

STM32F7 audio firmware libraries software expansion for STM32Cube

Data brief

Features

- Sampling Rate Converters:
 - SRC236 supporting conversion ratios 2, 3, 6, 1/2, 1/3, 1/6, 3/2 and 2/3
 - SRC441 for specific 44.1 to 48 kHz conversion
- Clock drift compensation: compensates drifts by smoothly adding or removing one sample
- Omni Surround stereo widener: audio virtualization for loudspeakers from a 1.0/2.0 input stream to a widened 2.0 output stream
- Omni Surround multichannel virtualizer: audio virtualization for loudspeakers from a 1.0/2.0/5.1/7.1 input stream to a virtualized 2.0 output stream
- Headphone virtualizer: audio virtualization for headphones from a 1.0/2.0/5.1/7.1 input stream to a virtualized 2.0 output stream
- Graphical equalizer: 10-bands graphical equalizer for 48 kHz input signal
- Generic biquad filters
- Bass manager: manages the signal of low frequencies, including compressor and limiter
- Smart volume control: manages volume including a compression feature
- Gain manager: manages volume without any compression (only negative gains)

Description

The X-CUBE-AUDIO-F7 is an audio processing component for STM32F7 Series and consists in a comprehensive set of high-quality efficient software libraries ready to be embedded into many kinds of audio appliances.

All modules are delivered with internal 32 bits processing and support either 16 or 32 bits I/O buffers.

The provided software also contains an integration example running with IAR tool chain on STM32F746 Discovery board for each audio component.

1 Revision history

Table 1. Document revision history

Date	Revision	Changes
03-Jun-2016	1	Initial release.

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