SONOCAT

Introduction

Sonocat is a new generation of acoustic measurement technology. Sonocat utilizes the revolutionary Soundinsight-Sensor to measure the sound absorption properties of surfaces and materials without the need for an artificial sound source. This cutting-edge technology also measures 3D sound intensity, 3D particle velocity, 3D impedance, sound power and sound pressure in real time. Sonocat allows you to measure sound properties easily and accurately in situ, all with the convenience of a hand-held device. Get Sonocat today and bring your acoustic measurements to the next level!

The Sonocat device and Sonocat software offer a complete solution for acoustic measurement and post-processing, streamlining the entire process. The Sonocat directly outputs digital audio signals, eliminating the need for a separate data acquisition system. With just a single USB cable connecting the Sonocat to your laptop, you can effortlessly capture all relevant acoustic data.
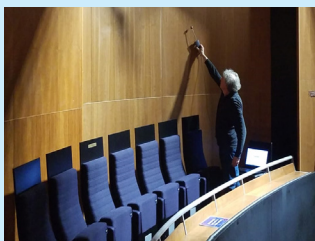
Sonocat Features

- In situ absorption
- 3D sound intensity
- Emitted intensity / reflected intensity
- Sound power
- Sound pressure
- 3D particle velocity
- 3D impedance
- In situ transmission

Specifications

- Sampling rate: 48 kHz
- Operating frequency range:
- Absorption: 50 Hz - 8.000 Hz
- Intensity: 50 Hz - 10.000 Hz
- Sound pressure: 20 Hz - 20.000 Hz
- Dynamic range: 29 - 116 dB (A)

Case contents

- Sonocat
- USB cable
- Software
- Calibration specification
- User manual

Hardware

The Sonocat measures sound with 8 digital MEMS microphones, which are distributed inside an aluminium sphere. Using a spherical configuration is beneficial to account for the presence of the Sonocat sphere in the sound field. The raw data collected from the microphones is processed by a digital signal processor, which is enclosed inside the Sonocat. The processed data is transmitted over USB to a computer running the Sonocat software.
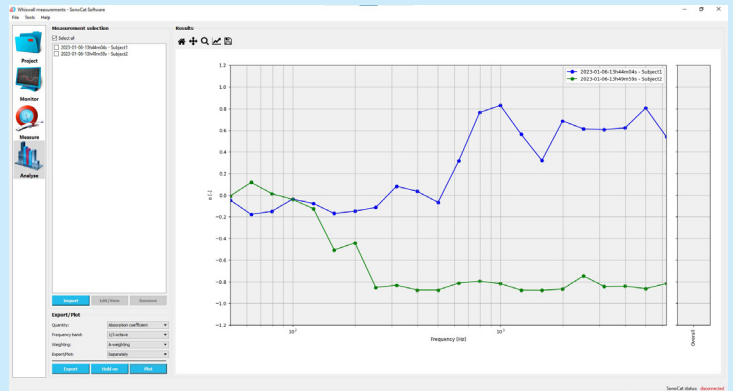
Measuring with Sonocat

The operator can perform two types of measurements based on the quantity of interest. The Sonocat functions as either a stationary or handheld measurement system, allowing for precise point measurements or "scanning" an area to obtain area-averaged results.

Calibration

Soundinsight has developed its own in-house calibration instrument and procedure, enabling precise level and phase calibration for all microphones within the sphere. Each Sonocat device is delivered pre-calibrated, ensuring accurate and reliable results.

Software

The Sonocat software is an all-in-one package designed for both measuring with the Sonocat and post-processing the results. It enables real-time sound field monitoring while also allowing for precise measurements with full control over sampling time, FFT windows, overlap percentage, and more.

Highlights

- Plug & play
- Portable, hand-held device
- All-in-one measurement solution
- Real time sound field monitoring
- Project-oriented GUI
- Intuitive workflow
- Compressed storage of raw data
- Easy comparison of measurement results
- Generation of publication-quality figures
- Waveform generator included

SOUNDINSIGHT