

# 7 THINGS TO LOOK FOR IN AN ACOUSTIC IMAGING CAMERA

What are the critical features to consider before making a final purchasing decision?

# 1

## ONE-HANDED OPERATION

In order to safely operate any handheld tool, you must be able to use it with just one hand so the other is available to hold railings when working at height. A lightweight, ergonomically-designed camera such as the FLIR Si124 allows for easy inspections spanning wide areas, while the 5" touchscreen can be quickly accessed for image capture, recording, zoom, and image upload with just the tap of a finger.



# 2

## DECISION SUPPORT

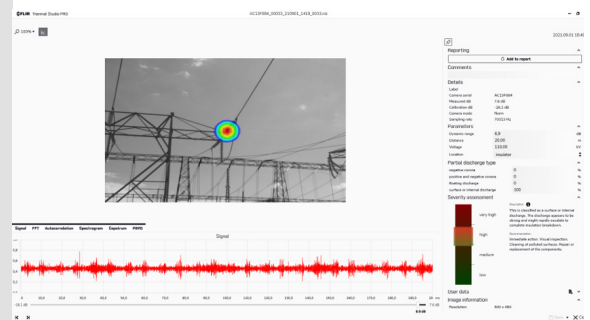
An acoustic imager should do more than visualize sound: it should also help you understand the scope of the problem and determine how soon repairs are needed. A camera that offers leak quantification—including estimated leak cost—allows maintenance departments to prioritize repairs. For utility applications, acoustic imagers that can classify partial discharge, assess its severity, and provide a clear course of corrective action enables maintenance managers to make effective decisions to reduce maintenance costs or even avoid equipment failure.



# 3

## SUITABLE SOFTWARE

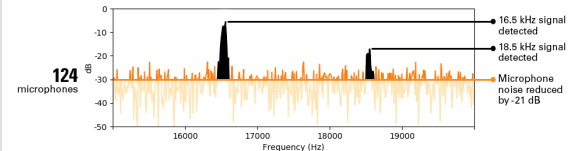
Software requirements can depend on the user's industry or application. Whether you need minimal analysis and reporting or prefer a comprehensive software package for both acoustic and thermal inspections, it's important to choose a system that meets current requirements and can grow with your predictive maintenance program. The FLIR Si124 offers both the Acoustic Camera Viewer cloud service for simplified storage, analysis, and in-field reporting and the more robust FLIR Thermal Studio Pro for advanced image post-processing and customized reports that can include acoustic images, sound analysis, and thermal images.



# 4

## HIGH NUMBER OF MICROPHONES

In the pursuit of quieter noises, more is better. This is because one microphone, while capable of picking up sound (signal), also creates a small amount of sound itself (noise). The Si124 provides 124 microphones in an optimal array, improving the signal-to-noise ratio and allowing the acoustic imaging camera to pick up more sound without noise interference.



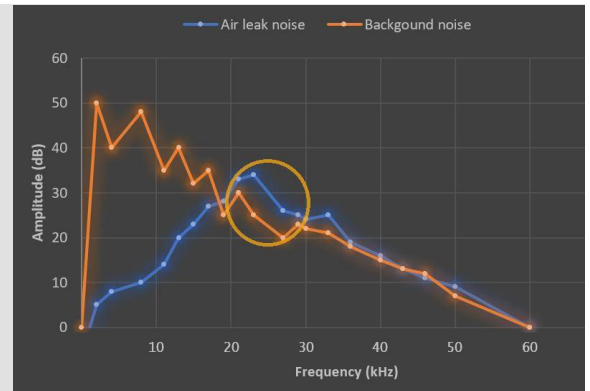
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### EFFECTIVE FREQUENCY RANGE

The most effective frequency range for distinguishing compressed air leaks from background factory noise or for visualizing partial discharge is between 20 and 30 kHz. When looking for leaks or partial discharge from a distance, a 10 to 30 kHz range is optimal because higher frequency waves get absorbed by the air and thus travel shorter distances. Higher frequency sounds, up to 65 kHz, are ideal for detection of issues that can be inspected at close distances, like some compressed air, compressed gas, or vacuum leaks.



## 6

### INTELLIGENT ANALYTICS

Effective acoustic technology makes use of machine learning to distinguish the compressed air leak sounds from background noises—much the same way you would distinguish between the sounds created by two different musical instruments playing the same note. Machine learning also makes acoustic imaging easier for partial discharge analysis: experts in ultrasound defect recognition “tagged” the data, providing guidance on issue severity and appropriate corrective action.



## 7

### FIELD-REPLACEABLE BATTERY

Professional tool users always have a backup battery in the charger, just in case, because you never know when you will be called upon to troubleshoot a problem. Your acoustic imaging tool should be able to easily swap batteries in the field so you can charge and work at the same time.



To read more about these critical acoustic imaging camera features, go to [Flir.com/7-things-to-look-for-in-an-acoustic-imager](https://flir.com/7-things-to-look-for-in-an-acoustic-imager)

For more information on the FLIR Si-Series contact [Sales@TeledyneFLIR.com](mailto:Sales@TeledyneFLIR.com) or to find your local support number, visit: [flir.com/contactsupport](https://flir.com/contactsupport)

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