

Introduction

Certain users, most commonly researchers, may find at some point that they need to port their data to a different program or format, for analysis or storage. SmartEP data is stored in an encrypted proprietary format in the directory that corresponds to each patient; however, the data can be exported to a text file using options built-into the SmartEP program.

Locating and Exporting the Data

To find the EP data that you want to export, do the following:

1. From the SmartEP main menu, select **[PATIENT > OPEN]** to view the patient list.
2. Find the patient in the list; then open the patient file by clicking **[OK]** twice.
3. Click on **[RECORDINGS > LOAD RECORDINGS]** to open individual files, or **[REPORT > LOAD REPORT]** to recall a previously saved report.
4. To save one recording to ASCII, select the recording by clicking on it's handle, then select **[RECORDINGS > SAVE AS ASCII > ACTIVE]**. To save all the recordings on the page to a single file, click on **[RECORDINGS > SAVE AS ASCII > ALL ON PAGE]**.
5. From the Save File window, select the location and the name you wish to give the saved file.

Note that when saving multiple files, data point time values and peak information will not be exported, this information is only saved when exporting one recording at a time. Time values for the exported data can be calculated from the sampling period and the zero time position information.

File Contents

The headers of the ASCII file contain:

- Patient Information: Patient Identifier and File Name,
- Acquisition Settings: Ear of acquisition, Channel used (1 = A, 2 = B, etc), Type of average, Block Averaging info (if used), Intensity and Stimulus Rate, Stimulus Mode, (0 = Alternating, 1 = Rarefaction, 2 = Condensation), Number of sweeps and of artifacts, Sampling period, Amplifier Gain, and Filter Settings (Low Pass, High Pass and notch).
- Stimulus Settings: Type (1 = Click, 2 = Pure Tone, 100 = File), Stimulus Frequency in Hz,

and Duration in points (for Tones and Files only), Masking Level (if any)

- Recording Information: Stimulation Point or Zero Time, Peak information (for single recordings only), Cross Correlation, SNR, Residual Noise (RN), Number of Data points, Fsp, Fmp, Fsp Point, D Prime, D Prime Frequency, and Comment.

The table contains the following data:

- **Data Point Number:** from 1 to 1024
- **Data Point (ms):** corresponding timeline values (for single recordings only).
- **Average:** hardware A/D converter value
- **Average (uV):** it's value equivalency in microvolts.
- **Buffer1 and Buffer1 (uV):** averages for half of the sweeps (odd) in the waveform.
- **Buffer2 and Buffer2 (uV):** averages for half of the sweeps (even) in the waveform.

Keep in mind the following:

- Waveforms acquired in alternating mode, Buffer 1 will contain the average of the rarefaction sweeps, while Buffer 2 will contain the average of the condensation sweeps.
- Stimulus duration is provided in points, where the duration can be calculated by multiplying this value by the Base System Sampling rate, usually 25 us.

Importing the Data

To import the data into Microsoft Excel®:

1. Open Excel® then click on **[FILE > OPEN]**.
2. Select the text file format in the "Files of Type" field; then locate and choose the text file copy of the EP file and open it.
3. When the text import wizard opens, select "Delimited" and click on Next.
4. Check the "comma" option and click Finish.

Some versions of Excel may work differently. Other spreadsheet programs may have the same import functions. Data may also be imported into MathWorks MATLAB® or other analysis software packages. For instructions about importing data into other programs please consult the user's manual for that program.

Other IHS Programs

The SmartEP-ASSR and SmartTrOAE programs share the same procedure for exporting data as SmartEP.