

High-Performance 32-bit Floating-Point SHARC Processor for Automotive Audio; Package: 208 ld LQFP (28x28x1.4mm w/7mm heatsink); No of Pins: 208; Temperature Range: Comm

Manufacturers	<a href="#">Analog Devices, Inc</a>
Package/Case	LQFP-208
Product Type	Digital Signal Processors & Controllers - DSP, DSC
RoHS	Rohs
Lifecycle	



Images are for reference only

Please submit RFQ for ADSP-21371KSWZ-2B or [Email to us: sales@ovaga.com](mailto:sales@ovaga.com) We will contact you in 12 hours.

[RFQ](#)

## General Description

The third generation of SHARC® Processors, which includes the ADSP-21375 and ADSP-21371, offers increased performance, audio and application-focused peripherals, and memory configurations capable of supporting surround-sound decoder algorithms. All devices are pin-compatible and completely code-compatible with other SHARC Processors such as the ADSP-21367 and ADSP-21369. These members of the SHARC Processor family are based on a single-instruction, multiple-data (SIMD) core, which supports both 32-bit fixed-point and 32-/40-bit floating-point arithmetic formats making them particularly suitable for high-performance audio applications.

The ADSP-21371 offers a high performance at a very low cost 266 MHz/1596 MFLOPs -- within the third generation SHARC Processor family. This level of performance makes the ADSP-21371 particularly well suited to address the increasing requirements of the professional and automotive audio market segments while maintaining a low cost. In addition to its higher core performance, the ADSP-21371 includes additional value-added peripherals such as an S/PDIF transmitter/receiver. The ADSP-21371 also provides a direct interface to synchronous SDRAMs with a 32-bit interface that operates at 133 MHz.

Third generation SHARC Processors also integrate application-specific peripherals designed to simplify hardware design, minimize design risks, and ultimately reduce time to market. Grouped together, and broadly named the Digital Audio Interface (DAI), these functional blocks may be connected to each other or to external pins via the software-programmable Signal Routing Unit (SRU). The SRU is an innovative architectural feature that enables complete and flexible routing amongst DAI blocks. Peripherals connected through the SRU include but are not limited to serial ports, SPI ports, and S/PDIF Tx/Rx.

## Features

266 MHz SIMD SHARC Core, capable of 1596 MFLOPS peak performance

1Mbit SRAM ; 4 Mbits ROM embedded with industry-standard audio decode and post-processing coefficients

32-bit DMA transfers at peripheral clock speed, in parallel with full-speed processor execution

32-Bit wide external port provides glueless connection to both synchronous (SDRAM) and asynchronous memory devices

Digital Audio Interface (DAI) enabling user-definable access to peripherals including an S/P DIF Tx/Rx.

Direct execution from main memory

Delay-line DMA engine maintains circular buffers in external memory with tap/offset based reads

8 serial ports (SPORTs) supporting I2S, left-justified sample pair, and TDM modes

2 SPI-compatible ports supporting master and slave modes

16 Pulse Width Modulation (PWM) channels

3 full-featured timers

208-lead LQFP E\_Pad package: commercial and industrial temperature ranges

## Application

ADSP-21371—S/PDIF-compatible digital audio receiver/transmitter

ADSP-21371—8 dual data line serial ports that operate at up to 33 Mbps on each data line — each has a clock, frame sync, and two data lines that can be configured as either a receiver or transmitter pair

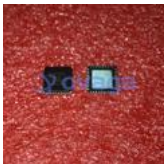
16 PWM outputs configured as four groups of four outputs

ROM-based security features include JTAG access to memory permitted with a 64-bit key Protected memory regions that can be assigned to limit access under program control to sensitive code

PLL has a wide variety of software and hardware multiplier/divider ratios

Available in a 208-lead LQFP\_EP package

## Related Products



[ADUC7022BCPZ62](#)

Analog Devices, Inc  
LFCSP-40



[ADUC7020BCPZ62](#)

Analog Devices, Inc  
LFCSP-40



[ADUC841BSZ62-5](#)

Analog Devices, Inc  
QFP-52



[ADUC841BSZ62-3](#)

Analog Devices, Inc  
QFP-52



[ADUC831BSZ](#)

Analog Devices, Inc  
QFP-52



[ADSP-BF527BBCZ-5A](#)

Analog Devices, Inc  
BGA-208



[ADSP-21369BBPZ-2A](#)

Analog Devices, Inc  
SBGA-256



[ADSP-BF561SBBCZ-5A](#)

Analog Devices, Inc  
CSPBGA-256