

# Using the Peak Extraction Utility for SmartEP

## The Peak Extraction Utility

This utility helps compile the information for marked peak labels from one or more patients. This is especially useful when creating normative data for clinical applications, and when collecting data from multiple patients for research applications.

The Peak Extraction Utility can be accessed from SmartEP by clicking on **[RECORDINGS > EXPORT UTILITIES]**, then choosing the option to extract recording and peak information. It can also be accessed directly by opening the program IHSPeakInfo.exe, located inside the IHS programs installation directory.

## Choosing the Patients

The peak information can be extracted from one or more patients. To choose which patient files to use as a data source:

- Use **[SELECT SOURCE DRIVE]** if the patient data resides in a different directory than the one indicated. The default patient data location is "C:\IHSDData."
- Click on the row for the patients you would like to include in the extraction. Selected patients will be marked as "Selected" in the column of the same name.
- All patients can be selected by activating the "Select All" checkbox at the top right of the window.
- To select a set of patients that were tested during a particular time-range, use the year, month and day fields to define the start and end of the range, then click on **[SELECT RANGE]**.

## Selecting the Peaks

Use the drop-down lists for "Peaks to Extract and Order" to define which peaks will be exported. The data of up to 10 peaks may be extracted at a time. Note that the selected order will be the order in which those peaks are exported in the final file.

## The SNR Calculation Region

The standard SNR calculation region for ABR waveforms is selected by default. If you need to have the signal-to-noise ratio calculated over a different region, like for other type of evoked potentials, then change the Start and End values before continuing.

## The Extracted Data File

Once the **[EXTRACT DATA]** button is pressed, the file will be created in the default data export folder: "C:\IHSEExportData\Temp". The file name includes the System number, Date, and Time of the export.

The file includes the following information:

- Patient Identifier,
- Patient's First and Last Name
- Secondary ID
- Recording file name
- Recording settings information such as: channel of acquisition, recording date and time, side of stimulation, stimulus intensity, stimulus rate, number of sweeps acquired, number of artifacts, sampling rate, polarity.
- Signal to Noise ratio, based on the selected region, Fsp and Fmp (if available), and residual noise level
- For each peak, the peak label, the Latency of the top peak marker, the latency of the bottom peak marker, and the amplitude difference between them.

## Importing the Data into MS Excel

The data is provided in a text ASCII format file with a vertical bar delimiter (|). On a new Excel file or sheet, from the Data tab, choose to get data "From Text/SCV". Choose the exported file using Windows explorer, and open it. Excel should detect the delimiter automatically, otherwise you may have an option to define it manually.

## Additional Information

- The exported file will contain data for all waveforms that have been acquired for each selected patients, even if the waveforms do not include the requested peaks. If you plan to use this feature often, it may be beneficial to create separate patient files per test type
- The exported files contain identifying patient information (PHI). Make sure to handle this data with care in order to comply with privacy regulations that may apply.
- Checking the "Extract Raw Data" checkbox will also export all the raw data points from the waveforms at the end of each row.



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