G711 Encoder on ARM9E

Getting Started Guide

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Revision History

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1. Introduction

1.1 Motivation

The ITU G.711 converts digitized, linear PCM input signals (16 bit PCM) sampled at a 8 kHz sampling rate into 64 kbps alaw/ulaw encoded bit stream using the priciple of non-linear quantization.

This document describes the Quick-start for the G.711 Encoder. It highlights the procedure to run the sample application for the G.711 Encoder module supplied by Ittiam Systems Pvt Ltd. It is intended take the user quickly through the different run-time options available. It also describes the tools available for validation of the encoder.

1.2 Scope

The document will provide information to developers in terms of the following:

- Running the sample Application (**Chapter 2**)
  - This chapter gives a complete overview of the procedure to run the sample application provided.
- Testing the encoder (**Chapter 3**)
  - This chapter describes the tools for validation.

1.3 Glossary

Term	Explanation
ITU	International Telecommunications Union

2. Running the Sample Application

2.1 Usage

Executable can be run with command line or with a parameter file.

The syntax for command-line interface is as follows:

```
-ifile:<input_file> -ofile:<out_file> [options]
```

where,

`< input_pcm_file >` is the name of the input file.

`< output_g711_file >` is the name of the output file.

`<options>` can be `[-conv:<conv_type>]`

`<conv_type>` Conversion type Default ISPEECH1_PCM_COMPAND_ALAW

If no command line argument is given the application reads the testvectors names from the parameter file `paramfilesimple.txt` in same directory as the executable.

2.2 Parameter file

The application reads the testvectors names from the parameter file `paramfilesimple.txt` in same directory as the executable. Example is given in `\bin` folder of release package where the executable image is generated.

The syntax for writing into the `paramfilesimple.txt` file is ...

```
@Start
@Input_path <path to be appended to all input files>
@Output_path <path to be appended to all output files>
<command line 1>
<command line 2>
....
@Stop
```

The G711 Encoder can be run for multiple testfiles through different command lines. The command line syntax is same as the command line option.

Note All the @<command> should be at the first column of a line except the @New_line command.Generally, 16-bit output is used for applications.

Note All the @<command> are case sensitive. If the command line in the parameter file has to be broken to two parts in two different lines use the @New_line command.

Eg.

<command line part 1> @New_line

<command line part 2>.

Note Blank lines will be neglected.The syntax for command-line interface is as follows.

Note Individual lines can be commented out using "//" at the beginning of the line.

3. Tools for validation

This chapter describes the procedure for testing conformance of Ittiam ITU-T based G.711 codec. For further details please refer to the Test Report document and [1].

3.1 Testing the encoder

According to the conformance testing document from ITU-T, both the encoder and the encoder have to be ***bit-exact*** with respect to some reference files provided by the ITU-T committee. The comparison is done on the basis of conformance testing described in [1].

4. Reference

[1] *IA-G711-ARM9E-TR.doc – Test report*