

Whether you need your product to say a few words or talk for several minutes, Sensory's **SC-6x** speech and music processors can deliver a few seconds to several hours of speech.

Every Sensory speech product is made with your design in mind. Efficient technology allows you to cut costs and size by using smaller and fewer devices. A complete range of development tools and software helps you get your products to market faster.

POWERFUL TECHNOLOGY

The SC-6x product family introduces a new world of speech synthesis opportunities. This family is built around a 12.32 million instructions per second (MIPS) Digital Signal Processor (DSP) to enable advanced speech algorithms, yielding speech quality never before obtained at such low data rates.



These DSPs provide three low-power modes, two timer interrupts, one DAC interrupt and five general-purpose interrupts. These features increase battery life and speed of response to button and keyboard presses.

Sensory SC-6x employs three processing methods - CX, MX, LPC - that produce natural sounding speech while using a relatively small amount of memory. Your product's quality will speak for itself.

If your product needs music, Sensory offers several choices, including simultaneous speech with high quality polyphonic music.

A RANGE OF CHOICES

Not only can you choose the optimum combination of price and capacity, you can adopt any of these digital storage alternatives: On-chip mask programmable ROM, External memory (SC-614 only).

TYPES OF SYNTHESIS

Memory Required per Minute of Speech (KB)		
Data Rate Kbps		
CX synthesis is your solution for producing long durations of great speech and sound effects at the lowest possible system cost. MX offers data rates as low as 1K bits-per-second, yielding high quality speech with minimal development effort.	3.0~11.2	22.5~84.0
MX synthesis provides optimal speech and sound effects. Its highly sophisticated analysis can reproduce the subtle qualities of a broad range of character voices. CX offers up to six choices of data rates to help you optimize speech quality and memory cost.	1.0~3.5	7.5~26.2
LPC is mathematically simpler than MX or CX, requiring less processing power but more editing.	1.8	13.5

Music Synthesis Sensory also provides a way to enhance your products with high quality music synthesis. Sensory's music synthesizer provides polyphonic music using standard Musical Instrument Digital Interface (MIDI) files that have been converted into compact bitstreams. This gives the ability to play up to 14 channels of music.

Music + Speech The music synthesizer can also play polyphonic music simultaneously with speech (MX or CX), adding even more excitement to your products.



SC-6X FAMILY

SC-601

The SC-601 has a 1.5 Mb ROM to support up to 24 minutes of internally-stored MX speech or up to 8 minutes of CX speech.

SC-604

The SC-604 contains the same powerful core, ROM and RAM as the other SC-6xx devices, but has a reduced I/O set and pin count which makes it the most economical of the SC-6x family members.

SC-605

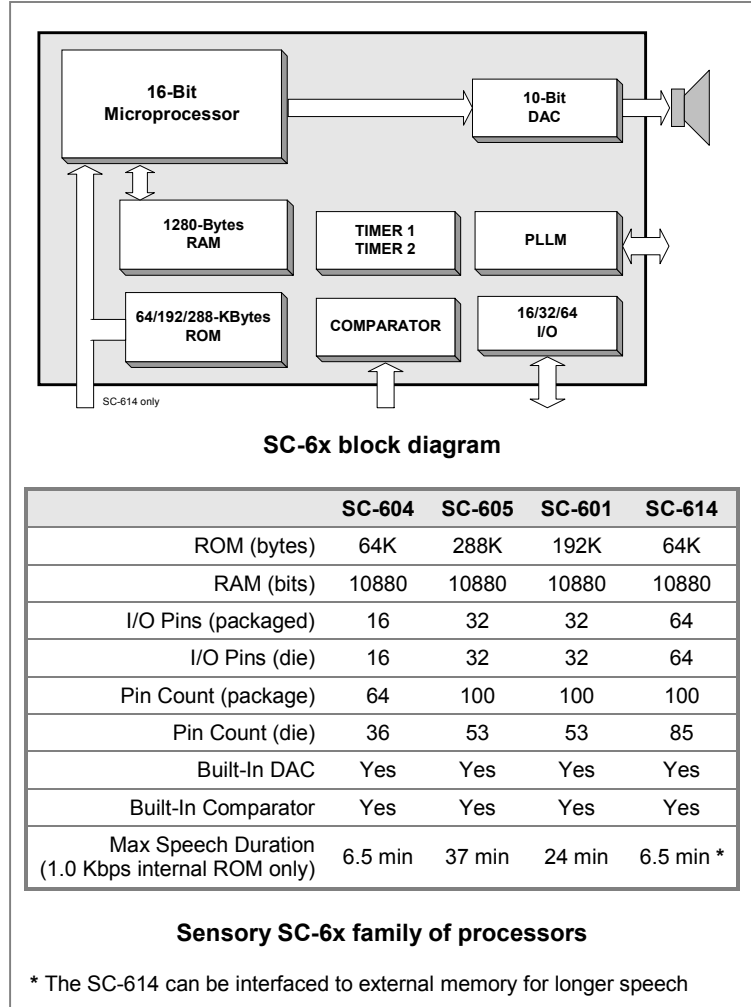
The SC-605 has a 2.36 Mb (288 KB) ROM to support up to 37 minutes of internally-stored MX speech or up to 12 minutes of CX speech. This device is a perfect one-chip system solution, functioning as master controller, speech processor, and data memory.

SC-614

The SC-614 expands the capability of the SC-6x family by incorporating 64 I/O pins for interfacing with the outside world. It can also address up to 64 Mb of external memory, providing over 18 hours of speech duration!

SC-691

The SC-691 is a pre-programmed slave synthesizer implemented on the SC-6xx family line that accepts commands and compressed speech data from other microprocessors or microcontrollers and converts it to speech output. Since no SC-6x programming knowledge is needed, this is the simplest SC-6x family member to develop with.



DEVELOPMENT TOOLS

Along with a complete line of speech products, Sensory offers tools for code development and speech editing. The software development process and speech editing can take place simultaneously, reducing product development time and gets your product to market faster.

When software development and speech editing are complete, a speech emulation system lets you verify that everything sounds great before going into production.

