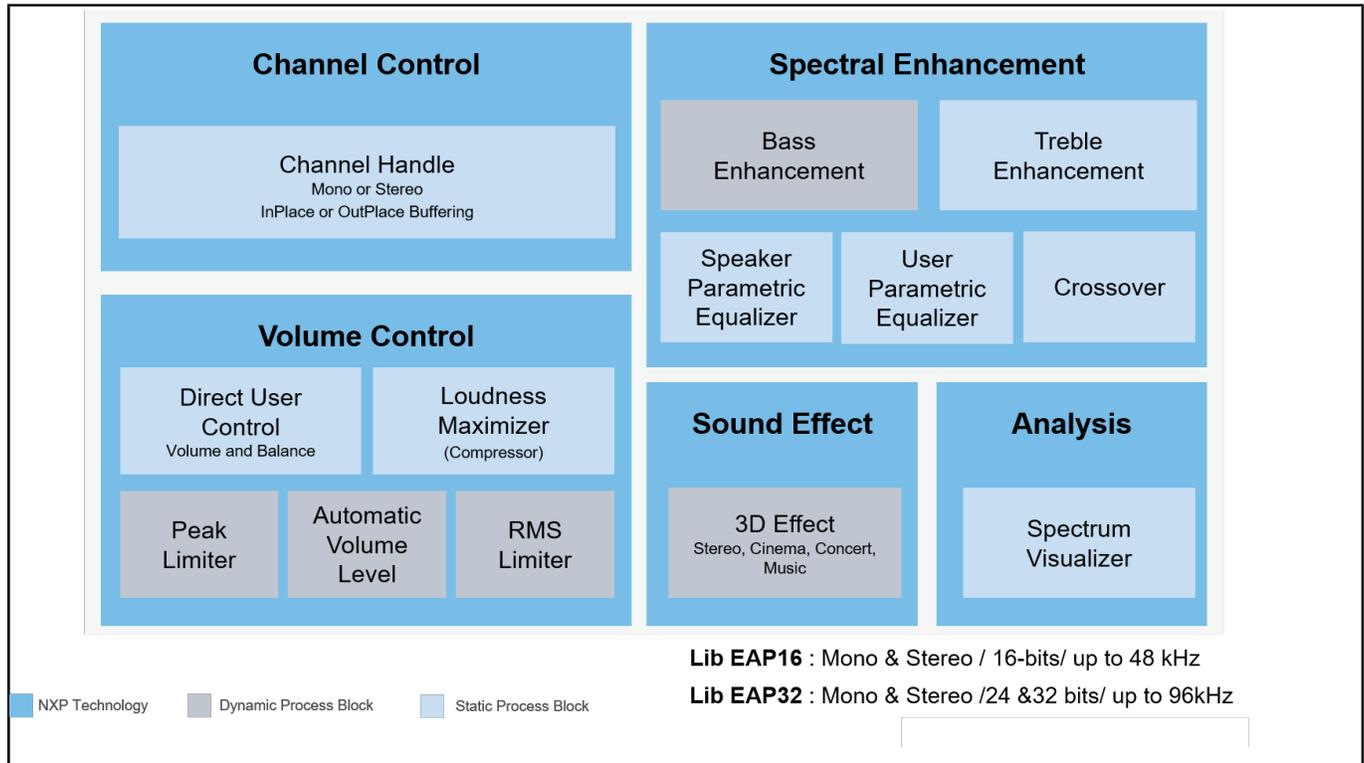# Essential Audio Processing Library

ESSENTIAL-AUDIO-PROCESS-LIBRARY

Last Updated: Apr 16, 2024

NXP's Essential Audio Processing (EAP) library is a bundle of audio processing blocks for enhancing the tonal and spatial perception of sound in audio applications. It includes a range of sound processing algorithms that can be tuned to your application to create a high quality listening experience. The EAP library is complimentary to use with supported NXP devices, and is available in the MCUXpresso SDK in the form of precompiled libraries.

EAP is accompanied by a tuning tool that enables the simulation of the library behavior on a Windows® PC platform. The tuning tools allow you to listen and compare audio effects to find the right tuning parameter settings, and export the parameters to a compliant C header file.

Essential Audio Processing Library Block Diagram Block Diagram

Channel Control

Channel Handle
Mono or Stereo
InPlace or OutPlace Buffering

Volume Control

Direct User Control
Volume and Balance

Loudness Maximizer
(Compressor)

Peak Limiter

Automatic Volume Level

RMS Limiter

Spectral Enhancement

Bass Enhancement

Treble Enhancement

Speaker Parametric Equalizer

User Parametric Equalizer

Crossover

Sound Effect

3D Effect
Stereo, Cinema, Concert, Music

Analysis

Spectrum Visualizer

NXP Technology   Dynamic Process Block   Static Process Block

Lib EAP16 : Mono & Stereo / 16-bits/ up to 48 kHz

Lib EAP32 : Mono & Stereo /24 &32 bits/ up to 96kHz

View additional information for Essential Audio Processing Library.

Note: The information on this document is subject to change without notice.