AlarmSniffer is designed to help drivers to detect and localize emergency alarm sounds (like police or ambulance alarms). Using a microphone array installed on the car roof, the system analyses the audio input and provide all necessary information: alarm presence, type, direction and distance.

Detection
Ability to detect emergency alarms among a wide range

Identification
Identify the alarm type

Localization
Indicate the right direction and how far is the emergency vehicle in order to shorten the driver’s reaction time

Specifications
- Input: audio flow from an 8 channels microphone array
- Detect the alarm presence in 200 meters radius
- Fast alarm identification system (less than 0.02s)
- Different alarm types can be detected and identified according to a normalized alarms’ database
- Accurate direction of arrival feedback (Resolution = 5°)
- Three main safety range:
  - Critical zone: 0-50 meters
  - Alert zone: 50-100 meters
  - Safe zone: >100 meters

System overview