



Audio codecs hardware components



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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

Domain	Peripheral	Software frameworks		Comment
Cortex-A7 secure (OP-TEE)	Cortex-A7 non-secure (Linux)	Cortex-M4 (STM32Cube)		
Audio	Wolfson wm8994		ALSA framework	DAC & ADC audio codec
Audio	Cirrus cs42l51		ALSA framework	DAC & ADC audio codec
Audio	Silab 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](#)

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`

Cortex[®]

Open Portable Trusted Execution Environment

Linux[®] is a registered trademark of Linus Torvalds.

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)