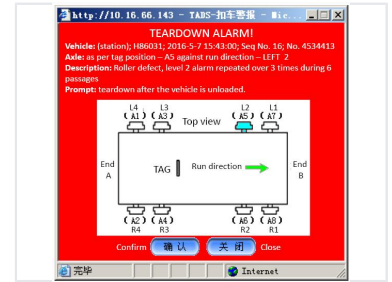
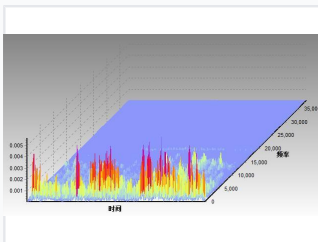


# Acoustic Bearing Defect Detector

This acoustic bearing defect detector uses microphone arrays to collect bearing acoustic signatures. It picks defective bearings on passing trains at line speed.



## ADDITIONAL IMAGES



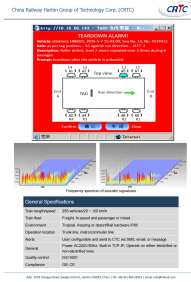
## System Overview

Sensor array configuration and defect classification workflow for proactive bearing maintenance.

## Acoustic Bearing Defect Detection

The Acoustic Bearing Defect Detector is an advanced wayside system designed for the unattended monitoring of railway rolling stock. By utilizing specialized microphone arrays to collect acoustic signatures from passing trains, the system identifies anomalies such as spalls, flaws, and scratches on bearing components. This proactive maintenance tool helps operators prevent severe bearing failures and derailments through real-time data analysis and classified automated alerts.

## Technical Capabilities



Real-time frequency spectrum analysis used to isolate specific bearing wear patterns.

Frequency Analysis Range	35000 Hz
Amplitude Resolution	0.001 units
Supported Train Fleets	Freight, High-speed, Passenger, Mixed Traffic

## Operational Performance

### Operating Speed Range

**20 km/h**

Min Speed

**120 km/h**

Max Speed

System Capacity	256 vehicles
Environment Compatibility	Tropical, Freezing, Desert, IP65 Rated

## System Integration

### Connectivity

- Built-in TCP-IP
- CTC Integration via SMS
- CTC Integration via Email
- Web-based database polling

## Compliance and Quality

### Quality Compliance

ISO 9001 • CE • GB Standards