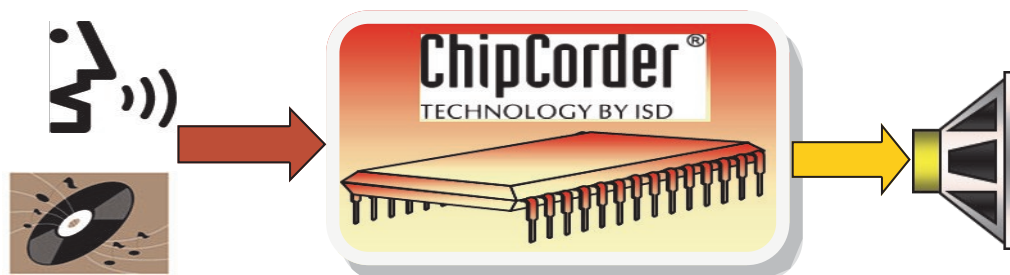


Single Chip
Record/ Play-
back Devices

6 sec to 64 min
Audio storage
Capacity .

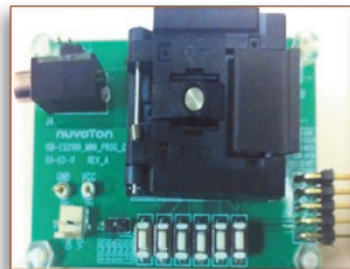
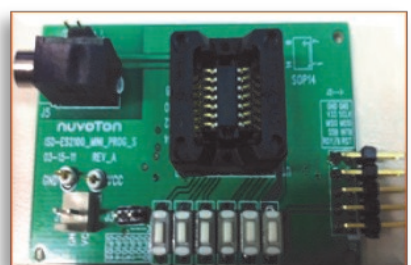
What is ChipCorder

- ⇒ A voice/audio re-producer – Used in many applications as **Audio/voice feedback**
- ⇒ A highly integrated voice/audio SOC – Complete single chip solution with integrated analog components such as Mic pre- amps and Speaker drivers. **Time-To-Market and Best BOM cost**
- ⇒ **Non-volatile storage**



Applications Support : Chipcorder@nuvoton.com

Development tools ISD2360-DMK



Single socket programming adapter
ISD-ES2360_Mini_PROG_
SOP16 or QFN 32

Nuvoton Technology America
2727 N First Street
San Jose CA 95134
408-544-1743

nuvoton

Exploring Nuvoton Digital ChipCorder ISD2360

The ISD2360 is a **3-channel digital** ChipCorder providing single-chip storage and playback of high quality audio. The device features digital de-compression, comprehensive memory management, flash storage, integrated audio signal path with up to 3 channel concurrent playback and Class D speaker driver capable of delivering power of 1W. This family utilizes flash memory to provide non-volatile audio playback with duration up to 64 seconds (based on 8 kHz/4bit ADPCM compression) for a single-chip audio playback solution. The ISD2360 can be controlled and programmed through an SPI serial interface or operated stand-alone by triggers applied to the device's six GPIO pins.

The ISD2360 requires no external clock sources or components except a speaker to deliver quality audio prompts or sound effects to enhance user interfaces.

Advantages

- ⇒ Single-chip factory and field recordable Audio storage
- ⇒ Immediate response with extremely low standby current
- ⇒ Simple GPIO interface to any touch sense controllers
- ⇒ programmable Audio clips
- ⇒ activated by GPIOs

APPLICATIONS

Industrial/Medical

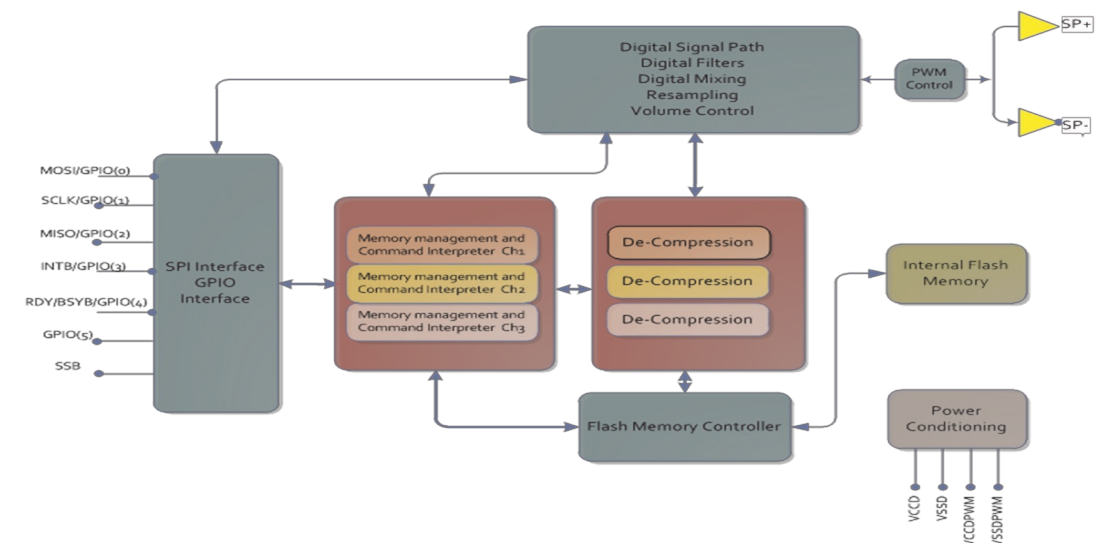
Portable personal medical meters
Security keypad panels
White Goods
Instrumentations

Automotive

Metro bus announcement

Consumer

Downloadable audio photo frames
Toys
Greeting Cards



ISD2360

Ideal for real time downloadable sound files for, factory products, corporate sound logo, audio feedback in touch sensing systems

Home Appliances
Customers sound logo is going to make the brand not only visually, but also acoustically distinctive, and thus more quickly recognizable

Practical answers to common questions about the product can be stored in on-chip memory for multi language products. Reducing customer service involvement

ISD2360 Voice/Audio Digital ChipCorder® featuring Multi Channel Mixing delivers highly integrated single chip solution ideal for wide range of voice/audio applications in industrial and consumer markets

New features

- Multi-channel: 3-channel mixing playback
- GPIO parallel processing: Support dynamic change on GPIO output while the chip is in playback
- 64Sec Audio Storage @8khz
- Wide operating voltage (2.4V-5.5v)
- Class D Speaker driver 1W power at 5V

ISD2360 – 64 seconds based on 8kHz/4bit ADPCM in 2Mbit of flash storage (256KB)

Audio Management

Store pre-recorded audio (**Voice Prompts**) using high quality digital compression

Use simple index based command for playback – no address needed.

Execute pre-programmed macro scripts (**Voice Macros**) designed to control the configuration of the device and playback Voice Prompts sequences.

Up to 3 channel audio streaming can be mixed and played back concurrently

Mask Jump allows branch execution depending on internal register or external GPIO pin status Control

Serial SPI interface for microprocessor control and programming.

Stand-alone control where customized Voice Macro scripts are assigned to GPIO trigger pins.

Oscillator

Internal oscillator with internal reference: factory trimmed to $\pm 1\%$ deviation at room temperature.

Output

PWM: Class D speaker driver to direct drive an 8Ω speaker or buzzer.

Delivers **1W** at 5V supply

Flash Storage

2Mbit of storage for combined audio/data.

Fast programming time (20 μ s/byte)

Operating Voltage: 2.4-5.5V

Package:

green, QFN32 and SOP-16

Temperature Options: Industrial:

-40°C to 85°C

ChipCorder - Audio Interface



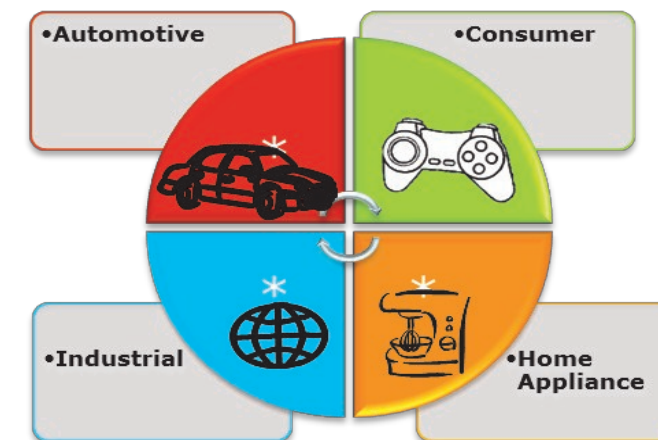
Audio/voice alerts



HMI



Gaming headset



Wall oven



Cook top



Smoke/CO detector



Security panel



Intercom, entrance control

