

Codespot Dev

Low power DSP box for the development of audio player applications

Codespot Dev is based on the audio codec VS1063 by the Finnish manufacturer VLSI Solution. The DSP box has two galvanically isolated digital inputs enabling it to react to external contacts or voltage. Two digital outputs, likewise galvanically isolated, can be used for the control of external devices. Two 3.5 mm jack plugs provide a stereo line input and a stereo line output, whereby the latter is also suitable as a headphone output.

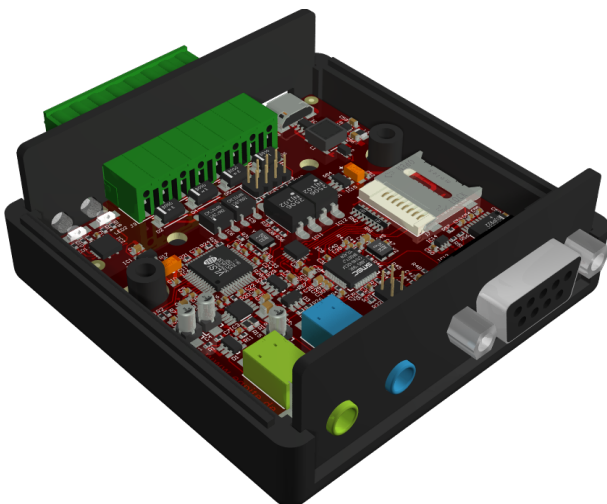
Audio and other data files can be exchanged directly between a PC and a microSD card in an internal cardholder via an integrated USB to SD card bridge. Furthermore, a serial flash memory is available for saving firmware.

Programming and in-system debugging occur via an RS-232 interface. This can also be used by the application to communicate with external devices.

The development of firmware mainly occurs via the free IDE from VLSI Solution, which has preconfigured plug-ins and examples for Codespot Dev. Among other things the source code of an audio player is available which is well suited as a basis for one's own applications.

Key features

- VS_DSP4 Core with high-quality DAC / ADC
- 16 kBytes code RAM and 80 kBytes data RAM
- Encodes and decodes MP3, Ogg Vorbis, PCM and more
- Stereo line input and output
- Direct operation of headphones possible
- 2 isolated inputs, contact or voltage triggered
- 2 isolated outputs for up to 400 mA load
- Integrated USB microSD card reader
- Serial interface according to RS-232





Applications

- Learning system for audio DSP applications
- Development of event-triggered audio player
- Development of digital effect devices such as filter, echo etc.
- Expansion of existing systems with audio output
- Replacement of mechanical recording and playback device

Specifications

Processor and Memory

CPU	VS1063 VS_DSP4 Core
Static RAM	96 kBytes
Serial Flash	4 MBytes

Interfaces

Audio out	3.5 mm stereo jack 30 Ω
Audio in	3.5 mm stereo jack 80 Ω , 2.8 V pp max.
USB	USB 2.0 device at micro-B receptacle
RS-232	1 x 9-pin DCE, 2 lines, 15 kVrms
Memory card	MicroSD, 4 GBytes, replaceable
Contact inputs	5 V 0.6 mA, not isolated
Voltage inputs	3-48 V, 0.5-12.4 mA, 5 kVrms isolation
Contact outputs	Max. 48 V, 400 mA, 1.5 kVrms isolation
Indicators	Power (red), status (red / green)

Power supply

USB	USB micro-B, 5 V
Consumption	0.35 W (standalone), 1 W (USB transfer)

Environmental

Operating temperature	-30 to 85 $^{\circ}\text{C}$ (-22 to 185 $^{\circ}\text{F}$)
Humidity	5 to 95 %, non-condensing

Approvals

Safety	Enclosure UL94-HB, PCB UL94-V-0
RoHS compliance	EU directive 2002/95/EC

Metrics

Dimensions (L x W x H)	82.0 x 66.2 x 28.0 mm (3.3 x 2.6 x 1.1 in)
Weight	75 g (0.17 lb)

Product identification

Model	Label on the bottom side
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More Information

Find out more about Codespot. Visit us at www.egnite.de.