The ISD2500 ChipCorder® Series provides high-quality, single-chip record/playback solutions for 32- to 120-second messaging applications. The CMOS devices include an on-chip oscillator, microphone preamplifier, automatic gain control, antialiasing filter, smoothing filter, speaker amplifier and high density multilevel storage array. In addition, the ISD2500 is microcontroller compatible, allowing complex messaging and addressing to be achieved.

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.

**FEATURES**

- Easy-to-use single-chip voice record/playback solution
- High-quality, natural voice/audio reproduction
- Manual switch or microcontroller compatible playback can be edge- or level-activated
- Single-chip durations of 32, 40, 48, 64, 60, 75, 90, and 120 seconds
- Directly cascadeable for longer durations
- Automatic Power-Down (Push-Button Mode)
- Standby current 1μA (typical)
- Zero-power message storage
- Eliminates battery backup circuits
- Fully addressable to handle multiple messages
- 100-year message retention (typical)
- 100,000 record cycles (typical)
- On-chip clock source
- Programmer support for play-only applications
- Single +5 volt power supply
- Available in die form, PDIP, SOIC and TSOP packaging
- Industrial temperature (−40°C to +85°C) versions available

**ISD2500 SERIES CAN BE USED IN VARIOUS APPLICATIONS:**

- Personal message recorders
- Medical applications
- Caller ID systems
- Point of sale displays
- Announcement systems
- Toys
- Pagers
- Car stereos
- Security systems

**ISD2500 SERIES BLOCK DIAGRAM**

[Block diagram of ISD2500 series components including XCLK, ANA IN, ANA OUT, MIC, MIC REF, AGC, Power Conditioning, Address Buffers, Device Control, Internal Clock, Timing, Sampling Clock, 5-Pole Active Antialiasing Filter, Analog Transceivers, 256K / 480K Cell, Nonvolatile Multilevel Storage Array, Automatic Gain Control (AGC), Preamp, Amp, SP+, SP-, AUX IN.]
### ISD2500 Series Application Example

![Diagram of ISD2500 circuit](image)

### ISD2500 Series Package and Temperature Availability

<table>
<thead>
<tr>
<th>Product Series</th>
<th>Duration</th>
<th>Package Type</th>
<th>Special Temperature Field</th>
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<tbody>
<tr>
<td>ISD2532 (32 Seconds)</td>
<td>ISD2540 (40 Seconds)</td>
<td>ISD2548 (48 Seconds)</td>
<td>ISD2564 (64 Seconds)</td>
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<tr>
<td>TSOP</td>
<td>PDIP</td>
<td>SOIC</td>
<td>DIE</td>
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<tr>
<td>Commercial Die</td>
<td>(0° to +50°C)</td>
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<tr>
<td>Commercial Packaged</td>
<td>(0° to +70°C)</td>
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<tr>
<td>Industrial</td>
<td>(-40° to +85°C)</td>
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<tr>
<td>ISD2560 (60 Seconds)</td>
<td>ISD2575 (75 Seconds)</td>
<td>ISD2590 (90 Seconds)</td>
<td>ISD25120 (120 Seconds)</td>
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<td>(0° to +70°C)</td>
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</tr>
</tbody>
</table>

### Ordering the ISD2500 Products

**Product Series**

- ISD2500 Series

**Duration**

- 32 = 32 seconds
- 40 = 40 seconds
- 48 = 48 seconds
- 64 = 64 seconds
- 60 = 60 seconds
- 75 = 75 seconds
- 90 = 90 seconds
- 120 = 120 seconds

**Package Type**

- E = 28 Lead 8 x 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)
- I = Industrial (-40°C to +85°C)
- Commercial Packaged (0°C to +70°C)

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**To Order Products or More Information:**

**Address**

2727 N. First Street
San Jose, CA 95134

**Phone**

1-800-677-0769 (US Only)
408-943-6666
408-544-1786 (Fax)

**Website**

www.isd.com

**Email**

info@isd.com