

## **Functionality of the APPs „acoustic frequencies“ and „pro acoustic frequencies“**

General:

The APP captures the acoustic pressure by the internal microphone in function of time. The sampling frequency is always 8000 Hz.

### **Buttons arranged on the top:**

Low: Low frequency resolution, for fast response  
frequency resolution approx. 15.6 Hz

Med: Medium frequency resolution (only available in PRO-version)  
frequency resolution approx. 3.9 Hz

High: High frequency resolution (only available in PRO-version)  
frequency resolution approx. 1.0 Hz

"Ultra high Frequency Resolution" → see below

Stop: Stops the measurement

Exit: Terminates the APP

### **Description of the graphics (from top to bottom):**

#### **1<sup>st</sup> graphic with sound level trend:**

Sound level trend of the last 12 seconds, scaling from 0 dB to 90 dB.

By wiping across the 1<sup>st</sup> graphic (wiping always from bottom left to top right over the relevant graphic) the numerical current value is displayed.

#### **2<sup>nd</sup> graphic with sound pressure in function of time**

#### **3<sup>rd</sup> graphic for tone identification:**

If a clear tone within the frequency spectrum can be determined, the tone will be displayed with a red bar.

#### **4<sup>th</sup> graphic with numerical peak-frequency and frequency spectrum:**

The numerical frequencies of the three highest peaks will be displayed. For better reading you can stop the measurement with the "Stop"-button.

#### **5<sup>th</sup> graphic third octave band analysis:**

For acoustic assessments the third octave spectrum is used. The relevant frequency range from 100 Hz (limited due to the frequency response of the internal microphone) to 3150 Hz (limited due to the sampling frequency) is displayed.

Only available in PRO-version:

The frequency response of the internal microphone was calibrated in a diffuse sound field to a reference device. This calibration has been performed on a Samsung Galaxy S2. The displayed third octave dB-values include this correction and the A-weighting.

### **Other implemented wiping gestures:**

#### **Ultra high frequency resolution (only available in PRO-version):**

By wiping across the 4<sup>th</sup> graphic (wiping always from bottom left to top right over the relevant graphic) an ultra-high frequency resolution will be activated, frequency resolution approx. 0.5 Hz.

#### **Higher integration time (only available in PRO-version):**

By wiping across the 5<sup>th</sup> graphic (wiping always from bottom left to top right over the relevant graphic) the averaging time of the displayed third octave values is increased by a factor of 5.

#### **Show internal diagnostic data:**

By wiping across the complete display (wiping always from bottom left to top right) internal data is displayed in the lower part of the display.

For more details:

[www.hs-koblenz.de/profile/kroeber](http://www.hs-koblenz.de/profile/kroeber)