

ATMEL DREAM[®] SINGLE-CHIP SOLUTIONS FOR SOUND SYNTHESIS AND PROCESSING

*When sound quality counts ...
... count on Atmel*



Image: Postscriptum

Atmel's market-leading Dream SAM97XX family of sound synthesis and processing ICs is ideal for:

- Electronic Musical Instruments
- Karaoke
- PC-Audio Cards
- Arcade Games
- Gaming Equipment
- Sound Effect Devices

Dream SAM97XX sound processors feature:

- High-quality wavetable synthesis with up to 128-voice polyphony
- Effects including reverb, chorus, equalizer and surround on 2 or 4 speakers
- Built-in MIDI control processor
- One comprehensive set of development tools for the entire product line
- High-quality sound sets including GS[®]-compatible sets with express permission of Roland[®] Corporation
- Wide supply voltage range: 3V to 4.5V core, 3V to 5.5V periphery
- Single low-frequency clock



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Atmel's extensive range of Dream SAM97XX sound processing ICs covers the entire spectrum of applications from entry-level to professional-quality sound synthesizers. Models are available to create a sound studio, a complete MIDI sound system, as well as for mobile phones and Internet appliances. Evaluation boards and demonstration software are available for most models.

Sound Synthesizers

The **SAM9713** is a powerful low-cost sound synthesizer. It provides state-of-the-art synthesis for best quality/price ratio products.

Typical applications include cost-sensitive portable or Karaoke and effects devices.

The **SAM9733** is a single-chip wavetable synthesizer with effects. Typical applications are PC wavetable daughterboards, computer-based or portable Karaoke systems, keyboards or portable keyboard-based instruments.

The **SAM9703** is a powerful professional sound synthesizer. Its all-in-one design includes a MIDI control processor and a DSP for synthesis. It provides up to 48-voice polyphony plus effects. Typical applications are Karaoke devices and musical instruments.

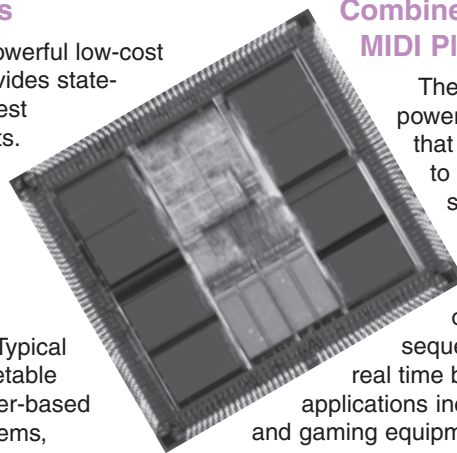
The **SAM9708** is a top-of-the-line synthesizer IC that provides up to 128 polyphonic voices. Typical applications are professional Karaoke devices, high-end multimedia systems, classical organs, digital pianos, professional keyboards and musical samplers.

MIDI Sound System

The **SAM9773/93** single-chip synthesizer with effects provides a complete MIDI sound system, only an external DAC is required. State-of-the-art synthesis for the best quality/price point is provided with 38-voice polyphony and effects. Typical applications are cost-sensitive PC wavetable synthesis, portable or VCD Karaoke.

Sound Studio

The **SAM9707** provides a complete single-chip sound studio. Its high performance is due to its unique architecture with a RISC structure for sound synthesis/processing and a CISC structure for host communication and house-keeping. Typical applications are high-end multimedia, professional keyboards, and musical samplers.



Atmel provides single-chip solutions for the entire range of sound systems

Combined ADPCM and MIDI Player

The **SAM9723** is a powerful sound processor that plays 16 tracks (up to 64 Voices) simultaneously. Each track can play either a PCM/ADPCM sample or a MIDI musical sequence performed in real time by the DSP. Typical applications include arcade games and gaming equipment.

Integrated Processor-plus-Memory Systems

The **SAM9743** integrates into a single chip a SAM97XX core, Flash and RAM memories, and up to 64 individually programmable I/O pins. It can be used in a variety of musical or sound processing applications, like low-cost keyboards, equalizers or effect processors.

The **SAM9753** integrates into a single chip a SAM97XX core, a RAM, an LCD display interface and a scanner allowing direct connection to velocity-sensitive keyboards. It forms the basic building block for a complete low-cost musical instrument. Typical applications include digital pianos and keyboard instruments.

Mobile Phones and Internet Appliances

The **SAM9755** is designed for mobile phones and Internet applications. It integrates into a single chip a SAM97XX core, a RAM block and glue logic. Its CGBA 100 package provides the smallest available footprint. A complete MIDI sound unit can be built, including reverb and chorus effects, parametric equalizer and surround effects.

PC Audio Systems

The **SAM9777** PCI Audio Accelerator provides high-performance DirectSound™ or Direct3Dsound™ operation by direct access to audio data as a PCI master. Typical applications are PC-Audio systems and sound systems which use PC platforms.

