

ALANGO

Technologies and solutions

ALANGO COMPANY NEWS

February 4, 2020

In-Car Communication (ICC)

with Alango Sound Reinforcement Package (SRP)

now available
on Analog Devices
ADSP-2156x processor



Alango Sound Reinforcement Package (SRP) enables easy, noise-free voice communication between driver and rear seat passengers, reducing driver distraction and boosting safety.

Read on to learn more about SRP and the **Analog Devices ADSP-2156x processor**, to which the SRP package has been successfully ported.

The ADSP-2156x series of processors provide immersive audio and sound experience in automotive and consumer/pro-audio applications. These processors are specifically targeted for applications that demand deterministic and low latency real-time audio processing such as in-car communication. These processors are capable of reaching speeds up to 1 GHz with large on-chip SRAM, multiple internal buses that eliminate input/output (I/O) bottlenecks, and innovative digital audio interfaces (DAI). Additional information about the ADSP-2156x, a member of the SHARC® family of products, can be found here:

<https://www.analog.com/en/products/landing-pages/001/adsp-2156x-family.html>

Alango [Sound Reinforcement Package \(SRP\)](#) is a set of Alango proprietary technologies developed to facilitate In-Car Communication (ICC), improving speech intelligibility between the car's front and rear seats. SRP is also effective in other sound reinforcement applications (e.g., Public Announcement Systems, Karaoke, etc.) that require a low latency solution.

Sound Reinforcement Package incorporates:

- Acoustic feedback cancellation
- Noise reduction
- Acoustic feedback reduction
- Automatic Volume and Equalization (AVQ)
- Mixing (allowing for music playback while in-car communication is active)

A foremost benefit of in-car communication is that it allows the driver to communicate with rear seat passengers without having to raise their voice or repeat themselves. In this way, the ICC system can mitigate against driver distraction and increase safety.

Automatic Volume and Equalization (AVQ), integrated within SRP, amplifies and equalizes transmitted voice according to ambient noise characteristics (tire/pavement, engine, fan/blower, wind) in both amplitude and frequency, thereby

providing the appropriate equalized/amplified speech level in relation to changing ambient noise conditions.

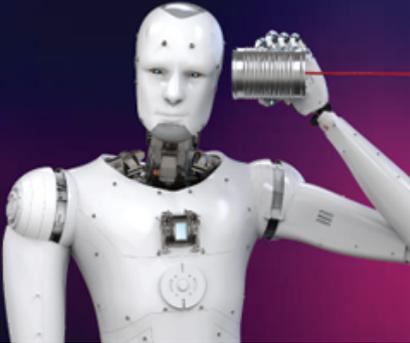
SRP supports single microphone and multi-microphone configurations, with acoustic beamforming (directionality) capabilities; one-way (front-seat to back-seat) and two-way (front-seat to back-seat + back-seat to front-seat) in-car communication modes. SRP provides music mixing capabilities, allowing uninterrupted music playback during voice communication. For this purpose, the system is equipped with Stereo Acoustic Echo Canceller (SAEC). Additional information about SRP can be found here:

<http://www.alango.com/car-intercom.php>

This porting fully complies with ADI CrossCore Embedded Studio, based on the Eclipse framework. Supporting most Analog Devices processor families, it is the IDE of choice for processors, including multicore devices. CrossCore Embedded Studio seamlessly integrates available software add ins to support real time operating systems, file systems, TCP/IP stacks, USB stacks, algorithmic software modules, and evaluation hardware board support packages.

Alango cooperated with Analog Devices to demonstrate a successful early stage porting of Alango Sound Reinforcement Package (SRP) at CES2020 earlier this year.

Upcoming Events



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MWCTM
Barcelona
24-27 Feb. 2020 / Barcelona, Spain

embedded world
Exhibition & Conference
25-27 Feb. 2020 / Nuremberg, Germany

Alango invites you to meet with us at two upcoming exhibitions, where we will promote preprocessing solutions for speech recognition enhancement.

[Meet us at Embedded World 2020](#)

25-27 February 2020 / Nuremberg, Germany

- Email Robert at robert.schrager@alango.com to schedule a meeting or for more information.

[Meet us at MWC Barcelona 2020](#)

24-27 February 2020 / Barcelona, Spain

- Email Teddy at teddy.hecht@alango.com to schedule a meeting or for more information.