

Playback 1.5

Delivering Rich Sound Quality with Speaker Protection

Gone are the days when phones were solely for making voice calls. Today's mobile devices, such as smartphones and tablets, are being used to enjoy a wide range of multimedia entertainment. With these new audio and visual activities, users want to experience audio in ever greater and increasingly clearer detail. The anticipated audio experience is that of a vivid, high fidelity sound that is distortion free and does not negatively impact the device's speakers. SoundClear[®] Playback 1.5 software utilizes advanced algorithms that enable increased volume amplitude without speaker damage and avoid degrading the listener experience. Whether enjoyed through headphones or speakerphone, Playback 1.5 can deliver a rich and robust audio experience for music, movies and videos.



Features

Speaker Protection and Enhance

- Advanced safety modes
 - Cavity breach and port block detection
 - Intelligent pilot tone
 - Excursion and temperature protection
 - Predictive look ahead algorithm
- Mono and stereo speaker support
- Works with Cirrus Logic integrated or external amplifiers
- Parametric EQ (PEQ)
 - Five programmable bands
 - Four independent EQ channels
 - +/-12 dB gain control
- Multi-band compression (MBC)
 - Monitors and controls the dynamic range of the signal for independently configurable high and low frequency ranges
 - Maximizes perceived speaker loudness and minimizes speaker distortion, allowing the speaker to provide more volume while maintaining audio quality
 - Avoids or mitigates disruptive audio effects, including:
 - “Gain pumping” from full-band compression on bass heavy signals
 - Speaker “over driving”
 - Variation in volume between and within audio tracks
 - Clipping effects when signals are boosted
 - Low apparent loudness with speaker playback



SoundClear Playback 1.5

SoundClear Playback 1.5 also supports the following features for headphones and lineout:

- Master Hi-Fi™
 - Delivers ultra high fidelity music formats
 - 192 kHz, 24-bit playback
 - Audiophile up-sampling filters from 44.1 kHz, 16-bit and 96 kHz, 24-bit sources
 - Minimum phase apodising low pass DAC filter minimizes pre-ringing and optimizes frequency response
 - Clearer, more “lifelike” transients and details for playback of high-fidelity recordings
 - Achieves the best high resolution out of FLAC and ALAC music formats
- Programmable parametric EQ
- Multi-band compressor (MBC)

Hardware Platforms

The following platform configurations are recommended:

Smart Codec

WM8281



MEMS Microphone – Analog

WM7121PE

WM7132PE

MEMS Microphone – Digital

WM7236PE

APPLICATIONS

SoundClear® Playback 1.5 is best suited to the following applications:



SMARTPHONE



TABLET



SPEAKER BOX



WEARABLES



SMART HOME

The SoundClear Advantage

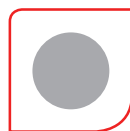
Cirrus Logic’s SoundClear software technology utilizes self-adjusting algorithms to deliver industry leading voice quality, speech recognition, audio recording and high-fidelity playback. SoundClear utilizes intelligent speech and noise tracking, as well as adaptive processing, to exploit speech patterns and environmental conditions while providing advanced processing features such as noise suppression, echo cancelation and virtual surround sound. SoundClear software also features low power consumption for prolonged battery life of portable devices.



VOICE



PLAYBACK



RECORD



CONTROL



SENSE



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