

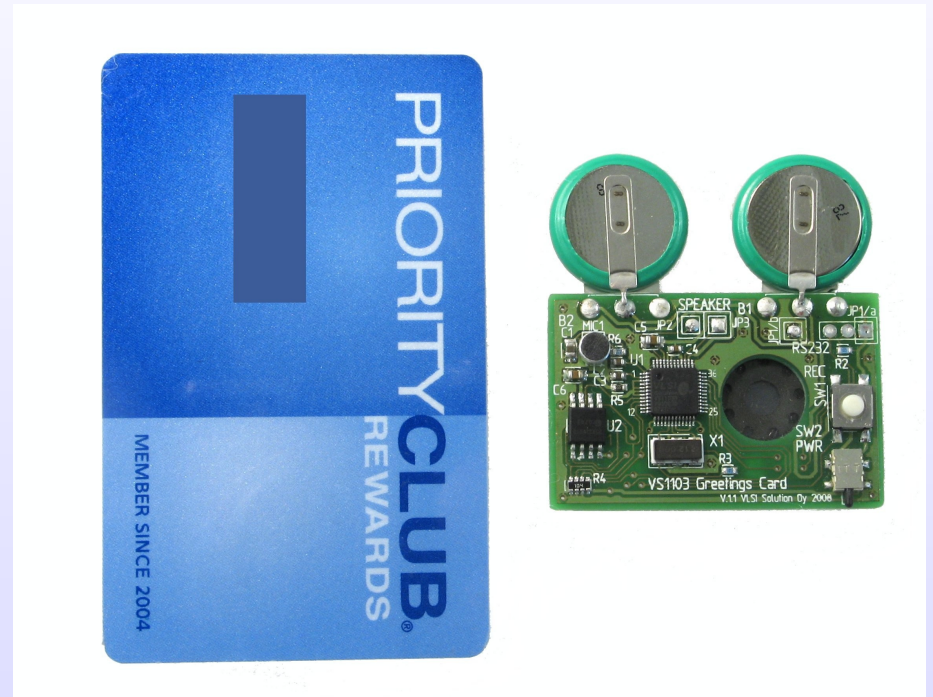


VS1103 Greeting Card Application

ver. 1.3 / October 2008

Overview

- Recording of high quality greeting
- Re-recording as many times as needed
- Recording/playing by using pre-programmed MIDI melodies as background
- Talking card automatically plays the message as long as activated (cover opened or button pressed)
- Less than credit card size



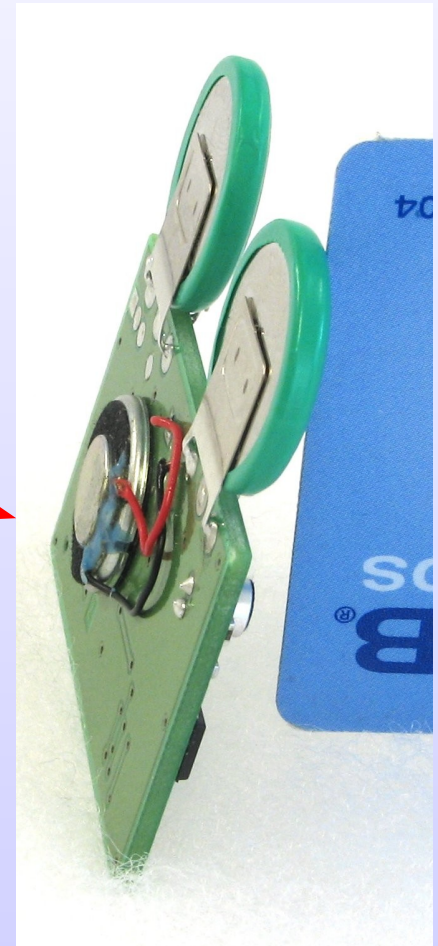
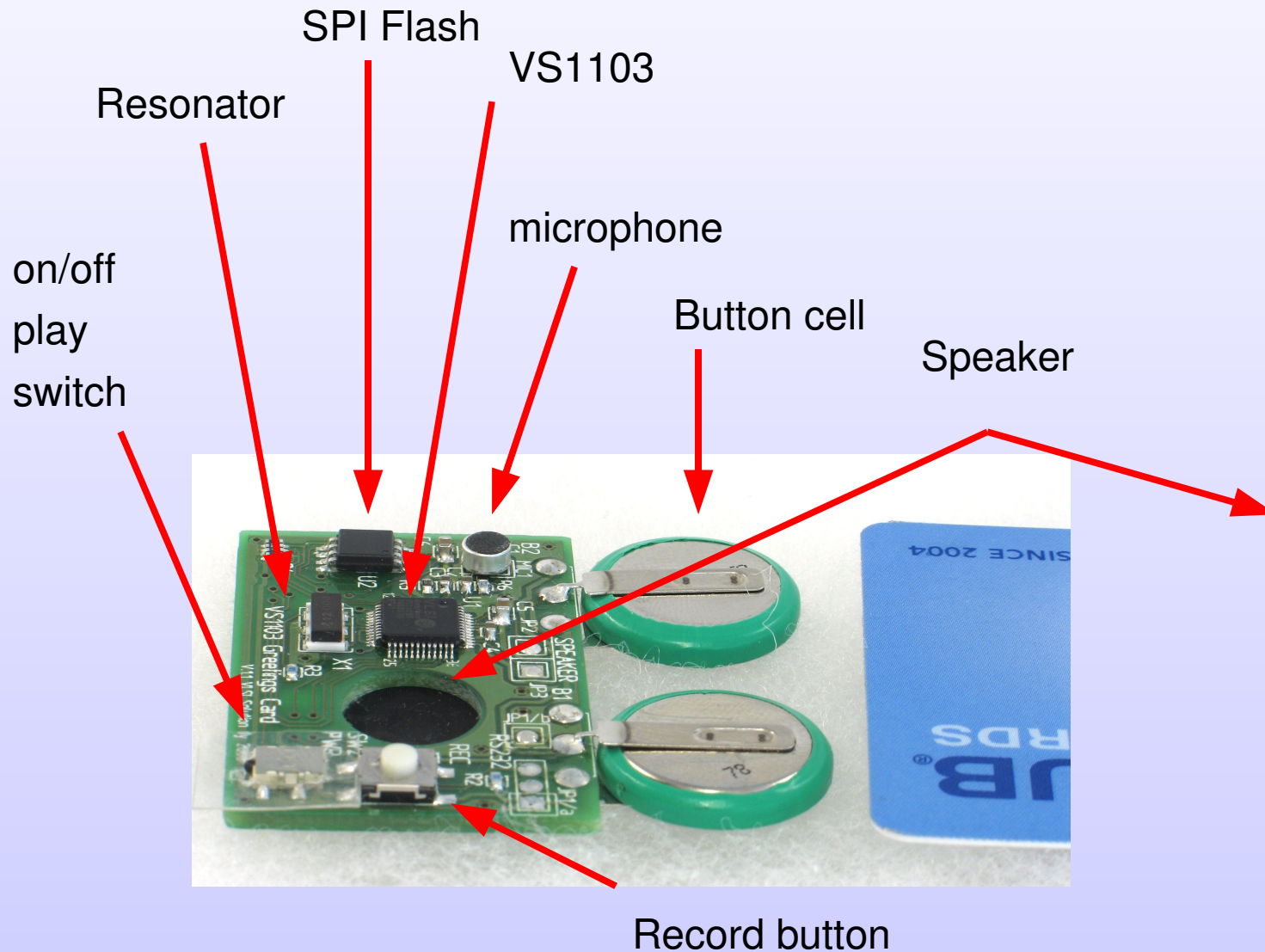
Applications

- Picture frame
- Greeting cards
- Car key chains
- Simple toys
- Medical pill bottle
- Refrigerator magnets
- Tone generators
- Fixed playback Voice Memo recorder
- Door Bells, fixed melody
- Religious Chants, fixed playback
- Smoke and fire alarms



<http://www.freedigitalphotos.net/>

What's inside?



Features

Scalable system

- Sample rate (FS) = $\text{XTAL} / 512$
- Bit rate (BR) = $(\text{XTAL} / 12.288 \text{ MHz}) * 97.33 \text{ kBit/s}$
- Playback time (PT) = $(\text{FlashSizeInKb} - 64) * 8192 / \text{BR}$
- For example XTAL = 6 MHz
 - => FS = 11.7 kHz, BR = 47.5 kbits/s
 - => 256kByte SPI Flash will play
 - $(262144 - 65536) * 8 / 47500 = 33 \text{ seconds}$

Customization

- Firmware loaded from Flash during boot

Features (cont)

Smart recording AGC

- Distance to microphone up to 1.5 meters

Good audio quality

- High quality IMA ADPCM recording

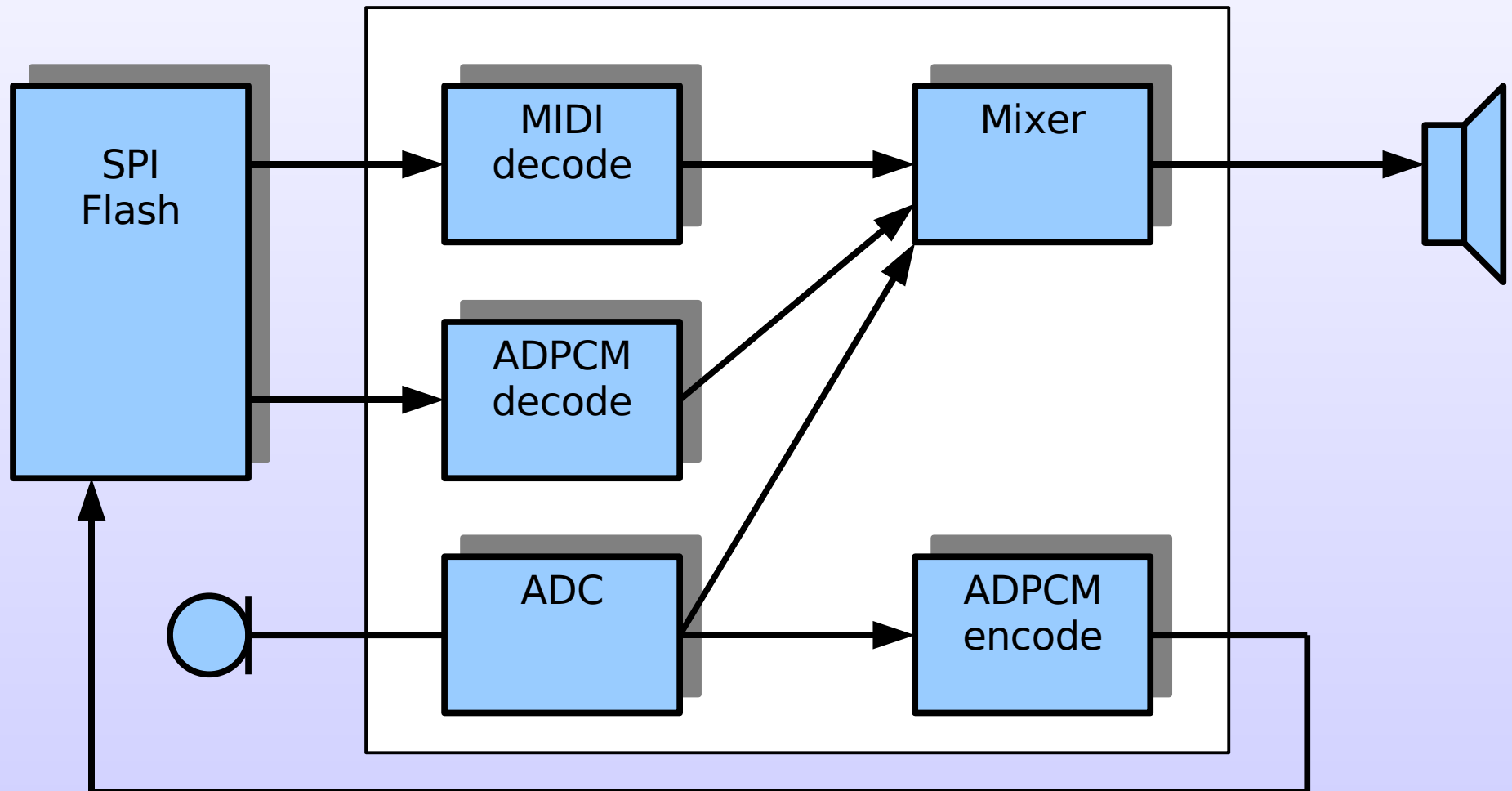
Long play time

- 4-5 hours by using 2 x CR2032

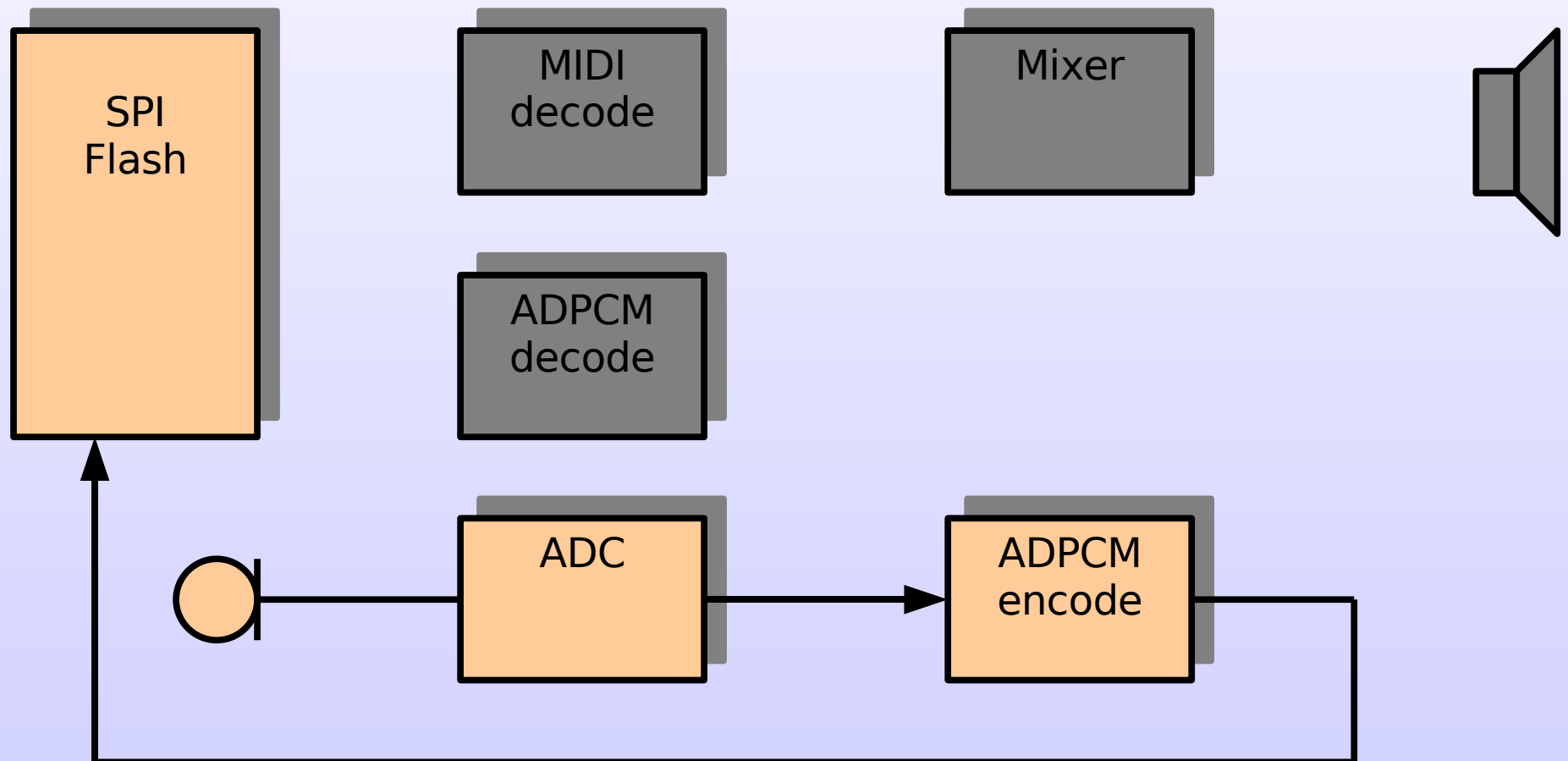
Low BOM

- Below 2 USD

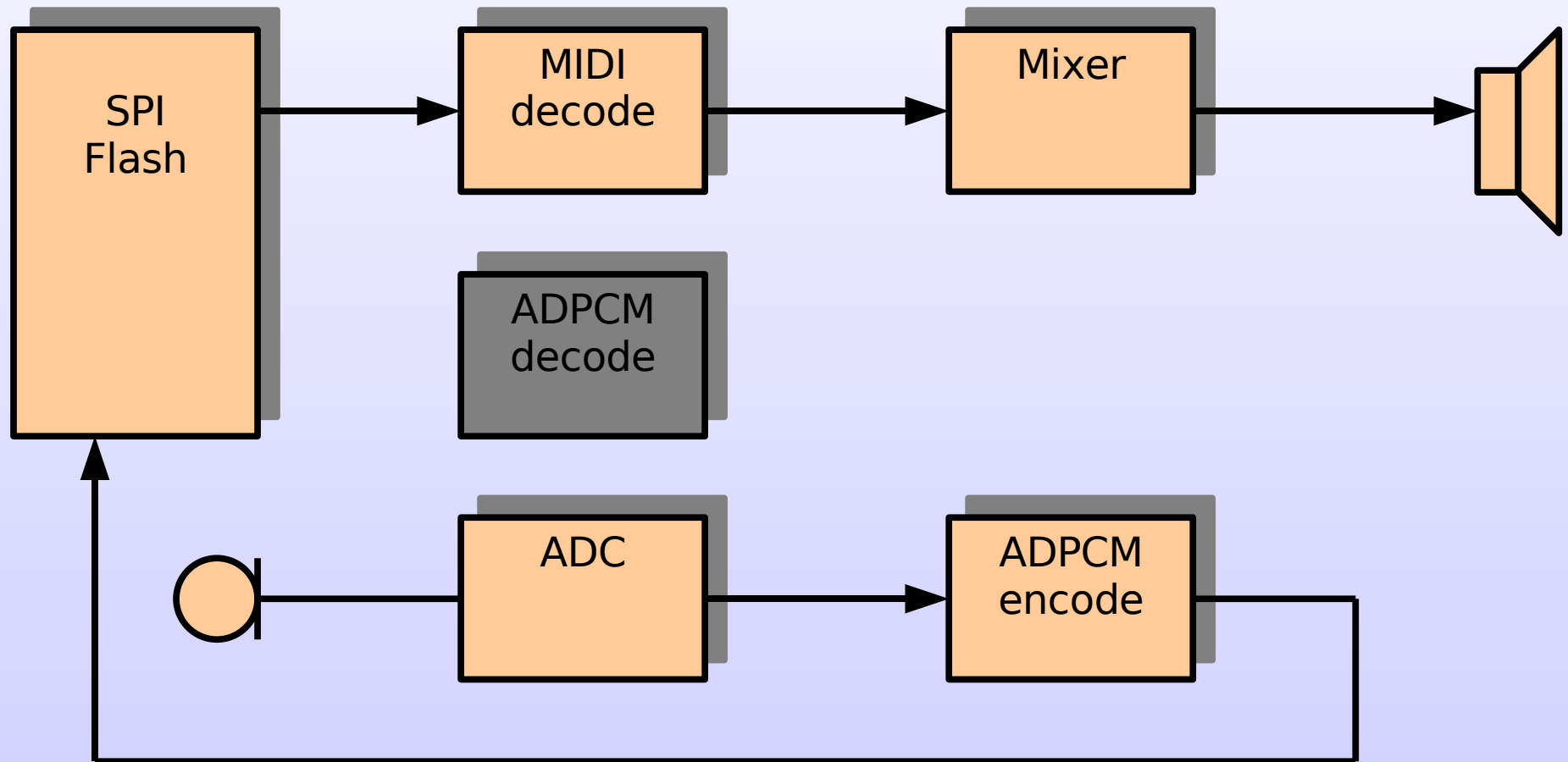
VS1103 device



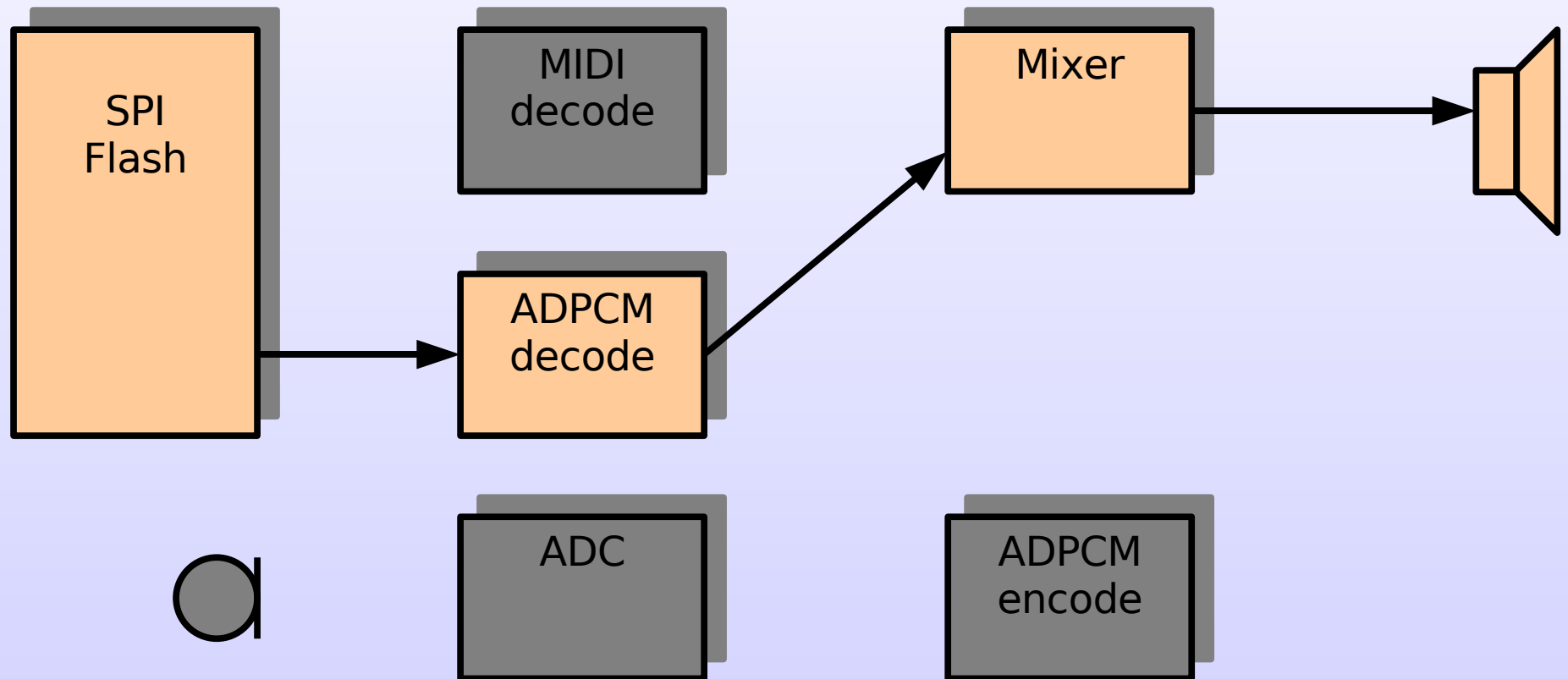
Recording



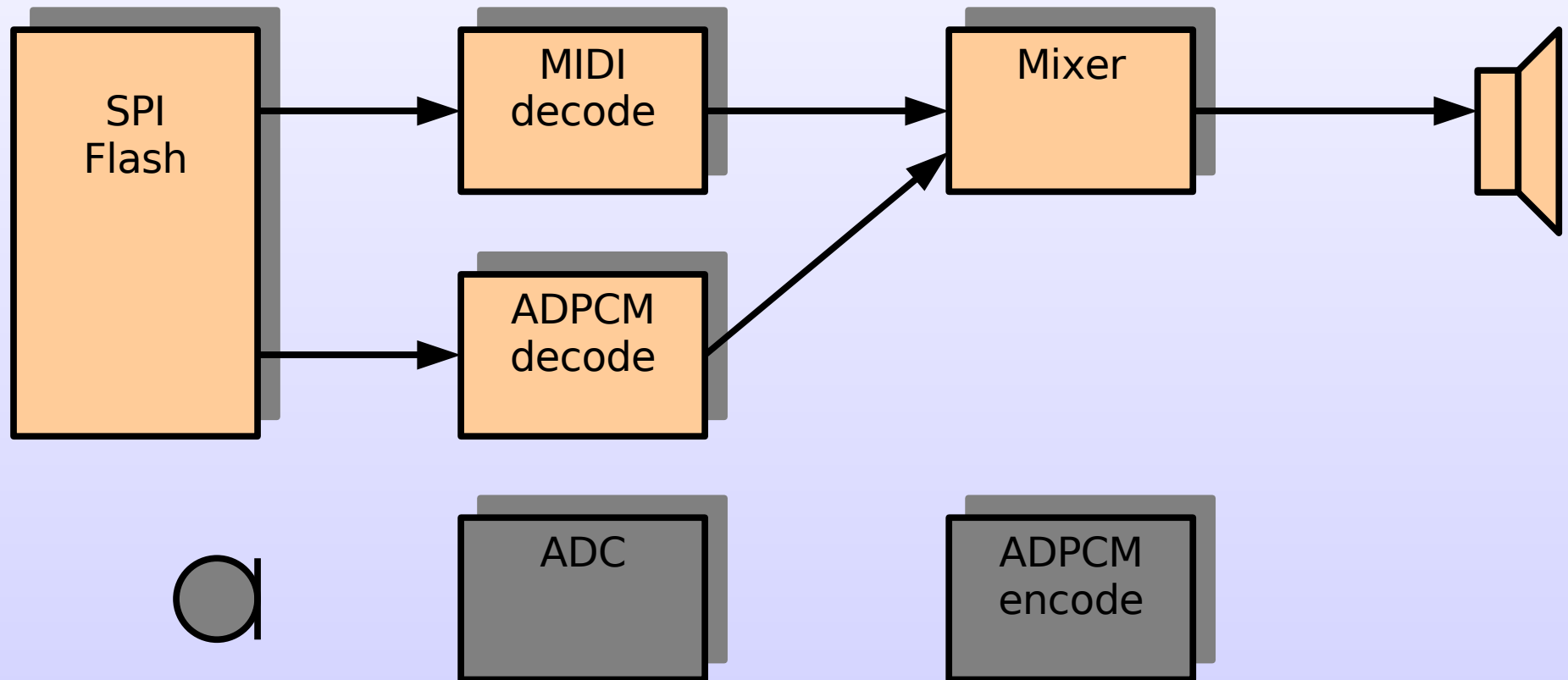
Recording with background MIDI melody



Playback



Playback with background MIDI melody



Features of VS1103 device

- Low noise microphone input (62 dB SNR)
- 16-bit ADC
- 18-bit stereo DAC (>90 dB SNR)
- Low power consumption
- Can be powered from single 2.5-3.0V supply
- Customization RAM
- MIDI support for very low bit rate melody
- Can be controlled by host processor via SPI, UART or IO pins

Summary of VS1103 Greeting Card

- Good audio quality
- Robust recording
- Three flavors of operation
 - Classic: Record, and play
 - Karaoke: Record with MIDI background, play the sum
 - Entertain: Record, play with MIDI background
- Fully customizable
- Scalable

Do you have customization requirements?

Our support will help you

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