

PRODUCT RELEASE NOTES

P/N 015702-002 Rev. 01



Product: Ponemah™ Physiology Platform
Model: Ponemah
Version: 6.71
Build: 30429.7
Date: June 2025

Product Release Notes for Ponemah v6.71 indicate revisions made to the Ponemah application since the release of v6.20. Please note, Ponemah v6.31 was not a commercial release on Ponemah.

Compatibility

Ponemah v6.71 is compatible with the 64-bit version of Windows 10 version 1607 and later, as well as Windows 11. It is also compatible with Microsoft Office 2007 or greater.

Notes:

- Microsoft .NET framework 4.7.2 is required and is part of the installation.
- Installation must occur from a Windows® Administrator account.
- Installing to the Program Files folder in Windows® is not supported.
- Windows 10 and 11 Home Edition are not supported. See [Compatibility Note](#) for details.

New features, enhancements, and fixes

Ponemah Core

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| 65743 | 6.70 | Added ability to configure hardware and acquire from DSI's new SoHo Telemetry Platform's SoHo-X00N temperature device. | New |
| 68485 | 6.70 | Added the ability for users to define default Graph setting values used for Low and Hight Units, as well as line Color, when Graph Auto Configure is selected. | New |
| 51260 | 6.60 | Added support for Noldus Media Recorder v6.0 | Enhancement |
| 51261 | 6.60 | Replace log4net library with newer version for better security. See also this article in the US national vulnerability database. | Enhancement |

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| 51287 | 6.60 | Updated Sentinel hardware security driver to v7.6.1 | Enhancement |
| 51289 | 6.60 | Added support for DSI Link v3.3 | Enhancement |
| 38648 | 6.51 | Updated the TA2 derived parameter output resolution to display a whole number. | Fix |
| 46462 | 6.51 | Fix added to Remote Notification configuration of multiple emails when a space is included with the separators (comma or semi-colon) in the Email to fields. | Fix |
| 46446 | 6.51 | Fix added to prevent Ponemah for shutting down unexpectedly when auto scaling graph pages. | Fix |
| 46387 | 6.51 | Removed the ability to add period/decimal points to Experiment and Subject names to prevent data loading issues into third-party software. | Fix |
| 46169 | 6.51 | Fix added to automatically create graph pages for EEG signals when using the Arrange By Signal primary graph feature. | Fix |
| 46056 | 6.51 | Fix added to permit Ponemah to run as expected without Administrator Privileges. Note: If upgrading from previous versions may need to manually modify the C:\ProgramData\DSI folder and all subfolders to allow FullControl access to Everyone. | Fix |
| 45219 | 6.51 | Added the ability to import Ponemah v5.3x and v5.4x data. | Enhancement |
| 43467 | 6.51 | When adding a Glucose implant to a subject that has a previously configured temperature channel, there was potential that the Glucose Analysis module would use the wrong temperature channel for temperature correction. A warning message has been added to advise the user to manually select the correct temperature channel. | Fix |
| 44847 | 6.50 | Added TLS to Remote Notification (Email Alerts). | Enhancement |
| 43649 | 6.50 | Improvements added to allow user to customize data export output while in Idle Mode by selecting to include only user-designated signals. | Enhancement |
| 42980 | 6.50 | Added DSI-Link 3.0 support | Enhancement |
| 42042 | 6.50 | Fix added to correct experiment log export error caused by invalid characters. | Fix |
| 41504 | 6.50 | Fix added to support reuse of transmitters within an Experiment. | Fix |

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| 35681 | 6.50 | Fix added to adjust the width of columns in Pivot Compatible Outputs to match the contents of each column. | Fix |
| 44220 | 6.42 | If an experiment contained more than one subject and the logging mode was set to epoch, trigger channel selection did not behave as expected. This has been corrected. | Fix |
| 43676 | 6.42 | Fix added for issue where the offset for pressure data from Ponemah v5.x was not correctly imported | Fix |
| 43655 | 6.42 | Ponemah 5x JET-BP data was not imported correctly. This has been fixed. | Fix |
| 43615 | 6.42 | Fix added for issue where incorrect columns in the Data Reduction and Derived tabs of an Excel output resulted when data was exported in Idle mode | Fix |
| 42977 | 6.42 | Added EEG Analysis Module support | New |
| 42975 | 6.42 | Updated compiler to Visual Studio 2017 | Enhancement |
| 42086 | 6.42 | Fix added for issue where Ponemah does not jump to the correct position in a video file when double-clicking on a line in the derived data table | Fix |
| 42047 | 6.42 | Fix added for issue where Ponemah v6.4x would crash when trying to open converted Dataquest ART data after first analysis in Ponemah | Fix |
| 30327 | 6.42 | Added EDF file format as an output option | New |
| 41431 | 6.41 | Fix added for issue preventing data export during acquisition. | Fix |
| 40951 | 6.41 | Permit saving of Marks without saving derived data. | Enhancement |
| 40031 | 6.41 | Improvements added to increase efficiency of saving derived data by having selectable options for Enabling Excel Output, Pivot Compatible Output, and saving the results database. | Enhancement |
| 40240 | 6.40 | Fix added to correct issue where enabling Digital Display and applying to too many subjects resulted in a system crash. | Fix |
| 38789 | 6.40 | Remote Connection capability added to allow external applications to connect to a Ponemah acquisition system and receive parameter data. This is an optional paid feature. | New |
| 37843 | 6.40 | Removed audible notifications (beeps) to prevent user and test subject disturbance. | Enhancement |

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| 37574 | 6.40 | Fix added to correct system freezing issue when implants were dragged from one subject to another in the Subject Configuration page. | Fix |
| 37482 | 6.40 | Fix added for issue where the system would crash during Experiment creation if the Experiment name contained too many characters. | Fix |
| 37200 | 6.40 | Fix added to correct issue where the system would crash if exporting of data in a new Experiment was attempted without having acquired any data. | Fix |
| 36572 | 6.40 | Fix added for issue where the ProcessMonitor application crashes with an indexing error if access to the same process is attempted more than once. | Fix |
| 36390 | 6.40 | Updated privileges to allow User Only access for organizations that prohibit users from operating as Administrators. | Enhancement |
| 35178 | 6.40 | Added all hotkeys to improve user efficiency. Please see the Ponemah Hotkeys document on the DSI Support Knowledge Base and on the DSI Support Mobile App for a comprehensive list. | Enhancement |
| 39316 | 6.33 | Added a Graph Defaults menu to allow users the ability to customize the signals displayed and y-axis range for each signal type when using the Arrange by buttons to autoconfigure graph pages. | Enhancement |
| 39517 | 6.33 | Fix added to Experiment Export feature to display RealTime within the Derivations tab in the users' time zone, instead of Coordinated Universal Time (UTC). | Fix |
| 39430 | 6.33 | Fix added to permit the users the ability to Export or Cancel from the Experiment Export dialog when a large number of Subjects are listed in the Subject Selection column. | Fix |
| 39356 | 6.33 | Fix added to display Events entered during an Acquisition or Review session in the Events column of the Excel output Derivations tab when using the Experiment Export feature. | Fix |
| 39354 | 6.33 | Fix added to correctly display the column headers of the Graph Setup when using a 64 bit, Windows 7 Japanese Operating System. | Fix |

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| 37228 | 6.32 | Fix added to allow users the ability to make changes to the Subject Details or Channel Details when using a Ponemah v6.30 Post (Review only) license. Derived Parameters may now be enabled or disabled. | Fix |
| 38522 | 6.32 | <p>Fix for Ponemah unexpectedly shutting down during acquisition due to an unhandled exception from the built-in Process Monitor when multiple 3rd party applications are started and stopped.</p> <p>Workaround:</p> <ol style="list-style-type: none"> 1. Select Setup menu Application Configuration 2. Select Advanced 3. Navigate to SystemMonitor.Processes.Level 4. Update Value from 1 to 0. | Fix |
| 38539 | 6.32 | Fix for Ponemah unexpectedly shutting down upon Save & Exit from the MX2 Configuration dialog when greater than 128 input channels are present within the Experiment. | Fix |
| 38574 | 6.32 | <p>Fix for Ponemah preventing more than 64 subjects to be configured within an Experiment. Should the user have greater than 64 subjects, a popup dialog would be presented upon clicking Save & Exit from the MX2 configuration stating "A maximum of 128 subject can be configured."</p> <p>Ponemah now permits the expected 128 subjects per Experiment maximum.</p> | Fix |
| 34039 | 6.30 | Added Parameter Viewer feature to quickly and easily visualize Derived Parameter data. | New |
| 34387 | 6.30 | Added Subscription Licensing to allow time-based licensing schemes and notifications. | New |
| 32270 | 6.30 | Added Windows 10 support. | Enhancement |
| 33788 | 6.30 | Improved location of the Derivations and DataReduction Pivot Compatible sheets within the Excel output to be more easily located when large numbers of animals are being used. | Enhancement |
| 34427 | 6.30 | Added the ability to use Experiment Export Data... to export Derived Parameter and Data Reduction data from Idle mode of a Review while Acquiring instance of Ponemah while actively acquiring data. | Enhancement |

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| 34993 | 6.30 | Updated the Export Data... Excel file naming convention to use a 24-hour clock to more easily discern when files were created. | Enhancement |
| 35171 | 6.30 | Formatted the Date and Time columns of the exported Pivot Compatible sheets as Date and Time values within the Excel output to more easily create pivot tables. | Enhancement |
| 35268 | 6.30 | Updated the Experiment menu Export Data... feature to allow users the ability to choose to only export the Pivot Compatible Sheets , only export the Individual Subject Sheets , or both. | Enhancement |
| 35680 | 6.30 | Formatted the Value of the exported Pivot Compatible sheets as a Number within the Excel output to more easily create pivot tables. | Enhancement |
| 35930 | 6.30 | Added an entry in the Application Log when an email alert is sent. | Enhancement |
| 35538 | 6.30 | Fix for the default Analysis Modules settings not updating upon changing the Species type within the Subject Setup. | Fix |
| 35602 | 6.30 | No longer placing zeros into the Results Database during an Acquisition with no signal is present. This was updated to placing NULLs into the database to more accurately represent the data. | Fix |
| 36116 | 6.30 | When exporting (Experiment Export Data) results generated during acquisition using Ponemah v6.12 and v6.20, the resultant Excel file incorrectly reports the Start Time (blank cell) from the first line of logged data for each acquisition performed. This has been corrected in Ponemah v6.30, in addition, a notification has been added to the Export Data dialog to inform the user if the currently loaded Experiment contains invalid data/time values. The erroneous values can be corrected by loading the data into Review and selecting Save Derived Data. | Fix |
| 36119 | 6.30 | The Export Data dialog and Exported data displayed time based on the local time zone instead of the time zone in which the Experiment was collected. This has been corrected. | Fix |

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| 35942 | 6.30 | The progress dialog may show incorrect information when using Export Data with Data Reduction enabled. Percentage complete greater than 100 is displayed. This has been corrected. | Fix |
| 36083 | 6.30 | Remote Notification's email alert will now use the Derived Parameter units instead of the Channel's units. | Fix |
| 36048 | 6.30 | During acquisition, if alarms are used with multiple schedule groups, and if an alarm is active at the end of a schedule it will report an alarm on each logged line of the unrelated schedule groups. This may result in multiple email alerts if they are enabled. This has been corrected. | Fix |
| 36028 | 6.30 | The Application log will now list the Acquisition start time in local time instead of UTC time. | Fix |
| 35679 | 6.30 | When selecting the Apply Channel Settings to Similar Channels button in the Subject Setup Channel Details dialog, an informative dialog is presented. When many channels are affected, the OK/Cancel buttons were not visible. This has been corrected. | Fix |
| 30856 | 6.20 | The Ponemah software was updated to run as a native Windows 64-bit application. | Enhancement |
| 32789 | 6.20 | Added an Apply to Similar Channels button to the Channel Details page of Subject Setup. This permits the user to custom configure one of the Subjects' Channels in the list and apply those same custom settings to all Channels defined to the same Analysis Module. This includes the following Channel Detail settings: Parameters, Digital Displays, and Alarms selections. | Enhancement |
| 33491 | 6.20 | The Autoconfigure and Autoaggregate buttons located within the Graph Setup dialog to facilitate easier graph configuration have been relabeled to more specifically state their purpose. The Autoconfigure button has been updated to Arrange by Subject , which will create a unique graph page per Subject. The Autoaggregate button has been updated to Arrange by Signal , which will create a unique graph page per Signal. | Enhancement |

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| 32793 | 6.20 | Clicking the Arrange by Signal button within Graph Setup creates a graph configured with similar signal types. Originally, the label generated for each configured signal was the Channel label, making it difficult to distinguish which Subject the signal belonged to. This has been updated to label each signal with the Subject Name. | Enhancement |
| 32798 | 6.20 | When using the Arrange by Signal button to automatically configure the graph pages, the signals would be difficult to see if more than 8 signals were configured. The user can now define the number of signals Ponemah will automatically configure per graph page when selecting the Arrange by Signal button. For example, if the maximum number of signals defined per graph page is 5, and there is a total of 15 blood pressure signals, selecting the Arrange by Signal button will result in three graph pages being configured, each with 5 signals configured per page. | Enhancement |
| 29515 | 6.20 | Graph and Digital Display settings would not display as expected once implants or channels were removed or added to the Experiment. Starting a new acquisition after these were added/removed would lead to inconsistencies in what was being actively displayed in the Graphs and Digital Displays. This has been corrected. | Fix |
| 27581 | 6.20 | Fix to allow multi-select within the Graph Setup dialog for a more efficient customization of graph pages. | Fix |
| 33731 | 6.20 | Fix for saving changes made to Graph Setup within Review altering the Graph Setup in Idle and Acquisition. This has been corrected to keep the Graph Setup settings separate between Idle/Acquisition and Review to support the data display requirements necessary between the modes. | Fix |
| 21944 | 6.20 | Ponemah's Derived Data Export (Experiment menu Export Data) allows an efficient method to export derived data from multiple Subjects and across multiple acquisition days without requiring the raw waveform data to be loaded into Review. Event and Alarm information have been added to the Excel output. | Enhancement |

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| 28387 | 6.20 | <p>The original time format of the Excel output file from Experiment menu Export Data and from Saving Derive Data in Ponemah Review has been updated for easier, more efficient data calculations and reporting. A separate column is now available for the following:</p> <ul style="list-style-type: none"> • Date • Time • Time Zone • Elapsed Time | Enhancement |
| 31004/ 31031 | 6.20 | <p>Added the ability to output Pivot Compatible sheets for Derived Parameter and Data Reduction data when exporting data to Excel from Experiment menu Export Data and from Saving Derive Data in Ponemah Review. The Pivot Compatible sheets output data from all Subjects into a single data table / Excel spreadsheet. Pivot Compatible sheets are used to simplify and eliminate data consolidation errors from the data summarization process. They may be used to create Excel Pivot Tables for an efficient method of obtaining summarized data tables and graphs. They are also useful for importing data into 3rd party software for further data processing and reporting, e.g. LIMS, SAS, and R.</p> <p>Two new Excel spreadsheet tabs will be available in the Excel output:</p> <ul style="list-style-type: none"> • Derivations – contains the Derived Parameter data • DataReduction – contains the Data Reduction data | Enhancement |
| 31544 | 6.20 | <p>Fix for representing invalid data ('x' in Ponemah Review Derived List Views) as 1E+16 when exporting data to Excel. This has been updated to now leave the Excel cell blank in these instances.</p> | Fix |
| 32427 | 6.20 | <p>When using Data Reduction, users may choose to display the time at which the maximum (MaxT) and minimum (MinT) derived parameter value occurred within the Data Reduction interval. The resultant Data Reduction Excel output would not display the date and time correctly, as the cell was formatted as a number.</p> <p>This has been corrected to correctly format these cells as Date and Time.</p> | Fix |

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| 33468 | 6.20 | <p>Exporting derived parameter data to Excel from a Ponemah Review session would include any Event marker(s) associated with the data exported. Similar to the Derived Data List View within Ponemah Review, the Excel output would display the Event within the row of data corresponding to the logged line of data to provide timing information for when the Event occurred and relative position within the data set. This exported Excel output would place this Event a row (logged line) off.</p> <p>This has been corrected.</p> | Fix |
| 32759 | 6.20 | Fix for unexpected shut down when exporting a large amount of derived data using the Experiment Export Data feature. | Fix |
| 33527 | 6.20 | <p>If data was acquired from a Subjects' Input Channel with the incorrect analysis module selected, the user can simply update the analysis module to the correct one from the Subject Setup dialog. The user will be notified that Ponemah will delete all derived parameter data associated with the channel due to this change, if they wish to continue. Once changed, the waveforms may be loaded into Ponemah Review, reanalyzed, and the results can then be exported to Excel. However, when exporting outside of Ponemah Review using the Experiment menu Export Data the resultant Excel file would contain the parameters and analysis module information from the original analysis module selected.</p> <p>This has been corrected.</p> | Fix |
| 31879 | 6.20 | Fix for user interface dialogs and buttons to display appropriately when high resolution display screens are used. | Fix |
| 33616 | 6.20 | <p>Fix to no longer require the Experiment folder name to match the name of the Experiment to more easily open manage Experiments files.</p> <p>To open an Experiment, simply select the .PnmExp file.</p> | Enhancement |
| 31320 | 6.20 | Added the ability to create a new Experiment using only existing waveform files. | Enhancement |

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| 33043 | 6.20 | Remote Notification sends automated alerts for subject- and system-level conditions via email or text message. When a channel's parameter value achieved an alert condition, a notification was sent as expected. However, the notification would include information on all enabled channels instead of just the channel triggering the alert. Additionally, the extraneous channel information would contain parameter values of '0.00'. This has been corrected to only report the channel parameter triggering the alert. | Fix |
| 32920 | 6.20 | Fix for Ponemah getting into a not responding state when Importing an Experiment using a Protocol file (.PRO) from Ponemah v4.90 or prior when Data Parser was enabled. | Fix |
| 31878 | 6.20 | Fix for Default Species changes made in Setup Application Configuration Advanced menu not being reflected in the Subject Configuration when creating new subjects. | Fix |
| 32951 | 6.20 | Fix for Ponemah recognizing a license configured with only a PhysioTel Digital acquisition interface as a 4 subject license, despite having 8, 12, or 16 subjects enabled. | Fix |
| 33255 | 6.20 | Fix for requiring a license file update to run a Ponemah Service release. | Fix |

MX2 Acquisition Interface

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 41296 | 6.41 | HD-X02, HD-S02, F20-EET, F40-EET now defaults channel 1 to EEG and channel 2 to EMG | Fix |
| 40643 | 6.41 | Fix added for issue where changing an implant channel signal-type was not changing the default channel name/label | Fix |
| 40180 | 6.40 | Added HD-S20 and HD-S1 support. | Enhancement |
| 38085 | 6.40 | Changed positioning of "OK" and "Cancel" buttons for User Interface consistency. | Enhancement |
| 37535 | 6.40 | Fix added for crashing issue which occurred during Scheduled Sampling when an MX2 implant could not be found. | Fix |

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| 36486 | 6.40 | Fix added to correct issue where the use of a backslash in the Subject Name in an MX2 configuration resulted in a "Cannot create DER buffer file" error message. | Fix |
| 35791 36052 37580 | 6.33 | Added configuration UI improvements to use color-blind friendly icons, show NTP synchronization status, as well as instructional information on each page. | Enhancement |
| 36364 | 6.33 | Added visible notification to the About section of the MX2 Details page and the MX2 hover text to update MX2 firmware version if the currently installed firmware is not the latest known by the software. | Enhancement |
| 35684 | 6.33 | Added the ability to permit resizing of the MX2 configuration dialog. | Enhancement |
| 38821 | 6.33 | Added a Set MX2 Name button to make name changes more explicit to the user. | Enhancement |
| 38290 | 6.33 | Fixed issue where entering a bad calibration value and storing configuration was leading to clearing out of all calibration values for that implant. | Fix |
| 38056 | 6.33 | Fix to prevent an unexpected shutdown when the same implant is configured on multiple MX2s. Fix no longer allows the same implant to be configure to multiple MX2s, especially when adding and removing MX2s from the configuration. | Fix |
| 37543 | 6.33 | Fixed Unicode error seen when launching Diagnostics (found on Windows systems with Japan region). | Fix |
| 37558 | 6.33 | Fix to disallow implant name from containing any characters that could cause issues with filenames or paths. | Fix |
| 36754 | 6.33 | Updated filter adjustment values on EEG channels for F40-EET/F50-EET/F50-EEE (from 0.5dB drop to more appropriate value of 2dB.) | Fix |
| 34004 | 6.30 | Added support for new HD implant models. | Enhancement |
| 34485 | 6.30 | Removed all Ponemah generated numbers from beginning of implant channel name/labels within the Label fields of Subject and Channel Details . | Enhancement |
| 34813 | 6.30 | Fix for Ponemah unexpectedly becoming unresponsive upon selecting Save & Exit from the <i>MX2 Configuration</i> dialog after a seventh MX2 had been added. | Fix |

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| 35586 | 6.30 | Create New Implant button (as seen from the Inventory Implant Details page) was not enabled if this implant was just removed from the configuration. | Fix |
| 35607 | 6.30 | Inventory Reconciliation dialog was appearing unnecessarily due to use of timestamp rather than details to determine whether implant values were identical between configuration and inventory. Also, added tooltip to the Inventory Reconciliation to enumerate any differences. | Fix |
| 32779/ 33599 | 6.20 | The default Sampling Rates for the HD-XG device have been updated to the following: <div style="margin-left: 40px;"> Glucose 1 Hz Temperature 1 Hz Activity 1 Hz Battery Voltage 1 Hz On Time 1 Hz Signal Strength 10 Hz </div> | Fix |
| 31747 | 6.20 | In the MX2 hardware configuration, the user may select any available, connected receiver to associate with an implant. The receivers that have a different frequency designation will now be grayed out to ensure the incorrect receiver is not selected. | Enhancement |
| 31752 | 6.20 | The user is now notified if the MX2 is not synchronized when attempting to get Battery Status or search for HD device. | Enhancement |
| 32299 | 6.20 | Fix for issue in MX2 configuration where user could not add decimal points to calibration values. | Fix |
| 32879 | 6.20 | Fix for erroneous reporting of a zero HD battery calibration value as an error. | Fix |
| 33217 | 6.20 | Added the ability for users to sort implants in configuration tree-view based on model, serial number, name, or jack number. | Enhancement |
| 33152 | 6.20 | Improved error handling for bad implant calibration values. | Enhancement |
| 33221 | 6.20 | Fix for intermittent false battery voltage alarms (HD devices only). | Fix |
| 33258 | 6.20 | Fix for Ponemah unexpectedly shutting down if acquisition is running for an extended period of time with one or more implants out-of-range, have a dead-battery, or are in the OFF state. | Fix |

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| 33321 | 6.20 | An MX2 firmware change to improve UPnP(discovery) was resulting in connectivity issues when starting configuration before hardware is connected and setup. | Fix |
| 34078 | 6.20 | Fixed incorrect Temperature channel-type on F40-EET / F50-EET. | Fix |
| 34145 | 6.20 | Fixed issue where if one or more implants are out-of-range, have a dead-battery, or are in the OFF state upon starting acquisition, all implant data would be displayed in Ponemah with a 14 second delay (from real-time). This does not impact the timestamp of the data, only when the data is displayed during acquisition. | Fix |
| 34329 | 6.20 | Fixed issue in configuration where implants had incorrect receiver assignments when moving implants from one MX2 to another. | Fix |

PhysioTel Digital (CLC) Acquisition Interface

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 46538 | 6.51 | Updated the default input signal range for ECG to be +/- 15 mV for solid tip leads to avoid signal clipping | Enhancement |
| 43400 | 6.42 | Update to display PhysioTel Digital battery life information in the Sampling Control window | Enhancement |
| 41297 | 6.41 | Pressure and Biopotential channels now default their channel description to the name of their selected SignalType | Fix |
| 41269 | 6.41 | Default biopotential range for ± 10 mV gain setting is now ± 10 mV instead of ± 14 mV. | Fix |
| 40995 | 6.41 | Added ability to enable/disable a channel from channel details configuration page. | Fix |
| 40117 | 6.41 | Implants unable to join to due a CLC being out of capacity are now displayed in red with a hovertext explanation. | Fix |
| 39594 | 6.41 | Added support for L03 and L04 implant models | Enhancement |
| 38940 | 6.41 | Added support for M0G and M1G large animal glucose implant models | Enhancement |

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| 40365 | 6.40 | Implant was unable to successfully configure to CLC after exiting from Implant Search Dialog (required cancelling configuration and trying again). | Fix |
| 40364 | 6.40 | Implant was being changed to incorrect frequency after exit from Implant Search Dialog when discovering implants from multiple frequencies. | Fix |
| 40181 | 6.40 | Unable to add new implants to CLC that already has configured implants that are OFF or out-of-range. | Fix |
| 39902 | 6.40 | Implant was incorrectly displaying green icon on exit from Implant Search Dialog when not connected or on different frequency. | Fix |
| 39817, 40402, 40412 | 6.40 | Downgrade CLC DSP input/output queue full message, TRX error(s), and 'unknown CLC message(s) severity from ERROR to INFO severity level. | Enhancement |
| 39814 | 6.40 | Implants that were off were incorrectly displaying yellow icons when their associated CLC could not connect (should be red icons). | Fix |
| 39469 | 6.40 | Filter Cutoff value in configuration not updating value back to default when signal-type is changed. | Fix |
| 36222, 37320, 37321 | 6.33 | Removed the Implant Configuration Wizard in favor of single-item CLC and Implant add/remove(s), including an Implant Search dialog that operates per CLC. Also, added ability to turn all configured implants off at once. | Enhancement |
| 35791, 36052, 37580 | 6.33 | Added configuration UI improvements to use color-blind friendly icons, show NTP synchronization status, as well as instructional information on each page. | Enhancement |
| 36364 | 6.33 | Added visible notification to the About section of the CLC Details page and the CLC hover text to update CLC firmware version if the currently installed firmware is not the latest known by the software. | Enhancement |
| 35684 | 6.33 | Added the ability to permit resizing of the PhysioTel Digital (CLC) configuration dialog. | Enhancement |
| 34819 | 6.33 | Added ability to use up to 6 implants per CLC depending on frequency-region and implant model (5 implants per CLC in China). This functionality will require CLC firmware 0.1.28 or higher. See updated PhysioTel Digital User Manual for more details. | Enhancement |

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| 38390 | 6.33 | Added ability to use Primary and Secondary frequencies in the same configuration. This is controlled via an Advanced setting and is OFF by default. Contact DSI Technical Support prior to enabling this feature. | Enhancement |
| 38821 | 6.33 | Added a Set CLC Name button to make name changes more explicit to the user. | Enhancement |
| 37543 | 6.33 | Fixed Unicode error seen when launching Diagnostics (found on Windows systems with Japan region). | Fix |
| 37331 | 6.33 | Implant Name is now only being read from the implant. Implant name can now only be set using the Set Name button within the Implant Details. | Fix |
| 37246 | 6.33 | Improved battery reporting for China M-series implant models. | Fix |
| 37093 | 6.33 | Reduced the pressure channel sample rate of the China L11 and the second pressure channel sample rate of the China L21 to improve battery performance and permit additional implants per CLC (i.e. 5 per China CLC). | Fix |
| 35311 | 6.30 | Channel configuration was allowing setting sampling rates greater than 1000Hz, which is the maximum sample rate the CLC hardware allows. | Fix |
| 35312 | 6.30 | Updated Channel configuration to no longer permit the use of Filter Cutoff for non-Pressure/Biopotential channels. In addition, Filter Cutoff will not be displayed if the Pressure/Biopotential channels are defined to a sampling rate less than 50Hz. | Fix |
| 35691 | 6.30 | Configuration Wizard was displaying incorrect maximum selectable CLC's for new frequency-regions. | Fix |
| 28928 | 6.20 | Improved battery reporting for PTD L-series implant models. | Enhancement |
| 31907 | 6.20 | Added new frequency and hardware models to support PhysioTel Digital in Japan and China. | Enhancement |
| 31908 | 6.20 | Added support for a new PhysioTel Digital implant model. | Enhancement |
| 32460 | 6.20 | Improved battery reporting for PTD M-series implant models. | Enhancement |

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| 33321 | 6.20 | A CLC firmware change to improve UPnP(discovery) resulted in connectivity issues when starting configuration before hardware is connected and setup. This has been corrected. | Fix |
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Acquisition

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 68291 | 6.70 | Added the ability for users to select the width of the trace used to draw graph signals to enable easier view from a distance. Width range is 1 to 5 pixels, with default set to 1 pixel. The Trace Width setting cannot be changed once in Acquisition mode and is only available in Acquisition, not in Review. | Enhancement |
| 51271 | 6.60 | In some instances, the APR device that provides ambient pressure reference disconnects/reconnects in the middle of a scheduled acquisition. This could lead to a loss of the ambient pressure signal and seemingly missing blood pressure data. | Fix |
| 45003 | 6.51 | Fix added to prevent displaying an 'X' in the Digital Display when implants are idle during Scheduled Sampling. The Digital Display will now hold the last value from obtained during the Sampling Duration. | Fix |
| 43993 | 6.50 | Added capability to simultaneously acquire from 32 subjects | Enhancement |
| 40502 | 6.50 | Improvements added to automatically select the default species of an experiment according to the model of implant that is added during experiment setup. | Enhancement |
| 42981 | 6.42 | Updated default species to Rat | Fix |
| 40598 | 6.40 | Fix added for issue where alarms would not function correctly if configured during acquisition. | Fix |
| 40555 | 6.40 | Fix added to correct issue where analyzing a BP or LVP channel multiple times resulted in system freezes and crashes. | Fix |
| 40130 | 6.40 | Fix added for issue where adding an event to all subjects also adds events to signals with no data. | Fix |

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| 38402 | 6.40 | Fix added to correct issue where all pressure channel sources were not consistently stopping when acquisition was stopped. | Fix |
| 37595 | 6.40 | Fix added to correct issue where unused graph pages are automatically opened before being closed in Acquisition if sampling is started on fewer number of subjects than are included in the Experiment and the subjects were auto-configured. | Fix |
| 36728 | 6.40 | Fix added for logging issue with BP and LVP acquisition where the first 2 lines reported were incorrect if the NPMN parameter was enabled. | Fix |
| 36254 | 6.40 | Fix added for issue where any changes made to Experiment setup during acquisition reset the logging marks. | Fix |
| 35677 | 6.40 | Fix added to correct issue where subjects could be moved between Continuous and Scheduled sampling during acquisition if no subjects were configured for a given schedule. | Fix |
| 35676 | 6.40 | Fix added to correct issue where zeros were placed in the Results database in case of dropouts during acquisition when using the RAW, BP, LVP, and GLU analysis modules. | Fix |
| 34727 | 6.30 | Fix for removed Sources (implants) counting toward the licensed number of sources that could be simultaneously sampled. | Fix |
| 34741, 34742, 34743 | 6.30 | Fix for a single Subject being in an Error sampling state preventing a Continuous or Scheduled acquisition from starting. If sampling was attempted, the following incorrect error message would be displayed: “A maximum of x subjects can be sampled from at once.” Where ‘x’ is the number of Subjects that can be sampled from simultaneously, as defined in the Ponemah License. | Fix |
| 34314 | 6.30 | Fix for sizing issue within the Notifications tab of the Sampling Control to more easily display messages. | Fix |
| 34600 | 6.30 | Fix for Digital Displays displaying “0.0” after the first logged line of data completes. | Fix |

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| 34785 | 6.30 | <p>Fix for continuing to display a Subject within its Schedule Sampling Group after its hardware had been removed.</p> <p>If using previous Experiments where hardware had been removed from the Subject, but is still displayed in the Scheduled Sampling Group, left-click-and-drag the Subject from the Scheduled Group to the Unassigned / Continuous box. This will enable sampling to be started for both Continuous and Schedule Sampling.</p> | Fix |
| 34814 | 6.30 | <p>Ponemah will no longer allow acquisition from starting for Subjects whose associated receiver has been disconnected. These Subject will instead display an Error sampling state and prevent acquisition from starting. If multiple receivers are assigned to the implant, the Subject may still be sampled from until all associated receivers are disconnected, at which point the Subject will display an Error sampling state.</p> | Fix |
| 35686 | 6.30 | <p>On a system with multiple MX2s, the action of stopping acquisition may incorrectly transition implants that should display 'Error' to display 'Inactive'.</p> <p>This has been corrected.</p> | Fix |
| 35922 | 6.30 | <p>When MinT and MaxT Data Reduction parameters are reported, the system may become unresponsive during acquisition.</p> <p>This has been corrected.</p> | Fix |
| 36129 | 6.20 | <p>HD devices that include a biopotential channel may show one second of dropout at the start of each schedule.</p> <p>This has been corrected.</p> | Fix |
| 33761 | 6.20 | <p>The Sample Control dialog Continuous tab has been updated to more easily distinguish the sampling method (Continuous, Schedule 1, or Schedule 2) defined to each Subject by dividing the dialog into sections by method. Start/Stop Sampling buttons have also been added to permit control of the sampling method from the Continuous tab.</p> | Enhancement |
| 32799 | 6.20 | <p>During Scheduled Sampling, the Sampling Control dialog will now display the start time of the next Scheduled Sampling iteration.</p> | Enhancement |

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| 33502 | 6.20 | Added the ability to minimize and restore the Sampling Control dialog to more easily manage windows and maximize display screen real estate. | Enhancement |
| 34054 | 6.20 | The Ponemah Status List View displayed within the main Ponemah Window during acquisition has been removed. | Enhancement |
| 32065 | 6.20 | The Sampling Control dialog would not retain its user defined screen position upon closing and reopening Ponemah or upon loading different Experiments. This has been corrected such that each Experiment will retain its unique Sampling Control position. | Fix |
| 32126 | 6.20 | When using Scheduled Sampling, the Sampling Group Size can be defined up to the number of subjects the license permits to sample from simultaneously. The denominator of this setting lists the available number of subjects that can be added to the group. The number was reporting a negative value when a.) the number of subjects listed in the Experiment exceeded the number of subjects that could be simultaneously sampled from as defined in the Ponemah license and b.) subjects were added and then removed from the schedule. This has been corrected. | Fix |
| 32506 | 6.20 | Enabling Aggregate Parameter Window permits the user to display only one Derived Parameter List View during Acquisition and Review that contains all derived parameter data from all subjects' input channels. A warning message has been added to inform the user that an epoch (beat-to-beat) logging rate may not be used when Aggregate Parameter Window is enabled. | Enhancement |

Review

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 68224 | 6.70 | Added a new feature to permit Peak-Peak measurements, i.e. y-axis value deltas between two reference points, from Primary and Trend Graphs while in Review. <i>Note:</i> This feature is disabled by default and needs to be enabled in the Application Configuration Advanced dialog . | Enhancement |

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| 46055 | 6.51 | Fix added to prevent the Data Reduction progress from getting stuck at 99% and never completing its calculations. | Fix |
| 44865 | 6.50 | Fix added for issue where merging Bad Data Marks may result in loss of marks outside of Bad Data Mark regions | Fix |
| 44384 | 6.50 | Fix added for issue where editing multiple channels under graph setup would result in a system crash if using Windows 10 | Fix |
| 44301 | 6.50 | Fix added for issue where Logging Rate based parameters were reported incorrectly in Data Reduction | Fix |
| 43436 | 6.42 | Fix added for issue where a tolerance threshold above 2147 milliseconds would cause HRV segments to reset | Fix |
| 43316 | 6.42 | Fix added for issue where Ponemah would not autoconfigure the ECG Rate Only analysis type for an Operating Room system | Fix |
| 42111 | 6.42 | Fix added to correct issue where Bad Data Mark placement would behave erratically when marking large datasets | Fix |
| 40637 | 6.40 | Fix added to correct issue where fixing waveform files in Review would cause deletion of events and marks. | Fix |
| 40242 | 6.40 | Added capability to print Data Insights results. | Enhancement |
| 39888 | 6.40 | Fix added for issue where intervals would not be plotted on a Trend graph if the start of a logging interval is within Bad Data Marks. | Fix |
| 39518 | 6.40 | Fix added for issue where the elapsed time shown in both the Events and Parameters sheets of data exported to Excel are calculated from Time 0. | Fix |
| 39316 | 6.40 | Added Graph Setup templates from Ponemah 6.31 | Enhancement |
| 39073 | 6.40 | Fix added for issue where HRV Time Domain reporting was inaccurate when reporting by parser segments. | Fix |
| 38513 | 6.40 | Fix added for issue where HRV definitions do not display across all subjects when loaded individually. | Fix |
| 38136 | 6.40 | Fix added for issue where selecting the “save marks section” menu option when the GroupName exceeds 19 characters results in a system crash. | Fix |
| 38045 | 6.40 | Fix added for issue where system would lockup when loading data in Review. | Fix |

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| 38043 | 6.40 | The Date and Time controls in the Load Review and Export Data dialog permitted invalid data entry. These issues have been corrected. | Fix |
| 37644 | 6.40 | Format change for Graph Setup to use DD:HH:MM:SS for time fields. | Enhancement |
| 37498 | 6.40 | Changed default precision level for derived parameters to 4 decimal places. | Enhancement |
| 37462 | 6.40 | Fix added to correct crashing issue when printing from a Review graph if the subject name was longer than the number of allowable characters. | Fix |
| 37431 | 6.40 | Added ASCII Output changes to the header information and set sample rate value reporting to a 2 decimal place precision level. | Enhancement |
| 37376 | 6.40 | Fix added for issue in Review Graphs where Calibration Marks were disappearing when Use Initial Cal was selected. | Fix |
| 37228 | 6.40 | Fix added for issue where derived parameters could not be enabled or disabled with a Review Only license of Ponemah v6.30 and higher. | Fix |
| 37216 | 6.40 | Fix added to correct issue where rows in the Parameters Tab of data exported to an Excel format would only display one event, even if it had multiple events. | Fix |
| 37207 | 6.40 | Fix added for issue where the time values under the Real Time column in Derivations Tab or Subject Parameter sheets of data exported to an Excel format would not convert correctly to the local time zone. | Fix |
| 37204 | 6.40 | Fix added for issue where the elapsed time shown in the Events sheet of data exported to Excel is incorrect if the export is done immediately after acquisition without either re-loading the Experiment or opening in Review. | Fix |
| 37203 | 6.40 | Fix added for issue where the elapsed time in the Events sheet of data exported to Excel was shown as negative (or incorrect depending on the time zone) if the data was exported from an Experiment acquired in a different time zone. | Fix |

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| 37191 | 6.40 | Fix added for Data Insights issue where Bin x and Graph times listed in generated reports were not consistent with those listed in the Header Table. | Fix |
| 37150 | 6.40 | Added the following Data Insights changes: <ul style="list-style-type: none"> - Fix for Data Insights Results Wave View displaying more cycles than specified in the search. - Corrected the display of checkboxes within the Data Insights dialog when using different Windows themes. - Ensuring that Data Insights Match Result background colors are always displayed when opening Data Insights with associated searches. | Fix |
| 37168 | 6.40 | Fix added to correct issue where an exported Excel output would not include placed Events in the Derivations and Parameter tabs. | Fix |
| 37115 | 6.40 | Fix added for issue where the Graph setup page in the P3Setup dialog was displaying incorrectly when the Japanese/Other Language pack was enabled in Windows. | Fix |
| 37052 | 6.40 | Fix added for issue where Bad Data Marks and Events were only displayed intermittently in Trend graphs if the page was configured for multiple panes. | Fix. |
| 37039 | 6.40 | Fix added to correct issue where the Calculation checkboxes in the Variability Analysis dialog are hidden when the language settings on the computer are set to Japanese. | Fix |
| 37029 | 6.40 | Fix added to correct issue where the default precision settings of any newly added derived parameters in a loaded Experiment are integer instead of the global default of 00.00. | Fix |
| 37015 | 6.40 | Fix added to correct issue where Derived Parameter Precisions default to an integer. | Fix |
| 36920 | 6.40 | Fix added for issue where a Trend graph does not display intervals originating in Bad Data Marks. | Fix |
| 36857 | 6.40 | Fix added for Data Insights where incorrect results are displayed when the ECG analysis attempts to sync a visible region analysis across a gap in cycles. | Fix |
| 36856 35484 | 6.40 | Corrected cross channel Data Insights searches for channels with different sample rates. | Fix |

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| 36855 | 6.40 | Fix added for Data Insights where re-generating a report without browsing does not provide an overwrite warning. | Fix |
| 36854 | 6.40 | Fix added for Data Insights where any Match Result values reported as NaN would result in invalid Excel report subject sheets. | Fix |
| 36852 | 6.40 | Fix added for Data Insights where a system lockup would occur if Data Insights was selected from the Functions Menu while minimized. | Fix |
| 36769 | 6.40 | Fix added for issue where merging of Bad Data Marks was slow when multiple Bad Data Marks were present. | Fix |
| 36658 | 6.40 | Fix added for issue where segment durations of 17 minutes or longer yielded Frequency analysis variability results of 0 seconds in HRV-Frequency Analysis. | Fix |
| 36569 | 6.40 | Fix added to correct issue where the Ponemah ASCII output was incorrectly repeating time stamps. | Fix |
| 36477 | 6.40 | Fix added for crashing issues when a derived graph is configured for any channel that doesn't have any cycle marks and when any configured derived graphs do not have any data to display. | Fix |
| 36063 | 6.40 | Fix added to correct issue where data exported to an Excel output was shifting in both the Individual Subject and Aggregate sheets. | Fix |
| 36047 | 6.40 | Fix added for issue where ASCII output from a channel with 1000 or 500 samples per second sample rates were rounding incorrectly. | Fix |
| 35410 | 6.40 | When calculating calculated marks after a signal conditioning attribute change without reanalyze checked, the cancel button did not have any effect. This has been corrected. | Fix |
| 34292 | 6.40 | Fix added to prevent the cursor from scrolling offscreen when zooming or scrolling on the Graph page. | Fix |
| 32322 | 6.40 | Fix added for issue where Added Notes in Review were only saved in the first subject's PnmMarks database. | Fix |
| 22756, 37381 | 6.40 | Fix added to correct issue where no events would be logged when the "apply to all subjects" checkbox was selected. | Fix |

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| 39443 | 6.33 | Format and content changes have been added to the ASCII Output header information for easier import into third party tools. | Enhancement |
| 39413 | 6.33 | Fix added to correctly display the checkboxes within the Variability Analysis dialog when using a 64 bit, Windows 7 Japanese Operating System. | Fix |
| 38512 | 6.33 | <p>Added fix for missing time points within the HRV Time Domain derived list view. This occurred if the time segment ended within a bad data region (within Bad Data Marks), the corresponding derived data line would not be reported.</p> <p>Workaround: Sync the line of data after the missing line to the Primary graph and delete the Bad Data Marks. This will update the HRV derived list view and populate the missing time point.</p> | Fix |
| 34383 | 6.30 | <p>Added support for DSI's new Data Insights feature that permits:</p> <ul style="list-style-type: none"> • Improved efficiencies and accuracy in data validation, arrhythmia detection, and anomaly reporting. • Expanded functionality for arrhythmia detection and classification (Runs, bi/trigeminy, and other sequences). • Improved result with the elimination of data anomalies and inclusion of valid data. <p>If licensed, the feature can be accessed within Ponemah Review by selecting Functions Data Insights.</p> | New |
| 33696 | 6.30 | Added Units to all Derived Parameters columns when exported to Excel from Review. | Enhancement |
| 34945 | 6.30 | Improved data loading performance for Scheduled Sampled data into Review. | Enhancement |
| 35172 | 6.30 | Improved data analysis performance for data collected with Scheduled Sampling . | Enhancement |

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| 35310 | 6.30 | <p>If a subset of channels is loaded into Review and the user chooses to Save a Mark Section, the results from the non-loaded channels may be deleted if a different Logging Rate than the one originally saved with is used.</p> <p>A warning notification has been added to notify the user that results will be removed from the non-loaded channels and identify these channels. The deleted results can be repopulated by loading all channels and saving the results.</p> | Enhancement |
| 35669 | 6.30 | Fix for Ponemah Review unexpectedly shutting down upon selecting Actions ASCII output . | Fix |
| 35414 | 6.30 | Corrected the unexpected removal of Validation Marks and Derived Results in non-loaded areas upon Saving a Mark Section for data that had been loaded into Review by Parser Segment . | Fix |
| 35322 | 6.30 | Ponemah would unexpectedly become unresponsive upon reanalysis of data collected with Scheduled Sampling when a Signal Conditioning attribute is changed. | Fix |
| 34421 | 6.30 | Fix for Data Reduction Line calculation not displaying results when using a time-based Logging Rate . | Fix |
| 34753 | 6.30 | Fix for dashed, green Data Break Lines not being displayed within Primary Graph pages after zooming out past 15 samples per pixel. | Fix |
| 35992 | 6.30 | <p>When Aggregate mode is used with subjects acquired at different overlapping schedules using Scheduled Sampling, multiple rows with identical end times may be displayed in the Derived Parameter List View.</p> <p>This has been corrected.</p> | Fix |
| 35010 | 6.30 | <p>Fix for selection of an HRV Definition setting by any other means than a mouse click not persisting after the HRV dialog was closed.</p> <p>E.g. selecting the ECG Algorithm using the <E> keyboard key.</p> | Fix |
| 35889 | 6.30 | <p>An intermittent crash was observed while executing HRV analysis or redrawing HRV graphs.</p> <p>This has been corrected.</p> | Fix |

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| 35482 | 6.30 | Made the Apply to Similar Subjects and Apply to Similar Channels buttons available within Review to more quickly apply changes to the Subject Details across a large number of Subjects. | Fix |
| 30853 | 6.20 | Added the ability to calculate Time Domain Heart Rate Variability (HRV). As part of this addition, the Variability Analysis user interface was updated to include both Frequency and Time domain settings. Access to the Variability Analysis setup was also relocated from within the Experiment Setup dialog to directly within the Setup menu . | New |
| 26369 | 6.20 | The Load Review dialog has been updated for more efficient data selection. | Enhancement |
| 33468 | 6.20 | If a single channel of data was acquired using multiple sample rates, Ponemah would only load the data at the earliest sample rate into Review based on the user defined time filters. A warning message has been added to the Load Review dialog to inform the user if a channel has been acquired with multiple sampling rates and provide time stamp details of the sample rate changes to allow the user to load the data over the intended time range. | Enhancement |
| 32702 | 6.20 | Add the ability for Data Reduction to be applied across data breaks. This permits Data Reduction to be used with data containing multiple acquisition sessions, as well as with Scheduled Sampling. | Enhancement |
| 33191 | 6.20 | Add the ability for Data Parser to be applied across data breaks. This permits Data Parser to be used with data containing multiple acquisition sessions, as well as with Scheduled Sampling. | Enhancement |
| 31880 | 6.20 | Added an auto scale all panes graph feature within Ponemah Review. This permits the user to more efficiently auto scale all signals configured within the following graph types: Primary, Trend, Page View, and Template. Strike <CTRL> + < F9> to Auto Scale All Panes. | Enhancement |

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| 32786 | 6.20 | <p>Data Parser Rules are configured based on a user defined time; either real time or relative to an event or duration. If the start time of the Data Parser Rule is not available within the section of data loaded into Ponemah Review, then the Rule would not be applied. This could have an impact on Data Reduction output if the Data Reduction type was defined to use Data Parser Segments.</p> <p>This has been corrected.</p> | Fix |
| 33501 | 6.20 | <p>Data Breaks are vertical, dashed, green lines used to indicate time breaks in the data. They are often seen when data that includes multiple acquisition start and stops is loaded into the same Ponemah Review session. When using Schedule Sampling, a large number of Data Breaks will be visible. When large durations of data collected using Scheduled Sampling was displayed on a Primary or Trend graph, the Data Break lines would stop drawing until zoomed into a particular area.</p> <p>This has been corrected.</p> | Fix |
| 32772 | 6.20 | <p>When using Scatter Graphs, users may select a group of data points using the lasso feature to remove from the analysis results. Two options for removal exist – a.) remove cycles, which removes the marks from the cycles represented in the lassoed points or b.) add bad data marks, which places bad data marks around the cycles represented in the lassoed points. The default method was delete cycles. This has been updated to default to add bad data marks.</p> <p>This can be changed by the user from the Setup menu by selecting Application Configuration Review.</p> | NA |

Parameter Viewer

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 62371 | 6.70 | Fix added to permit Parameter Viewer Average and Clip functions to be used across all Analysis Parameters. | Fix |
| 41129 | 6.41 | Fix added to correct issue where Parameter Viewer was unable to load multiple channels that share the same algorithm. | Fix |
| 36746 | 6.40 | Fix added for Parameter Viewer where parameters that were selected when Dynamic Sync is turned on were unusable. | Fix |
| 34034 | 6.40 | Added export capability from Parameter Viewer to allow users to export a CSV containing Parameter Viewer results. | Enhancement |

ECG Pattern Recognition Option (PRO)

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 39257 | 6.40 | Added an ECG derived parameter to report the interval between J and T peak. | Enhancement |
| 37245 | 6.40 | Fix added to correct issue where the Add Cycle and Analyze [Single Template - Preserve]” option was not available in the right click menu from an ECG channel. | Fix |
| 33939 | 6.20 | When using ECG PRO to analyze the ECG waveform for greater user control of the T mark placement, Ponemah would unexpectedly shut down if the T Peak and end of T marks were placed on the same point. This has been corrected. | Fix |

Analysis Module – Blood Pressure (BP)

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| 40094 | 6.40 | Fix added for crashing issue during data re-analysis on all BP channels. | Fix |

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| 39450 | 6.33 | Fix added for a rare crash at the start of acquisition upon the BP Analysis module attempting to detect the first BP cycle in the waveform. | Fix |
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Analysis Module – Left Ventricular Pressure (LVP)

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| 40539 | 6.41 | When LVP End and End Diastolic marks coincide, DiaD was reported incorrectly. This has been corrected. | Fix |
| 36570 | 6.40 | Added new derived parameters systolic and diastolic duration. | Enhancement |

Analysis Module – Electrocardiogram (ECG)

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| 72318 | 6.71 | Fixed an issue where ECG cycles were not properly marked when using the default analysis attribute values for the Mouse species. Analysis now correctly applies default settings to ensure accurate cycle detection. | Fix |
| 44869 | 6.51 | Fix added to prevent Ponemah from occasionally becoming unresponsive and eventually disappearing when executing the ECG Analysis Module. | Fix |

Analysis Module – Glucose (GLU)

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| 29220 | 6.50 | Fix added to limit the number of characters a user is able to input for the Date and Time in the Glucose Calibration dialog | Fix |
| 41796 | 6.42 | Fix added for issue where Initial Slope and Offset values were incorrectly applied across glucose channels | Fix |
| 41790 | 6.42 | Fix added for calibration issue where adding multiple single point cals without any multi point cals would adjust the slope in the calibration list but the glucose signal would not be adjusted | Fix |

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| 41050 | 6.41 | Default derived parameters set to nAavg and Gavg | Fix |
| 41049 | 6.41 | Derived parameters added for uncorrected data (ucAvg, ucMax, ucMin) | Enhancement |
| 41047 | 6.41 | Noise filters modified to minimize data loss. Noise is off by default, Minimum Signal value is set to -1000, Minimum Good Data Time set to 1 second | Enhancement |
| 40726 | 6.40 | Fix added for issue where wrong subject name displayed in the Additional Channels tab. | Fix |
| 40710 | 6.40 | Fix added for issue where modifying the date for a new calibration in the Glucose Calibration dialog resulted in a system crash. | Fix |
| 37322 | 6.40 | Fix added to correct issue where Initial Cal values included in the Calibration List were not consistent with the Use Initial Cal setting. | Fix |
| 37312 | 6.40 | Fix added to correct issue where the Slope and Offset of the first single calibration is displayed incorrectly in Acquisition. | Fix |
| 37247 | 6.40 | Fix added for issue in Glucose Calibration Dialog where pop-up warning messages were heavily truncated. | Fix |
| 37158 | 6.40 | Fix added for crashing issue that occurred after exporting and importing calibration values. | Fix |
| 36822 | 6.40 | Fix added to prevent application of calibrations until both Slope and Offset values are available. | Fix |
| 36819 | 6.40 | Fix added for duplication of Initial Slope and Offset, which are specific to individual subjects, when updating multiple channels using the Additional Channels tab. | Fix |
| 36818 | 6.40 | Adjusted minimum calibration ranges to account for unit conversion between mg/dL and mmol/L. | Fix |
| 36817 | 6.40 | Fix added for calibration issues occurring when bad data is not ignored within the calibration interval. | Fix |
| 36807 | 6.40 | Updated calibration dialog to disregard milliseconds when "Update Time Now" is used. | Enhancement |
| 36580 | 6.40 | Added checkbox, enabled by default, that permits applying current settings to all loaded glucose channels. | Enhancement |

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| 36579 | 6.40 | Fix added for issue where updated units were not correctly updating in the Calibration dialog settings pane. | Fix |
| 36560 | 6.40 | Fix added for issues where warning messages appear regarding Body Temperature and waveform files when a comma is selected as the decimal separator in the Region and Language settings and then switched to a period. | Fix |
| 36476 | 6.40 | Glucose default values reevaluated. | Fix |
| 36418 | 6.40 | Fix added for issue where duplicate rows of the Glucose. MultiCalGroupRange option appear in the Application Configuration settings Dialog. | Fix |
| 35569 | 6.40 | Fix added to correct issue where incorrect Calibration times were displayed in the Calibration Dialog if DST automatic adjustment was turned off. | Fix |
| 39296 | 6.33 | Fixed Ponemah from unexpectedly shutting down when attempting to import Glucose Calibration values into the Glucose Calibration dialog. | Fix |
| 33846 | 6.20 | While in the Glucose Calibration dialog, the software validates user entries to help ensure calibrations are applied as the user intended. When analyzing data in a time zone other than the one the data was originally acquired in, these validation messages would display incorrect times. This has been corrected. | Fix |

Analysis Module – RAW, Activity, Temperature, and Barometric Pressure

| Reference # | Release Version | Description | Disposition | | | | | | | | | | | | | | | | | | | | | | | | |
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| Reference # | Release Version | Description | Disposition | | | | | | | | | | | | | | | | | | | | | | | | |
| 65744 | 6.70 | <p>The following Analysis types have been added to help better identify signal types that are acquired. All these analysis types are based off Raw Electrical Mean (RAW).</p> <p>The new types of analysis are used with Autoconfigure of the telemetry devices. All the new analysis types are Disabled by default and would need to be enabled in the Graph Defaults dialog to be used by the Autoconfigure feature.</p> <p>The defaults for the analysis are:</p> <ul style="list-style-type: none"> • Trigger Direction – Disabled • Derived Parameter enabled – <i>x_NPRM</i> <table> <tr> <th>Abbreviation</th><th>Full Name</th><th>Description</th><th>Units</th></tr> <tr> <td>ACCEL</td><td>Accelerometer</td><td>This analysis is used for the individual Accelerometer signals; X, Y and Z. These are the signals that are used in the generation of Activity.</td><td>g</td></tr> <tr> <td>BATTD</td><td>Battery Days</td><td>This is used for Battery Days Remaining.</td><td>D</td></tr> <tr> <td>BATTP</td><td>Battery Percentage</td><td>Battery Life Remaining as a Percentage of maximum</td><td>%</td></tr> <tr> <td>BATTV</td><td>Battery Voltage</td><td>This is the Battery Voltage that the implant is at.</td><td>V</td></tr> <tr> <td>RSSI</td><td>Signal Strength</td><td>This is used for the DIRssi (download) and UIRssi (upload) signals to record the signal strength in dB.</td><td>dB</td></tr> </table> | Abbreviation | Full Name | Description | Units | ACCEL | Accelerometer | This analysis is used for the individual Accelerometer signals; X, Y and Z. These are the signals that are used in the generation of Activity . | g | BATTD | Battery Days | This is used for Battery Days Remaining . | D | BATTP | Battery Percentage | Battery Life Remaining as a Percentage of maximum | % | BATTV | Battery Voltage | This is the Battery Voltage that the implant is at. | V | RSSI | Signal Strength | This is used for the DIRssi (download) and UIRssi (upload) signals to record the signal strength in dB. | dB | New |
| Abbreviation | Full Name | Description | Units | | | | | | | | | | | | | | | | | | | | | | | | |
| ACCEL | Accelerometer | This analysis is used for the individual Accelerometer signals; X, Y and Z. These are the signals that are used in the generation of Activity . | g | | | | | | | | | | | | | | | | | | | | | | | | |
| BATTD | Battery Days | This is used for Battery Days Remaining . | D | | | | | | | | | | | | | | | | | | | | | | | | |
| BATTP | Battery Percentage | Battery Life Remaining as a Percentage of maximum | % | | | | | | | | | | | | | | | | | | | | | | | | |
| BATTV | Battery Voltage | This is the Battery Voltage that the implant is at. | V | | | | | | | | | | | | | | | | | | | | | | | | |
| RSSI | Signal Strength | This is used for the DIRssi (download) and UIRssi (upload) signals to record the signal strength in dB. | dB | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | |
|-------|------|--|-------------|
| 42735 | 6.50 | Derived parameter added for the Standard Deviation of samples over a designated logging interval | Enhancement |
| 43431 | 6.42 | Fix added for issue where RAW, Baro, Temp Mean values were over reported in the first interval in a schedule in Acquisition. The error was inversely proportional to the number of points in the interval | Fix |
| 38647 | 6.40 | Fix added for issue where the activity units for TA and TA2 are displayed as Counts.s in an Excel output. | Fix |
| 37645 | 6.40 | Fix added to correct issue where incorrect activity values were reported when there was no activity or when the logging rate was set to 1 second and the activity signal was acquired at 1 Hz. | Fix |
| 36861 | 6.40 | If a Bad Data Marks are being buffered and acquisition is stopped, the Bad Data Marks will not be saved, which results in reporting inconsistencies between Acquisition and Review of NPMN. This has been corrected. | Fix |
| 32269 | 6.20 | Updated the default Activity Reset setting from 1 to 60. This was updated to allow for more consistent activity measurements when comparing against data previously collected using Dataquest A.R.T.™ or Ponemah with OpenART™ by reporting activity data as counts/minute, instead of counts/second. | Fix |
| 32351 | 6.20 | When importing Activity data from Ponemah v5.20 or older into Ponemah v6.10, the Activity derived parameters would be offset by '1'. This has been corrected. | Fix |
| 34401 | 6.20 | When using Scheduled Sampling for data acquisition, the Activity measurements were inconsistently calculated. This has been corrected by normalizing Activity measurements to one minute. Also, a Total Activity 2 (TA2) derived parameter was added to allow the user to use the logging rate for the Activity calculation in order report an accumulated Activity value for the defined logging period. | Fix |

Analysis Module – Blood Pressure Respiration

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| | 6.40 | Added new analysis module – Blood Pressure Respiration – to Ponemah v6.x platform. | New |

Analysis Module – Electromyogram

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| | 6.40 | Added new analysis module – Electromyogram – to Ponemah v6.x platform. | New |

Analysis Module – Pulmonary Volume

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|--|-------------|
| | 6.50 | Added L11R implant support for PVO module | New |
| 44192 | 6.50 | Added Pulmonary Volume Analysis Module support | New |

Analysis Module – Pulmonary Airflow & Airway Resistance

| Reference # | Release Version | Description | Disposition |
|-------------|-----------------|---|-------------|
| 44376 | 6.50 | Added Pulmonary Airflow Analysis Module support | New |

Known Issues

The following are a list of known issues and potential workarounds.

| Reference # | Description | Workaround | Module(s) Affected |
|-------------|--|---|--------------------|
| 69442 | Ponemah v6.70 Parameter Viewer cannot open an Experiment file located on a network drive. | Move the Experiment file to a local directory. | Parameter Viewer |
| 21526 | The Primary graph page will limit the zoom-in of all channels displayed on the page to a sample per pixel of slowest channel displayed on graph. E.g. Graphing an ECG waveform sampled at 1000 Hz on the same Primary graph page as a Temperature waveform sampled a 1 Hz, will limit the zoom to 1 sample per computer screen pixel, limiting the zoom on the ECG channel. | Removing the slowest channel on the graph page from the Setup Experiment Setup Graph Page Setup will allow you to zoom farther into the faster sampled channel of interest. E.g. Disabling the Temperature waveform from the Primary graph will allow you to zoom farther into the ECG waveform. | Review |
| 22601 | Changing PC clock while the Ponemah application is running will cause time synchronization issues upon collecting data from connected MX2s. | If an update to the PC clock is required, ensure Ponemah is closed prior to making the change. | Acquisition |
| 22756 | When adding an Event within Review, there is an option to apply the Event to all Subjects loaded into Review using the "Apply to All Subjects" checkbox. Checking this checkbox currently does not work as expected and will result in the Event only being added to the selected Subject. | Events need to be added to each Subject individually within Review. | Review |
| 23482 | Changing the PC clock to a future time while acquiring data will cause Ponemah to become unresponsive. | If an update to the PC clock is required, ensure Ponemah is closed prior to making the change. | Acquisition |
| 22817 | When importing data collected on a previous version of Ponemah (e.g. v5.20) into Ponemah v6.xx, the defined Parameter Precision settings will not be | Parameter Precision settings will need to be updated manually after the data import. | Core |

| Reference # | Description | Workaround | Module(s) Affected |
|-------------|---|---|---------------------|
| | preserved during the import, resulting in the default Precisions values being used. | | |
| 23383 | When creating a new binding for an ECG template library, the default saving directory will be the last used Experiment directory instead of the currently loaded Experiment directory. | Prior to saving the template library file name, browse to the current Experiment directory. | ECG PRO |
| 23471 | If data is collected at 1 Hz, the RAW Analysis module will display validation marks per sample within the waveform plot area. This will result in the waveform being unable to be seen upon initially launching the attribute window. | To more easily view the waveform through the validation marks, zoom into the waveform plot area using the Expand/Compress icons. | RAW Analysis Module |
| 25980 | Ponemah allows Bad Data Marks from one channel to be automatically merged across all channels within a Subject. The time it takes for Ponemah to perform the merge depends on the number of Subject and Channels loaded into Review, as well as the number of Bad Data Marks within the Review session. For large datasets that include many Bad Data Marks, performing a merge Bad Data Marks may put Ponemah into an Unresponsive State. It may take up to 30 minutes for Ponemah to recover from this state. | It is recommended to load each Subject individually if a Merge Bad Data Mark is required to be performed. Alternatively, loading less than 24 hours of data at a time will reduce the amount of time required for Ponemah to perform the merge. | Review |
| 26039 | Users have the option to export parameter data across the Experiment to perform additional analysis within Excel. The Export Data feature provides additional flexibility by allowing users to choose which data to export based on a Time Range. This Time Range will only apply to the Parameter data. The Experimental Log or Events information will be exported in their entirety. | N/A | Core |
| 29133 | When canceling from the Save Marks progress dialog, it can take a long time | N/A | Review |

| Reference # | Description | Workaround | Module(s) Affected |
|-------------|---|---|--------------------|
| | for the application to respond. It will appear that the application has stopped working. Despite the Saving Marks being canceled, the Derived Results will continue to be saved. | | |
| 31852 | The Standard Deviations of the Derived Parameters will not be saved to the Results database, even if enabled within the Channel Details pages. | Perform a Save Mark Section from within Review will output the Standard Deviations to Excel for the data loaded during the Save. | Review |
| 32322 | Freeform Notes added while within Review will only be associated with the first Subject's .PnmMarks database file when saved, regardless to which Subject/Channel they were added. This is important transferring data files and requiring to see the Freeform Note within the new file location. | Ensure the .PnmMarks database file is also transferred with any other Subject data, should the Freeform Notes be required to be seen. | Review |
| 35410 | Users are unable to cancel the Analysis from progressing upon executing Attribute-based analysis. | N/A | Review |
| 35494 | Acquisition Graphs, and the data the comprises them, will display different timestamps than the Computer time when Automatically adjust the clock for Daylight Savings Time is disabled. | Ensure the Automatically adjust the clock for Daylight Savings Time is enabled. | Acquisition |
| 35569 | Adding Glucose calibrations within the calibration dialog will display and apply the incorrect time if Automatically adjust the clock for Daylight Savings Time is disabled. | Ensure the Automatically adjust the clock for Daylight Savings Time is enabled. | Review |
| 35677 | Ponemah does not prevent users from changing the sampling method of a Subject between Continuous to Scheduled during an acquisition. | Stop Acquisition prior to changing a Subject's sampling method. | Acquisition |
| 35716 | When loading an Experiment from a previous version of Ponemah (6.00 through 6.12), users will be unable to | Select Experiment Save Experiment As... to copy the Experiment settings to a new | Core |

| Reference # | Description | Workaround | Module(s) Affected |
|-------------|--|--|--------------------|
| | start an Acquisition if the Experiment upgrading process is canceled. | Experiment that can then be Acquired from. | |
| 36063 | Saving updated derived data during a Review while acquiring (RWA) session can result in duplicate entries if the update occurs soon after the RWA session was started. | This has been improved in 6.30 to ensure that updates after 30 seconds of starting a RWA instance will not create duplicate entries. Duplicate entries can be corrected by resaving results in Review. | Review |
| 39428 | When in the PhysioTel / HD (MX2) or PhysioTel Digital (CLC) diagnostic pages, you may be prompted for a user name and password. | Log in using the following credentials: User name: Diag Password: <i>(leave blank)</i> | Diagnostics |