



Asia's First Vehicle Noise Audit with Acoustic Camera Technology

● What is an "Acoustic Camera"?

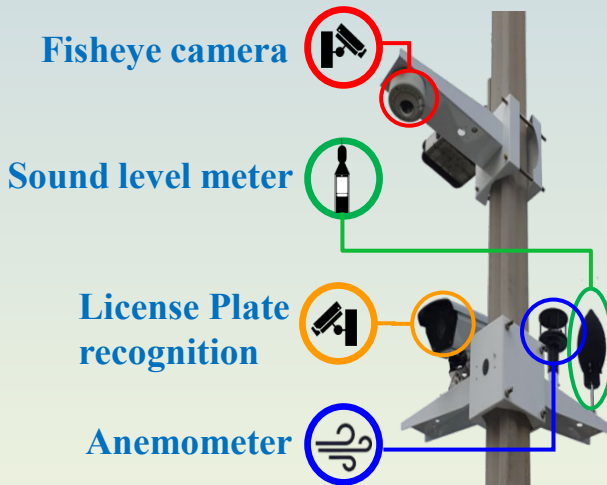
In recent years, the number of motor vehicle noise cases has increased, and it has been a concern for people in Taiwan. In order to protect the living environment and eliminate improper vehicle modifications, the Ministry of Environment has used acoustic camera technology for law enforcement since 2021. The system contains several scientific instruments, including a license plate recognition function that helps authorities identify noisy vehicles. Technology also improves inspection efficiency and quality of noisy vehicles.

● Effectiveness Raised

Existing roadside inspections require onsite noise measurement. The stationary noise test takes at least 20 minutes for each vehicle. Law enforcement using acoustic camera technology can simultaneously record videos, take photos, identify vehicles and complete noise measurements, to increase efficiency by a factor of 200. It is no longer necessary to use a large amount of manpower to carry out checks and inspections, greatly reducing labor costs.

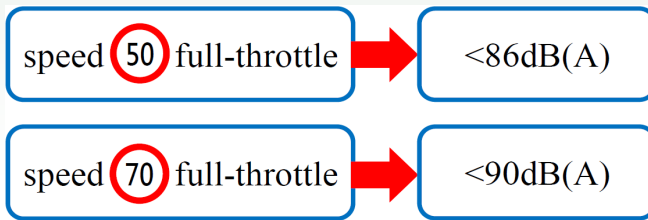
● Acoustic Camera Law Enforcement Equipment of Local EPBs

From January 2021 to December 2023, a total of 156 sets were deployed in 22 cities and counties. This led to 9,682 cases of direct fines, and 10,001 notifications for inspection sent. The enforcement has curbed the number of noisy cars and is welcomed by people living near roads, achieving nearly 90% satisfaction rating with the policy.



Acoustic Camera equipment diagram

Acoustic camera in front
Please drive with sound lowered



Triple Certification & Double Checks

● Triple Certification of Equipment

1. A Class 1 SLM (spatial light modulator) approved by the Bureau of Standards, Metrology and Inspection (BSMI) must be used for the acoustic camera system and be verified by the BSMI every 2 years.
2. Each acoustic camera system must be sent to a national-level regulatory noise laboratory designated by the MOENV for system comparison and verification once a year.
3. Calibration by the local EPB: In order to ensure the stability of the acoustic camera system, the accuracy of the sound level meter must be confirmed every 7 days, and the system clock must be calibrated every 5 minutes.

● Double Checks of Penalized Cases

1. To exclude background noise interference, there must be dry roads, no rain, and wind speeds under 5 m/s.
2. To clarify the contributing noise sources, measurements include the 3 seconds preceding and following the noise event recorded on the video files.

