

## Voice Guidance LSI

### ■ Overview

The S1V3034x Series range of LSIs incorporates high-compression, high-quality audio decoding functions, audio data ROM, and DA converters, make it ideal for use in voice guidance products. The voice data creation tool for EPSON voice guidance LSI allows easy creation of high-quality voice data from text data without studio recording. Three audio data ROM sizes are available to suit specific needs. These LSIs allow audio data to be transferred from a host when additional audio data is required. All functions are controlled by commands via a serial interface for easy addition to any existing system incorporating a host. The S1V3034x series offers pin compatibility<sup>(\*)</sup> with the S1V3S344 and S1V3G340, facilitating substitution to suit system configurations.

The S1V3034x Series will help users reduce time-to-market for products incorporating built-in voice guidance functions.

\* S1V3S344 and S1V3G340 differs in external parts from S1V3034x series.

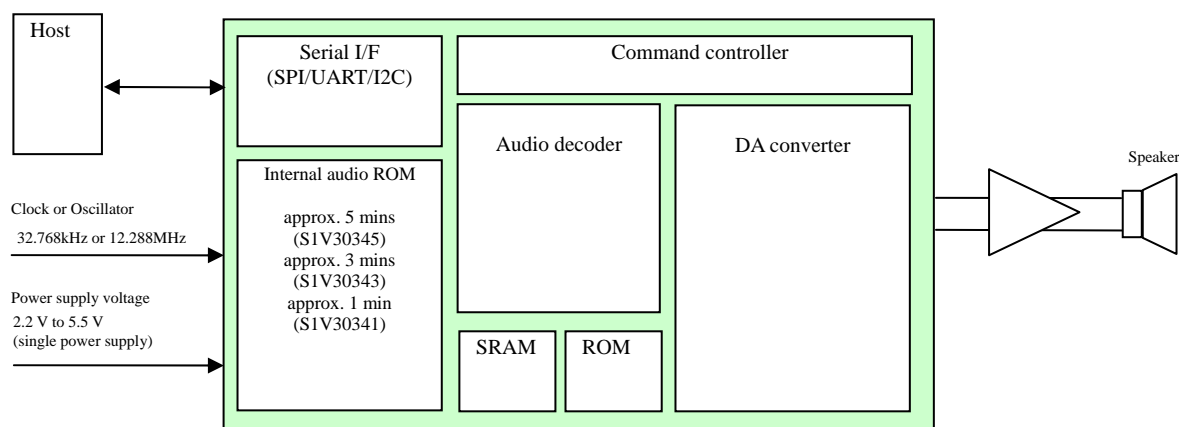
### ■ Features

- **Audio playback**
  - High-compression, high-quality audio decoder (proprietary Epson data format)
  - Bitrate: 40 kbps, 32 kbps, 24 kbps, 16 kbps
  - Sampling rate: 16 kHz
- **Sequencer function (phrase interval setting)**
  - Sequence setting for up to 64 phrases (unlimited combinations)
  - Variable phrase interval delay setting: 0 ms or 20 ms to 2,047 ms (in 1 ms steps)
- **Built-in audio data ROM**
  - The following areas are reserved internally for audio data.
    - S1V30345: 640 Kbytes (approx. 5 mins/16 kbps)
    - S1V30343: 384 Kbytes (approx. 3 mins/16 kbps)
    - S1V30341: 128 Kbytes (approx. 1 min/16 kbps)
- **Host interface**
  - Synchronized serial interface (SPI), supporting UART and I2C
  - Command control
- **High-quality 16-bit DA converter**
  - Sampling rate ( $f_s$ ): 16 kHz
  - Input bits: 16 bits
- **Clock**
  - Clock input: 32.768 kHz or 12.288 MHz
  - Crystal or ceramic oscillator: 32.768 kHz or 12.288 MHz
- **Package**
  - QFP-52pin (10 mm x 10 mm) 0.65 mm pin pitch
  - QFP-48pin (7 mm x 7 mm) 0.5 mm pin pitch
- **Power supply voltage**
  - 2.2 V to 5.5 V (Single power supply)

### ■ Standard application system

The S1V3034x Series standard application system is configured as shown in the diagram below. The S1V3034x Series is command-controlled by the host using a messaging protocol via the serial interface.

Controlled by commands sent from the host via the serial interface after power-on resetting, the S1V3034x Series outputs voice audio while internally decoding and processing internal or streamed (via host command transfer) compressed audio data.



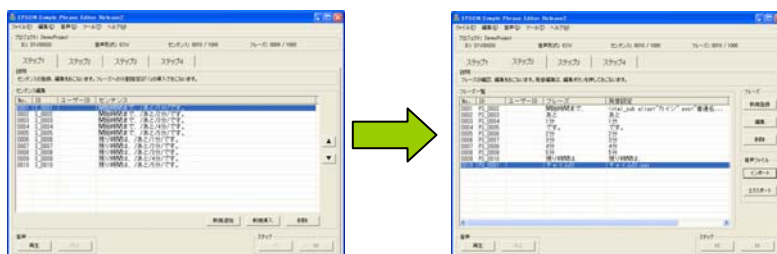
# S1V30345/343/341

## ■ Development Tools

- Evaluation board
- Voice data creation tool for EPSON voice guidance LSI<sup>\*1</sup>
- Sample programs

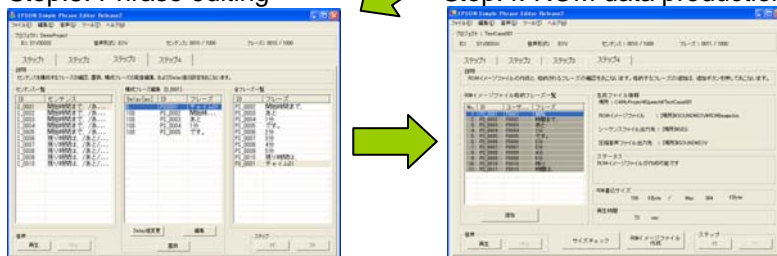
[Overview of voice data creation tool]

Step.1: Voice guidance registration    Step.2: Pronunciation editing



Step.3: Phrase editing

Step.4: ROM data production



- Supported languages: Japanese, English, Korean (all female voices)  
In planning stage : Spanish, Chinese

<sup>\*1</sup> The audio data creation tool uses PENTAX "VoiceText" voice synthesis technology. "VoiceText" is a registered trademark of Voiceware Co., Ltd. Companies and product names included here are registered trademarks or trademarks.

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