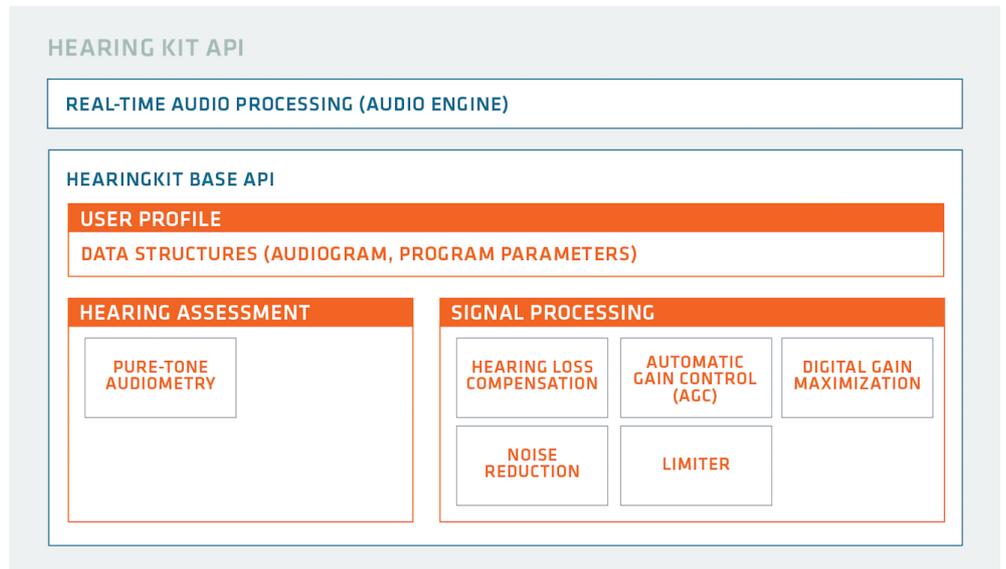


# hearingKIT

by Jacoti



Jacoti HearingKit™ is a software development kit (SDK) that allows developing real-time audio applications with the purpose of adapting the sound to the characteristics of the audio and the listener himself; namely his hearing loss. It offers a C++ Application Programming Interface (API), which may be used to provide hearing assessment, hearing loss compensation and sound personalization on mobile computers, smartphones, car audio system, TV's, home entertainment systems or any other computer integrated audio system.

Jacoti HearingKit™ technology allows compensating the hearing loss of individuals by applying a series of algorithms such as the Hearing Loss Compensation (HLC) algorithm itself but also the Automatic Gain Control (signal compression), noise reduction and gain maximization algorithms.

It also provides a set of presets or programs tailored to specific listening situations like clear speech, natural sound or music. Jacoti HearingKit™ enabled applications typically use the Jacoti HearingKit™ real-time audio processing engine which already handles the cascading of algorithms and provides a simple interface for processing audio frames. However, the Jacoti HearingKit™ API also provides the means for independently activating or deactivating the different modules from the application that uses the Jacoti HearingKit™ Technology.

## Benefits

- + Easy integration with apps for faster deployment
- + Predictable performance (such as latency) across multiple devices
- + Streamlining the integration of hearing loss compensation and audio customisation to the individual needs of users on multiple platforms

## Features

### Hearing Loss Compensation

The Jacoti HearingKit™ API provides out-of-the-box low-latency (below 5 ms) Hearing Loss Compensation, automatic gain control (AGC), digital gain maximisation, noise reduction and signal limiter. It supports different profiles depending on the listening situation (music, speech, natural sound, etc.).

### Hearing Assessment

Jacoti HearingKit™ features an adaptive Automatic DuoTone™ air conduction procedure and is partially compliant with type IV audiometer requirements as per EN 60645-1 for Audiometers and ANSI S3.6.

### Real Time

Jacoti HearingKit™ has been designed for real-time applications. It provides a threaded real-time engine which processes audio at a deterministic time rate.

### Seamless Integration

Jacoti HearingKit™ is cross-platform, written in C++ and doesn't require third-party libraries. Also, it implements a notification system, which eases the development of responsive audio applications.

## Summary

Support for Noise reduction

Automatic Gain Control

Real-time

Straightforward GUI integration

Separate sound processing for right and left ear

Cross platform support

Equalisation

Audiogram-based individual Hearing Loss Compensation

Low latency signal processing

Delivered as a self-contained static or dynamic library

Dynamic configuration changes

Calibrated for the Apple EarPods, BeyerDynamic DT 770 32 and the Sennheiser HDA 300 (more on demand).

## Technical Features

Written in C++

Delivered as a self-contained static or dynamic library

Cross-platform

Tested on Linux, Android, Mac OS X and iOS

Algorithmic Latency:

5 milliseconds

Frequency Response: 10Hz to 22kHz

### Products powered by Jacoti HearingKit™

Jacoti HearingKit™ powers all Jacoti products: Jacoti ListenApp®, the world's first CE approved medical device standalone software hearing aid, Jacoti Hearing Center, the real life hearing self-test application, Jacoti Hearing Center Pro, a professional audiometer, and Jacoti Lola, the wireless audio communication solution for in-room situations.

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## About Jacoti

We make state-of-the-art hearing solutions accessible and affordable for hearing-impaired individuals all over the world. As a company we realize this mission by focusing on the development and commercialization of hearing aid software and hearing support systems. We achieve this by integrating our proprietary technology with internet-ready consumer hardware such as smartphones.