

VS1010 HDMI ARC HDMI Audio Return Channel

VS1010 HDMI ARC Board demonstrates the capabilities of the VS1010D device for manufacturers of living room audio applications, active speakers and amplifiers. In this demo, the built-in hardware and software capabilities of the VS1010 are utilized extensively and efficiently, essentially implementing a complete living room TV audio system using a single digital IC, the **VS1010D**.

ARC, or "Audio Return Channel" is a feature of the HDMI specification. With ARC, the TV "sends back" the audio which it either receives from a HDMI source, or from an internal source such as Youtube or Netflix video player, to HDMI ARC capable external speakers. TV manufacturers are adopting ARC instead of older interfaces such as optical, coaxial or analog to increase digital audio compatibility and cut down costs.

VS1010 HDMI ARC Demo supports **HDMI ARC, Optical, Coaxial** and **USB Audio*** digital inputs and provides **Analog Line Out, Analog Headphone out, Analog Subwoofer out** and **Optical** digital out signals.

In the VS1010 HDMI ARC demo, the single VS1010 implements all the necessary HDMI DDC, CEC and ARC protocols and communication, as well as **stereo PCM** decoding using VS1010 built in high definition crystal locked DAC. Audio signals are filtered and upsampled to 6144 kHz by the VS1010 hardware. Additional to the full range stereo output, the board has an LFE output for adding an active subwoofer for 2.1 audio.

Optional VS1010 AC3 Decoder Daughterboard adds AC3 decomposition and additional analog outputs.

*) September 2019: USB Audio and SD MP3 playback is software work in progress

