RENESAS Tool News

The DTMF Library M3S-DTMF-Tiny Revised to V.1.01 Release 00

We have revised the DTMF library M3S-DTMF-Tiny from V.1.00 Release 01 to V.1.01 Release 00. We will supply this library free of charge.

1. Description of Revision

In the detection of DTMF (Dual-Tone Multi-Frequency) tones, the performance of the product has been improved, and the memory consumption has been reduced.

In addition, the product can detect DTMF signals having a tone duration and pause duration of 40 ms each.

2. Outline of the Product

M3S-DTMF-Tiny is a software library for generating and detecting DTMF (Dual-Tone Multi-Frequency) tones. By using this library, you can introduce capabilities of generating and detecting DTMF tones to your systems designed with MCUs of the R8C family, the H8/300H Tiny and the M16C/Tiny series.

DTMF tones are used for a signaling system of push-button telephones, phone-answering machines, operations of call center equipment, remote control through telephone lines, toys, and other applications.

3. Features

(1) Generates tones by using a tone data table with a sampling frequency of 16 kHz, which lightens the load on the CPU.

(2) Outputs tones by using the PWM (Pulse Width Modulation) technique and the D/A conversion system.

(3) Detects DTMF tones at high speed.
The product can detect DTMF signals having a tone duration and pause duration of 40 ms each.

(4) Compactly designed for embedded systems; for instance, memory consumption in MCUs of R8C family is as follows:

For generating tones: about 16 kilobytes of ROM, 0 bytes of RAM,
and 6 bytes of stack
For detecting tones: about 2 kilobytes of ROM, about 81 bytes of
RAM, and about 19 bytes of stack
(5) Includes the sample programs built in a workspace of High-performance
Embedded Workshop.
In the sample programs are included the sample drivers for PWM output
and A/D-converter input.

4. How to Update Your Product

Even if you are using the previous version, please download the latest
version from web site and install it as long as you want to update it.
To download the latest version from web site, click the "Application
Notes and Sample code" link-menu on the left side of the product page of
M3S-DTMF-Tiny:
http://www.renesas.com/mw/dtmf
The above URL is that of our global site in English.