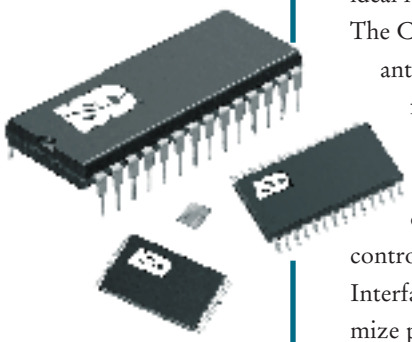
ChipCorder®

Product Brief

ISD33000 Series

Single-Chip Voice Record/Playback Devices
60-, 75-, 90- and 120-Second Durations and 2-, 2.5-, 3- and 4-Minute Durations



The ISD33000 ChipCorder® Series provides high-quality, 3-volt, single-chip record/playback solutions for 1- to 4-minute messaging applications which are ideal for cellular phones and other portable products. The CMOS devices include an on-chip oscillator, antialiasing filter, smoothing filter, AutoMute® feature, audio amplifier and high density, multilevel storage array. The ISD33000 series is designed to be used in a microprocessor- or microcontroller-based system. Address and control are accomplished through a Serial Peripheral Interface (SPI) or Microwire serial interface to minimize pin count.

Recordings are stored in on-chip nonvolatile memory cells, providing zero-power message storage. This unique, single-chip solution is made possible through ISD's patented multilevel storage technology. Voice and audio signals are stored directly into memory in their natural form, providing high-quality, solid-state voice reproduction.

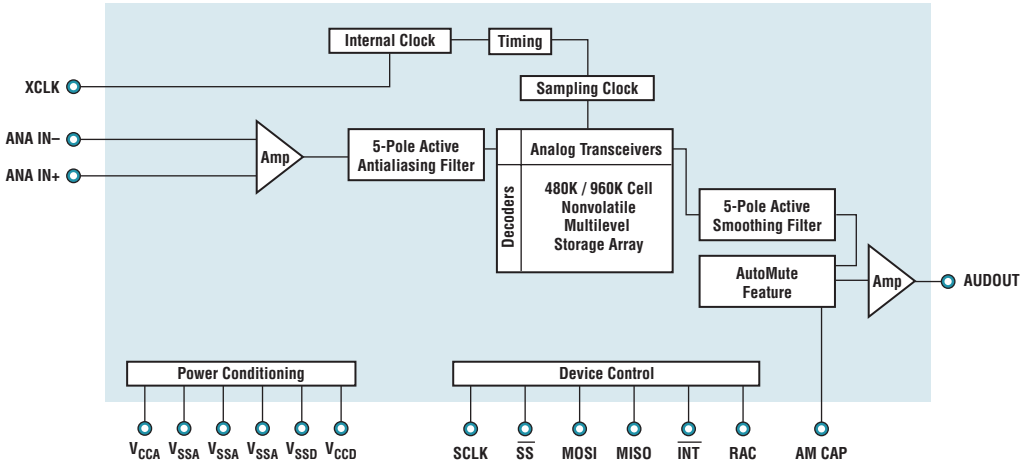
ISD33000 SERIES CAN BE USED IN VARIOUS APPLICATIONS:

- Cellular phones
- Personal Digital Recorders (PDR)
- Automotive
- Personal Digital Assistants (PDA)

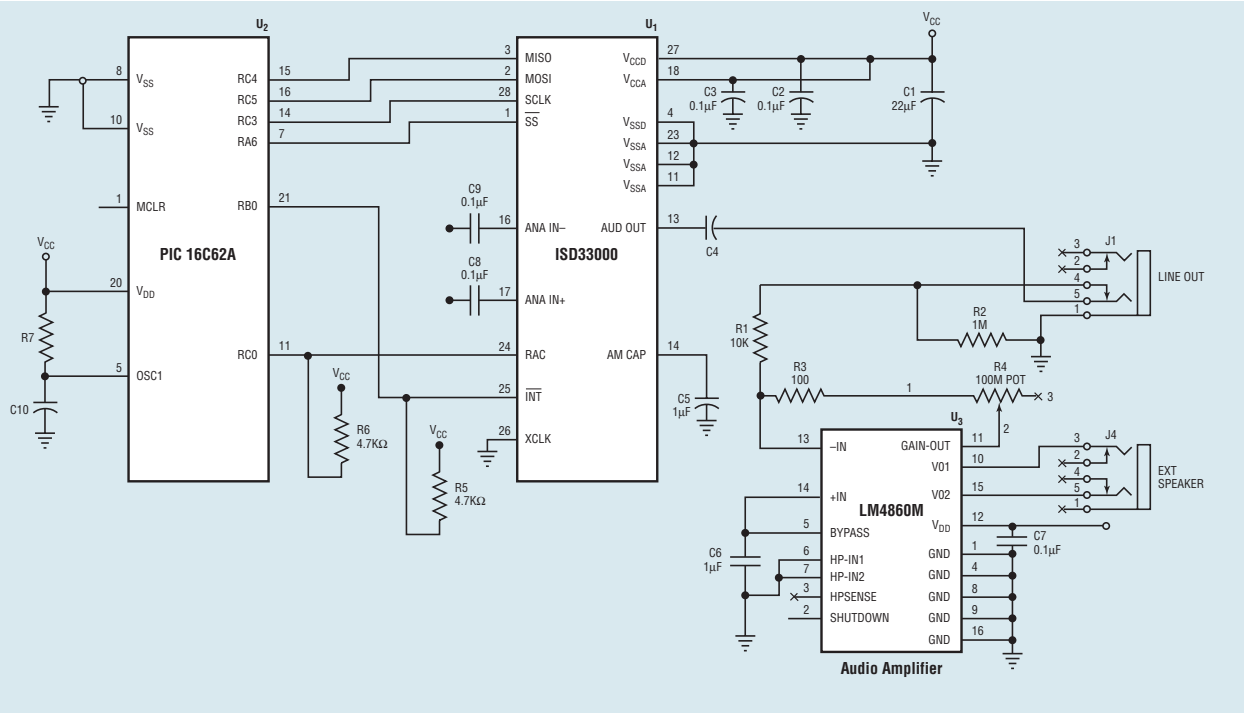
FEATURES

- Single-chip voice record/playback solution
- Single +3 volt supply
- Low-power consumption
- Operating current:
  I_{CC} Play = 25 mA (typical)
  I_{CC} Rec = 30 mA (typical)
- Standby current 1 µA (typical)
- Single-chip durations of 60, 75, 90 and 120 seconds; 2, 2.5, 3 and 4 minutes
- High-quality, natural voice/audio reproduction
- AutoMute feature provides background noise attenuation during periods of silence
- No algorithm development required
- Microcontroller SPI or Microwire serial interface
- Fully addressable to handle multiple messages
- Nonvolatile message storage
- Power consumption controlled by SPI or microwire control register
- 100-year message retention (typical)
- 100,000 record cycles (typical)
- On-chip clock source
- Available in die form, PDIP, SOIC and TSOP packaging
- Extended temperature (–20°C to +70°C) and industrial temperature (–40°C to +85°C) versions available

ISD33000 SERIES BLOCK DIAGRAM



ISD33000 SERIES APPLICATION EXAMPLE



ISD33000 SERIES PACKAGE AND TEMPERATURE AVAILABILITY	ISD33060 (60 Seconds), ISD33075 (75 Seconds) ISD33090 (90 Seconds), ISD33120 (2 Minutes) ISD33150 (2.5 Minutes), ISD33180 (3 Minutes)				ISD33120-4 (120 Seconds)				ISD33240 (4 Minutes)			
	TSOP	PDIP	SOIC	DIE	TSOP	PDIP	SOIC	DIE	TSOP	PDIP	SOIC	DIE
Commercial Die (0° to +50°)				●				●				●
Commercial Packaged (0° to +70°)	●	●	●		●				●	●	●	
Extended (–20° to +70°)	●	●	●									
Industrial (–40° to +85°)	●	●	●						●			

ORDERING THE ISD33000 PRODUCTS

ISD33 ___ ___ - ___ ___

Product Series

ISD33000 Series

Duration

060 = 60 sec.
075 = 75 sec.
090 = 90 sec.
120-4 = 120 sec.
120 = 2.0 min.
150 = 2.5 min.
180 = 3.0 min.
240 = 4.0 min.

Package Type

E = 28 Lead 8 × 14.4mm TSOP
P = 28 Lead 0.600-inch PDIP
S = 28 Lead 0.300-inch SOIC
X = Die

Special Temperature Field

Blank = Commercial Die (0°C to +50°C) or Commercial Packaged (0°C to +70°C)
D = Extended (–20°C to +70°C)
I = Industrial (–40°C to +85°C)

PRODUCT SUMMARY

Duration	*Input Sample Rate (KHz)*	*Typical Filter Pass Band (KHZ)*
060 = 60 sec.	8.0	3.4
075 = 75 sec.	6.4	2.7
090 = 90 sec.	5.3	2.3
120-4 = 120 sec.	4.0	1.7
120 = 2.0 min.	8.0	3.4
150 = 2.5 min.	6.4	2.7
180 = 3.0 min.	5.3	2.3
240 = 4.0 min.	4.0	1.7

A Winbond Company

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