

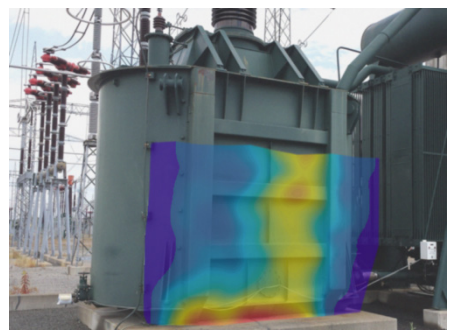
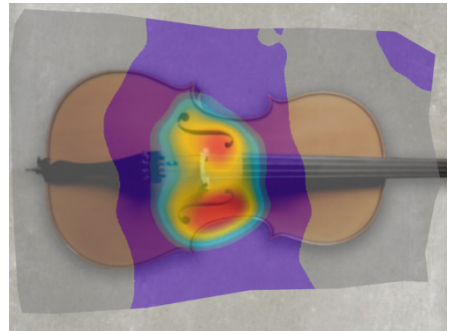
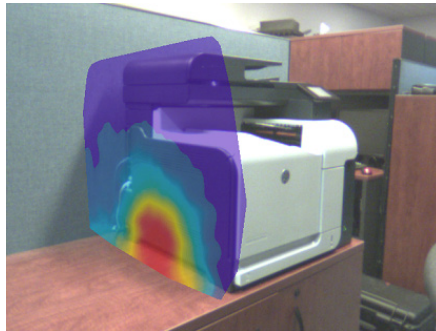
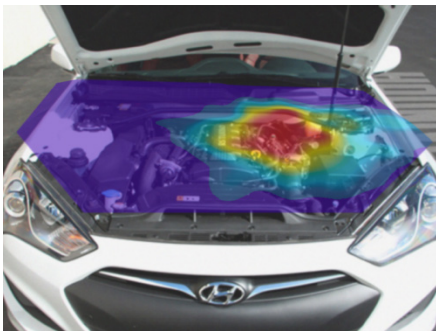
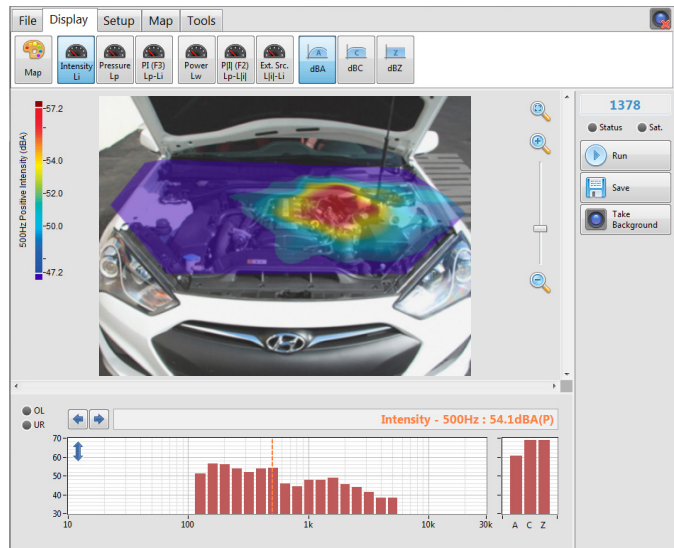
## I-Track Sound Intensity Imaging System

The adage "A picture is worth a thousand words" has never been truer in the field of acoustics. The translation of complex acoustical phenomena can be a hard task especially when it comes to informing non-technical clients. Wouldn't it be easier just to take a picture? The answer is YES!

The *I-Track* System is a powerful tool for easy, fast and accurate sound imagery. The images are created by combining the acoustic data provided by a *MEZZO* Sound Intensity Probe with its position provided by a camera-based tracking device in real-time. The result is a high-definition sound image performed in a few minutes.

The *I-Track* System offers a complete solution to create sound imagery both in the field and in laboratory. Its compact system makes it easy to carry and fast to setup a measurement.

The *I-Track* System provides invaluable information in many fields of acoustics such as product manufacturing, consulting, and laboratory experiments.



## Quick and Easy: **YES!** Compromise on Accuracy: **NO!**

The *I-Track* System uses an optical tracking system to precisely locate the sound intensity probe in space.

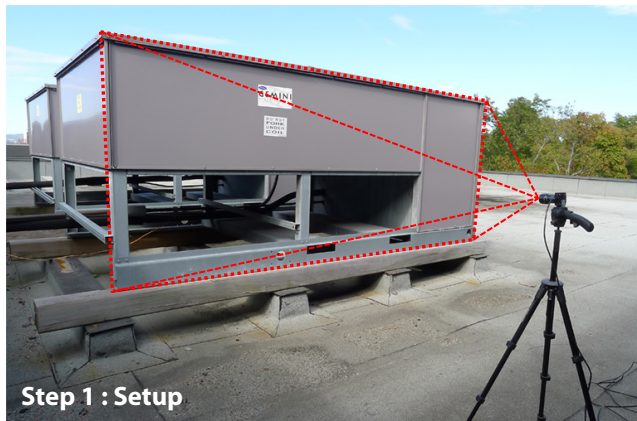
While you scan the measurement surface, the probe position is tracked for each acoustic measurement interval (typically 10 times a second).

Every measurement point is drawn on the picture in real-time creating the sound map on the screen as you scan the measurement surface.

The resulting pictures are not only great looking, but are also highly accurate. Sound intensity, pressure and PI index levels can be plotted for every frequency band as well as for global level. Correspondingly, the associated spectrum shows the spatial average of pressure, intensity, PI index (F3), P|| index (F2), Extraneous sources index (F3-F2) and sound power.

The *I-Track* system offers proprietary phase mismatch compensation filters, class 0 digital filters and 64-bit computing offering the highest level of precision.

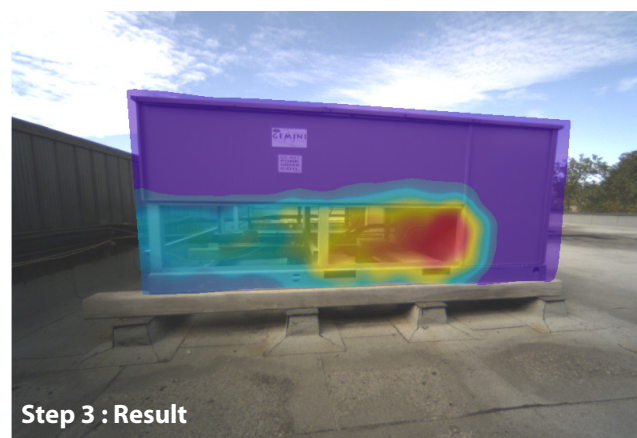
The *I-Track* system offers a high-quality, unrivaled, real-time sound imagery system at an unbeatable price.



Step 1 : Setup



Step 2 : Scan



Step 3 : Result



Wide-Angle  
Tracking Cam



Mezzo Probe  
with Tracking Pad



Mezzo I-Track  
Software Module



## Specifications

| Intensity Probe                      | Class 1   | Class 2                  |
|--------------------------------------|---|--------------------------|
| Microphone Set                       | GRAS 40GK <sup>1</sup>  | BSWA MPA221 <sup>2</sup> |
| Peak Maximum Level <sup>3</sup>      | 136 dB <sub>pk</sub>  | 124 dB <sub>pk</sub>     |
| Noise Level <sup>4</sup>             | 34dBA   | 22 dBA                   |
| Under-Range Limit Level <sup>5</sup> | 44 dBA  | 32 dBA                   |
| Intensity Processor                  | IEC 61043 Class 1   |                          |
| Sampling Rate                        | 48 kHz  |                          |
| Signal Conditioning                  | IEPE  |                          |
| Communication                        | USB 2.0 (Mini B connector)  |                          |
| Dimensions                           | 370 x 32 x 23 mm  |                          |
| Power Supply                         | USB Powered (Max 0.35W)   |                          |
| Signal Processing                    |   |                          |
| Spectra                              | 1/1 Octave , 1/3 Octave, 1/24 Octave, and/or FFT<br>(user defined bandwidth to fit microphone spacer, from 10Hz to 20kHz)   |                          |
| Frequency Weightings                 | A, C and Z  |                          |
| Metrics (Spectrum and Global levels) | Pressure, Intensity, PI index (F3), P   index (F2),<br>Extraneous Sources index (F3-F2), Sound Power, , Time Variability (F1) <sup>6</sup>  |                          |
| Live Data Rate                       | Variable from 50ms to 1s  |                          |
| Phase Mismatch Compensation          | Proprietary FIR-IIR phase correction filters  |                          |
| Environmental Compensation           | Compensation for Atmospheric Pressure, Temperature and Humidity   |                          |
| Standard Compliance                  | IEC 61043 (1993), ISO 9614-1 (1995), ISO 9614-2 (1996), ISO 9614-3 (2002)   |                          |
| Position Tracking                    |   |                          |
| Tracking                             | Optical Tracking, 6 Degrees of freedom (DOF), Real-World units  |                          |
| Camera Resolution                    | 800 x 600   |                          |
| Camera Field of View                 | 120° (Wide mode), 82° (Zoom mode) [optically corrected to <1% distortion]   |                          |
| Source Scan Dimension                | (1.6m x 1.2m) to (3.2m x 2.4m) using Medium tracking pad (included)<br>(0.8m x 0.6m) to (1.6m x 1.2m) using Small tracking pad (optional)<br>(3.2m x 2.4m) to (6.4m x 4.8m) using Large tracking pad (optional) |                          |
| Measurement Plane                    | 6 DOF Position and Area automatically computed using 3D data points   |                          |
| Interpolation                        | Constrained Delaunay Triangulation  |                          |
| Averaging                            | 2D Gaussian averaging (user defined size from 0 to 1m radius)   |                          |
| Software                             |   |                          |
| Modules                              | I-Track (Intensity Imagery)<br>Intensity Analyzer (Classic Intensity Analysis)  |                          |
| Minimum Requirement                  | Windows 7 SP1 and later, 2.4 GHz CPU, 4 GB RAM  |                          |

1: ½" 40GK Mic with 26CB Preamp – 12.5 mV/Pa, IEC 61043 (1993) Class 1, Microdot Connector

2: ½" MP201 Mic with MA221 Preamp – 50 mV/Pa, IEC 61043 (1993) Class 2, SMB Connector

3: Evaluated according to IEC 61672 (2013) Class 1, using High dynamic range and microphone nominal sensitivity

4, 5: Evaluated according to IEC 61672 (2013) Class 1, using Low dynamic range and microphone nominal sensitivity

6: Time Variability available with Intensity Analyzer software module