



# Professional Service and Software Partners



# Experts in Low-Power, Mixed-Signal Processing

Cirrus Logic provides low-power, high precision, mixed-signal processing solutions that create innovative user experiences for the world's top mobile and consumer applications. As a leading supplier of audio, voice and haptics hardware and software solutions, Cirrus Logic is uniquely positioned to capitalize on increasing demand for products that elevate how consumers interact with their electronic devices.









#### World-Class Hardware and Software

Mixed-signal innovation has been our lifeblood for nearly four decades. Cirrus Logic's world-class, low-power, mixed-signal products bridge the analog world around us with the digital world of our technology to deliver enhanced user experiences for audio, voice and haptics. Our audio converters and smart codecs have set industry benchmarks for low power while providing both high-fidelity and loudness. Our leadership in software-enabled boosted amplifier technology delivers an audio experience that balances ultra low power consumption and maximum output with the highest quality sound. By leveraging our expertise in voice-related software technology, our smart codecs deliver enhanced performance for high-quality phone conversations and smart home voice commands. Our company is also a leader in haptic and sensing technology for smartphones. With sophisticated low-latency, high signal-to-noise ratio haptic technology, Cirrus Logic ICs enable sleeker, more robust consumer devices with fewer mechanical controls for new responsive and immersive user experiences.

Our global workforce drives a culture of innovation, evidenced by an intellectual property portfolio of more than 3,400 patents focused on solving complex technical challenges that deliver advanced features for the world's leading electronic device OEMs. Let's build something new together.

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## Custom Audio Solutions

Designing a complete audio signal processing solution is specific to each customer's goals and can involve numerous challenges both hardware and software related. Cirrus Logic selects professional service partners who can assist customers in navigating through a wide range of technical elements to deliver their desired audio performance. There are a number of key factors to consider when developing a design approach strategy.



#### Environment

• Inside, outside, confined space, room size, surface, material, ambient noise



#### User Interface

• 1 cm-15 m distance, speaker, headset, voice/ gesture, microphones



#### Form Factor

• Mobile, wearable, portable, home, car



#### Features

• Voice Control, noise reduction, echo cancellation, wind noise reduction, HD audio record, speech recognition, communication



Performance Criteria

 Audio output, THD+N, jitter, noise reduction, power consumption, WER, and more...

# A Global Network of Professional Service Partners

Combining hardware and software into a single audio solution can pose a unique set of challenges. Each customer's design can have its own specific challenges ranging from form factor prototyping and acoustic tuning, to software stack integration. To assist customers in this development process, Cirrus Logic established a global network of trusted service partners who have been thoroughly vetted to provide customers with the right services to address these pivotal elements. This growing community of Professional Service Partners (PSPs) meets our exacting standards for quality and competence, and are fully equipped to support customers in perfecting the very best audio signal processing solution.



#### Quality

- Trained by Cirrus Logic
- Engineering support from Cirrus Logic and third party software partners



#### Scale

- Globally located
- Enables fast time-to-market
- Wide range of capabilities, no project too small!

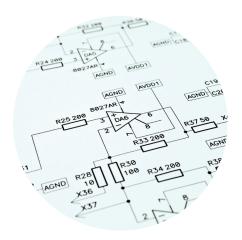


#### Competence

- Software and hardware integration
- Full-form factor design
- Audio tuning, testing

# Partner Competencies

Cirrus Logic's growing community of Professional Service Partners are fully equipped and trained to address the challenges of building audio solutions tailored to each customer's exacting specifications. Our PSP network can provide a wide range of technical competencies to support the implementation of hardware and software solutions.







#### **Technical Know-How**

- System and architecture
- Audio and acoustic
- Embedded software
- Hardware and mechanical

#### **Proven Audio Track** Record

- Demonstrable expertise and experience in audio sub-system design
- Audio products delivered to the marketplace

#### **Audio Laboratory** and Services

- Audio measurements
- Audio test equipment
- Acoustic equipment, facilities, measurement and tuning

## PSP Business Model

The Cirrus Logic PSP network is structured to allow customers to engage directly with a preferred service provider. Cirrus Logic channel partners are available to assist customers in establishing a service agreement that defines the specific needs of their project.



# PSP Support Services

Audio Solution Architecture	System and solution architecture definition, consultation
Mechanical and Acoustic Product Design	Product design expertise to acoustic and industrial design co-optimized solutions
Hardware and PCB Design	Schematic and PCB layout design, review
Software Porting and Optimization	Porting from non-ADSP2 code base, and low power optimization
Software Development and Integration	Development and integration services including Linux drivers and MCU
Tuning Services	Dedicated acoustic labs to tune and optimize audio solutions
Test, Validation and Certification	Solution tuning and testing (acoustic, electrical and more)
Customer Support	Production ramp stages, mass production



### Software Partners

Cirrus Logic has established a comprehensive network of software partners who deliver technologies that significantly expand the use cases for customers integrating a solution from the Cirrus Logic Smart Codec<sup>™</sup> product line. By establishing partnerships with some of the world's leading software experts, in combination with Cirrus Logic's own high performance and low-power DSP technology, our customers can differentiate their products by accessing a wide range of value-added software features across four domains: Voice, Playback, Record and Control.

#### **Voice Solutions Partners**



#### **Playback Solutions Partners**



#### **Record Solutions Partners**



#### **Control Solutions Partners**



# Our Global Support Network



For more information, visit support/partners/services on cirrus.com.

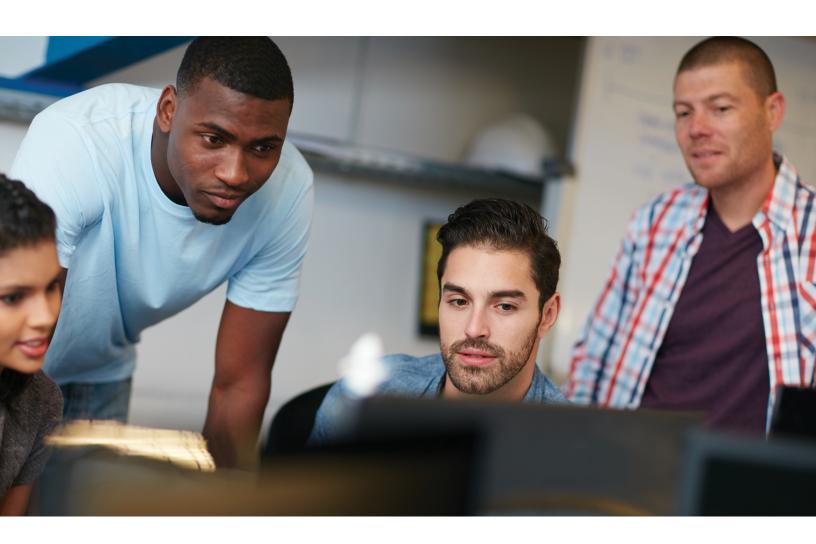


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