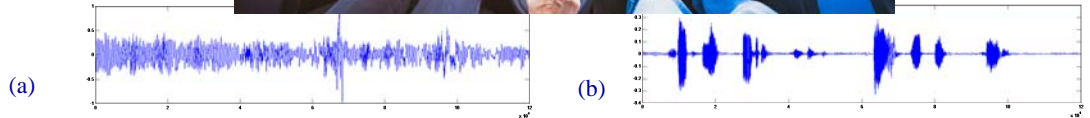


## Hands-Free In Car Voice Recognition with Noise Cancellation Dual Microphone Array



Speech recorded in a moving car with both A/C and radio on:  
(a) traditional single microphone and (b) LcT dual microphone array mounted on rearview mirror.

### Headquarters

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### Features

- Hands free
- No need to turn off radio
- No need to turn off A/C

### Technologies:

- Dual microphone array
- Adaptive beam forming
- Adaptive radio sound cancellation
- Noise reduction

### Product Demos

[www.licreative.com/demos](http://www.licreative.com/demos)

## Introduction

To support hands-free voice recognition in a vehicle, Li Creative Technologies (LcT) has developed a dual microphone array solution for robust voice capture. A user utters voice commands from the front seat, and our solution reduces engine, air conditioning, wind, road and other background noise; cancels radio sound; and outputs clean speech for speech recognition. Consequently, a user can still control entertainment, navigation, and other automotive functions through voice command with high accuracy despite noisy conditions and the radio on. Our fully hands-free solution can improve driver safety.

## Technical Description

LcT's solution utilizes our advanced audio signal processing algorithms invented from a study of the human hearing system, including adaptive beam forming, adaptive radio sound cancellation, and noise reduction. The two microphones can be mounted on the front rearview mirror or on the dashboard. Our technology can improve speech recognition accuracy from 40% to over 90% when the radio is on.

## Sales and Licensing

LcT offers two product solutions: (1) a low cost, plug-and-play PCB module to replace the traditional audio codec unit. Customers do not need to do any hardware or software work. (2) ARM or DSP based software for a customer's hardware platform. Business customers are encouraged to contact LcT for real-time demos and implementation.

## Our Company

Li Creative Technologies (LcT), Inc., located in Florham Park, New Jersey, USA, is an innovator in audio, speech, and biometric solutions. Established in 2002 by former Bell Labs scientists, LcT licenses and sells technology, software, design, and product solutions to the mobile, communications, e-commerce, healthcare, video conference, and transportation industries. LcT is a winner of the 2011 CES Innovations Design and Engineering Award.