

## 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

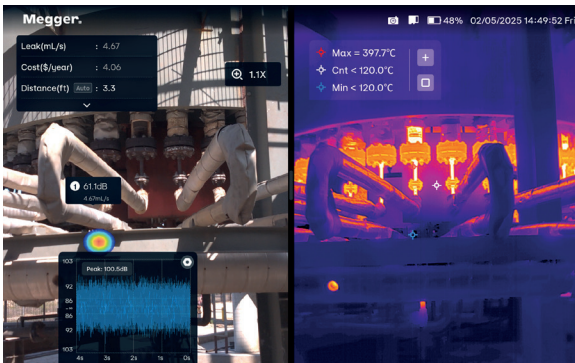
To ensure the MPAC cameras are operating within specified parameters, the Megger MPAC-V acoustic camera verifier can be used. This optional tool gives the operator the ability to verify the frequency and SPL measurements of the camera using a dedicated verification procedure. In addition, the camera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

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

##### Display

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

##### Communication and Storage

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

##### Battery

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

##### Hardware Ports

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

##### Environmental

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

# MPAC208

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### General Specification

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

### Software

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

### Safety

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

### ORDERING INFORMATION

| Description                          | Part number | Description   | Part number |
|--------------------------------------|-------------|---|-------------|
| MPAC208 acoustic imaging camera      | 1016-917    |   |             |
| <b>Included Accessories</b>          |             | <b>Optional Accessories</b>   |             |
| Hand straps                          |             | Thermal imaging module (364 x 288 resolution)   | 1016-920    |
| Shoulder strap                       |             | Thermal imaging module (640 x 512 resolution)   | 1016-921    |
| Universal mains power charger        |             | MPAC-V acoustic camera verifier   | 1016-919    |
| USB-C charging cable                 |             | Spare smart battery packs   | 1016-924    |
| Headphones                           |             | MPAC208 Pro Kit with MPAC208 Acoustic Camera, MPAC-V Verifier/Ultrasound Generator and Thermal Camera Module (640 x 512 resolution) | 1016-922    |
| 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 |             |   |             |

MPAC208\_DS\_EN\_V02

ISO 9001  
The word 'Megger' is a registered trademark

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