

## BView Release Notes

### BView 1.4n – Oct 2022

- Add new cycle parameter "CellV Wh/Ah (V)". This is similar to an average voltage during a charge or discharge.

### BView 1.4m – Sept 2022

- Improved icons in the file loading screen.
- Modified FlowCell license requirements.
- Rockey4 driver is no longer installed. It can be manually installed for use with older keys (serial numbers 1000-9999).

### BView 1.4k – May 2022

- The Aux T (temperature) listed an incorrect unit in Japanese translation. Changed to C (celsius)
- If the default data columns are used, they may be displayed on English instead of Japanese when BView is first opened. Corrected.

### BView 1.4j – February 2022

- If "Save Every Nth" is used with "Reset Capacity between Cycles" in BCycle while measuring data, BView recalculates the capacity for waveform cycles that are available and uses the Cycle File capacity for cycles where the waveform is not saved.
- The Waveform Export functions do not export half cycles that contain only charge or only discharge data. Corrected
- If the cycles list on the main screen are collapsed, the popup menus for Cycle(single) and Waveform(single) will select the wrong file. Corrected.
- If the cycles list on the main screen are collapsed, the checked lines are not highlighted. Corrected

### BView 1.4i

- Add DetectZeroBetweenCycles function to detect if a BCycle data file was saved with "Zero Capacity Between Cycles" selected. Ini file setting required to activate.

### BView 1.4h

- Improved merging of MultiStat files with separate files for charge and discharge

### BView 1.4g

- When exporting data using the Waveform-Vertical 2 format, the correct cycles are exported, but the listed cycle number is incorrect.
- Add option for "Add Blank Line between C/D segments" to the Export Waveform-Vertical 2 format.

- In Waveform Export, time precision was limited to 2 decimal places. Added extra decimal places if the time units are Minutes or Hours.

#### BView 1.4f:

- In the file list display, allow search with first character of folder/file.
- The application may show an error when accessing the Data Files screen because the default folder is not available on the pc. Corrected.
- Added Japanese translation of "Mode" and "OC"

#### BView 1.4e:

- If a MultiStat data file with a Galvanic Cycle experiment is loaded, the cycle.txt is now ignored and charge values are calculated from the data.

#### BView 1.4d:

- Added Reference Electrode Offset value to the File loading screen. This value is used to offset the Aux value.
- If a bcycle experiment has mixed loops with 'Save in Separate Files', and other steps that are outside of the loop, the data from the extra steps may not be loadable in BView. Corrected.
- Added Charge\_Delta parameter to the table and Cycle graph. This reflects the charge passed in a limited voltage or time region.
- The display of Capacity\_Cumulative now starts at zero when using a 'discharge first' cycle.

#### BView 1.4c:

- Added PITT analysis technique
- Explicitly close the language package to prevent a rare error : "FastMM has detected a FreeMem call after FastMM was uninstalled"
- In the file loading screen, double-clicking on a blank area (not a file name) can cause an error message. Corrected.

#### BView 1.4b:

- Add support for ZPlotLab data.
- Add support for CorrWare. All cycles must be within a single .cor file. File can be merged in CView.

- In some cases, the first point of a charge or discharge step is misidentified by 1 point, so that 1 point is missing when displaying charge only or discharge only. Corrected.

- Added language localization support.

- Selecting "Dot" as the marker type in the Data Files screen will crash when displaying a Cycle graph. Corrected.

#### BView 1.4a:

- Added a double-dot '..' method for selecting the user selected waveform numbers in the Options screen.

- Added items to popup menu to allow the User Cycle List to be applied to Cycle Graph type.

- Add free FlowCell data support until 2017/12/1

- Add support for Hioki AuxV and AuxT values saved to BCycle data file.

#### BView 1.3g:

- Add dV/dQ axes

- Added [Format] section to BView.ini with DecimalSeperator and ThousandSeperator settings to apply number displays settings that are independent of the Windows Region settings.

#### BView 1.3f:

- Add multi-selection of files to plot. This allows the Surface Area and other parameters to be set for multiple files in one operation.

- Add display resolution options to Options screen

- If multiple Discharge CC steps are performed in a row, the first is saved to DischargeCC, the others are reported as DischargeCC2

- With MDat files, if no data is saved for a segment, when calculating charge on the next segment, it would assume the new current was applied during the period of the missing data. Corrected.

- With MDAT files, if multiple repeat loops, all with one repeat are used, cycles can be incorrectly combined because they are all listed as "Repeat #1". Corrected by watching for positive/negative current when reading "Repeat #1".

#### BView 1.3e

- Added options to calculate  $dQ/dV$  over a fixed number of points or a delta V range. Use the Options window to select.
- Added Cycle columns for Charging\_AuxT\_Start, Charging\_AuxT\_End, Charging\_AuxT\_Delta and matching Discharging values. These parameters are read from the Aux Temperature in MultiStat data files.
- Added an option to export data in a horizontal format for both the Cycles data and Waveform data. When multiple Cycles or Waveforms are exported, additional columns are added to the clipboard/export file instead of extra rows.
- Changed how Capacity\_Cycle is calculated to improve the appearance of the graph when discharge is measured before charge. In previous versions, if discharge occurred first, the Capacity\_Cycle values would be negative. It now displays positive values, the same as if the charge occurred first.
- Added Capacity\_Cumulative waveform axis. This allows the coulombic efficiency to be visible on a Capacity\_Cumulative vs Voltage graph. Other Capacity graphs start each cycle at 0, the Cumulative graph reflects any mismatch between total charge and total discharge. The idea is that it has a cumulative Capacity calculated at each point in the full run. This cumulative Capacity does not reset to zero at the start of each cycle. When a graph is displayed, it searches for the minimum cumulative capacity in the displayed segments. It offsets the graph so the cumulative capacity is always zero or greater. It also correctly displays a pretreatment that only performs a partial charge.
- If Constant Power is measured in BCycle, the data CP data will now be reflected in the "Constant Current" values in BView (Charging Capacity CC, Charging Energy CC, etc. include both CC and CP).
- Previously only CC data could be displayed in the  $dQ/dV$  graph. CP data can now be displayed in the  $dQ/dV$  graph.
- Add support for Cyclic Voltammetry data measured in MultiStat.
- Add support for Temperature data from MultiStat.
- Adds an option for a user selected list of cycles. This is similar to Select Every Nth, but uses a list like 1,5,10,20,50,100. The list is entered in the Options screen. It is used by right-clicking on the main data table.
- Fixed a sorting problem with .zip data files.
- Improvements to Capacity\_Cumulative and Capacity\_Cycle graphs
- Custom Axis labels are now retained when saved to a setup file and when other axes are changed.

### BView 1.3d

- Improved data loading of MultiStat data when loops are only run once.
- Added checkboxes to Export Cycles and Export Waveform to make the blank line between segments optional.

- Add support for Windows 10