2&3 in diagnostics. Hardware supports 3 meters, but is only using 1 currently.
11. Fix issue where bend voltage is clipped to -350 when profile setting is loaded.
12. Fix bug where Read Beam Power would fail to move anode and Beam Power button is then stuck.
13. Fix bug where positions could be lost on SmartSoft crash or force quit.
14. Fix issue with SXI gamma value having incorrect default value and not reading/writing from/to property file correctly.

HELPFUL HINTS

1. Entry fields must be 'terminated' either by selecting the <Enter> key or by moving to another parameter field. If the application is exited before the value is terminated the change will not be saved.