



Hands-Free Home Automation with Dual Microphone Array

Headquarters

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Speech recorded in a typical home environment when TV sound is on with:
(a) single microphone and (b) LcT dual microphone array.

Features:

- Hands free
- Remote free
- No need to mute TV or radio

Technologies:

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

Product Demos

www.licreative.com/demos

Introduction

To support completely hands-free home automation, Li Creative Technologies (LcT) has developed a dual microphone array solution for robust voice capture. A user utters voice commands from 4 meters away from a smart home device or control panel, and our solution reduces background noise; cancels sound from a home entertainment system; and outputs clean speech for speech recognition. The user does not need to speak directly into a remote or mobile device. Consequently, a user can control lighting, appliances, entertainment, security, or other smart home functions through voice command with high accuracy despite noisy conditions and sounds from a home entertainment system.

Our solution enables video conference, speakerphone, voice search, and information query. In addition, LcT also provides a voice biometric solution for access control and security.

Technical Description

LcT's solution utilizes advanced audio signal processing, including adaptive beam forming, adaptive sound cancellation, and noise reduction. We integrate a two-sensor microphone array with our DSP algorithms. Our technology can improve speech recognition accuracy from 0% to over 90% with sound from a TV turned up.

Sales and Licensing

LcT offers two product solutions for TV, set-top box, and control panel makers, speech solution providers, and home automation integrators: (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.