FOTRIC

CONNECTING THE DIGITAL FUTURE

Seeing the Sound

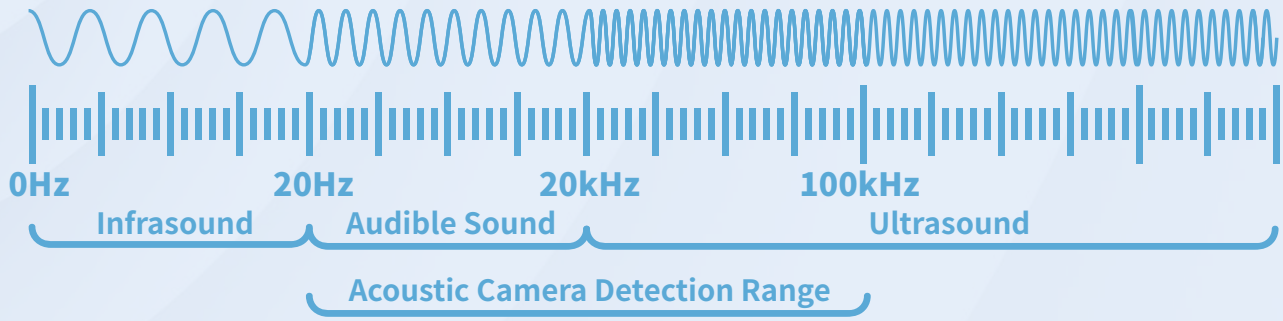
FOTRIC TD2

Acoustic Imaging Camera

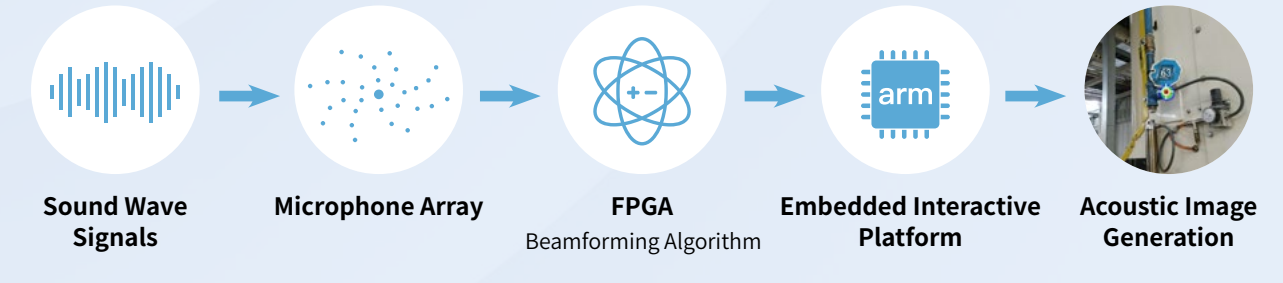
What is Acoustic Imaging?

Limitation of Human Perception

The human ear can only perceive sounds in the range of 20 Hz to 20 kHz. However, hidden faults such as gas leaks, bearing wear, and electrical discharges often emit much higher frequency ultrasound (>20 kHz) — sounds that are imperceptible to the human ear and beyond the capabilities of traditional stethoscopes or microphones.



How does it work?



- **Microphone Array:** Simultaneously captures sound signals from multiple sources to enhance spatial accuracy.
- **Beamforming Algorithm:** Focuses on sound sources from specific directions, filtering out environmental noise.
- **Acoustic Image Overlay:** Displays sound source locations as a heatmap over the image.
- **Low-Latency Rendering Engine:** Enables near-instant response, ideal for continuous inspection scenarios.

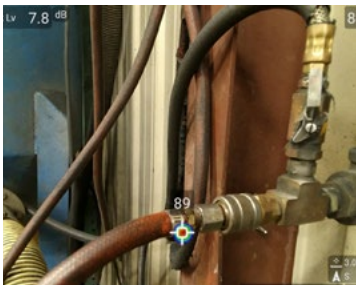
Beyond What's Audible

The FOTRIC TD2 acoustic imaging camera can detect not only audible sound (20Hz–20kHz), but also high-frequency ultrasonic signals that are beyond the range of human hearing.

This means it can easily capture things like:

Tire air leaks

The TD2 quickly visualizes and locates tire leak points without the need for soap spray—precise, efficient, and easy to use.



Compressed Air System Leaks

As gas leaks emit high-frequency turbulence noise, the TD2 can quickly detect even the smallest leaks in compressed air pipelines.

Vacuum System Leaks

The TD2 precisely captures subtle leak sounds in vacuum systems that human ears cannot hear, enabling fast leak localization without contact or damage to equipment.

Loose Joint Vibration During Operation

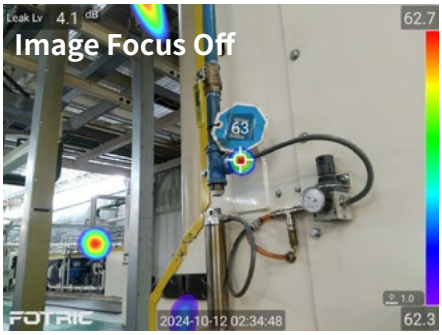
The TD2 detects abnormal high-frequency sounds caused by loose screws while equipment is running. It visualizes and pinpoints the issue in real time without requiring a shutdown, helping maintenance teams address risks and ensure operational stability.

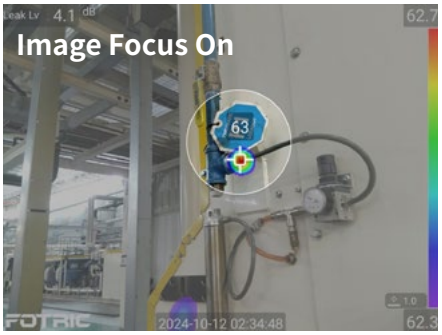
- **High-density microphone array with 64 MEMS digital microphones**
- **Industrial digital camera: 13 MP, 66° × 52° field of view**
- **⩾ 4 hours of single-battery runtime, removable; device rated IP54**
- **Multiple imaging modes: single-source, multi-source, and holographic**
- **Professional features: sound pressure level measurement, acoustic focusing**

TD2 vs Traditional Methods

	FOTRIC Acoustic Camera	Ultra-probe
Detection Speed	Fast identification (within seconds)	Relies on user experience
Visualization	Real-time heatmap display	Not visualizable
Precision	High-precision positioning	Low-precision positioning
Data Recording&Analysis	Supports image export	Not supported
Ease of Use	Pick up and shoot	Requires skilled professionals

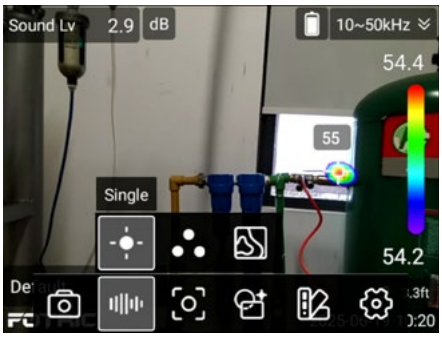
Unique Features

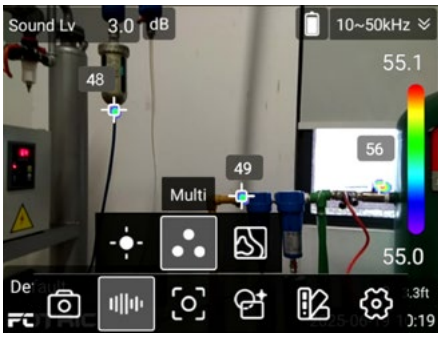


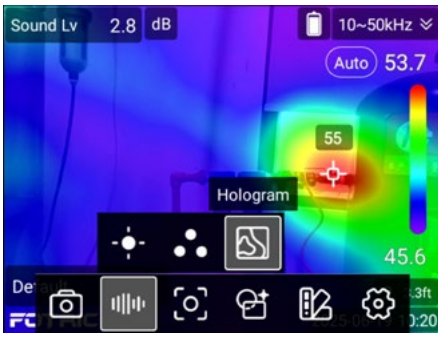


Acoustic Image Focus

Combines adaptive dynamic noise reduction algorithms to achieve focused localization of sound sources.

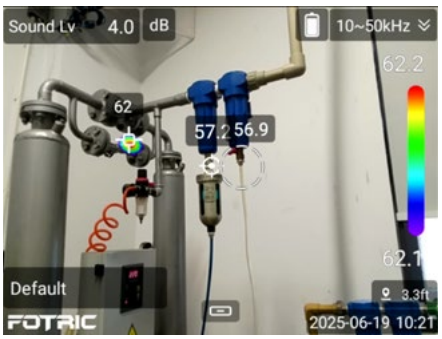


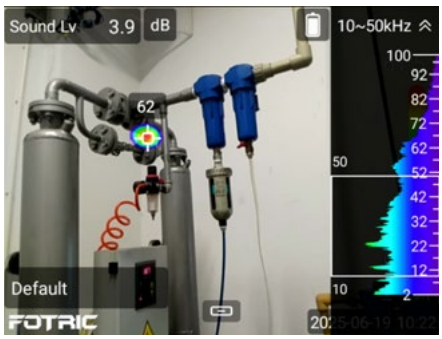




Source Mode Switching

The TD2 Acoustic Imaging Camera supports multiple image modes, including single-source, multi-source, and holographic views, allowing users to adapt to varying noise complexities and detection targets on-site.





Sound Pressure Level Measurement

By combining acoustic images with dB-level data output, it is well-suited for locating and diagnosing a wide range of industrial sound sources.

This enhances the intuitiveness, efficiency, and safety of acoustic inspections.

Specifications

Parameters	TD2
Unique Features	
Size	243mm*95mm*150mm
Weight	770g
Acoustic Image Focus	Masks surrounding areas, focuses only on the acoustic image of the focused area
On-device Analysis	The device is capable of directly analyzing acoustic images.
Gray Scale Background	Display digital camera images in grayscale.
Favorites	Click the favorite button to save the favorite status to acoustic images and holographic acoustic videos, highlighted in the gallery preview screen, and later filter by favorite status in the gallery.
Battery Type	3.6V, 5000mAh Rechargeable Lithium Battery, Field-Replaceable
Basic Parameters	
Microphone Channel	64 MEMS Digital Microphones
Acoustic Image Field of View (FOV)	66° *52°
Sound Sampling Rate	200kHz
Acoustic Refresh Rate	25Hz
Operating Distance	0.3~100m
Frequency Range	2~100kHz
Detection Mode	Leakage mode: display leakage level on device.
Analysis Software	AnalyzIR Professional Acoustic Analysis Software
Display Screen	3.5-inch, 640 x 480 pixels, IPS LCD touch display with Gorilla Glass explosion-proof cover
Image Modes	Single-source mode, multi-source mode, hologram mode
Digital Camera	13 Megapixels, Industrial-Grade Digital Camera
Storage Card	TF card, hot-swappable, maximum support 1TB
Battery Operating Time	Continuous operation time ⩾ 4 hours (Actual usage time depends on environmental and usage conditions)
Supported Languages	
Supported Languages	English, Traditional Chinese, Spanish, Korean, German, Portuguese, Italian, French, Thai, Japanese
Standard Accessories	
Standard Configuration	Acoustic imaging camera main unit, rechargeable lithium battery * 1, power adapter, USB Type-C to USB cable, 32G TF card, wrist strap, document bag (packing list, quick start guide), outer packaging box

*For more detailed information please refer to the Datasheet.

Versatile Power Source

Shared battery with FOTRIC compact handheld thermal cameras.

FOTRIC TKx series

Same Battery

FOTRIC

CONNECTING THE DIGITAL FUTURE

FOTRIC INC. All Rights reserved

2025/06

www.FOTRIC.com