BESA Research Update History

Listed below are the changes and bugfixes provided in the updates of BESA Research 5.3:

Changes in version 5.3.3 July 2010

- **Bugfix:** If MATLAB was closed during a BESA/MATLAB session, and BESA reopened it, the paths to the BESA-MATLAB scripts was lost.
- **Bugfix:** Couldn't read avr file generated by BESA. Misleading error message about too many samples.
- **Change:** Message displayed and handling when artifact file doesn't match with the bad channel configuration of the file.
- **Bugfix:** Surrogate correction didn't work for CTF files (any files in which the first channel wasn't MEG).
- **Bugfix:** Coordinates were assigned to a polygraphic channel if this channel followed EEG with the reference defined.
- **Bugfix:** Reading data blocks of compressed foc files with high amplitude values lead to an invalid file error.
- **Bugfix:** Export around Triggers to Simple Binary could fail if the number of triggers was extremely large.
- **Bugfix:** Import ASCII didn't work any more.
- **Bugfix:** Greying of rejected triggers was broken for batches.
- **Bugfix:** BrainVoyager 64-Bit version wasn't found correctly.
- **Change:** Added cut, copy, paste to batch list dropdown menu.and keyboard short cuts.
- **Bugfix:** Additional channels montage no longer disabled in batch.
- **Bugfix:** Grand averages crash when the number of target channels differed from the number of source channels.
- **Change:** export to SPSS: separate numbers by a single space, so that SPSS can read the input directly
- **Bugfix/Change:** Display of maximum value in the image window title now correct after importing an image and immediately after an image is generated.
- **Bugfix:** removed stray text in the Export dialog window.
- **Bugfix:** Dependencies in the Export dialog window for standard deviation radio button corrected

Changes in version 5.3.2 May 2010

- **Bugfix:** Crashes in ERP dialog for users who don't have a license for the time-frequency/coherence module.
- **Change:** Peaks and Mean Amplitudes: A new Baseline button allows to select prestimulus baseline settings. Previous behavior: baseline for segments setting was always applied.
- **Change:** Updates are now checked for automatically in the background. Default is every 7 days. Adjust using DaysBetweenUpdateChecks=n in the [Updates] section of BESA.ini. n=-1 for never.

- **Change:** Updates: The network dongle can also be checked for updates. Use CheckNetworkDongle=On in the [Updates] section of BESA.ini. The update must still be carried out with the dongle plugged in locally.
- **Change:** Updates: Various other enhancements to the update module, e.g. progress bar for the download, window displaying history text.
- **Change:** Batch: During a batch, press and hold down the Pause or Delete key to interrupt the batch and enter Single Step mode. Press and hold down the Esc key to cancel the batch.
- **Change:** Batch: The MAINSetBaseline command has been renamed to "MAINBaseline". Old batches will still work correctly.
- **Change:** Combine Conditions. After generating a grand average, make the grand average file the current file. Previously the file was opened, but one had to switch to the file in the main BESA display.
- **Change:** ERP/Save Events As/Open Event File: allow import and export of segment boundaries. Option to export accepted (after artifact scan) triggers, i.e. only those triggers that are black, excluding triggers that are colored grey.
- **Change:** Intervals selected when doing artifact scan and average for filters were zero. These have been reset to 1s or 2s (depending on filter). This is the BESA 5.2 behavior. Triggers at the beginning and end of the data file are, however included, even if the interval between the epoch edge and the edge of the file is less than the 1 or 2 s limit. This is different from BESA 5.2.
- **Change:** Batch: New 'Set Default' button in SARegularization command.
- **Change:** Source Analysis: After generating a 3D image (e.g. Loreta), when the cursor is placed at an image maximum, the amplitude at the maximum is displayed in the window title bar.
- **Bugfix:** On data export of marked segment, the current baseline for segments setting for a file was always applied. Now it is only applied if "use filters" is selected.
- **Bugfix:** When generating grand averages, the current baseline for segments setting was applied to the data. Now it is never applied.
- **Bugfix:** Crash when reading an epoched data file with custom baseline turned on, and the baseline time range was off the edge of the display.
- **Bugfix:** Matlab interface. The 64-bit Matlab interface program could use 100% CPU if BESA Research crashed. It now turns itself off if BESA Research is no longer running.
- **Bugfix:** Shift-R shortcut to open batch dialog previously only worked if a data file was open.
- **Bugfix:** Batch: Crash when running single step mode when the command string was long.
- **Bugfix:** Mapping window opened again after FFT maps shown and the FFT windows were closed.
- **Bugfix:** If there were less than 12 channels in the data, trying to scroll channels in the Edit Channel Configuration Dialog crashed BESA Research.
- **Bugfix:** In exported files with a date change, a new segment after midnight had the same date as before midnight.
- **Change:** Source Analysis: When using the realistic head model approximation, fit results may depend on the starting orientation of the dipole. Therefore, orientations of fit-enabled single dipoles are now pre-fit before running the actual fit.
- **Bugfix:** For some graphic cards the 3D mapping window was empty or even crashed during drawing. Occasionally, the mapping dll crashed when the mapping window was closed.

- **Bugfix:** Combine Conditions: Combined channels were not averaged correctly if there was more than one file in the file list.
- **Change:** Source Analysis: When switching to an image maximum, the value at the maximum is displayed in the title bar.
- **Bugfix:** Source Analysis: When importing an image a second time, the same image type is now offered in the file open box.
- **Bugfix:** Source Analysis: After importing a *.dat image file, the file is now closed. Previously it had remained open and couldn't be deleted.
- **Bugfix:** If a .pos file was attached to a CTF file, the data waveforms were displayed incorrectly.
- **Bugfix:** Batch: Segment labels were not exported if they were defined in the batch.
- **Bugfix:** Exporting from an average file: time zero marker was lost.
- **Bugfix:** Readers: Several readers use BESA.ini to specify parameters. This only worked correctly if BESA.ini was located in the BESA Research root folder. Applied to EGI raw, EDF/BDF/Trackit, NKC, Vangard, XLTEK.
- **Change:** Readers: A new parameter in the Generic reader allows to specify an event file to define all the types of event that BESA Research can use.
- **Bugfix:** When writing ela and elp files, if no EEG channels were present, the target files had a fictitious channel appended.
- **Bugfix:** Matlab interface: a variable 'pathstr' was sometimes left in the MATLAB workspace after sending data from BESA Research.
- **Bugfix:** When exporting time-frequency data to ASCII files, an empty folder was sometimes created in the installation drive's root directory.
- **Bugfix:** Reading data blocks of compressed foc files with high amplitude values led to an invalid file error.

Changes in version 5.3.1 February 2010

- **Bugfix**: MATLAB Interface: Path to the BESA script folders was not correctly set in older MATLAB versions.
- **Bugfix**: Batch command "FileOpen" did not work correctly.
- **Bugfix**: Batch "AudIntensity-IndividualWaveforms+MATLAB-Statistics.bbat" (used in BESA Research Tutorial 3) contained an incorrect path specification.
- **Bugfix**: Menu-guided update check did not recognize program updates, if the license dongle was not attached to the local computer
- **Change**: New option for batch scripts: Placeholder %-nnbasename% can be used to strip the first nn characters from the basename.
- **Change**: Specified width of the bandpass and notch filters is now interpreted as full width between the 6dB cutoffs (used to be half width).
- **Bugfix**: Data export to ASCII Multiplexed format produced incorrect file headers in rare cases.
- **Bugfix**: 3D Image setting "Weighting by previous image" didn't work correctly.
- **Bugfix**: If electrode thickness was changed in a *.fsg file, the head radius wasn't updated correctly.
- **Bugfix**: Peak analysis output to SSPS format: header line contained unwanted spaces.

- **Bugfix**: In newer foc files with segments, the mapping time was incorrect from the second segment on.