# MPAC208
## Megger Professional Acoustic Imager




- 208 MEMS Microphone array
- 100 kHz bandwidth
- Detection range up to 200 m
- 13 MP optical camera resolution
- 8" Touchscreen
- 10 Hour battery life (2 x 5 hr battery packs)
- Gas Leak, PD and Mechanical modes
- Optional thermal imaging modules

## DESCRIPTION

The Megger MPAC208 Professional Acoustic Imaging Camera is a state-of-the-art diagnostic tool designed to detect and analyse ultrasonic sound patterns, enabling quick, reliable identification of gas leaks, mechanical faults, and electrical partial discharges in a variety of industrial environments. With advanced sound localisation and processing capabilities, this device streamlines maintenance workflows and enhances safety.

## FEATURES

### Precise Leak Detection

Effortlessly pinpoints pressurised and vacuum gas leaks, minimizing downtime and reducing energy losses.

### Advanced Electrical Inspection

Includes Phase Resolved Partial Discharge (PRPD) analysis for clear identification and discrimination between different types of partial discharge in electrical systems.

### Mechanical Fault Identification

Detects mechanical deterioration in rotating equipment, valves, and bearings through ultrasound monitoring, enhancing predictive maintenance.

### Quantifiable Leak Rate Assessment

Built-in analytics quantify leak rates, helping estimate energy loss and prioritise repairs based on cost impact.

### Noise Suppression with Focus Function

Focus feature minimizes unwanted background interference, providing clear, actionable acoustic images, even in noisy industrial environments.

### Ultrasound to Audible Sound Conversion

Converts inaudible ultrasonic emissions to audible sound for intuitive identification and pinpointing of leak sources.

### SoundScan™ Directional Guidance

Proprietary SoundScan™ technology directs the user to the primary sound source, even when it is outside the camera's visual field.

### Field-Upgradable Firmware

Stay current with easy firmware updates via USB-C or microSD, ensuring long-term device performance and compatibility.

### Acoustic Analysis Software

Included desktop software enables comprehensive analysis, reporting, and data management post-inspection.

### Time-Domain Graph Display

Visualize and analyse ultrasonic signals in real-time with the time-domain graph, helping operators identify signal patterns, duration, and transient events for enhanced diagnostic accuracy.

### Acoustic Spectrogram Visualisation

The built-in acoustic spectrogram displays frequency content over time, allowing users to easily distinguish between different sound sources and track changes in frequency behaviour, especially in complex environments.

### Optional Thermal Imaging Modules

Add-on thermal imaging modules enables a side-by-side view of thermal and acoustic images, allowing for simultaneous detection of temperature anomalies and acoustic events, improving fault correlation and identification.

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## VERIFICATION

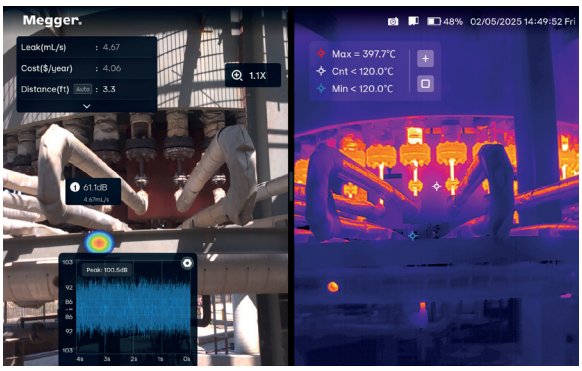
To ensure the MPAC cameras are operating within specified parameters, the Megger MPAC-V acoustic camera verifier can be used. This optional tool gives the operator the ability to verify the frequency and SPL measurements of the camera using a dedicated verification procedure. In addition, the camera can automatically check the operation of each MEMS microphone, to ensure optimum performance.

## APPLICATIONS

- Leak detection in compressed air and gas systems
- Predictive maintenance of mechanical systems
- High-voltage equipment inspections
- Industrial reliability and energy efficiency auditing

## ACOUSTIC SPECIFICATIONS

- 208 channel MEMS microphone array
- Frequency range: 2 kHz to 100 kHz
- Detection range: 0.5 to 200 m (1 – 656 ft)
- Min leak detection rate:
  0.0019 l/min @ 2.5 m 5 Bar
  0.0022 l/min @ 6.0 m 5 Bar
- Leak cost quantification
- SPL Range 25.7 dBA to 132.5 dBA
- Dynamic Range 28 dB to 132 dB (adjustable)




These images shows the thermal capability with the optional thermal imaging module, MPAC-TM.




## SPECIFICATIONS

### Camera

| | |
|---|---|
| **Resolution** | 13 MP |
| **Camera Focal Length** | 4.3 mm (0.17”) |
| **Nominal Frame Rate** | 25 fps |
| **Field of View (FOV)** | Horizontal: 66° x Vertical: 52° |
| **LED Light** | 4 Ultra-bright LEDs |

### Display

| | |
|---|---|
| **Resolution** | 1920 x 1200 |
| **Size** | 8 inches |
| **Brightness** | 700 nits |
| **Touchscreen** | Capacitive touch screen |
| **Zoom** | 6x digital zoom |
| **Standard palettes** | Grayscale, Ironbow, Rainbow |

### Communication and Storage

| | |
|---|---|
| **Internal Storage** | 64 GB |
| **External Storage** | 64 GB external microSD card |
| **Image Format** | JPG |
| **Audio Format** | WAV |
| **Video Format** | mp4 |
| **Video Length** | Up to 10 min |
| **Digital Export** | microSD (TF) card/Wi-Fi/ USB-C flash drive |
| **Data Transfer** | Wi-Fi, USB-C Flash drive, Bluetooth® USB-C Cable, microSD (TF) card |

### Battery

| | |
|---|---|
| **Battery Type** | Li-Ion smart battery with charge indicator |
| **Battery Capacity** | 6600 mAH, 7.2 V Rechargeable Li-ion |
| **Battery Life** | 5 hours under full load state |
| **Charge Time** | USB Type-C port – 2.15 Hrs<br>Charging cradle – 1.15 Hrs |

### Hardware Ports

| | |
|---|---|
| **USB-C 1** | USB 3.0 for charging, HDMI, data export |
| **USB-C 2** | USB 2.0, USB sensor, Thermal Module |
| **3.5 mm audio jack** | Headset output |
| **TF/microSD card slot** | 64 GB card supplied |
| **Analog input** | 4 Channel external analog sensor |

### Environmental

| | |
|---|---|
| **Operating Temperature** | -20 °C to +50 °C |
| **Relative Humidity** | 10% to 95% (no condensation) |
| **Storage Temperature** | -20 °C to +70 °C |
| **Charging Temperature** | 10 °C to +45 °C |
| **Restriction of Hazardous Substances (RoHS) Compliant** | Yes |

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## General Specification

| | |
|---|---|
| **Size** | 270 x 190 x 51 mm (10.6" x 7.5" x 2") |
| **Weight** | 1.4 kg (3 lbs) |
| **Bluetooth** | BT 5.2 |
| **Environmental rating** | IP54 |
| **Warranty** | 2 years |
| **Supported Languages** | English, Dutch, French, Simplified Chinese, German, Hungarian, Italian, Japanese, Korean, Norwegian, Polish, Portuguese, Russian, Spanish, Swedish, Thai, Arabic, Macedonian, Romanian, Bulgarian |

## Safety

| | |
|---|---|
| **General Safety** | IEC 61010-1 |
| **Electromagnetic Compatibility (EMC)** | |
| **International** | IEC 61326-1: Portable Electromagnetic Environment IEC 61326-2-2<br>CISPR 11: Group 1, Class A |
| **Vibration** | 2g, IEC 60068-2-6 |
| **Shock** | 25g, IEC 60068-2-27 |
| **Drop test** | 1.2 m |

## Software

| | |
|---|---|
| **Report types** | Gas/Electricity, ISO 50001-compliant |
| **Analysis** | Waveform, spectrum, spectrogram, leakage assessment, PRPD type, PRPD spectrum. Thermal image analysis (with optional thermal module MPAC-TM). |

## ORDERING INFORMATION

| Description | Part number |
|---|---|
| MPAC208 acoustic imaging camera | 1016-917 |
| Included Accessories | |
| Hand straps | |
| Shoulder strap | |
| Universal mains power charger | |
| USB-C charging cable | |
| Headphones | |
| Carry case | |
| 64 GB microSD card | |
| USB-A microSD card reader | |
| 8 GB USB-C/USB-A memory stick | |
| Cleaning tool | |
| Smart battery pack (x2) | |
| Smart battery charger | |
| Acoustic & Thermal Analysis Software | |

| Description | Part number |
|---|---|
| Optional Accessories | |
| Thermal imaging module (364 x 288 resolution) | 1016-920 |
| Thermal imaging module (640 x 512 resolution) | 1016-921 |
| MPAC-V acoustic camera verifier | 1016-919 |
| Spare smart battery packs | 1016-924 |
| MPAC208 Pro Kit with MPAC208 Acoustic Camera, MPAC-V Verifier/Ultrasound Generator and Thermal Camera Module (640 x 512 resolution) | 1016-922 |

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