

**Audio Processor 0.4MHz Automotive 48-Pin LQFP**

<b>Manufacturer:</b>	<a href="#">Analog Devices, Inc</a>
<b>Package/Case:</b>	QFP48
<b>Product Type:</b>	Embedded Processors & Controllers
<b>Lifecycle:</b>	Obsolete



Images are for reference only

[Inquiry](#)

**General Description**

The AD1940 is a complete 28-bit, single-chip, multichannel audio DSP for equalization, multiband dynamics processing, delay compensation, speaker compensation, and image enhancement. These algorithms can be used to compensate for the real-world limitations of speakers, amplifiers, and listening environments, resulting in a dramatic improvement of perceived audio quality.

The signal processing used in the AD1940 is comparable to that found in high end studio equipment. Most of the processing is done in full, 56-bit double-precision mode, resulting in very good low level signal performance and the absence of limit cycles or idle tones. The dynamics processor uses a sophisticated, multiple-breakpoint algorithm often found in high end broadcast compressors.

## Key Features

16-channel digital audio processor Accepts sample rates up to 192kHz

28-bit ×28-bit multiplier with full 56-bit accumulator Fully-programmable program RAM for custom program download Parameter RAM allows complete control of 1,024 parameters Control port features safeload for transparent parameter updates and complete mode and memory transfer control Target/slew RAM for click-free volume control and dynamic parameter updates Double precision mode for full 56 bit processing PLL for generating MCLK from  $64 \times fs$ ,  $256 \times fs$ ,  $384 \times fs$ , or

$512 \times fs$  clocks Hardware-accelerated DSP core

21kB(6,144 words) data memory for up to 128 ms of audio delay at  $fs=48kHz$  Flexible serial data port with PS compatible, left-justified, and right-justified serial port modes

8-and 16-channel TDM input/output modes On-chip voltage regulator for compatibility with 3.3 V and

5V systems Programmable low power mode Fast start-up and boot time from power on or reset

48-lead LQFP plastic package

## Application

Automotive sound systems

Digital televisions

Home theater systems(Dolby Digital/DTS postprocessor)

Multichannel audio systems

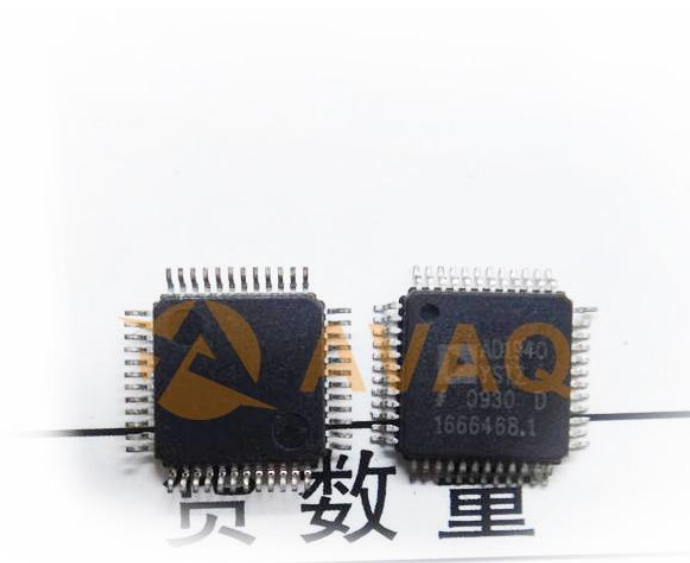
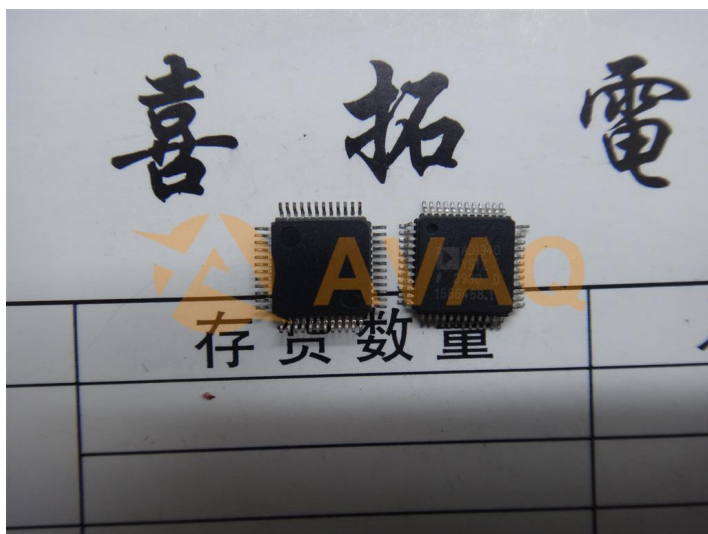
Mini-component stereos

Multimedia audio

Digital speaker crossover

Musical instruments

In-seat sound systems(aircrafts/motor coaches)



## Recommended For You

**ADSP-BF592KCPZ**

Analog Devices, Inc  
LFCSP64

**ADSP-2183KSTZ-210**

Analog Devices, Inc  
QFP100

**ADSP-BF534BBCZ-4B**

Analog Devices, Inc  
BGA

**ADSP-BF537BBCZ-5A**

Analog Devices, Inc  
CSPBGA-182

**ADSP-BF532SBSTZ400**

Analog Devices, Inc  
LQFP176

**ADSP-BF533SBBCZ500**

Analog Devices, Inc  
BGA

**ADSP-BF533SKBCZ-6V**

Analog Devices, Inc  
BGA

**ADSP-BF533SBBZ500**

Analog Devices, Inc  
BGA

**ADSP-BF533SBSTZ400**

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QFP

**ADSP-BF533SBBCZ400**

Analog Devices, Inc  
BGA160

**ADSP-2171BSTZ-133**

Analog Devices, Inc  
QFP

**ADSP-2186MKST-300**

Analog Devices, Inc  
QFP

**ADSP-BF512BSWZ-4**

Analog Devices, Inc  
QFP176

**ADSP-BF534BBCZ-5B**

Analog Devices, Inc  
BGA

**ADSP-BF592BCPZ**

Analog Devices, Inc  
LFCSP64