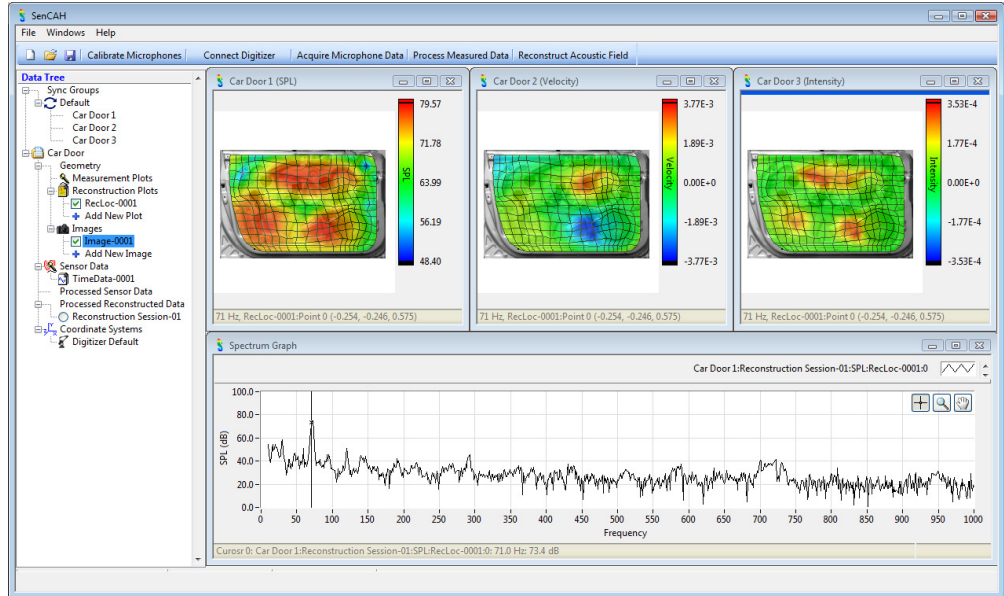




# SenCAH™ Compact Acoustic Holography System

**SenSound's compact holography systems allow you to diagnose noise sources faster and more accurately.** Using new and patented acoustic holography techniques, SenSound's compact acoustic holography systems allow you to make acoustics measurements and visualize acoustic pressure, intensity and particle velocity in three dimensions.

With SenCAH you can pinpoint noise sources for interior or exterior sound fields. The bottom line is that SenSound tools give you a competitive advantage by delivering the insight into noise necessary to reduce engineering, warranty and quality control costs, design and build quieter products faster, and demonstrate that your products meet customer specifications in an objective, credible and easy to understand manner. The screen shot to the right shows data from a car door panel.



SenCAH utilizes a microphone array connected to a digitizing arm to simultaneously measure microphone location and acoustic pressure signals. This combination of digitizer and microphone array allows for multiple measurements to be taken rapidly, decreasing the time required to test an object and reducing the cost, size and complexity of the measurement system. The same arm is used to digitize the surface of the object being measured. The SenCAH system is USB based allowing for plug and play connection to PCs and note book computers for real-time acquisition and display of sound pressure levels and microphone coordinates. The picture to the left shows a vacuum cleaner being measured.

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## THREE EASY STEPS TO “SEEING” WHERE SOUND IS COMING FROM.

### Data Acquisition

SenCAH's wizard driven software allows you to easily configure a test setup, calibrate microphones, and acquire acoustic pressure data. The digitizer arm provides real time coordinate measurement to capture information about the test object geometry and positioning data relative to acquired acoustic data.

### Sound Field Reconstruction

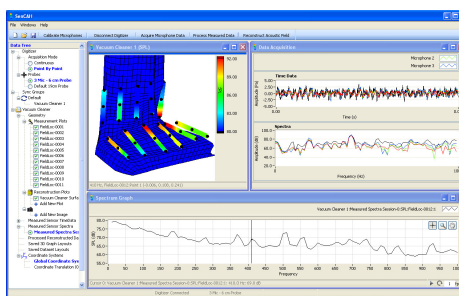
SenCAH accurately reconstructs stationary sound fields on large surfaces utilizing multiple smaller measurement patches. It reconstructs a time averaged 3D acoustic field, including pressure, velocity and intensity, in frequency domain.

### Sound Analysis and Visualization

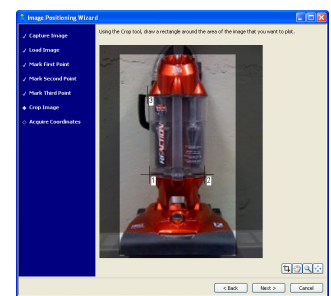
SenCAH lets you visualize measured or reconstructed 3D sound fields and spectra. SenCAH's 3D Graph displays spatial distributions for pressure, velocity and intensity for any frequency selected in SenCAH's 2D spectrum graph. This same 2D spectrum graph displays the frequency spectrum of these parameters for any point in space selected on the 3D graph. SenCAH can integrate intensity over an area selected on the 3D graph to calculate the acoustic power for that area. You can also display an image in the 3D graph to visualize the acoustic parameters overlaid on the image of your test object.



Measuring test object geometry



Measuring test object sound pressure



Inserting test object image

## SYSTEM CONTENTS

### Base system

- 3D Digitizer system
- 3 microphones with fixture
- One reference microphone
- All required cables
- USB Data acquisition device
- Flexible arms and tripods
- Carrying case

### Available options:

- Multiple microphone array configurations
- Data acquisition system expansions
- Microphone calibrator



## SYSTEM REQUIREMENTS

- IBM PC or equivalent with a Pentium 2GHz or higher processor
- XGA 1024x768 resolution (we suggest using a higher resolution monitor for better graphic interfaces)
- 1 GB of RAM (4 GB suggested; higher the memory, better the performance and larger the data set)
- 200 MB of free disk space for installation. More disk space is required for data storage depending on the use and data management practices

- Windows XP or higher
- 2 free USB ports
- Mouse or other pointing device

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