# Microsemi Timberwolf™ Audio Processor
Security Monitoring for the Connected Home

New High-performance Audio Processors Enable the Streamlined Development of Security Monitoring for the Connected Home

Designed for connected home and home security system, Microsemi's new audio processor ZL38062 features the company's innovative AcuEdge™ acoustic technology, which is a set of highly-complex and integrated algorithms that allow the user to extract intelligible information from the audio environment, provides constant monitoring of security alarms and notification.
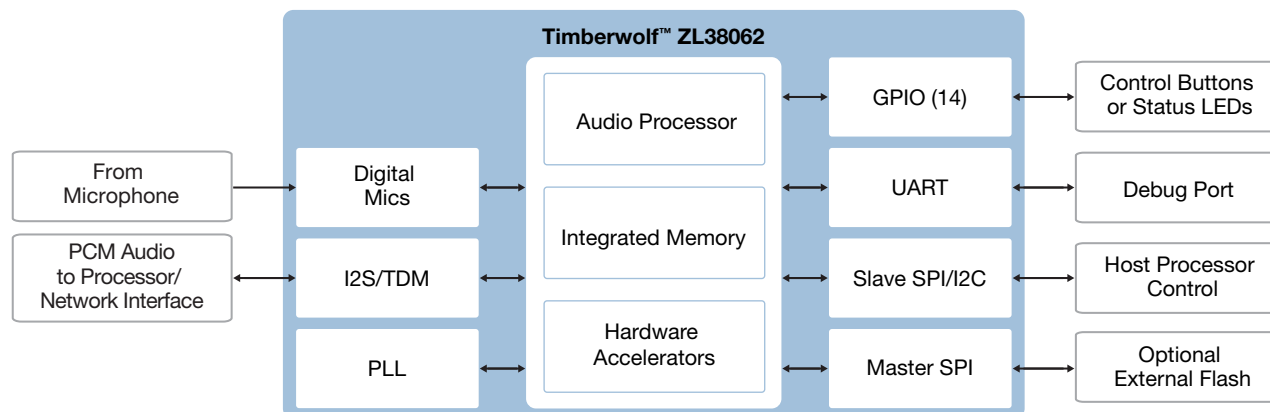

ZL38062 Block Diagram

Typical Applications

- Connected Home
- Home Security
- Alarm Detection
- Breaking Glass Detection

Features and Benefits

- Breaking glass detection
- Detection of T3/T4 signal alerts home automation of non-connected smoke and carbon monoxide alarms
- User programmable Energy Detection
- Hands-free operation allows central monitoring service to open up a full duplex voice channel
  - Narrowband and Wideband AEC
  - 3 to 5 meters voice pick up, full duplex operation
  - Long echo tail cancellation up to 256ms
  - Advanced Noise Reduction to reduces background noise from the near-end speech signal
  - Howling cancellation - prevents oscillation in echo canceller audio path
- 48 kHz Stereo Music Playback with Voice
- Call progress tone detection
- Field upgradable
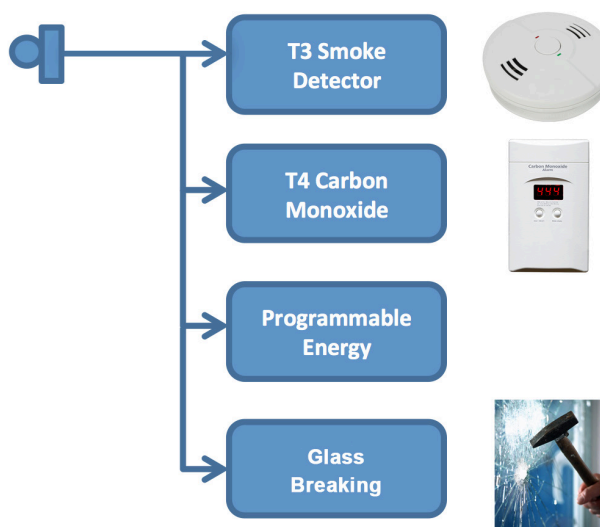
Getting Started

Use the following resources to explore:

Microsemi AcuEdge™ Technology

- ZL38062 Connected Home Audio Processor

MiTuner™ Automatic Tuning Kit

- MiTuner™ Information
- MiTuner™ GUI Software Guide
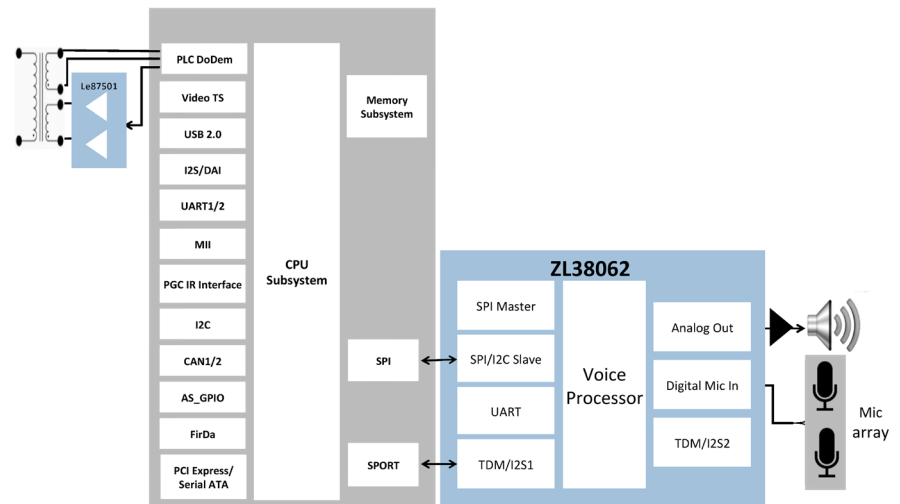- ZLS38508 MiTuner™ GUI

Powerline Voice Communication/Sound Classification System Application

The Powerline voice communication/Sound Classification system has the following feature set:

- Microsemi ZL38062 Advanced Audio Processor
- High-fidelity 16 kHz sampling
- Sound Classification
  - T3/T4 Alarm Detection
  - Glass Breaking Detection
  - Programmable Energy Detection
- Acoustic Echo Canceller (AEC)
- Line Echo Canceller (LEC)
- Power Line Communication

Powerline Voice Communication/Sound Classification Block Diagram
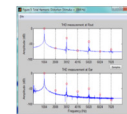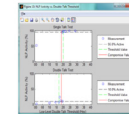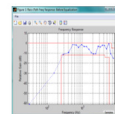
Microsemi Auto Tuning Tool (ZLE38470)

Microsemi's MiTuner™ Kit eases the system tuning complexity and speed up design cycle for quick development. MiTuner™ kit provides hardware, software and support for the automatic tuning of Timberwolf family of audio processors.

Calibration

Tuning Results provides good starting point for subjective tuning

Tuning

Results based off TIA920/P.1100

Testing

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