

AC10 Acoustic Imager

The AC10 Acoustic Imager is a portable acoustic imaging accessory for smartphones and tablets that can be used either as a handheld unit or deployed on a tripod. With 162 high-sensitivity digital MEMS ultrasonic microphones and built-in camera, the AC10 can locate and visualise PD and other abnormal acoustic or vibration phenomena safely and efficiently. Its microphone distribution is based on an equal area multi-arm helix, which ensures accurate acoustic positioning in the analytical frequency range of 2 kHz to 96 kHz.

Features

- 162-channel digital MEMS microphone
- Sound analysis from 25 Hz to 96 kHz
- Positioning from 2 kHz to 96 kHz
- Communication via Ethernet or Wi-Fi
- 4 hours typical battery life
- 4:3 camera with 66° horizontal angle of view
- 2 kg handheld weight
- 64 GB of built in storage to save captured videos and images



Description

Based on FPGA real-time signal acquisition and processing technology, the AC10 utilizes a beamforming algorithm to perform real-time imaging of sound and combines it with live camera video to generate a “sound video” to visualize the source of the detected sound.

Easy to carry and simple to operate. Controlled from the user’s smartphone or tablet using SDMT’s SmartPD application. Includes mount for phones and tablets to allow single handed operation.

Measurement frequency band, dynamic range and detection threshold can all be adjusted to accommodate different measuring environments and optimise visibility of specific acoustic sources.

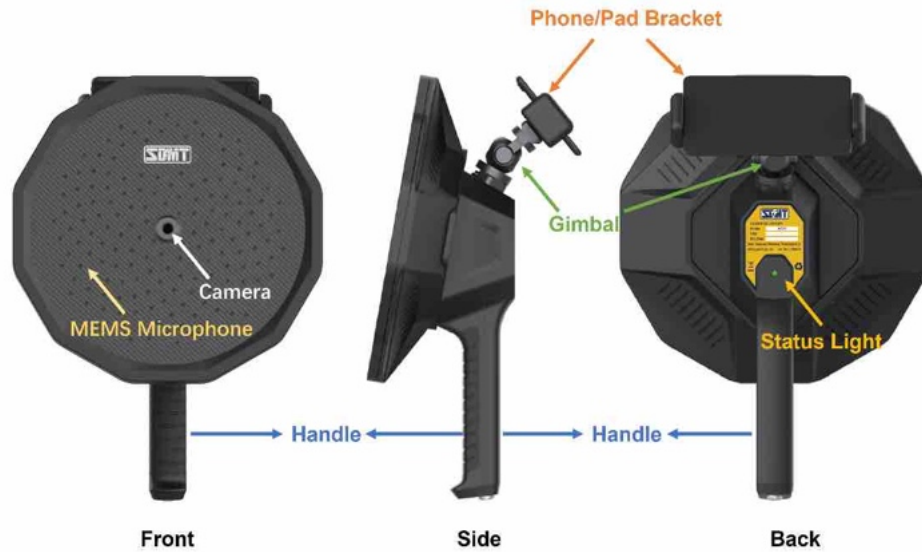
Designed to work with SDMT’s other handheld PD instruments. Visualise with the AC10 and analyse with the PD74i using the same app.



Applications

- Pressurised gas and vacuum leak detection and localisation.
- Partial discharge detection and localisation.
- Structural vibration detection and localisation.

Overview



Data Sheet

Property	Specification
Number of Microphones	162 Digital MEMS Microphones
Microphone Sensitivity	-26 dBFS (1 kHz, 94 dB SPL)
Microphone SNR	64.3 dB(A)
Sound Sampling Rate	25.6 kHz to 192 kHz, all microphones simultaneously
Sound Analysis Frequency Range	25 Hz to 96 kHz
Sound Pressure Range	30 dB(A) to 124 dB(A)
Optimal Locating Frequency Range	2 kHz to 96 kHz
Acoustic Refresh Rate	25 FPS real-time
Measuring distance	0.2 m to 200 m
Built-in Camera	Horizontal FoV 66° with 4:3 aspect ratio
Recommended Device Display Size	≥ 165 mm or 6.5 in
Connectivity	Ethernet and Wi-Fi
Deployment	Hand-held or on tripod
Typical Battery Life	4 hours per battery bank
Weight	2.0 kg
Dimensions	40 cm × 23 cm × 21 cm
Working Temperature	0 °C to 50 °C
Working Humidity	10% to 85% non-condensing
Storage	64 GB internal, can export to device