TOSHIBA Software IP For CISC Micro-controllers

TLCS-870/C
TLCS-900/L
Series

SWIP-V100/V101 Summary Sheet

Voice Compression

General

This product is a software component for embedded use of speech recording/ playback applications that are incorporated in the equipment using TLCS-870/-900 Series micro-controllers. In order to be adaptable to embedded systems, its ROM and RAM sizes are kept small with low CPU load for efficient application control. By using this product, the user can easily build a speech output interface in the equipment using the TLCS-870/-900 Series micro-controllers.

Features

- ◆High quality and simple algorism
- ◆Minimized memory requirements
- ◆Optimized for CISC micro-controllers

Applications

- ◆Household electrical appliances
- ◆Toys, Alarm Devices
- ◆Other products using TLCS-870/900 micro-controllers

Specification Table

Specifications	Contents / Date Of Available
Target MCU	TLCS-870/C, 900 Series
Codec	TOSHIBA Original Codec
Output	D/A Converter (Internal or External) or PWM
Operating System	None
Program Language	C (ANSI C: TOSHIBA C Compiler)
Resource Requirements	Encode and Decode : 300bytes(ROM), 10bytes(RAM) (In case of 870/C MCU)
Firmware	Available
Manual	Available
Demonstration Board	Available
Firmware Support	Available

Recommended MCU

*TMP86CS44U 8bit CISC MCU (ROM 60K, RAM 1K, A/D, D/A, 35 I/O Ports)
TMP86CM29F 8bit CISC MCU (ROM 32K, RAM 1.5K, A/D, 39 I/O Ports)

* Under Development

■Please refer to TOSHIBA Semiconductor Website http://www.semicon.toshiba.co.jp/eng/index.html

Sound Quality

The speech data ROM size and sound quality are compared below, based on the sampling frequency.

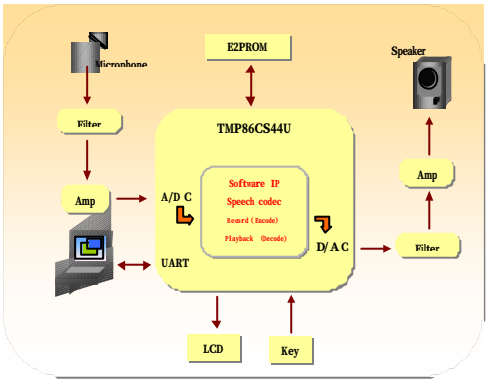
Sampling Frequency	ROM Space (Quantization only)	ROM Space (1/2 encode only)	ROM Space (1/2 + all encode)	Sound Quality
8 kHz	8 Kbytes/s	4 Kbytes/s	4 Kbytes/s or less	○
6 kHz	6 Kbytes/s	3 Kbytes/s	3 Kbytes/s or less	△
4 kHz	4 Kbytes/s	2 Kbytes/s	2 Kbytes/s or less	×

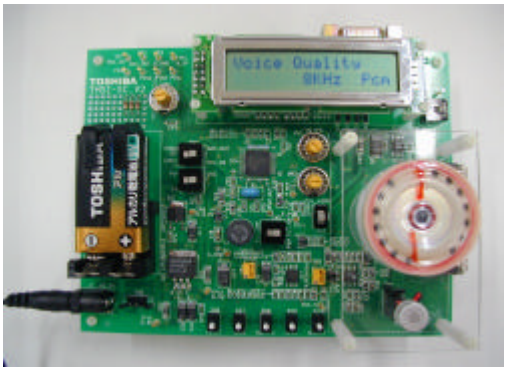
Operating Environment

The ROM/RAM sizes and CPU load (%) at embedded use of software are shown below. (@16MHz/870)

	ROM Space	RAM Space	CPU Load (%)
Encode software	200 bytes	10 bytes	50%
Decode software	150 bytes	8 bytes	30%
Encode/Decode	300 bytes	10 bytes	-

Demonstration Board





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