PRODUCT RELEASE NOTES

Product: Ponemah™ Physiology Platform

Model: Ponemah

Version: 5.41

Build: 14094-001

Date: March 2020

Product Release Notes for Ponemah Physiology Platform version 5.41 indicate revisions made to the Ponemah core application and analysis modules since version 5.40. For information regarding changes to the software from previous versions, please refer to the Release Notes folder located on install key.

Compatibility

Ponemah v5.41 is compatible with the 64-bit version Windows 10 version 1607 and later. It is also compatible with the 64-bit version of Microsoft Office 2007 or greater.

Note: Microsoft .NET framework 3.5.1 and 4.7.2 required.

New features, enhancements, and fixes

Installation

Reference #	Release Version	Description	Disposition
46479	5.41	Fix added to prevent audit log printout text from being truncated.	Fix
46580	5.41	Fix added to permit the use of dates greater than 01/01/2020 within the Data Storage Scheduler.	Fix
46581	5.41	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
46693	5.41	Fix added to reduce the potential of Ambient Pressure Reference (APR) timeouts during acquisition.	Fix
43187	5.40	Fix added for CLC hardware configuration opening instead of MX2 hardware configuration after upgrading from a previous version whose hardware configuration was set to MX2.	Fix

Reference #	Release Version	Description	Disposition
43325	5.40	Added missing Windows 10 firewall rules to the install required for telemetry acquisition and network study.	Fix
45926	5.40	The Ponemah uninstall for Ponemah v5.32 removes all files during the uninstallation process, including any native file that was customized, i.e. PPP3.INI or SEND.XML. This has been corrected with Ponemah v5.40 to preserve modified files.	Fix

Ponemah Core

Reference #	Release Version	Description	Disposition
46648	5.41	Fixed the Product Information dialog's displayed operating system to correctly display Windows 10.	Fix
26412	5.40	Added ability for the RAW file to automatically increment based on file size or data acquisition time.	Enhancement
42568	5.40	Data Reduction User defined T0 time may be modified during an acquisition.	Enhancement
42952	5.40	Fixed Data Parser Setup dialog to display Sub-Divide Span fields and associated scroll bars when using Japanese Operating System.	Fix
43006	5.40	Added support for up to 32 groups/subjects across all acquisition types.	Enhancement
43010	5.40	Added EEG analysis module to provide appropriate labeling when the Auto Configure Protocol feature is used for proper translation to NeuroScore for data analysis. Note: This is licensed with the EMG analysis module.	New
43027	5.40	Removed Ponemah's Demo mode; i.e. the ability to launch the application without the licensing dongle.	N/A
43222	5.40	Added the ability for the Data Storage Scheduler to pause Primary Graphs, Trend Graphs, and Derived Data list views during acquisition periods of inactive RAW data storage.	Enhancement
43352	5.40	Shared Windows drives or Mapped drives may now be accessed from various Ponemah Browse to dialogs; e.g. Data Manager, Open Protocol, Open Review, etc.	Enhancement

Reference #	Release Version	Description	Disposition
43471	5.40	When using Auto Configure Protocol with PhysioTel Digital implants, the Group Name will be updated with the implant name defined in CLC configuration.	Fix
43732	5.40	Updated the maximum allowed aggregate sample rate from 100,000 Hz to 150,000 Hz to account for Ponemah's available 256 acquisition channels.	Enhancement
43923	5.40	Fixed Data Storage Scheduler time, duration and interval fields to allow users the ability to configure the scheduler. This also fixed Scatter and XY-Loop graphs' Start/End Offset time fields, as well as Digital Display Timer setup which were impacted by this issue.	Fix
43964	5.40	Added analysis and calibration support for DSI's Continuous Glucose implants. Also added glucose support for Dataquest ART data import process.	New
44136	5.40	Fixed black graph page background not persisting from protocol setup to acquisition and review.	Fix
44172	5.40	Fixed Auto Configure Protocol to update Protocol Setup appropriately when channels are excluded using channel mapping.	Fix
44284	5.40	Fix added to prevent Ponemah from shutting down when attempting to Replay a RAW file that does not contain a Jump table.	Fix
44292	5.40	If an illegal change to the PC clock is detected, a new license file can be loaded as long as the license file time matches the clock time - i.e. the clock must be fixed.	Fix
44410	5.40	Added the ability to combining multiple (>2) RAW files into a single file. Also permits the ability to define specific signal types to combine.	Enhancement
44472	5.40	Fix added for unexpected shutdown when attempting to edit multiple channels from Graph Setup using multiple select actions.	Fix
44522	5.40	Group selection within the Group Event List View will now persist to subsequent acquisitions when saving the protocol upon stopping acquisition.	Fix

Reference #	Release Version	Description	Disposition
44827	5.40	"Dose2" is no longer appended to the Data Reduction interval label during Acquisition when a single event is entered.	Fix
44835	5.40	Added Transport Layer Security (TLS) compatibility for Remote Notification to permit transmission of data over an encrypted channel.	Enhancement
44862	5.40	Fixed issue where Data Reduction list views would display for change from or % change from values as 'inf' instead of 'x' when Max, Min, or Avg values were unknown or 'x'. Now, these values will also display an 'x' value.	Fix
44932	5.40	Fix added to prevent Ponemah from occasionally shutting down unexpectedly when acquiring URP data.	Fix
45170	5.40	The number of configurable graph pages have been restricted to 8 during acquisition to fix slow performance when acquiring from greater than 26 subjects/groups.	Fix
45183	5.40	Added the ability for users to create their own derived parameters based on existing derived parameters and marks for reporting in Derivation and Data Reduction list views.	New
45715	5.40	Fix added to prevent Control Events initiating Monitoring Intervals during acquisition when Control and T0 events are defined as different events.	Fix
45979	5.40	Fix added to prevent signal corruption (i.e. data spikes) when the printing RAW data to XPS file during acquisition.	Fix

MX2 Acquisition Interface

Reference #	Release Version	Description	Disposition
45115	5.40	Disabling an HD implant's Battery ON Time channel no longer prevents the Implant Status Battery Status from being updated.	Fix
45212 45213	5.40	Fixed Ponemah occasionally shutting down unexpected while attempting to start or stop acquisition from MX2.	Fix

Reference #	Release Version	Description	Disposition
45357	5.40	A timeout was added to Diagnostic webpage loading process which checks for cached copies of webpage to prevent the potential of system becoming unresponsive.	Fix
45453	5.40	Added support for DSI Signal Interface.	New

CLC Acquisition Interface

Reference #	Release Version	Description	Disposition
45357	5.40	A timeout was added to Diagnostic webpage loading process which checks for cached copies of webpage to prevent the potential of system becoming unresponsive.	Fix
45597	5.40	The default PhysioTel Digital biopotential range gain setting has been updated from +/- 10mV to 14mV.	Fix
45599	5.40	PhysioTel Digital Battery Voltage channels can now sample at any available sample rate. Battery Voltage channel is no longer hidden from PhysioTel Digital Configuration Implants Details channel list.	Enhancement

JET Acquisition Interface

Reference #	Release Version	Description	Disposition
43194	5.40	Added the ability for Ponemah to automatically reset JET BT Receivers when the device loses its IP connection. All disconnects and reconnects are logged in the JET debug log.	Enhancement

ACQ-7700 Acquisition Interface

Reference #	Release Version	Description	Disposition
44424	5.40	Fixed an occasional locked cell in the ACQ-7700 Amplifier Setup dialog which would prevent users from augmenting selection.	Fix

| 44911 | 5.40 | Fixed an unexpected shutdown of Ponemah which was caused by changing an ACQ-7700 channel label and would occur upon stopping acquisition. | Fix |

Review

Reference #	Release Version	Description	Disposition
41762	5.40	Added ability for a linear regression line to be displayed on the scatter graph with its slope and y-intercept values.	Enhancement
43167	5.40	Added ability to perform the Holzgrefe method for QT correction within the scatter graph by permitting user defined binning of results and presenting binned results using a log scale.	Enhancement
43328	5.40	Added Data Cleaning function to permit definition of data exclusions criteria used to remove cycle or average derived data from Derivation and Data Reduction list views.	New
43743	5.40	Fixed incidence of data parser segments not appearing in Review when opening a dataset originally acquired in Ponemah v5.20, but never opened and saved using Ponemah v5.20 Review.	Fix
43806	5.40	Fixed Data Reduction refresh issue where deleting the last Parser Segment would not update Data Reduction table. Workaround: Moving the T0 event (i.e. event A) would refresh the Data Reduction table.	Fix
44029	5.40	Data Reduction title bar no longer flashes nor displays a large negative progress indicator when loading data into Review with large Data Reduction intervals.	Fix
44099	5.40	Trend graphs would not display results when the logging rate interval started within bad data marks.	Fix
44369	5.40	Made channels greater than 128 available for ASCII output from Review.	Fix
44492	5.40	Fixed issue where saving derived data from Parser View Mode would result in an Excel file with small differences in derived output values between the Excel output and what was displayed in the Ponemah Derived List View.	Fix

Reference #	Release Version	Description	Disposition
44576	5.40	List View screen positions will now be retained after saving the protocol.	Fix
44846	5.40	If no cycles are present NPMN type parameters will still be reported if logging by time.	Fix
44925	5.40	The Freeform Note title now reflects the correct channel number associated with the note.	Fix
44926	5.40	Added ability to use Freeform Notes to mark and annotate arrhythmias based on a list of arrhythmia types previously defined within the SEND Controlled Terminology Manager.	Enhancement
45946	5.40	Scatter graphs would not display results when the logging rate interval started within bad data marks.	Fix
45509	5.40	A change was made in the Review sample cache to accommodate non-numeric values (NaNs) present in the data stream. This results in extremely small changes to sample values – below the level of noise. However, these small changes can result in slight differences in Presentation signal calculation, Mark placement and derived parameter calculations as compared to earlier Ponemah versions.	N/A

Analysis Modules

Reference #	Ponemah Version	Module (Version)	Description	Disposition
46553	5.41	GLU (11.01)	The Data Security feature restriction Attributes – Change correctly limits access to the Glucose Calibration Dialog; however, if this dialog is open, the access level with this feature restriction may make changes within the dialog. This has been corrected.	Fix
46657	5.41	ECG (11.01)	Data Reduction was incorrectly reporting the ECG Analysis Module's NUM derived parameter for the Average function as a mean of the NUM values. This has been fixed to correctly display the NUM values as most recent value. Note: Max and Min Data Reduction functions correctly display NUM values.	Fix

Reference #	Ponemah Version	Module (Version)	Description	Disposition
42813	5.40	URP (11.00)	In earlier versions, MV and MVadj were calculated as an average of beat by beat TV and BPM values when running in a multiple epoch logging rate or time-based logging rate. They are now calculated using the average TV and BPM values for that logged line.	Fix
42193	5.40	BP/PAP (11.00)	Added Pulmonary Arterial Pressure (PAP) analysis module to permit differentiation between blood pressure types with regard to SEND domain designation.	New
43300	5.40	dEMG (11.00)	Improved analysis performance of the dEMG analysis module when using ECG signal to remove artifact.	Fix
43573	5.40	RAW, ACT, TEMP, BARO, BP (11.00)	Fix added to no longer report values to the Derived List Views for TA and NPMN parameters across Bad Data Marks.	Fix
43729	5.40	URP (11.00)	Fixed Ponemah occasionally becoming unresponsive when analyzing data with the URP analysis module.	Fix
44100	5.40	PVO (11.00)	The PVO analysis module no longer marks negative impedance signal values with bad data marks when Rail detection is disabled from the Noise tab.	Fix
44103	5.40	PVO (11.00)	PVO Minimum Volume attribute will now update to reflect effect of calibration.	Fix
44144	5.40	PVO (11.00)	Fix added to ensure manually entered PVO cycles report derived data to the Derived and Data Reduction List Views.	Fix
44170	5.40	ECG (11.00)	Fixed ECG analysis while in Parser View Mode only analyzing data within the first Parser Segment. All segments are now analyzed.	Fix
44356	5.40	LVP (11.00)	No longer report NPMN data across bad data marks.	Fix

Reference #	Ponemah Version	Module (Version)	Description	Disposition
44523	5.40	URP (11.00)	Stopped Ponemah from shutting down unexpectedly when reanalyzing data with the URP analysis module.	Fix
44852	5.40	RAW, ACT, TEMP, BARO, ECG, PAF, URP, PVO, PCR, dEMG (11.00)	Fix added to calculate and properly display Data Reduction percent change, percent delta, and delta derived data when control and the corresponding Avg, Ln, Max, Min values are available. Derived Parameters impacted: • RAW, ACT, TEMP, BARO — - NPMN, TA • ECG — - QTcb, QTcf, QTcv • PAF, URP, PVO, PCR, dEMG — - MV	Fix
44864	5.40	PAF, PCR, PVO, ECG (11.00)	Derived data reliant on derived data from prior cycles from the current or another channel is no longer intermittently reported as unknown; i.e. 'x'. Derived Parameters impacted: • PAF, PCR, PVO — - AVol • ECG — - Multilead parameters	Fix
44924	5.40	BP/PAP (11.00)	Added a derivative based noise filter to the BP analysis module allowing users to eliminate data impacted by artifacts that have a rapid rate of change relative to the pressure signal.	Enhancement

ECG PRO

Reference #	Release Version	Description	Disposition
43853	5.40	Fix added to prevent "Invalid Format" and "Not Authenticated" messages from being displayed in the Template Setup dialog when loading an empty template library created using previous version of Ponemah. These messages may have occurred after adding cycles to this empty template library, saving the updated library, and then closing and reopening Review.	Fix

Data Insights

Reference #	Release Version	Description	Disposition
42916	5.40	Added ability to report on small Data Insights Histogram bins. Now, data may be reported over the small bin duration despite the Histogram display being unable to present the data within the dialog.	Enhancement
42914	5.40	Added ability to report and display Data Insights match results with time alignment from dose (Data Reduction T0 event).	Enhancement
42915	5.40	Added a Date/Time rejected column to the Data Insights Rejected Results list view to more easily find and correct inadvertently rejected results.	Enhancement
43986	5.40	Fixed an unexpected shutdown of Ponemah when switching to Parser View Mode while Data Insights is calculating match results.	Fix
43987	5.40	Fix added to not display Data Insights match results from outside of Parser Segments when in Parser View Mode.	Fix

Study Protocol

Reference #	Release Version	Description	Disposition
32725	5.40	If a Study spans Daylight Savings Time, Study Day dates after the Daylight Savings changeover were off by a day. These dates are now correct.	Fix
44157	5.40	Reduced the time required to load the Manage Studies dialog.	Fix
45208	5.40	Fixed an infinite loop between two dialogs encountered from the Run Study dialog	Edit Hardware Configuration when Save and Exit from the MX2 interface was selected.	Fix
46074	5.40	Fixed Ponemah's ability to find and acquire video data from cameras when using a Protocol file configured with Noldus Media Recorder in Study.	Fix

Data Security Option

Reference #	Release Version	Description	Disposition
46527	5.41	Fix added to permit Dataquest ART data file import when logged in to a secured system as a Windows User (non-Admin).	Fix
46582	5.41	Fix added to include .XML and .MRS files when using Data Manager to copy, move, and delete video files.	Fix
46583	5.41	Fix added to automatically sign .XML and .MRS video configuration files.	Fix
46584	5.41	Fix added to permit users to sign video files (.MP4, .XML, and .MRS) via the Tools menu.	Fix
46721	5.41	Fix added to permit video file (.MP4) creation in a secured directory when collecting Video Acquisition.	Fix
42622	5.40	Removed Public Key Export from the list of Permitted Features.	Fix
42956	5.40	The OpenART access levels Edit DSI Setup and Select DSI Sources dialogs were removed from Access Level Setup since OpenART support ended in Ponemah v5.20.	Fix
43213	5.40	The Ponemah Admin application User List Setup dialog Delete button is now set to a disabled state when a Username is not selected.	Fix
43265	5.40	When the system is Secured, users would be inconsistently prompted with the Reason dialog when making changes to the Protocol file Setup when in Idle mode. This has been suppressed to no longer prompt for a Reason when making changes to setup, before data is collected.	Fix
43290	5.40	Fix added to prevent users from being able to Sign files from the Ponemah Tools menu when the Sign Files feature was on the Restricted list for that user's access level.	Fix
43294	5.40	Fixed the Data Security Verification printout to display properties on separate lines to prevent descriptions from being truncated off the page.	Fix
43726	5.40	Fixed the ability to switch users on a Secured system when disconnected from the network domain.	Fix

Reference #	Release Version	Description	Disposition
43741	5.40	Removed the ODBC Interface from the available features list within the DSO Access Level Setup. Also, updated the Select APR1 feature name to Select Ambient Reference to account for APR-2.	Enhancement
44324	5.40	Fixed intermittent issue where logging into a secured Ponemah workstation resulted in an error message and the graying out of all Ponemah menus. Workaround: Lock the Ponemah system and login again.	Fix
44326 45372	5.40	Disabled OK, Apply, and Cancel dialog buttons when system is locked while dialogs containing these action buttons are in their open state. The Data Insights dialog and its Search and Edit dialog is also no longer accessible when Data Security timeout locks the application.	Fix
44921	5.40	The Data Security Option User Log will now list users added via the Import tool.	Fix

SEND

Reference #	Release Version	Description	Disposition
42922	5.40	Added a SEND Audit Log allowing users to track and view the source of information when syncing across workstations.	Enhancement
43078	5.40	Fix added to permit synchronization and restoring of SEND databases on workstations with Japanese operating system installed.	Fix
43578	5.40	Added SEND testcodes QTCAAG, QTCLAG and QTCNS to the Controlled Terminology Manager.	Enhancement
44334	5.40	Fix added to remove character limit in SEND EGMethods that would truncate the text without notifying the user.	Fix
44486	5.40	Added a Controlled Terminology Manager to permit users to view and modify SEND Controlled Terminology.	Enhancement

| 45331 | 5.40 | Fixed duplicate TESTCD warning when saving derived data within Review that only differs by EGLEAD. | Fix |
| 45337 | 5.40 | Fixed issue where SEND data was not being saved when more than 10 channels in a group had the same algorithm defined. | Fix |

Analysis Module Version Matrix

Model	Description	Version
PNM-BP/PAP100W	Blood Pressure / *Pulmonary Arterial Pressure Analysis Modules *This module is embedded in the PNM-PAF100W analysis module*	v11.00/v11.00
PNM-BPR100W	Blood Pressure Respiration Analysis Module	v11.00
PNM-CVOL100W	Cardiac Volume Analysis Module	v11.00
PNM-CBF-100W	Coronary Blood Flow Analysis Module	v11.00
PNM-CYS100W	Cystometry Analysis Module	v11.00
PNM-dEMG100W	Diaphragmatic EMG Analysis Module	v11.00
PNM-ECG100W	Electrocardiogram Analysis Module	v11.01
PNM-EMG/EEG100W	Electromyogram* / Electroencephalogram* Analysis Modules *These modules are licensed together.*	v11.00/v11.00
PNM-GLU100W	Glucose Analysis Module	v11.01
PNM-LVP100W	Left Ventricular Pressure Analysis Module	v11.00
PNM-MAP100W	Monophasic Action Potential Analysis Module	v11.00
PNM-PAF/AWR100W	Pulmonary Air Flow / *Airway Resistance Analysis Modules *This module is embedded in the PNM-PAF100W analysis module*	v11.00/v11.00
PNM-PCR/PCRP100W	Pulmonary Compliance & Resistance Analysis Module / Pulmonary Compliance & Resistance Pressure Analysis Module	v11.00/v11.00
PNM-PT100W	Pulsatile Tissue & Gut Motility Analysis Module	v11.00
PNM-PVO100W	Pulmonary Volume Analysis Module	v11.00
PNM-SBF100W	Systemic Blood Flow Analysis Module	v11.00
PNM-URP100W	Unrestrained Plethysmography Analysis Module	v11.00
	RAW* Electrical Mean (TEMP, BARO, ACT) *Default modules provide with Ponemah Core Software*	v11.00