

Product Release Notes

Product: Ponemah
Model: Ponemah Analysis Modules
Version: 5.00
Build: 006008-001 (CD Build)
Date: July, 2010

Product Release Notes for Ponemah Version 5.00 Analysis Modules indicate revisions made to the modules since release of Ponemah Version 4.90. For information regarding changes to the software from previous versions, please refer to the Release Notes folder located on the Version 5.00 CD. Product release notes indicate only revisions to application contents that are part of a specific CD build.

NOTE: A new column, “**Previously Fixed**”, has been added to the tables below. Previously, release notes only included changes that occurred from the previous release which could have been an interim service pack and not a full release of the software. Therefore, information regarding all changes between versions (this includes service packs and analysis only releases) were obtained by accessing the individual service pack release notes located in the Release Notes folder on the CD. For ease in accessing all changes from the 4.90 release, changes from service packs or analysis only CD releases have been added and their versions when fixed noted in the **Previously Fixed** column.

Notice for organizations that must comply with FDA’s Good Laboratory Practices (GLP) and 21 CFR Part 11 Electronic Records; Electronic Signatures: Ponemah Versions may contain **Preview Features**. These **Preview Features** are listed in the Product Release Notes table under the column, “Type of Change”. A **Preview Feature** indicates that enhancements have been made to Ponemah, but have not been validated. Instead, Data Sciences International (DSI) has opted to delay complete validation until receiving comments from customers regarding use of these features. Further validation of these features will be performed in later releases of Ponemah. There may be additional **Preview Features** that had been documented in previously released versions that are not documented here. These features are not available unless manually enabled by the user. If documentation is needed regarding these features, please contact the Technical Support Group at DSI.

Reference #	Type of Change	Previously Fixed	<p>Key: N = New Feature; E = Enhancement; F = Fix</p> <p>Description</p>
<p align="center">GENERAL NOTE:</p> <p><i>Several issues existed in more than one analysis module. These issues are listed under Issues Affecting Multiple Analysis Modules. For clarity, the analysis modules affected by the change are listed in each of the entries in this section. These issues will not be logged under the individual analysis module sections.</i></p>			
<p align="center">Issues Affecting Multiple Analysis Modules</p>			
<p>3299 (similar entries 3291, 3292 and 3298)</p>	<p>F</p>	<p>V10.09 Analysis Modules</p>	<p>Incorrect information for an occasional cycle would occur when sampling a channel at the 750Hz sample rate. This issue does not exist when using any other rate.</p> <p>When analyzing channels that have the Noise detection feature enabled, a Bad Data Mark would be placed removing one or two cycles from analysis. For analysis modules that do not have Noise detection, or when not using the Noise detection feature, an occasional cycle could have the mark information incorrectly placed. The occurrence of this issue depends on the analysis module since each module handles time differently based on the expected signal.</p> <p>Affected Modules:</p> <ul style="list-style-type: none"> • BP • BPR • CBF • CVOL • CYS • ECG • EMG • LVP • MAP • PAF • PCR • PCRП • PT • RAW • SBF • URP

Reference #	Type of Change	Previously Fixed	<p>Key: N = New Feature; E = Enhancement; F = Fix</p> <p>Description</p>
2736	F	V10.09 Analysis Modules	<p>If no hardware was connected to the acquisition system (for example ACQ7700), the Trigger Channel would be disabled. This issue would also be seen in a Post only system. This affected multiple analysis modules. This has been updated to allow the Trigger Channel (Attribute setting used for cross channel calculations or compensation) to be selected without an acquisition unit attached to the system.</p> <p>Affected modules:</p> <ul style="list-style-type: none"> • CYS • IBP • URP • PAF • CBF • LVP • CVOL • BP <p>Work-around: If not installing this update, set the acquisition interface to ACQ-DEMO. This will simulate hardware and allow the Trigger Channel to be selected. If a large number of channels are being used, the PPP3.INI file may have to be modified to permit the appropriate number of channels.</p>

Reference #	Type of Change	Previously Fixed	<p>Key: N = New Feature; E = Enhancement; F = Fix</p> <p>Description</p>
3315	F	V10.09 Analysis Modules	<p>Attribute settings may not have updated properly if using the Additional Channels feature in the attribute dialog. If no changes were made in the Attributes dialog for a given channel, selecting other channels through the Additional Channels feature would result in no changes for the additional channels. However, if changes were made to the given channel, all additional channels selected would be updated properly.</p> <p>Affected Modules:</p> <ul style="list-style-type: none"> • ECG • BP • BPR • CBF • CVOL • CYS • EMG • LVP • MAP • PAF • PCR • PCRП • PT • RAW • SBF • URP

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Reference #	Type of Change	Previously Fixed	<p>Key: N = New Feature; E = Enhancement; F = Fix</p> <p>Description</p>
3451/3549 (similar entries 3435 and 3325)	F	N/A	<p>Using the Additional Channels tab could cause Ponemah to close unexpectedly if a channel (or channels) selected had different sample rates. This pertains to channels that are dependent on other channels (Trigger Channels). If one or more channels had different sample rates, Ponemah would close upon analyzing the data. Changes were added to all analysis modules to prevent this issue from occurring in the future by not applying attribute changes to these dependent channels. The current analysis modules that exhibit this issue are as follows:</p> <p>BP - Q-A trigger channel BP - upstream channel BPR- BP channel CBF - trigger channel CVOL- trigger channel CVOL - segment N channel LVP - Q-A trigger channel PAF - Abdomen Channel PAF - Secondary Channel</p>
Electrocardiogram (ECG)			
			<p><i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i></p>
3397	F	V10.09 Analysis Modules	<p>A single data set revealed differences between a small number of cycles when results of the data were compared using Replay and Review. An occasional cycle, or cycles, was marked as arrhythmic when data was replayed. However, opening the dataset in Review and viewing the attributes dialog (no changes made to analysis) would show marks in the correct location for those cycles. This was due to slight differences in how the automated portion of the analysis tracks cycle information for purposes of determining threshold values. Replay has been updated to agree with Review capabilities.</p>
Pulmonary Volume (PVO)			

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
N/A	N	N/A	<p>A new analysis module, Pulmonary Volume (PVO), has been developed to work with the newly developed D70-PCRTR transmitter which uses impedance technology to record respiratory information.</p> <p>This module is also compatible with Ponemah Versions 4.60-4.90. However, an updated OpenART database is needed to support the transmitter in previous versions of the software. Please contact Sales for additional information pertaining to compatibility with previous Ponemah versions.</p>
Pulmonary Compliance and Resistance (PCR/PCRP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
N/A	E	V49-SP1	Added the ability to convert the pressure signal into different user units. The transmitters have a default unit of mmHg. Functionality has been added to allow the user to convert the pressure signal from mmHg to cmH2O. Since this has been added to the analysis, previously collected data may be reanalyzed to convert the data to cmH2O.
3241	F	V49-SP1	<p>Issues existed with PCR/PCRP (Versions 4.40 and 4.30, respectively) when the sample rates for the two channels differed. This could result in the system closing unexpectedly while in Review or erroneous values calculated for derived parameters that relied on the PCRP signal.</p> <p>This has been corrected by only allowing the user to select PCRP channels that have the same sample rate as the PCR channel. If the sample rates differ, the user will not see those PCRP channels in the attributes dialog.</p>
3314	F	V10.09 Analysis Modules	An incorrect calculation to allocate the proper amount of memory needed when reanalyzing could have caused Ponemah to close. However, this scenario is not likely to happen under normal user conditions. This has been corrected to avoid any potential issues.

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3446	F	V10.09 Analysis Modules	<p>Cycles were incorrectly identified on the PCR channel when a reanalyze of the channel was performed. Cycle information for the first block of data was correct. However, as each block was processed, the software would identify multiple cycles at one point. This was seen in both the cycle numbers on the waveform data as well as the data listed in the data table. The data table would list multiple cycles at one time point but only one cycle would have data listed. All other cycles would report “x” for their values. The waveform data would show gaps between cycle numbers even though the cycles were adjacent to one another. The longer the dataset, the larger the gaps would become.</p> <p>Also, a possibility did exist where Ponemah would close due to memory constraints trying to process the additional cycle information.</p>
Pulmonary Air Flow (PAF)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3543	F	N/A	The Avol Reset Event should have reported zeros during acquisition when set to None . However, if set to None , acquisition was reporting values for the Avol derived parameter. This only affected acquisition. Review correctly reported X's when set to None .
3303	F	V10.09 Analysis Modules	The Noise detection attribute may not have correctly placed Bad Data Marks when an analysis was performed. If the Bad Data Mark was placed just prior to the end of a data block, only the start would be marked and not the entire period that is expected.
3311	F	V10.09 Analysis Modules	If the Abdomen Channel was disabled prior to opening a Review file, Ponemah would close. This has been corrected to set the Abdomen Channel to “None” if the channel is disabled.
3325	F	V10.09 Analysis Modules	<p>Ponemah would close unexpectedly if an analysis was performed on multiple PAF channels in Review using the Additional Channels feature. This would occur if different sample rates existed between the PAF channels being analyzed.</p> <p>Note that this is also related to #3435 and 3451.</p>

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Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3327	F	V10.09 Analysis Modules	Ponemah would close during Acquisition if an Abdomen Channel was selected as one of the channels in the Additional Channels list.
3331	F	V10.09 Analysis Modules	<p>Entering a value of 0 for the Fixed Volume and selecting QDC in the RIP Calibration dialog would result in erroneous values being listed for Average Percent Error and Percent Error Range. A volume of 0 is not a valid calibration value and no longer allowed. Entering this value will now display an error message alerting the user to an incorrect calibration value.</p> <p>This was fixed with the V10.09 release but was inadvertently not listed in the release notes.</p>
3332	E/F	V10.09 Analysis Modules	<p>The Nonlinear Calibration allows the user to calibrate across multiple points and then use a polynomial fit to create a calibration curve. Using the Nonlinear Cal tab, a 4th order polynomial calculation would not be saved to the protocol. The values would be correctly calculated but upon reloading the protocol after saving, values reverted back to default values.</p> <p>This feature was initially available and this issue fixed with the V10.09 release but was inadvertently not listed in the release notes.</p>
Blood Pressure (BP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3580	F	N/A	The Noise feature did not properly trigger on data dropout (railed data) for the BP signals. Additionally, Ponemah may have closed during a reanalysis in Review. The Noise feature, not properly removing dropouts from analysis, allowed multiple marks to exist in the same position when a reanalysis was performed. If multiple marks existed in the same position, Ponemah would close.
3419	F	V10.09 Analysis Modules	When viewing the drop down list box for the Q-A Trigger Channel in the attributes dialog, the list only displayed one channel at a time. Up and Down arrows did exist to cycle through the possible channels but they were very small and difficult to view. This drop down box has been updated to display all possible ECG channels.

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3441	F	V10.09 Analysis Modules	<p>Opening a Review file could lead to different values being listed for PWV and PTT derived parameters when no analysis was performed. These parameters would typically display an “x” in the derived data table but any value could appear. The issue was that the software was not properly identifying the cycles from the secondary channel for calculation of these parameters.</p> <p>Work-around: If an analysis is performed and saved, the information is correct. The issue only occurred when opening the file. If the Review file was opened (no analysis performed) but the Marks section saved, this information would not be correct.</p>
3334	F	V10.09 Analysis Modules	<p>If the Barometric Channel associated with the BP signal was changed and a subsequent reanalysis was performed in Review, the BP signal would not utilize the newly specified Barometric Channel.</p> <p>This was fixed with the V10.09 release but was inadvertently not listed in the release notes.</p>
Blood Pressure Respiration (BPR)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3274	F	V10.09 Analysis Modules	<p>Ponemah could potentially close if the BP and BPR channels were collected at different sample rates. This issue occurred when performing various tasks such as deleting cycles, adding cycles, and moving marks. The amount of memory allocated for the presentation signal may not have been adequate based on the sample rates selected.</p> <p>Work-around: If the updated module is not loaded, setting the sample rate for BP and BPR to the same rate will account for this issue in the previous version. Please note that this prevents the issue from occurring when acquiring new data. It does not have any effect on previously collected data.</p>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3294	F	V10.09 Analysis Modules	<p>The BPR waveform may not have been displayed during Review. This could have occurred at the first cycle in the data set or after a data break. If a large discrepancy existed between sample rates for the BP and BPR channel, the likelihood of this occurring increased. The issue would occur if the Diastolic mark was placed at a sample point that did not yet exist for the BPR channel.</p> <p>For example, if the BP channel was sampled at 1000Hz, there is a sample every 1ms. If the BPR channel was sampled at 10Hz, a sample occurs every 100ms. Therefore, the first sample for BPR is in line with sample 100 from the BP channel. If the Diastolic mark for the BP channel occurred prior to sample 100 (occurred in less than 100ms) for the first cycle in the data set or after a data break, the software would close unexpectedly.</p>
3300	F	V10.09 Analysis Modules	A data break in the BP channel resulted in no data being calculated for the associated BPR channel for a longer than expected time frame. This has been modified to present the proper data following a data break in the BP channel.
3302	F	V10.09 Analysis Modules	Adding Bad Data Marks to the BP channel could have impacted the analysis for the BPR channel resulting in no data for a longer than expected segment for that BPR channel.
3243	F	V10.09 Analysis Modules	<p>If the BPR analysis module was installed on the workstation but the BP (Blood Pressure) module was not, Ponemah would close when the program was started.</p> <p>This was fixed with the V10.09 release but was inadvertently not listed in the release notes.</p>
Coronary Blood Flow (CBF)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3312	F	V10.09 Analysis Modules	If the Trigger Channel for CBF (the LVP channel) was not selected when opening a Review file, analyzing the CBF channel would result in Ponemah closing. If the selected LVP Trigger Channel was present in Review, no issues existed.
Systemic Blood Flow (CBF)			

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			<p><i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i></p>
3435	F	V10.09 Analysis Modules	<p>Ponemah would close unexpectedly if multiple conditions occurred. First, the Systemic and Venous Pressure Channel attributes (Advanced Attributes 1 tab) had to be enabled; second, the SBF channels had to have different sample rates; third, analysis was performed after selecting multiple SBF channels using the Additional Channels feature.</p> <p>This has been corrected although it is not a likely scenario that will be encountered since each SBF channel will need its own independent Systemic and Venous Pressure Channels. Therefore, the use of the Additional Channels feature is highly unlikely.</p> <p>Note that this is also related to #3451 and 3325.</p>
3436	F	V10.09 Analysis Modules	<p>If the Venous Pressure Channel (Advanced Attributes 1 tab) was enabled, exiting the program would not save the attribute. If the program was reopened and the protocol selected, the attribute would default to “None” even if a save was performed prior to exiting the program.</p>
3438	F	V10.09 Analysis Modules	<p>Values for CO and NPMN were not updated in Review when performing a reanalysis of the data if the Systemic Pressure Channel (Advanced Attributes 1 tab) was enabled for that channel.</p>
Cardiac Volume (CVOL)			
			<p><i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i></p>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3412	F	V10.09 Analysis Modules	<p>Using the Additional Channels feature would cause Ponemah to close unexpectedly when analyzing multiple CVOL channels in Review. Using this feature caused an issue when assigning the Segment x Channel (Standard Attributes tab) to an Input (Channel Input Setup). An Input channel cannot have its channel assigned to a Segment Channel.</p> <p>For example, if two channels were set to the CVOL analysis, Input 1 could only assign a Segment Channel to Input 2 (dependent channel). Input 2 could only assign a Segment Channel to Input 1. If attributes for Input 1 were opened, selecting Additional Channels (in this example, Input 2 would be selected) would attempt to change the Segment Channel to Input 2 for Input 2 when reanalyzing which is incorrect causing the program to close due to a circular dependency.</p>
3557	F	N/A	<p>Ponemah would close when opening a Review file created using an older version of the CVOL module (version 2.00). The issue was that the protocol contained in the Review file did not correctly initialize the segment channels. Additional checks have been added to validate the channel number correctly to allow the file be opened.</p>
Electromyogram (EMG)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3504	F	V49-SP4	<p>Ponemah had the potential to close if a series of events were carried out. After analyzing the EMG channel while in Review, creating a graph with the integral displayed and moving the graph page around on the desktop would cause Ponemah to close.</p> <p>This issue would not occur on the first channel (input 1) or any other channel that had the same sample rate as channel one. This has been corrected.</p> <p>Work-around: If installing the updated module is not desired, set all channels to the same sample rate as channel one.</p>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3510	F	V49-SP4	<p>Auto scaling the integral signal could cause Ponemah to shut down unexpectedly. This has only been found to happen if a large spike in the data occurred and an auto scale of the graph was performed while the spike was visible in the graph page. This only occurred during Acquisition or Replay, not Review.</p> <p>Work-around: Do not use the auto scale feature while a large spike is visible in the graph page during Acquisition or Replay.</p>
Monophasic Action Potential (MAP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3373	F	V10.09 Analysis Modules	Moving a Recovery Mark could result in Ponemah closing. This would occur if a Recovery Mark was manually moved in Review next to a data break. Next, loading the same file and moving the exact same Recovery Mark would result in Ponemah closing unexpectedly.
3278	F	V10.09 Analysis Modules	Marks were not placed on cycles in Review if the Maximum Slope and Peak Value Mark occupied the same position. This did not affect Acquisition or Replay. This has been updated to allow these parameters to occupy the same position to match Acquisition and Replay.
3281	F	V10.09 Analysis Modules	Reanalyzing multiple times could have caused the program to close. This was due to an issue with how the first cycle in the data set was analyzed. Marks could potentially have been placed incorrectly for the first cycle in the data set. Reanalyzing may have resulted in the first cycle being analyzed with a different set of marks causing the program to close.
Left Ventricular Pressure (LVP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3232	F	V49-SP1	Moving a Q mark in Review on an ECG channel could result in Ponemah closing if reporting the Q-A derived parameter . The Q-A derived parameter is a cross channel calculation utilizing an ECG and a pressure channel. If no data existed for the pressure channel in the region where modifications were made to the Q wave, the program would close. Examples where no data would exist for a pressure channel would include incorrect analysis attribute settings and Bad Data Marks .
3247	F	V49-SP1	<p>The RAW analysis module was previously expanded to provide 4 separate selections. These selections are TEMP (Temperature), ACT (Activity), BARO (Barometric), and RAW. Functionality is equivalent for each module. However, providing different types eases setup by clarifying inputs in various menus as well as eliminating errors seen during Study setup.</p> <p>The LVP analysis module was not updated to permit BARO channels to be selected and used as the Barometric Channel in the Advanced Attributes 1 tab. It only recognized channels designated as RAW.</p>
3249	F	V49-SP1	<p>An issue existed in LVP which could result in the system closing unexpectedly while in Review or erroneous values calculated for derived parameters. This was a result of the LVP channel and the Barometric Channel having different sample rates.</p> <p>This has been corrected by only allowing the user to select BARO channels that have the same sample rate as the LVP channel. If the sample rates differ, the user will not see those BARO channels in the attributes dialog.</p>
3129	F	V10.09 Analysis Modules	When analyzing the LVP channel in Review, marks would be placed for the first cycle in the data set. If the first cycle was not a complete cycle, the possibility existed where the marks may not be in the correct locations. This has been updated to not analyze the first cycle in the data set if that cycle is incomplete.
Unrestrained Plethysmography (URP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3333	F	V10.09 Analysis Modules	An extra line of data would appear at the beginning of the data set if a Replay session was halted prior to the end of the data set, the Replay then stopped, and the Replay session then restarted. This extra line of data would also be present in Review.
3329	F	V10.09 Analysis Modules	A remote possibility existed where reanalyzing in Review would cause Ponemah to close. This issue was found through in-house testing and was attributed to a memory issue that is not likely to be encountered during normal use.
3337	F	V10.09 Analysis Modules	While in Review, analyzing the data multiple times for a given channel could result in Ponemah closing down.
3336	F	V10.09 Analysis Modules	<p>Typing in specific values in the Chamber Temp and ATM Pressure boxes would not be recalled after saving the protocol, restarting Ponemah and then reopening the protocol file.</p> <p>This was fixed with the V10.09 release but was inadvertently not listed in the release notes.</p>
RAW Electrical Mean (RAW)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
3352	F	V10.09 Analysis Modules	The Total Activity parameter (TA) would report no data at various logging intervals (Logging Rate). Additionally, the Activity presentation signal from the Graph page was tied to this value and would not appropriately reset at the defined intervals.
Cystometry (CYS)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
Pulsatile Tissue (PT)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>

Reference #	Type of Change	Previously Fixed	Key: N = New Feature; E = Enhancement; F = Fix
			Description
3440	F	V10.09 Analysis Modules	Reanalyzing data in Review could potentially result in Ponemah closing. Incorrectly setting the Peak Validation Time attribute to a long interval that runs into the next cycle caused the validation marks to be placed in the wrong locations. When the reanalysis was performed, the incorrect positions for the validation marks caused the program to terminate.
Indirect Blood Pressure (IBP)			
			<i>Please refer to the Issues Affecting Multiple Analysis Modules section for a list of additional fixes pertaining to this analysis module.</i>
Open or Miscellaneous Issues			
3413	N/A	N/A	CVOL: Cycles may not trigger during Acquisition or Replay if the End Cycle Adjust is set so that it extends into the next cycle. This is expected. During Review, results of the data are slightly different. Since we have information for all cycles during the Review process, the End Cycle Mark will be placed one sample prior to the start of the next cycle.
3432	N/A	N/A	CVOL: When analyzing data in Review, the Effects and Scope of Changes dialog will list that precision information has changed even if no modifications to attributes have been made. No data is affected if attributes are not modified; the note should not be listed.
3421	N/A	N/A	URP: If RAW channels (used for compensation) are excluded when opening a Review file, they will still be shown under the drop down list boxes in the Advanced Attributes 2 tab. However, the analysis functions as expected and these selections are not used when reanalyzing since the signals were disabled upon entering Review.

Additionally, this document identifies the individual software components and versions for the analysis modules used in the Ponemah 5.00 Analysis Modules release. Due to the fact that the build contains many individual software components, each having its own version number, the build itself carries a version number that refers to a manufacturing build version. Please refer to the table below for an itemized list of the software contained on the enclosed build.

Contents of CD Part # 006008-001 - Version 5.00

Model	Description	Version
PNM-BP100W	Blood Pressure Analysis Module	V4.90
PNM-BPR100W	Blood Pressure Respiration Analysis Module	V4.30
PNM-CBF100W	Coronary Blood Flow Analysis Module	V4.30
PNM-CYS100W	Cystometry Analysis Module	V4.40
PNM-ECG100W	Electrocardiogram Analysis Module <i>*NOTE: *Multiple Lead is embedded in the PNM-ECG100W analysis module</i>	V5.10
PNM-ERO100W	ECG Rate Only Analysis Module	V4.00
PNM-EMG100W	Electromyogram Analysis Module	V4.30
PNM-IBP/IBPS100W	Indirect Blood Pressure / Indirect Blood Pressure Sound Analysis Modules	V4.00
PNM-LVP100W	Left Ventricular Pressure Analysis Module	V5.00
PNM-MAP100W	Monophasic Action Potential Analysis Module	V4.30
PNM-PAF/AWR100W	Pulmonary Air Flow / *Airway Resistance Analysis Modules <i>*NOTE: This option is embedded in the PNM-PAF100W analysis module</i>	V5.20
PNM-PCR/PCRP100W	Pulmonary Compliance & Resistance Analysis Module / Pulmonary Compliance & Resistance Pressure Analysis Module	V4.60 / V4.50
PNM-PVO100W	Pulmonary Volume Analysis Module	V1.00
PNM-PT100W	Pulsatile Tissue & Gut Motility Analysis Module	V4.40
PNM-SBF100W	Systemic Blood Flow Analysis Module	V4.20
PNM-CVOL100W	Cardiac Volume Analysis Module	V2.50
PNM-URP100W	Unrestrained Plethysmography Analysis Module	V4.40
	Raw Electrical Mean (TEMP, BARO, ACT)	V4.70

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