PRODUCT RELEASE NOTES

Product: NeuroScore™
Version: 3.4.0
Build: 21113
Date: April 2021

Product Release Notes for NeuroScore version 3.4.0 indicate revisions made to the NeuroScore core application and optional modules since release of version 3.0.0. For information regarding changes to the software from previous versions, please contact DSI Technical Support.

Compatibility

NeuroScore v3.4.0 is compatible with the 32 and 64-bit versions of Windows 10. It is also compatible with the 64-bit version of Microsoft Office 2007 or greater.

Note: This is the last version of NeuroScore that will support the 32-bit version of Windows 10.

Considerations

- Version 3.4.0 can be installed over existing installations of NeuroScore v3.0.0 and later.

- Version 3.4.0 will not require a new license file when upgrading from v3.0.0 or later. The following aspects of the program will carry over when upgrading:
    - Saved sheet layouts
    - Scoring protocols
    - Analysis sessions associated with a recording (scorings, sheet tabs, periods, reports, etc.)
- When upgrading from v1.x or v2.x to v3.4.0, the following aspects do not carryover:
    - Recording Library listings

New features, enhancements, and fixes

Software changes between v3.4.0 and v3.3.1

Reference Number	Description	Module(s) Affected	Disposition
30252	Previously when using the Kaiser window with greater than 615 samples, no results were generated and users were not notified. Users are now notified on the restrictions for using the Kaiser window.	Core Software	Fix

37251	Fixed an issue when reading sample data for epochs that span Ponemah v6.x waveform File boundaries.	Core Software	Fix
40249	Fixed a software crash when trying to resize the Signal Overview window.	Core Software	Fix
40466	Fixed an issue where the Recording Date column shifted into the File Format column when choosing File |Open Recording | Browse Recording Date	Core Software	Fix
40896	Fixed an issue where using the integral function caused a time shift when comparing against the original signal.	Core Software	Fix
40897	Fixed an issue where the Sync to scoring epoch option displayed a shifting time stamp when using Periods.	Core Software	Fix
40903	Fixed a software crash when selecting Rodent Scoring 2 from the Visual Tuning Sheet.	Sleep	Fix
40909	Fixed an issue where an extra Marker would appear on the Marker List when a marker was moved on a graph.	Core Software	Fix
45739	Fixed an issue when using the Spike Detector where the Maximum Value was being ignored when set through the Absolute Threshold settings.	Core Software	Fix
45740	Fixed an issue where there could be blank data that spanned across Ponemah v6.x waveform file boundaries.	Core Software	Fix
45741	Added the ability for NeuroScore to allow the use of periods in Experiment and Subject names.	Core Software	Fix
45745	NeuroScore will now run if the Federal Information Processing Standard (FIPS) setting is enabled in Windows.	Installation	Fix
45751	Gender can now be modified in the Recording Properties dialog	Core Software	Fix
45752	Fixed an issue where the channel units from Ponemah 6.x data were incorrectly imported into NeuroScore.	Core Software	Fix
45755	Fixed an issue where EDF export of data did not match original data when an inverted calibration was used and when signals were offset.	Core Software	Fix
45756	Fixed an issue where Signal Rows were shifted in some situations when using Power Bands and exporting to Excel.	Core Software	Fix
45758	Fixed an issue where NeuroScore would crash when running the Amplitude detector.	Core Software	Fix

45983	Fixed an issue where the start of logging interval is rounded to the wrong epoch start time.	Core Software	Fix
46274	Fixed issue where data would be offset after EDF export.	Core Software	Fix
47895	Fixed an issue where the animal name was lost after inspecting a NeuroScore recording upon initial data load.	Core Software	Fix
47896	Fixed an issue where the Periodogram was shifted that occurred in large Ponemah 6.x data sets with more than one *.PnmWav file per subject.	Core Software	Fix
48219	Added NeuroScore compatibility with Ponemah v5.3x, v5.4x and v5.5x data files.	Core Software	Enhancement
48673	Fixed an issue where NeuroScore didn't recognize Ponemah v5.x video recordings.	Core Software	Fix
48680	The following file formats will not be supported in versions after 3.4.0: Bio Pac, CED, Embla, ISHNE	Core Software	Change Notification
48685	Excel files created from NeuroScore can contain more than 256 columns.	Core Software	Enhancement
48903	Fixed an issue where invalid spikes were considered valid if they were within a join interval of a valid spike.	Core Software	Fix
48910	Fixed an issue where data reported in the signal grid was incorrect for periods other than "Whole Recording".	Core Software	Fix
48921	Fixed an issue where switching between periods could result in blank cells instead of calculated values.	Core Software	Fix
48970	Fixed an issue where an Unhandled Exception could occur when saving or deleting an analysis protocol.	Core Software	Fix

Software changes between v3.3.1 and v3.2.1

Feature	Description	Module(s) Affected	Disposition
Spike Detector Filtering *(41894)*	An option has been added to allow the 1 Hz high pass filter applied by the Spike Detector during automated analysis to be disabled.	Seizure Module	Enhancement

Dataquest ART Activity data misalignment *(40898)*	When using large amounts of Activity data from Dataquest ART, a misalignment would occur between both the time stamps and activity instances when comparing the data loaded into Dataquest ART versus NeuroScore. This has been corrected.	Core Software	Fix
Noldus Media Recorder/ Ponemah v6.4x Video Compatibility *(40895)*	Support has been added to load, view and synchronize video files collected from Ponemah v6.40 using Noldus Media Recorder 4.0. *Note: K-lite codec provided with 3.3.1 installation kit must also be installed.*	Core Software	Enhancement
Ponemah v6.x file export to edf *(40462)*	When exporting data from the Ponemah v6.x file format to an edf format, the export would fail and create only a 3kb file with no data. This has been corrected.	Core Software	Fix
Signal Grid Averaging *(40460)*	When averaging data from Ponemah in a signal grid, the resulting averages were inconsistent between corresponding timestamps. This has been corrected.	Core Software	Fix
Signal Grid and Signal Sheet gaps with Ponemah v6.x data *(40459)*	When viewing data from a subject that spans multiple .PnmWav files, a gap appeared in the activity and temperature data at this transition of the data files. This was visible from the Signal Grid and Signal Sheet pages. This has been corrected.	Core Software	Fix

NeuroScore not reading correct time stamps *(40457)*	NeuroScore was reading timestamps from Ponemah data incorrectly when encountering Ponemah data breaks (i.e. using scheduled sampling or stopping/restarting acquisition) and would therefore not display the gaps in data properly. This has been corrected.	Core Software	Fix
Ponemah v5.20 with Noldus Video *(39256)*	Video data collected using Ponemah v5.20 with Noldus Media Recorder v2.6 was taking significantly longer to load into NeuroScore than expected. This has been corrected.	Video Module	Fix
Copy as Image issue with Ponemah v6.x data *(38633)*	When using the Copy as Image function with Ponemah v6.x data, the pasted image did not display properly when data dropout was In Window. This has been corrected.	Core Software	Fix
German OS compatibility *(32617)*	When using NeuroScore on a German version of the Windows 7 operating system, the following error may occur upon trying to open a recording: "Could not open this recording. It is either damaged of the file format is missing." This has been corrected.	Core Software	Fix
Large Animal Sleep Scoring Detector Settings *(30847)*	In the Advanced Settings of the Large Animal Sleep Scoring Detector, the default EOG settings for Wake/REM level and N1/N2/N3 level were reversed. This has been corrected.	LA Sleep Module	Fix

Software changes between v3.2.1 and v3.2.0

Feature	Description	Module(s) Affected	Disposition
Spike Detection *(33763)*	When attempting to run spike detection on a signal with a high sample rate (>1000 Hz) the detector may fail, presenting the following message: "An entry with the same key already exists." This has been corrected. Workaround: A workaround is to create a Mean derived signal to create a 1000 Hz signal from the original signal..	Seizure Module	Fix
Ponemah v6.xx Compatibility - Time Zones *(31807)*	When collecting data in Ponemah v6.00+ in one time zone, and then loaded the data into NeuroScore 3.2.0 in a different time zone, the data timestamps maybe shifted by a number of hours. This has been corrected to appropriately handle loading data collected in different time zones.	Core Software	Fix

Software changes between v3.2.0 and v3.0.0

Feature	Description	Module(s) Affected	Disposition
Ponemah v6.xx Compatibility *(31806)*	Support has been added to read the file format introduced with Ponemah v6.00+.	Core Software	Enhancement

Noldus Video Compatibility (31807)	Support has been added to load, view and synchronize video files collected from Ponemah v5.20 using Noldus Media Recorder. Some issues remain with viewing MPG based video files with external XMP files. This is most probably a codec issue. AVI files are working well.	Core Software	Enhancement
Marker List Display (30251)	When using large datasets with a large number of markers, NeuroScore would be slow to react when scrolling through the data and reanalyzing. This was caused by the Marker List tracking the large number of markers placed throughout the dataset. The Market List has been enhanced to allow the user to choose between showing all markers in the list, disabling all markers from being displayed in the list, or just disabling sub-markers from being displayed in the list.	Marker List	Enhancement /Fix
Additional Signal Type Input Signals for Amplitude Detector (22352)	The Amplitude detector can be used to automatically insert data markers (e.g. Invalid Data) based on user-defined criteria This feature originally could only apply to a single signal type. Functionality has been added to apply the Amplitude detector on up to 4 signal types simultaneously.	Amplitude Detector	Enhancement

Marker Location (32535)	Added the ability to include the Marker Location within the Marker Grid. This now permits the user to display the Markers' associated channel should channel specific markers be applied. To add the Marker Location: 1. Add a **Label Column** to the Marker Grid. 2. Right-click the Label header. 3. Select **Properties**. 4. Select **Marker Info** tab. 5. Check the checkbox associated with **Display marker location**. 6. Click **OK**.	Marker Grid	Enhancement
Normalized Power Spectrum (30253)	NeuroScore previously presented and exported non-normalized Power Spectrum. Users can now choose to work with Normalized Power Spectrums within the application and via export options.	Spectrum Export	Enhancement
Spectrum Export using FFT (30254)	The Spectrum Export feature provides a method to export signal power value using the following processing methods: FFT, DFT, Periodogram, and Autoregressive Spectrum. When exporting power values using the FFT processing method, the values were incorrect. The other three processing methods exported correct power values. This has been corrected to for the FFT processing method to export the correct power values.	Spectrum Export	Fix

Invalid Data Marker Data Exclusion (18011)	Invalid Data markers could be placed through the recording to provide a visual indication of invalid data. Invalid Data markers would exclude associated data from NeuroScore generated Reports. However, these data would not be remove from the invalid sections of data within Marker Grids, Signals Grids, or Spectral Export. This has been corrected to appropriately remove invalid data from being reported within these features.	Core Software	Fix
Adjust Daylight Savings (32878)	NeuroScore Recording Property to Adjust Daylight Savings was not correctly adjusting the data. The would occur when opening a recording collected prior to Daylight Saving time and then opening it after Daylight Savings time. This has been corrected. Please note, a second manifestation of this issue can still be seen if data was recorded in a time zone with Daylight Savings disabled and then reviewed with Daylight Saving enabled.	Core Software	Fix
Video Synchronization (32616)	NeuroScore would incorrectly handle Ponemah video files when multiple video sessions were associated with a single .RAW file. This caused video and waveform data to be out of synchronization when loaded into NeuroScore. This has been corrected.	Video	Fix
Video Synchronization (28324)	Video data would not synchronize with the RAW data if the Ponemah file included a period within the file name. This has been corrected.	Video	Fix

| Ponemah File Format

(30258) | When running NeuroScore on a Windows 64-bit Operating System, NeuroScore cannot open Ponemah files if Microsoft Excel (Office) 32-bit is installed.

If using a 32-bit version of Microsoft Office, this can be fixed by installing the 64-bit version of Microsoft Office. Alternatively, Microsoft has solved this issue in Microsoft Access Database Engine 2010 Redistributable download. Please contact DSI Technical Support for the download location and instructions on how to install. | Core Software | Workaround |
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| Seizure Report Generation

(30259) | When working with long dataset that contain many Spike and Seizure markers, the Seizure report generated is too large for the underlying database to store between sessions. The Seizure report will generate appropriately during the analysis session, however once the recording is closed (Save and Close) the report will fail to generate upon re-entry into the recording session.

The workaround is to use on a smaller subset of the dataset to create the report. | Core Software | Workaround |