



HIKMICRO AI Series  
Acoustic Imaging Camera (V5.5.88)  
Release Notes

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# 1 Introduction

The HIKMICRO AI Series acoustic imaging camera is a professional product for sound source localization. With low-noise MEMS microphones and an adjustable bandwidth range from 0 kHz to 96 kHz, the camera provides an easy and effective way to locate gas leaks in industrial environments or detect partial discharge in high-voltage systems. By using a large 4.3" LCD touch screen, the results presented on top of a digital picture allow you to quickly find the source of the problems. The maximum operating distance could reach 150 meters, which can ensure you stay at a safe distance to inspect the high-voltage equipment. By adopting this lightweight and easy-to-use tool, you can discover potential safety risks, minimize troubleshooting, and save extra costs of equipment failures and downtime.

This document introduces new features and optimizations in V5.5.88 of AI series cameras.

For detailed operation guide, please refer to the user manual of AI series acoustic imaging camera, V5.5.88.



- This product is designed to assess gas leakage to achieve cost savings. However, due to potential environmental factors that may affect detection accuracy, the estimations provided are approximate and for informational purposes only. It should be noted that the results presented by the devices are not a guarantee of actual cost savings or a recommendation, and may not accurately reflect the specific situation of your facilities.
  - The images used in this document are for demonstration only. Please refer to the actual product.
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## 1.1 Version Information

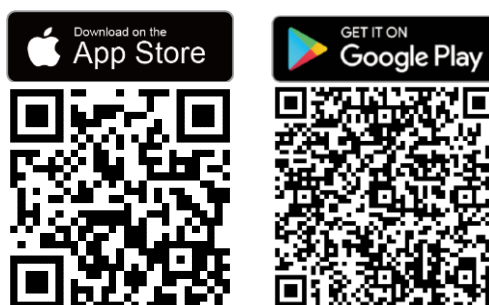
Item	Description
Models	AI56, AI76
Firmware	V5.5.88 build241121
HIKMICRO Viewer (Mobile APP)	V2.4.3 and newer version
HIKMICRO Anlayzer Acoustic (PC Client)	V1.1.3.4

## 1.2 How to update to new version

### 1.2.1 Upgrade with HIKMICRO Viewer APP

Connect your device to HIKMICRO Viewer APP and tap on **Device Upgrade** to check device firmware version and proceed online upgrading.

Download and install HIKMICRO Viewer to your phone. Search the APP name in your APP store, or scan the following QR code.



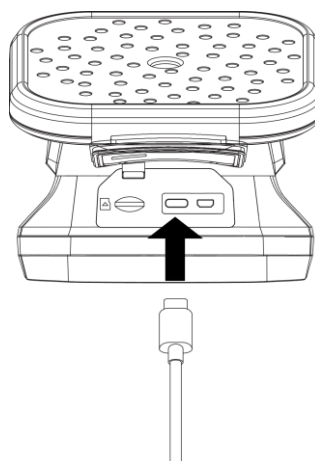
### 1.2.2 Upgrade with an upgrade file

Before upgrading your device, make sure:

- Device battery is fully charged.
- Auto Power-off function is turned off to avoid accidental suspension during upgrading.
- A memory card has been installed to device.

#### *Steps*

1. Download new firmware from our website  
<https://www.hikmicrotech.com/en/industrial-products/ai56-acoustic-camera/>, and save it to your PC.
2. Use supplied USB cable (USB type C to USB type A) to connect the device to PC.



3. Open the detected disk on your PC.
4. Unzip the firmware and copy the .dav file to the root directory of the disk.
5. Disconnect the device from PC and reboot the device to start upgrading automatically.

## 2 New Features

### 2.1 Two calculation formulas for leak cost and CO2 emissions are added in compressed air leak mode

Formula two and Formula three are added in this version for you to calculate leak cost and CO2 emission. Select a formula in which the required air compressor parameters are easy to obtain.

Select , and go to **Acoustic Settings > Gas Leak Settings > Compressed Air Settings > Formula**.

Table 2-1 Recommended Formula for Compressed Air Leak

Already Known/Available Parameters	Recommended Formula
Air Compressor Specific Power (Y)	Formula One: Est. CO2= $T \cdot X \cdot Y \cdot B$ Est. Cost= $T \cdot X \cdot Y \cdot A$
<ul style="list-style-type: none"> <li>Air Compressor Out Flow Rate (Q)</li> <li>Air Compressor Power Consumption (P)</li> </ul>	Formula Two: Est. CO2= $T \cdot X \cdot P \cdot B / Q$ Est. Cost= $T \cdot X \cdot P \cdot A / Q$
<ul style="list-style-type: none"> <li>Air Compressor Output Pressure (p)</li> <li>Air Compressor Motor Efficiency (<math>\eta</math>)</li> </ul>	Formula Three: Est. CO2= $T \cdot (p \cdot X \cdot B) / (\eta \cdot 60)$ Est. Cost= $T \cdot (p \cdot X \cdot A) / (\eta \cdot 60)$

Table 2-2 Parameters Description in Cost Calculation Formula

Formula	Parameter	Description
All formulas	T	Working hours of the air compressor per day/month/year. Its unit depends on <b>Leak Cost Time Unit</b> .
	X	Leak rate of the target. It is an automatic measured value. The unit depends on <b>Leak Rate Unit</b> .
	A	The price of 1 kWh electricity. Its unit depends on <b>Currency</b> .
	B	CO2 emissions per kWh (carbon emissions from electricity). It can be obtained by querying the carbon emission factor of the local power grid.

Formula	Parameter	Description
Formula one only	Y	Air compressor specific power, indicating the working efficiency of an air compressor, is the ratio of input power to compressed air flow rate at a given pressure.  It can be found in the data sheet of the air compressor.
Formula two only	P	Air compressor power consumption (Unit: kW).
	Q	Air compressor out flow rate, indicating gas quantity output by air compressor.
Formula three only	p	Air compressor output pressure, indicating generated pressure of the compressed air ventilated through air compressor.
	$\eta$	Air compressor motor efficiency (Unit: %).

See [4.1.1 Estimated Cost Calculation for Compressed Air Leak](#) in AI series user manual for details.

## 2.2 Adjustable regional detection frame is supported

If the target sound source is small and there is sound interference around, enable the regional detection frame and aim the frame to the target.

Tap  once to turn on regional detection frame.

Tap again to switch to  for resizing the regional detection frame.

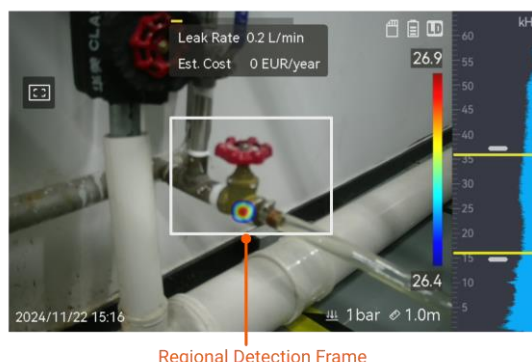


Figure 2-1 Regional Detection Frame

## 2.3 A short key for pressure is added in main menu

In LD mode, a short key for system pressure is added in main menu to adjust the values up to 20 bar.



## 2.4 Device castscreen is supported to PC via the client compliant with UVC protocol

### *Before You Start*


Download and install a software client compliant with UVC protocol on your PC.

### *Steps*

1. Launch the software client on your PC.
2. Use a USB cable to connect your device with the PC.



Make sure that your camera is on and with sufficient power.

3. In pop-up window of your device, select USB Cast Screen.  will be displayed in the device status bar.
4. Click “connect” or “refresh” in the software client.



### *Results*

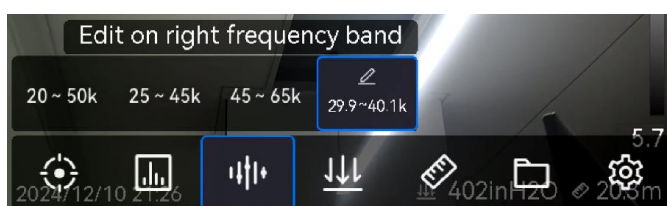
The live image of your device is displayed in the PC.

## 2.5 A custom mode to pre-defined target frequency ranges is added



It is available to customize the frequency band and set it as a predefined one in this version.

### *Steps*

1. Select  and press ◀ and ▶ to switch to  custom frequency band.





2. Press  to start editing.
3. Adjust the value of the selected frequency band on the right. Press/hold navigation buttons, or scroll up and down the frame edges. See [5.1.2 Set Target Frequency Range Manually](#).
4. Press  to confirm the settings, and set it as a predefined frequency band.



## 2.6 Stabilization ToggleButton is added

Enable **Stabilization** to stabilize the value of **Leak Rate** at the center of live view interface.

Select , and go to **Acoustic Settings > Gas Leak Settings > Stabilization**.

## 2.7 Wi-Fi QR code scanning is supported to connect HIKMICRO Viewer

### Steps

1. Enter Wi-Fi setting interface. Choose from the following ways.
  - Tap  from the swipe-down menu.
  - Go to **Settings > Connections > WLAN**.
2. Tap  to enable Wi-Fi, and the searched Wi-Fi will be listed.

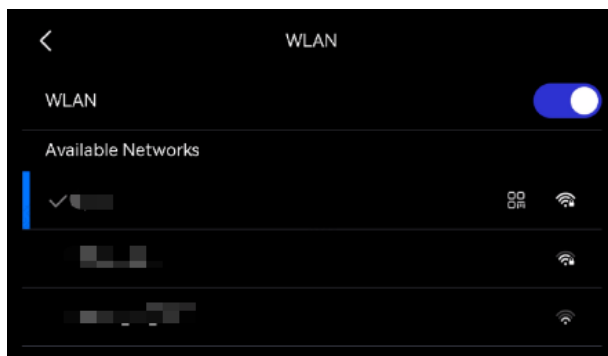





Figure 2-2 Wi-Fi List

3. Set and Join a Wi-Fi.

#### Using Wi-Fi password

1. Tap an available Wi-Fi, and a soft keyboard is displayed.
2. Set the Wi-Fi password with the soft keyboard.
3. Tap  to save.  shows in live view interface and  shows on the right side of the connected Wi-Fi when the connection is completed.

4. Enable the Wi-Fi function of other equipment and search the Wi-Fi that the camera is in to join.



DO NOT tap **space**, or the password may be incorrect.

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**Using Wi-Fi QR code**

1. Scan the QR code using HIKMICRO Viewer to quickly join the Wi-Fi and connect the camera to the APP. For more information about the APP, see *8.4 Connect to HIKMICRO Viewer APP.*

## 3 Optimization

### 3.1 Volume adjustment is supported via paired Bluetooth headsets in Ultrasonic to Audible

#### *Steps*

1. Connect your camera to a pair of Bluetooth headsets. See [8.3 Pair Bluetooth Devices](#).
2. Enable **Ultrasonic to Audible** function.
  - 1) In live view interface, tap  or press  to show the menu.
  - 2) Go to **Settings > Acoustic Settings > Ultrasonic to Audible**.
  - 3) Enable the function and an ear icon shows in the live image.
3. Listen to the real-time audio and adjust volume.
  - 1) Tap on the  on the screen.
  - 2) Slide the volume bar for adjustment.






It is available to swipe up and down the paired Bluetooth headsets to adjust volume.

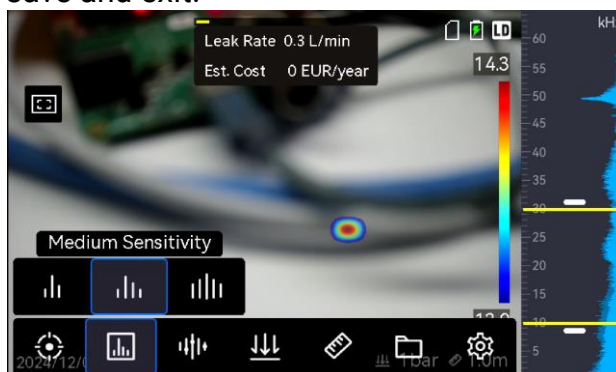
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### 3.2 Sensitivity settings changed

#### *Steps*

1. In live view interface, tap  or press  to show the menu.
2. Select .

3. Press ◀ and ▶ or tapping on screen to select a level. Higher level means higher sensitivity.
4. Press ↶ to save and exit.



### 3.3 More

- Detection algorithm in LD and PD modes is optimized to improve the detection accuracy.
- Ultrasonic to Audible function in LD mode is optimized to improve auditory experience.
- Display delay of acoustic palettes is optimized.
- PRPD diagram display is optimized.
- Thousands is added to EURO in Currency settings to optimize its display.
- Instantaneous noise is automatically filtered in LD mode.
- Left/right navigation buttons can be used to adjust the range of frequency bands.
- Redundant zeros in decimals are omitted when you set parameter values in PD or LD mode.

## 4 FAQ on Upgrade

### 4.1 Why my PC failed to detect the camera as a USB drive?

Check the following items:

- Use a good quality type A to type C USB cable to connect your PC to your camera. The supplied cable is recommended. Normally, a cable should be able to charge a camera and transfer data.
- Keep the microSD card inserted and do not remove it during connection.
- Keep the camera powered on.

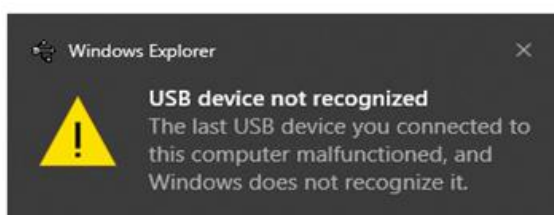
### 4.2 What should I do when my PC notifies power surge on the USB port?



Check the following items:

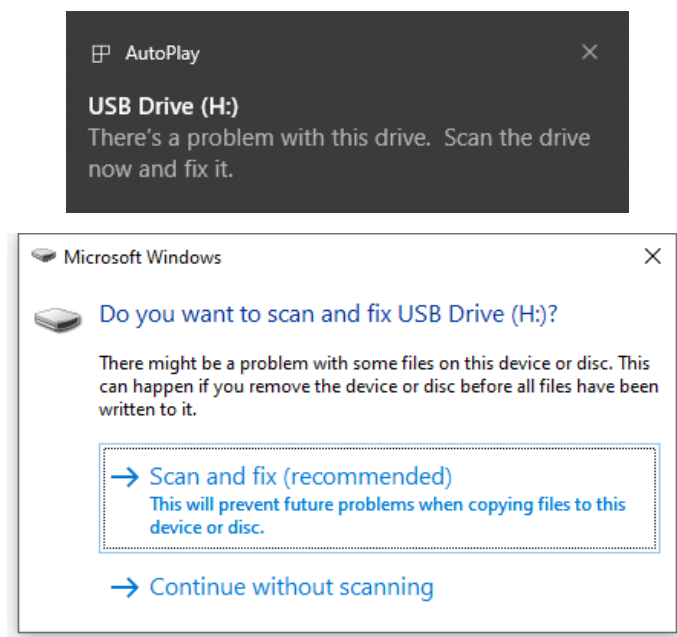
- When you are looking for an adapter of USB type C to USB type A, please choose an unpowered hub. A powered hub such as Surface Dock Station is not compatible.
- If you are using a built-in USB PowerShare in your PC, please try another port.

### 4.3 What should I do when my PC notifies USB device not recognized?



In most cases, it does not affect use. You can just ignore the prompt and find the detected USB drive in **This PC**. If the USB drive is not found, please try to Restore/Initialize the camera.

## 4.4 What should I do if my PC notifies the USB drive has a problem to be fixed?



Some Windows computers will scan a USB drive when it is connected, and show the error. Click scan and fix, Windows will confirm the drive is fine and connect to it. You can also skip scanning and find the detected USB drive in **This PC**, which does not affect use in most cases.

# Legal Information


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## About this Manual

The Manual includes instructions for using and managing the Product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version of this Manual at the HIKMICRO website [www.hikmicrotech.com](http://www.hikmicrotech.com).

Please use this Manual with the guidance and assistance of professionals trained in supporting the Product.

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