

# SHARCAudio

**SHARC module with 200/266MHz ADSP-2147x dual-channel HQ audio & S/PDIF interfaces**

The **SHARCAudio** module is a very small, low-cost, audio processor system which can be operated in stand-alone or embedded applications. It comes with a powerful 200MHz (266MHz optional) SHARC DSP and a 24-bit stereo audio codec (> 100dB dynamic range) with line-in and line-out channels, an S/PDIF interface, I<sup>2</sup>C, UART and SPI for best connectivity.

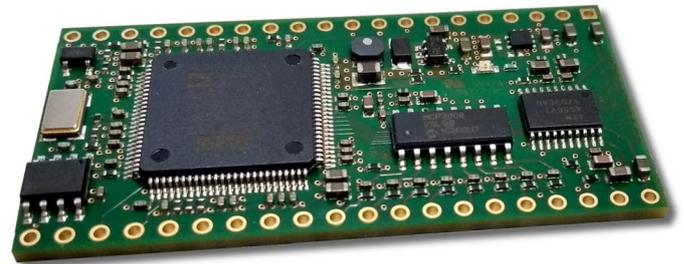
The system was designed for use in high-end sound processing applications such as equalizers, feedback suppressors, limiters, effect processors, exciters and other studio and stage applications.

An auxiliary 8-channel A/D converter can be used to control parameters using analog inputs rather than via a micro-controller. Nonetheless, the DSP can be controlled via its UART, I<sup>2</sup>C or SPI interface. These interfaces may also be used to control a keypad or LCD display.

Using the S/PDIF interface, the module is capable of mixing audio sources from the analog and the digital domain.

With a size of only 1.0" x 2.0", the board will fit every embedded application. The module can be mounted directly to the target via its SMT-pads or via optional 100 mil (2.54mm) pin headers. All special function pins (eight total) can also be used as general purpose I/O pins. Two FLAG pins are software programmable as either input or output.

A break-out board and a board support package (BSP) are available for development purposes to get your project started quickly.



SHARCAudio Module

## Specifications\*

**CPU:** ADSP-21477 in 100-pin LQFP (ADSP-21478, ADSP-21479 optional)

**Memory:** 2 Mb internal single-cycle RAM (ADSP-21477)

**I/O:** 10 general purpose I/O pins, I<sup>2</sup>C, UART, SPI, S/PDIF, 2-Ch Audio

**Physical Dimensions:** 51 x 26 x 5mm (w/o pins), Wide SMT/DIP-40

**Power consumption:** approx. 500mW @ 3.3V

**Weight:** 10g

## Typical applications:

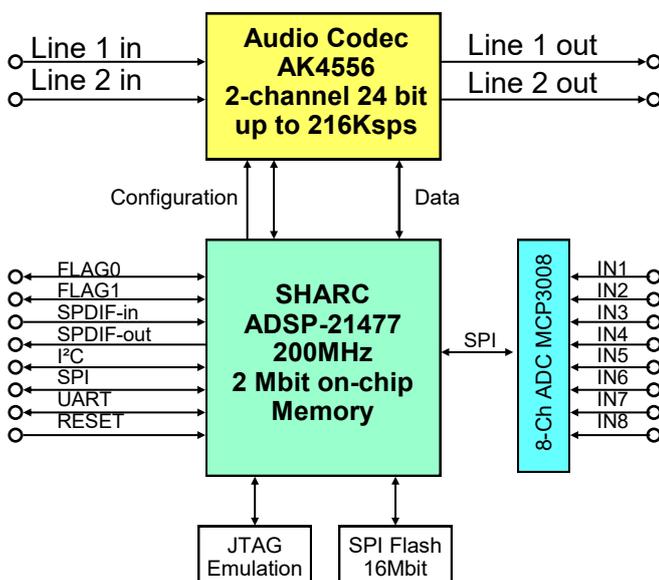
Professional Audio, Echo Cancelling, Noise Cancelling, Speakers, Modems, Alarm/Announcement Systems, and Intercoms

## About us

We are a consulting and contract development team serving customers around the world. We cover all Digital Signal Processing topics, including hardware and FPGA design, DSP algorithms and code optimization, software integration, hardware/software co-design and test.

Available algorithms include sound processing, noise and echo cancellers, modems and speech codecs.

Our preferred targets include Analog Devices SHARC and Blackfin, Texas Instruments DSP, Xilinx FPGA, various ARM families and other platforms.



\*Specifications may change without notice



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