Ocuscience ERGVIEW Quick Start Guide

- Connect the card reader to the PC and insert the Compact Flash (CF) Card into the card reader

- Open the ERGVIEW Program from the 'Start' menu as follows: Select All Programs>Ocuscience>ERGVIEW4.XXX>ERGVIEW 4.XXXR, or double click the desktop icon

- When the main window opens, select "PC SESSION" on the bottom left (Figure 1).

- Double click the drive representing the compact flash card (e.g.(F:)HMSERGXXXX).

- Once in the correct drive, a list of folders will be shown. Data folders are created on the date of the recording. Double click the data folder for the recording date you wish to view (e.g. T140225 would be data recorded on February 25th, 2014).

Figure 1

A list of files will be shown. Each file begins with the patient number, followed by a session number that represents a single test or protocol that was run. The files will end with the animal test ID that was entered prior to data acquisition, and a .tst extension (e.g. P01S02T0400A-1234.tst would be Patient #01, second protocol session for animal #1234, fourth protocol step, animal test ID #1234).

- Double click any of the .tst files for the desired test ID, this will result in all test results from a <u>single protocol</u> being displayed as thumbnails (Figure 2). Each thumbnail represents the result from a 'single flash test', or the average of a 'multi-flash test' (Figure 2).

- To add data to the currently displayed list of thumbnails, use the 'File' menu, then 'Add to this Session', then select the desired .tst file. Use the scroll bar to display the additional results.

- To view multiple sets of thumbnails at the same time in <u>separate windows</u>, use the 'File' menu to 'Open another Session', then select the desired .tst file.

- The 'Filter' menu can be used to set up filtering for all of the thumbnails at once. The default frequency for the low pass filter is 150Hz, use the 'Set Low Pass Frequency' button to adjust the value. To filter individual thumbnails use the right click menu then select 'Filter' to view options.

- If an individual test has more than one flash at a given intensity, and the HMsERG unit is set to 'Save All Samples' in the System Parameters, the user can view the individual flash responses by right clicking a thumbnail then selecting 'Filter', then 'Show Sample Selection Window'. Un-selecting an individual response in the Sample Selection Window will update the thumbnail average data and waveform.

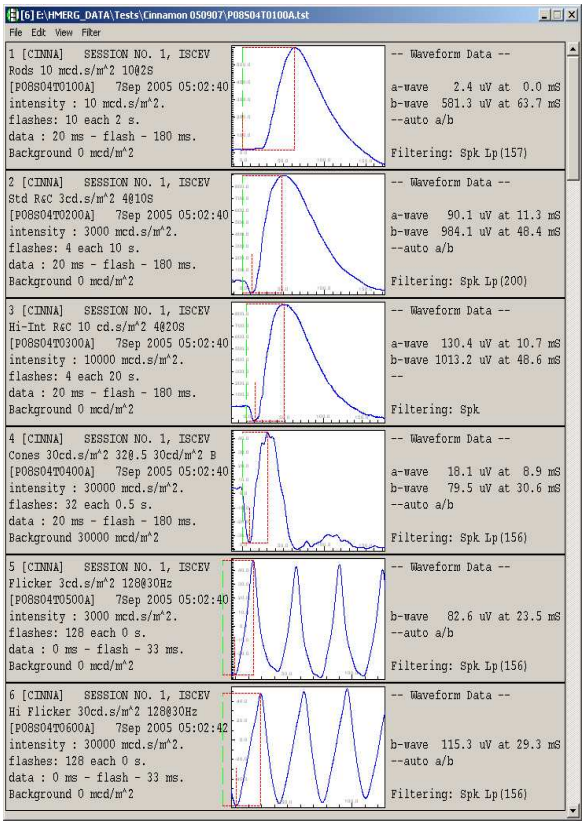

Figure 2

- The ERGVIEW program uses an algorithm to determine the positions for the a-wave and b-wave as shown by the red lines in the graph, some ERG output contains wavelets (oscillatory potentials), or spikes that can confuse the algorithm. Users needing to modify the positions should right click the thumbnail in question and 'Copy Test Data To', then select 'Measurement Graph' (Figure 3). To move the a-wave trough position, hold the CTRL and SHIFT keys, then use the left and right cursor keys to adjust to the desired position. To move the b-wave peak position hold the CTRL key, then use the left and right cursor keys to adjust to the desired position. Any changes that are made automatically update the thumbnail waveform and data.

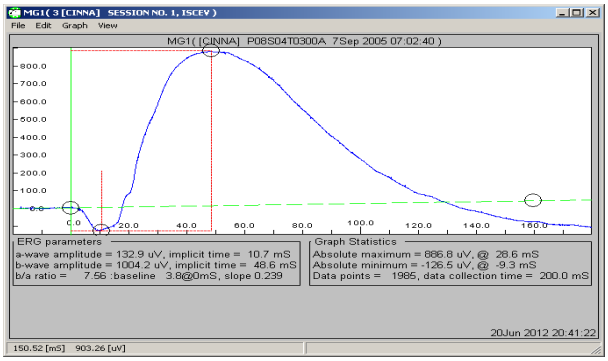

Figure 3

- The Comparison Graph is one of the main tools in ERGVIEW, it can be used to present multiple waveforms graphically. To open a Comparison Graph, right click a thumbnail and 'Copy Test Data To', then select 'Comparison Graph'. Once the comparison graph is open, the user can add more waveforms by dragging and dropping additional thumbnails to it, each waveform is represented by a different color (Figure 4). If baselines are inconsistent amongst the displayed waveforms the user can use the 'Graph' menu, then 'Align at...', then select 'Flashpoint' to align the waveforms at 0.0mS. The Comparison Graph also has right click menus where the user can do additional filtering, write annotations, add markers, transfer to other graphing tools within ERGVIEW, and export to EXCEL.

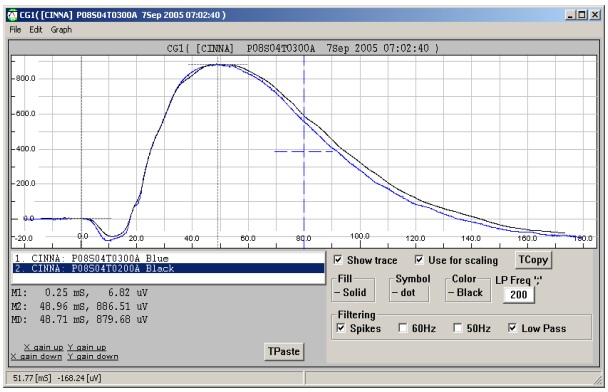

Figure 4

- To examine Oscillatory Potentials (OP's) right click the desired thumbnail, then select 'Copy Test Data To', then select 'Osc Potentials Graph' (Figure 5). The OP graph is essentially Low Pass (300Hz) and High Pass (100Hz) filters turned on simultaneously. The user can adjust the filter frequencies, modify position, and magnify using the sliders as indicated. To copy the OP graph to other graphing tools, right click and select 'Copy to Trace Clipboard'. The clipboard contents can be pasted into the Measurement or Comparison Graphs for further analysis.

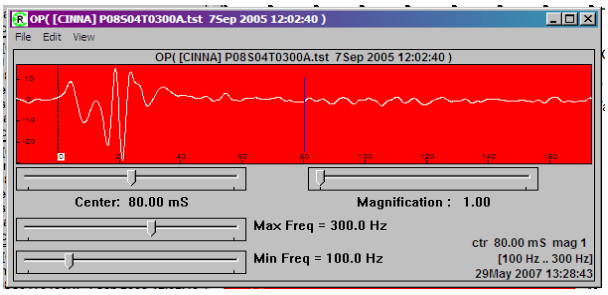

Figure 5

- To view the Fast Fourier Transform of an ERG waveform, right click the desired thumbnail and select 'Copy Test Data To', then select 'FFT Graph'. The graph displays the frequency components of the ERG waveform (Figure 6). The x-axis displays the frequency in Hertz, the amplitude of the frequency is shown in decibels on the y-axis.

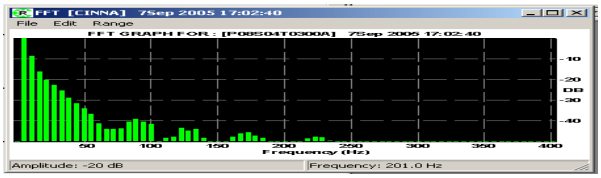

Figure 6

- To set High Pass and Low Pass filters simultaneously, select 'Copy Test Data To' then select Band Pass Graph (Figure 7). Adjust the filter frequencies using the sliders below the graph, or the cursor keys. The updated waveform can then be copied to the Trace Clipboard and pasted into the Measurement Graph or the Comparison Graph for further analysis.

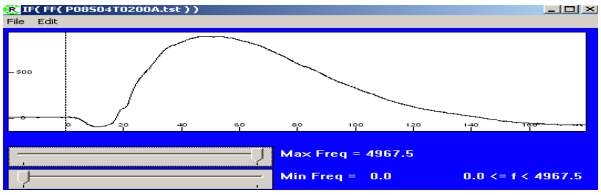

Figure 7

This document is not intended to replace the complete manual for ERGVIEW