

Getting started with AcousticEC, real-time acoustic echo cancellation middleware

Introduction

The AcousticEC software implements a real-time echo cancellation routine based on the SPEEX implementation of the MDF algorithm. The ancillary features of the SPEEX suite, namely the preprocess options and the Automatic Gain Control, have also been included. Parameters can be modified at runtime for immediate adaptation to the varying environmental conditions.

The AcousticEC library is integrated in binary format in a software package providing examples running on STM32F407 Discovery board (STM32F4DISCOVERY).

The software is based on STM32Cube technology and can be easily ported to any STM32F4 microcontroller with an FPU.

Information about STM32Cube is available on www.st.com at <http://www.st.com/stm32cube>.

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1 Licensing information

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Some of the library code is based on the CMSIS DSP software library by ARM, a suite of common signal processing functions for use on ARM Cortex-M processor based devices. Licensing terms are available in the `release_note.html` file included in the software package, in the next lines of this document and on the web at <http://www.keil.com/pack/doc/CMSIS/DSP/html/index.html>.

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2 AcousticEC software library

AcousticEC software provides a real-time echo cancellation routine based on the SPEEX (<http://www.speex.org>) implementation of the MDF algorithm.

3 Library profiling

Profiling was performed in order to evaluate the library resource consumption in terms of MIPS, RAM and Flash. Detailed information can be found in the AcousticEC_Package.chm compiled HTML file located in the Documentation folder.

4 Revision history

Table 1: Document revision history

Date	Version	Changes
18-May-2017	1	Initial release.

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