

# Applications in Power Grid

## iTest S860 Acoustic Camera

- 128 MEMS microphones
- Locating defects (**electrical, vibration, leakage**)
- One-handed operation for flexibility
- 8 megapixel HD camera clearly shows defects
- Real-time display of the discharge level on screen
- Automatic determination of the type and severity of PD according to tested equipment
- Testing frequencies from 2kHz-65kHz
- Testing range from 0.3 m-100 m
- Photos and videos for recording abnormal spots



### Why is acoustic imaging testing necessary?

The grid system has many devices and a complex structure. With the growth of equipment operation time, equipment gradually aging. It is easy to cause faults in equipment, resulting in large area blackouts, reducing the reliability of the entire grid and causing inconvenience to society.

### How acoustic cameras detect power equipment?

Based on the anomalies localized on screen of the acoustic camera, which become more visible as the electrical equipment deteriorates. It also has a multi-point detection mode, which effectively covers every hidden area and improves detection efficiency.

### How to determine defects?

If there are obvious acoustic signal on the equipment, this indicates an anomaly. The abnormal electrical equipment should be repaired or replaced according to the outage plan. If there are multiple anomalies, the defect is serious and needs to be repaired or replaced as soon as possible.

### Can I see multiple anomalies on the screen?

Multiple partial discharge, abnormal vibration, or leakage can be displayed simultaneously

### Methods for detecting live equipments

UV Camera, IR Camera, All-in-one PD detector



# iTest S860 Parameters

## Advantages and Applications

Acoustic Parameters	
Acoustic Measurements	128 low-noise MEMS microphones
F.O.V.	70°
Dynamic Range	>120dB
Bandwith	2kHz-65kHz, Adjustable
Frame Rate	25FPS
Measuring Distance	0.3 m-130 m
Functions	Power Grid Mechanical Vibration Gas Leakage
Physical & Battery Data	
Dimension	316mm×196mm×106mm
Weight	1.1kg
Battery Capacity	6700mAh@7.2V
Duration	4 hours
Charging	USB Type-C interface, , USB PD protocol
Power	Max. power 20W
Environment Parameters	
Working Condition	-10℃~+50℃, 10%-95% non condensing
Storage Temperature	-20℃~40℃
Charging Temperature	10℃~45℃
User Interface	
Screen	Size: 7", 1024 x 600; Color: 24-bit RGB; Brightness: 1000cd/m²
Input	Touch Screen
Video Resolution	1640×1234 VIDEO
Video Frame Rate	25 FPS
Image Frame Rate	30 FPS
Communication & Storage	
External Storage	64GB SD card
Internal Storage	8GB, Emergency storage only
Data Storage Format	.jpg & .mp4
Camera	
F.O.V.	70°
Focal Length	3.04mm (fixed)
Pixels	8 million
Built-in Battery	6Wh Lithium battery

### Problems with usual testing method

**Usual Method for Detecting PD:** Difficult to locate the PD for open equipment.

**Usual Method for Detecting Gas Leakage:** IR camera are expensive with limited applications

**Problems with usual method:** It is difficult to locate the anomalies by usual method, and the positioning equipment are too expensive to use on a large scale.

### Precautions when using acoustic camera:

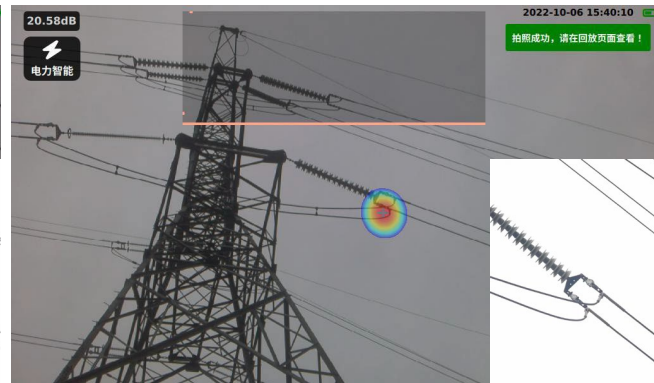
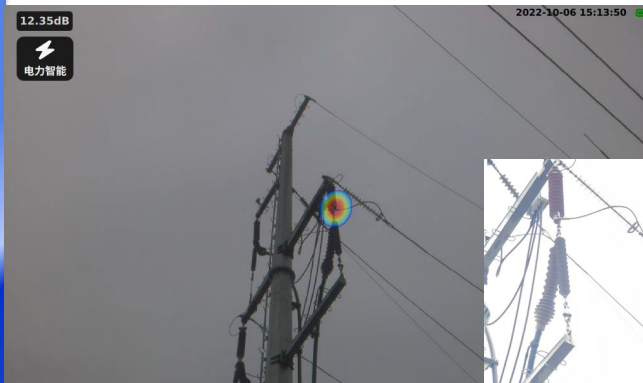
- Avoiding external noise interference during testing to prevent positioning deviations
- It is recommended that the multi-point positioning mode of the acoustic camera be switched on to prevent missing abnormal positioning points
- When testing, pay attention to safety and maintain a safe distance



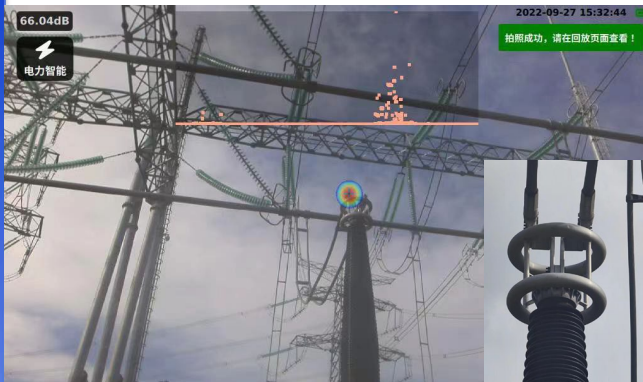


# iTest S860 Defects Examples in Field Testing

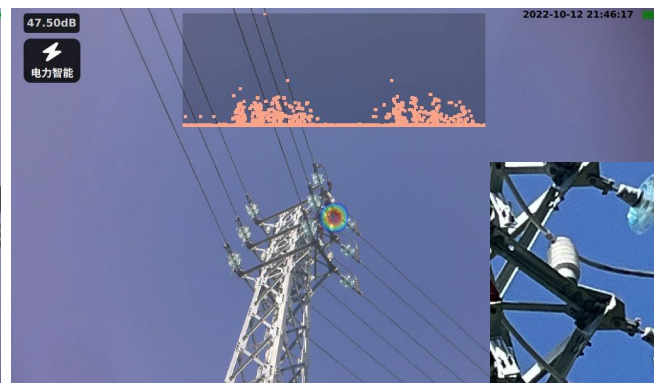
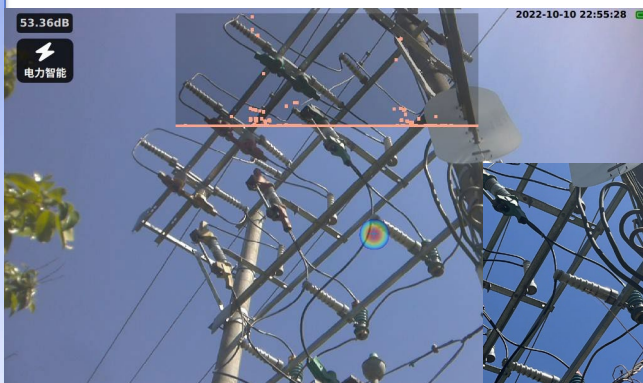
## Examples on transmission lines



## Examples in substations



## Examples in distribution lines



Focus Acoustic Camera, making sound and defects visible at a glance