

### *Headset solution for binaural recording*



**PRO-301** is a 2+2 channel recording system with a playback function which allows listening to your product noise during development, helps identify sources and check for improvement through simulation, using filtering and Re-synthesys capabilities.

The headset solution for binaural recording can replace an artificial head in any situations where an individual cannot be taken out, typically for measurement at the driver location in a car while running. It consists of a BHM headphone with integrated microphones and a 24 bits Professional PC-card:

- Recording plus Import - Export WAV & CMG files
- Filter Frequencies or Orders with audio Re-Synthesis
- Play-list center to Playback & Compare Multiple Signals
- Sound Quality Metrics



### **PRO-301**

#### **Key Features...**

#### **Applications:**

Sound Quality control in vehicles

Transient Analysis

Noisiness evaluation

Noise control simulation

Sound quality diagnosis

Environmental Noise study and Monitoring

Psychoacoustics,

Loudness and related topics

#### **Sound perception solution**

- ▶ Stand alone recording solution
- ▶ Standard 48 kHz sampling frequency, 24 bits digitization on 4 channels
- ▶ 24 bits A/D converter
- ▶ 2 channels Audio + 2 rpm channels (option)
- ▶ Headphone plus IEPE \* inputs
- ▶ Input/output SPDIF plus Headphone playback

#### **A complete set of tools for data analysis**

- ▶ Free Audio Recording Software
- ▶ dBsonic Software for Recording, Equalizing
- ▶ Complete set of functions as Signal Editing, Analyzer, Filtering and Playback
- ▶ Time and Frequency Editing
- ▶ Filtering HP, LP, BP, Notch
- ▶ Equalization and masking effects
- ▶ FFT Analysis, Waterfall and sonogram
- ▶ 1/n analysis with Digital Filters

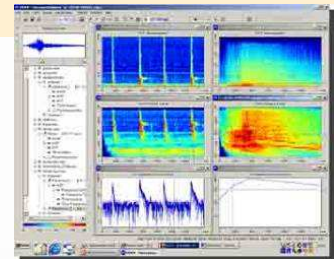
#### **Options**

- ▶ RPM recording
- ▶ Order analysis
- ▶ All dBFA and dBsonic software features

# PRO-301 Technical Specifications

Features	PRO-301
<p><b>BMH - Binaural Headset</b>                      Electro-acoustic transducer principle:                      Frequency range:                      Impedance:                      Microphone cartridge sensitivity:                      Microphone calibration:                      Headband pressure:                      Weight:</p>	<ul style="list-style-type: none"> <li>▶ dynamic, open-air</li> <li>▶ 20Hz - 18kHz</li> <li>▶ 160 Ohm</li> <li>▶ 10mV/Pa</li> <li>▶ a special acoustic coupler allows microphones calibration by means of standard 1/2" acoustic calibrator</li> <li>▶ approx. 1.6N</li> <li>▶ approx. 110g</li> </ul>
<p><b>H46 - Four Channel Binaural Headphone &amp; RPM Conditioner</b>                       IEPE* Converter Gain:                      Frequency range:                      Wideband noise level:                      Dynamic range:                      Max output signal amplitude:                      IEPE* excitation:                      Headphone Adapter Gain:                      Auxiliary earphone output:                      Four Output channels:                      RPM input:                      RPM range:                      S/PDIF:                      Power supply:                      Size:                      Weight:</p>	<ul style="list-style-type: none"> <li>⇒ Two dedicated Input/Output channels for direct M-BMH connection and Binaural Microphone conditioning. Four Line/ICP selectable input channels</li> <li>▶ 0dBV ±0.5dB</li> <li>▶ 1.6Hz - 20kHz</li> <li>▶ &lt;-90dB</li> <li>▶ &gt;100dB</li> <li>▶ ±5Vpk</li> <li>▶ 3.6mA constant current / 14Vdc</li> <li>▶ 0dB (straight connection)</li> <li>▶ 0dB buffered (max load 160ohm)</li> <li>▶ 2 buffered + 2 non-buffered</li> <li>▶ 2 fully independent channels, with proprietary coding algorithm</li> <li>▶ 0 up to 10000 (max. 1kHz input frequency)</li> <li>▶ passive (non-buffered) I/O line</li> <li>▶ internal 9V battery or external 9-12Vdc</li> <li>▶ 107mm W - 117mm D - 34mm H (excluding connectors)</li> <li>▶ approx. 400g</li> </ul>
<p><b>S4 - 4Hz - 20kHz Four Channel Analog I/O Digital PC-Card</b>                      Frequency range:                      A/D and D/A conversion:                      S/N ratio:                      THD+N:                      Channel crosstalk:                      Maximum input signal amplitude:                      Input impedance:                      Output impedance:                      Input gain:                      Output gain:                      S/PDIF:</p>	<ul style="list-style-type: none"> <li>⇒ Four balanced analog inputs and outputs</li> <li>▶ 20Hz - 20kHz</li> <li>▶ 24 bit (sampling rate up to 48kHz), simultaneous over four channels</li> <li>▶ &gt;93dB</li> <li>▶ &lt;-88dB (0.004%)</li> <li>▶ &lt;-90dB</li> <li>▶ ±4Vpk</li> <li>▶ 10 kOhm</li> <li>▶ 100 Ohm</li> <li>▶ digitally adjustable up to +48dB</li> <li>▶ digitally adjustable up to -91.5dB</li> <li>▶ 1 x 24 bit digital I/O available</li> </ul>
<p><b>Software for Recording, Playback Filtering, Analysis</b>                      dBSONIC BA:                       dBSONIC PSY :                      dBSONIC DOC :</p>	<ul style="list-style-type: none"> <li>▶ Basic Module &amp; Frequency Analysis - Sound signal recording and playback, SPL, Third-octave and FFT analysis - Tonality (Prominence ratio and Tone-to Noise), Basic editing and filtering functions - Project Management, import function for 01dB-METRAVIB, Head Acoustics and OROS sound files</li> <li>▶ Psychoacoustic Analysis - Calculation of Loudness, Sharpness, Roughness and Fluctuation Strength</li> <li>▶ Documentation Module - The tool for comparing time histories and spectra - Multi scalar display and Multi spectra display - Report Wizard, Percentile calculation</li> </ul>

\* IEPE: Integrated PiezoElectric Electronic



**Ordering Information:**  
 ACC3144000: Binaural Headphones with microphones  
 ACC3145000: H46 - 4 channel conditioner with 4 BNC inputs and 1 LEMO input for BMH, SPDIF in/out, outputs vs. VX pocket, cable for VX pocket included  
 COC3051000: **S4**, type II PCCARD sound card 24 bits, 4 channels  
 COC3012000, COC3020000, COC3021000, COC3022000, COC3024000, COC3025000, COC3027000: dBSONIC Extended package including the following modules: dBSONIC BA, PSY, ED, DOC, RPM, DIF, MAT.  
 CAL3009000: Calibrator CAL21, type 1, 94dB, 1000 Hz, PTB approved

The presented characteristics are subject to change without notice. Rev:02/2007

**01db-Metravib**  
 200, Chemin des ormeaux  
 F-69578 Limonest Cedex  
 Tel.: +33 (0)4 72 52 48 00  
 Fax.: +33 (0)4 72 52 47 47  
  
 nvh@01db-metravib.com  
 www.01db-metravib.com

