



Audio codecs hardware components



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Stable: 11.02.2019 - 11:20 / Revision: 22.01.2019 - 06:56

A quality version of this page, accepted on 11 February 2019, was based off this revision.

Template:ArticleMainWriter Template:ArticleApprovedVersion



cs42151 bindings linked forced to 4.20. Version to be removed on next kernel rebase

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1 Article purpose

The purpose of this article is to:

- list the audio codec hardware components that might be integrated in the different STM32MPU boards
- link these components to the corresponding software framework(s)
- point to the datasheet(s) of these components
- explain, when necessary, how to configure these components.

2 Software frameworks

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Do	Peri	Software frameworks			Comment
main secure (O P- TE E)	secure (Linux)	Cortex-M4 (STM32Cube)			
Audio	Wolfson wm8994		ALSA framework		DAC & ADC audio codec
Audio	Cirrus cs42l51		ALSA framework		DAC & ADC audio codec
Audio	Silabs sil9022		ALSA framework		HDMI transmitter
Audio	ST MP34DT01-M		ALSA framework		Digital microphone

3 Wolfson wm8994

The WM8994 is a highly integrated ultra-low power hi-fi CODEC rich in multimedia features.

For details and the datasheet please contact the WM8994 codec provider.



3.1 Linux driver

Bindings: Documentation/devicetree/bindings/sound/wm8994.txt

Sources:

- drivers/mfd/wm8994-core.c
- sound/soc/codecs/wm8994.c
- sound/soc/codecs/wm_hubs.c

4 Cirrus cs42l51

The CS42L51 is a highly integrated, 24-bit, low-power stereo CODEC.

For details and the datasheet please contact the CS42L51 codec provider.

4.1 Linux driver

Bindings: Documentation/devicetree/bindings/sound/cs42l51.txt (v4.20)

Sources: sound/soc/codecs/cs42l51.c

5 Silab sil9022

The Sil9022A HDMI transmitter supports the HDMI[®] Specification on a wide range of mobile products.

For details and the datasheet please contact the Sil9022A HDMI transmitter provider.

5.1 Linux driver

Bindings: Documentation/devicetree/bindings/display/bridge/sii902x.txt

Sources: drivers/gpu/drm/bridge/sii902x.c

6 ST MP34DT01-M

The MP34DT01-M is an ultra-compact, low-power, omnidirectional, digital MEMS microphone.

Datasheet: <https://www.st.com/resource/en/datasheet/mp34dt01-m.pdf>



6.1 Linux driver

Bindings: [Documentation/devicetree/bindings/sound/dmic.txt](#) Sources: [sound/soc/codecs/dmic.c](#)

Open Portable Trusted Execution Environment

Digital-to-analog converter (Electronic circuit that converts a binary number into a continuously varying value.)

Analog-to-digital converter. The process of converting a sampled analog signal to a digital code that represents the amplitude of the original signal sample.

High-Definition Multimedia Interface (HDMI standard)