Table of Contents

1   Introduction

The part numbers for the Compumedics CURRY 9 product are 9138-0900-01 through 9138-0916-2U. CURRY 9.0.1 is an update for CURRY 9. It contains bug fixes and new features to make recording, review, and analysis of EEG, MEG, and medical image data easier.

CURRY 9 software suite comprises the following programs:

- CURRY 9

- CURRY 9 Launcher

- CURRY 9 Database Server

- CURRY 9 Dongle Updater

2   Changes in CURRY 9.0.1 from CURRY 9.0.0

This is an overview of the most significant changes and bug fixes that were made to the current software release compared with the last release, CURRY 9.0.0.

2.1   Highlights

- Phase independent (amplitude) averaging in the frequency-domain

- Improved handling of split-data (back-to-back epoching)

- Support for multi-frame JPEG- and RLE-format DICOM images

- Improved robustness of automatic cortex segmentation against high-intensity blood vessels

- Automatic backup of existing .dpo parameter file during recording to increase fail safety

- Increased maximum number of kept results to 100 and maximum number of loadable results to 90

- New date-related field codes *TY, *DD, *DI

- Re-digitizing is easier, as previous landmarks are kept when skipped

2.2 Enhancements

2.2.1 User Interface

- Changed order of buttons in Delete Global Parameters popup question so that "Reset and Restart" is now the first option. Removed option to not show again.

- File dialogs for saving various types of parameters now provide information about the type of parameters saved in their window titles.

- Removed 1,000 character restriction from text controls.

- Position "select multiple events" dialog next to dropdown list.

- "Next" and "Previous" group buttons in channel selector boxes now scale with display settings.

2.2.2 Database

- Renamed built-in Image Data "Pediatric 0-5" to "Pediatric 3-5" and increased related field of view by 10%.

- Allow inserting of functional and image data in "Curry X only" configurations.

2.2.3 Acquisition

- Automatically backup existing .dpo file during recording to increase fail safety.

- Added trigger mode for Neuroscan Stimlink device.

- Added option to "Lock MEG helmet view" when displaying HPI corrected helmet points during acquisition.

- Video window now shows a status text when video is recording.

2.2.4 EEG and MEG Data Import

- Increased size of "additional landmarks" section to support large lists of headshape points.

- Added auto-detection for headshape points when loading digitizer files.

- Added resorting of digitized electrode positions, based on labels.

- Curry parameter files now support all printable characters in "History" list.

- Added polhemus headshape reader for CTF file format.

- Added support for HPI coils.
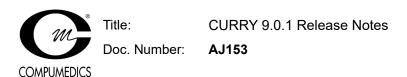
2.2.5   Signal Processing

- Montage traces are now plotted as deselected also when only the reference channel is deselected.

- Limit maximum number of displayed contour maps to 128.

- Video replay now also can be paused by clicking into the Functional Data waveform view.

- Added option to disregard single HPI coils for head position correction.

- Deselected channels are now reported in the Functional Data Information dialog and the File History.

- Improved handling of deselected channels in DSSP-filtering.

- Added break (gap) event awareness to seizure/spike detection.

- If overwriting existing event with manual one, position in event list goes to next valid event.

- Scrollbar now shows days instead of counting hours when number of hours exceed 24.

- Event conditions can now also be applied to Hypnogram events.

- Added option to import HPI coils for head movement correction.

- Moved Maps' "Butterfly" checkbox from Options to Waveforms UI.

- Ensure "Waveforms" keep current result if a new result type is generated.

- Improved handling of gaps (avoid reading zero numbers).

- Improved conditional (de)selection of epochs with concatenated files.

- Improved phase independent (amplitude) averaging in the frequency-domain

- Improved CTSP-filtering for groupwise application.

- Improved split-data handling (back-to-back epoching)

2.2.6   Image Data Import

- If Image Data parameters are brought up in Review mode, but image file selection is subsequently changed in Image Data parameters, a popup question appears that offers to switch from Review mode to Autodetect mode.

- Modality dropdown list now also indicates autodetection state.

- Improved parameter file handling for read-only image data.

- Support for multi-frame JPEG- and RLE-format DICOM images.

2.2.7   Image Data

- Improved rendering or rotated Segmentation Results view.

- In the Options dialog of the Save Image Data window, the Anonymize and PACS Upload checkbox states are now remembered.

- Improved robustness of automatic cortex segmentation against high-intensity blood vessels.

- Improved shape of Talairach Mask.

- BEM/FEM Geometry option to use Talairach Mask for white matter segmentation (default is Off).

- For Functional Landmarks display, the "Show Headshape" option in 3D View Properties is now observed.

- Coordinate text fields in the Options panel now advance by 0.5mm on up/down.

- Added instructions to Talairach_readme.txt on how to download and convert Desikan and Destrieux atlas data for use in Curry.

2.2.8   Source Analysis

- Improved start value search for HPI-coilset fit.

- Improved concatenation of unknown EEG types with different known EEG-types.

- FEM Mixed now automatically turns off stereo-EEG contacts outside source compartment.

2.2.9   3D View

- Added option to lock "camera" on MEG helmet (while performing HPI head movement correction).

2.2.10   Localize

- When importing functional ("sensor") landmarks, headshape locations are excluded unless "Show Headshape" is checked in their 3D View Properties.

- Import Image Data Landmarks is now always available, even if Localize list is in Edit mode.

- When importing dipole results and some dipoles are inactive, these may now be omitted.

2.2.11   Results

- Changes "Overlay" to "Segmentation Mask" in Result panel "Doubleclick" dropdown list.

- Increased maximum number of kept results to 100 and maximum number of loadable results to 90.

- When appending Source Results to existing Kept Results, result names are now shortened to a common stem.

- Multiple selection support for importing Source Results or Kept Results to Localize via the Results tree context menu.

2.2.12 Digitizer

- Re-digitizing points has been made easier, as previous landmarks are kept when skipped.

2.2.13 Miscellaneous

- New field code *TY expands to the current date in YYYY_MM_DD format.

- Support for the hash symbol (#) in text saved to parameter files and macros.

- New field code *DD expands to the Functional Data study date (recording date) in YYYYMMDD format.

- New field code *DI expands to the DICOM study date from Image Data in YYYYMMDD format.

- Added Align-mode for Waveboard display, improved time cursor information.

- Added UDI info in Help > About window.

- Ensure time-limited features are released correctly when Curry is still running.

- Macro playback: "Proceed 0 s" now also works for Curry-generated popup questions.

- The Launcher now displays non-usable features in "disabled" color.
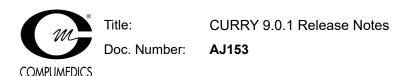
2.3 Issues Addressed

2.3.1 User Interface

- Fixed display problems when resizing pane of parameter dialogs.

- Fixed context menu for "floating" Localize grid.

2.3.2 Database

- Fixed an issue where an empty study in the database could not be opened when only the X module was present.

- Fixed a crash when showing built-in image data parameters in unfiled studies.

- Fixed a bug that prevented displaying additional files that were inserted into derived studies while exporting data.

- Fixed renaming unfiled studies when database is read-only.

- Fixed a display bug that suppressed "inherit" icons after dragging subject items into groups.

- Fixed a bug that prevented deletion of files that have an "unknown" type.

- Fixed a bug that inserted dragged files always at the end of a study.
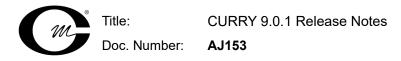
2.3.3   Acquisition

- Fixed an issue where channels could be mapped in the wrong order in multi-headbox recordings.

- Fixed an issue where the PTZ camera type selection had to be redone after restarting Curry.

- Fixed an crash when performing an HPI coil fit in MEG recordings that also contain EEG data.

- Fixed an issue where MEG status updates were not always reflected in the MEG dialog.

- Fixed an issue where the recording timer would reset when re-opening the Amplifier Control dialog.

2.3.4   EEG and MEG Data Import

- Fixed a crash when editing channel labels in Functional Data Parameters.

- Fixed a bug that prevented applying "Unit" scaling factor to external headshape points

- Fixed a bug when overwriting headshape points that led to a dupilcation of entries.

- Fixed saving user-shifted headshape points.

- Fixed a bug that prevented gap events from being created when ProFusion studies contain no other events.

- Fixed a bug that prevented scrolling to the last two lines during raw digitizer file import.

2.3.5   Signal Processing

- Fixed a bug when switching between event types of different lengths in detection review.

- Fixed a bug that prevented spike detection events from being averaged.

- Fixed a crash when deselecting all channels in Position Plot view.

- Fixed a bug where the video synchronization information was not correctly written when exporting a re-sampled Functional Data file.

- Fixed a bug where CDR waveform display did not automatically switch between CDR Dipole and CDR waveform.

- Fixed a bug where Source Result waveform display remained visible after switching off source analysis.

- Fixed a bug where events conditions on annotations would malfunction if annotations contained channel information.
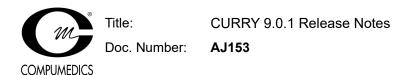
- Fixed a bug in IIR Chebyshev filters.

- Fixed a bug in memory allocation for in-place epoching.

- Fixed a bug changing event types for epochs from different datafiles.

- Fixed a bug where manual input of cursor times before the actual page was not possible.

- Fixed edit-spin-control increments for cursor times.

- Fixed a bug where fitted HPI were not adjusted when saving manually changed sensor location.

- Fixed a bug where HPI correction could be applied twice when saving changed sensor locations while HPI correction was enabled.

- Fixed a mismatch in number of events during spike detection in preview mode which occurred when having other existing event types.

- Fixed a bug that prevented concatenating certain files which "reused" parameters.

- Fixed a bug when exporting Maps data when "Others" group is active.

- Fixed 10/20 interpolation (new parameterblock).

- Fixed ctrl & left-click on label to send channel to waveboard.

2.3.6   Image Data Import

- Fixed a bug where multiple Image Data Parameters windows could simultaneously pop up, if multiple unparameterized image data sets were part of the same study.

2.3.7   Image Data

- Fixed a bug where regional CDR Dipoles were clipped per component not per dipole.

- Fixed a bug where Segmentation Preview is distorted after switching the view, if number of slices equals number of pixels, but slice thickness is different from pixel size.

- Fixed a bug where bias correction reconstruction would fail when the image data size was inconsistent with that of the parameter file.

2.3.8 Source Analysis

- Fixed a bug in the preparation of intracranial data for source analysis which wrongly handled the presence of the others group causing a mismatch in channel count.

- Fixed a bug where dipoles were fitted repeatedly if the Dipole Fit Seed Mode was Cursor and Seed Distance was larger than zero.

2.3.9 3D View

- Fixed an issue where MEG sensor labels where not visible when seen from "bottom to up".

- Fixed a bug that clipped CDR regional dipoles incorrectly movie mode.

- Fixed a potential crash when trying to display 3D coordinates (using an outdated display driver).

- Fixed a bug that hid property dialogs when changing active study.

2.3.10 Localize

- None.

2.3.11 Results

- Fixed a crash in Statistics, when using "Project To" in the Data Options of a CDR SnPM analysis and having <Skip> enabled in one of the fields.

- Fixed a crash in Statistics, when using "Project To" in the Data Options of a CDR SnPM analysis.

- Fixed a bug where Statistics Analysis Matrix dropdown lists failed to update after changes in source results.

2.3.12 Digitizer

- Fixed an issue where during an MEG-EEG recording, MEG sensors were requested instead of EEG channels by the digitizer.

2.3.13 Miscellaneous

- Fixed a bug where any consecutive whitespace was converted to a single space character when reading a macro or parameter file.

- Fixed a bug in string-handling routine which could cause a crash.

- Fixed return values of popup questions with only one option.

3　Known Issues

- Recording video from an RTSP network camera under Windows 11 might require Curry to run as administrator.

4　Recommendation for Users in the Midst of a Study

If you are in the midst of a study and consider upgrading from CURRY 8 to CURRY 9, you are advised not to do so.

5　Installation / Upgrade

CURRY 9.0.1 is an update to CURRY 9. However, it does not require the existence of any CURRY 9 software. If you already have CURRY 8 installed, it is possible to install CURRY 9 alongside it as long as they are installed in different directories.

6　Operating System

CURRY 9 is designed for use on Microsoft Windows 7 or later, 64-bit and has been extensively tested on Windows 11 64-bit and Microsoft Windows Server 2019 64-bit. Microsoft Windows Vista or earlier operating systems are not supported. 32-bit operating systems are not supported.

7　Contact and Support Information

A procedure for obtaining support, reporting problems, or requesting features for this software release:

7.1　Obtaining Support

Send an e-mail to curry9help@neuroscan.com. This can be done via

- Help > Send E-mail to Helpdesk

7.2　Reporting Problems

7.2.1　Curry Produces a Warning

If you are suspicious about a certain warning (error message):

1. Edit > Options > Troubleshooting > Enable Debug Mode

2. Reproduce the error message as straightforward as possible

3. In Output, right-click and select Open in Editor

4. Save the log file and mail its contents to curry9help@neuroscan.com

7.2.2   Curry Crashes

1. Edit > Options > Troubleshooting > Enable Debug Mode

2. In Output, right-click and select Open File Location

3. An Explorer window opens

4. Reproduce the crash as straightforward as possible

5. In the Explorer window just opened, locate the most recent log file and e-mail it to curry9help@neuroscan.com

7.3   Requesting Features

Send an e-mail to curry9help@neuroscan.com. This can be done via

•   Help > Send E-mail to Helpdesk

8   Document History

Revision	Date	Author	Description of Changes
0	03/23/22	FG	Created for Curry 9.0.1 release
1	03/25/22	FG	Updated for Curry 9.0.1 release