CIRRUS LOGIC®

CS49700

| Audio Video Receiver | Digital Television | HD/BD DVD Player |

CS49700 Features

- Multi-standard 32-bit high-definition audio decoding plus post-processing
- Supports the latest high-definition and high-efficiency audio formats including:
  - Dolby® TrueHD
  - Dolby Digital® Plus
  - DTS-HD™ Master Audio
  - DTS-HD™ High Resolution Audio
  - DTS® Express (DTS LBR)
  - MPEG-4 HE-AAC Multichannel 5.1
- Framework™ applications library in ROM:
  - Dolby Digital® EX, Dolby® Pro Logic® II/IIx, Dolby Headphone®, Dolby® Virtual Speaker®
  - DTS 96/24™, DTS-ES™ Discrete 6.1, DTS-ES™ Matrix 6.1
  - MPEG-2 AAC™ Multichannel 5.1
  - SRS CircleSurround® II / TruSurround XT®
  - THX® Ultra2+™ with Loudness Plus™
  - Advanced Post-Processor includes: Crossbar mixer, signal generator, 7.1 Channel quadruple crossover bass manager, tone control, multiband parametric EQ, independent channel / AV sync delay, 1:2 up-sampler
- Additional Framework™ applications for download:
  - Thomson MP3 Surround™
  - SRS WOW® / TruSurround HD/HD4®
  - Microsoft® HDCD®
  - DTS:Neo6™
  - Neural-THX® Surround
  - Cirrus Original Multichannel Surround 2
- 6-channel DSD decimation input enables SACD support
- Up to 10 Ch x 32-bit PCM In /16 Ch x 32-bit PCM Out with dual 192 kHz S/PDIF transmitters
- Two SPI™/I2C® ports, one parallel port
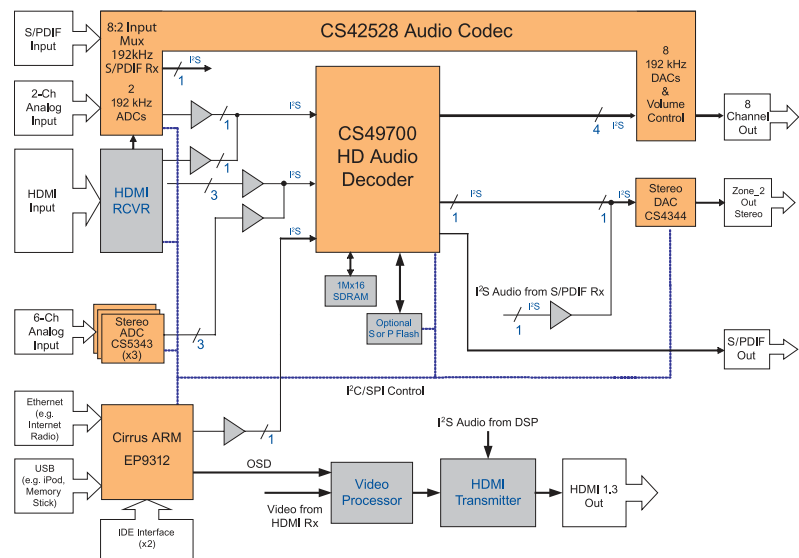- SDRAM and serial/parallel flash memory support

High-Definition Audio Decoder

Dual core 32-bit audio DSP for next-generation high-definition audio standards

The advent of next-generation high-definition DVD players, based on the Blu-ray Disc® and HD DVD™ formats, presents significant design complexities for original equipment manufacturers (OEMs). While most of the attention has been placed on high-definition video, the emergence of new audio formats utilized in high-definition DVD standards poses even greater challenges for OEMs seeking to penetrate this quickly evolving consumer market.

The key feature requirement for the new generation DVD formats is the ability to decode a wide variety of audio algorithms, including Dolby Digital, Dolby Digital Plus, Dolby True HD, DTS, DTS-HD High Resolution Audio, DTS-HD Master Audio and DTS Express (DTS LBR).

Cirrus Logic has applied its core audio expertise to provide OEMs with a single-chip, total market-ready solution for AVRs and high-definition DVD players, for all product price points.

7.1 Channel HD Audio/Video Receiver

CS49700

CRD49700-USB
Development Platform

The CRD49700-USB Evaluation Kit is composed of the CRD49700 Customer Reference Design as well as the CRD-USBMASTER-DC-Z USB Host Control / Audio Playback / Capture Board. The later board can be used to spool standard and high-bit-rate (HBR) audio to the CS49700 device to undergo decoding and processing using provided command-line based tools such as USBPLAY.

Separately, the CRD-HDMI-DC-Z Evaluation Board is available for designs which feature HDMI® inputs and features a dual input Silicon Image™ Sil9135 HDMI Receiver as well as a single Sil9134 HDMI Transmitter.

The CRD49700 Evaluation Board provides a practical platform for emulating a typical HD Audio multichannel audio system application and is a powerful aid to system designers during the design and development of their platforms.

DSP GUI Programming Environment

The CS49700 is programmed using the Cirrus Logic proprietary GUI software development tool, DSP Composer. An audio signal processing chain is designed using a drag-and-drop interface. The tool then configures the CS49700 through the SPI™ / I^{2}C® serial port. The firmware may be loaded from ROM within the CS49700 or it may be downloaded through the serial control port.
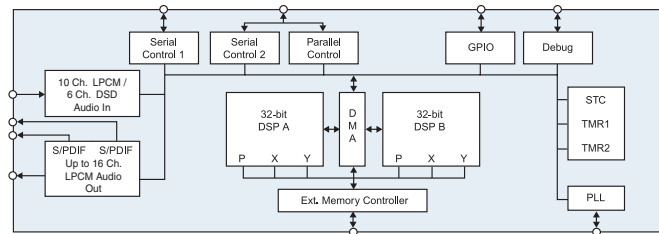
Accelerate your Development Time

A revolutionary new development microcontroller source code developer called DSP Condenser now enables AVR-like designs to be able to decode any type of compressed audio streams in a couple of days worth of work, instead of weeks or months.
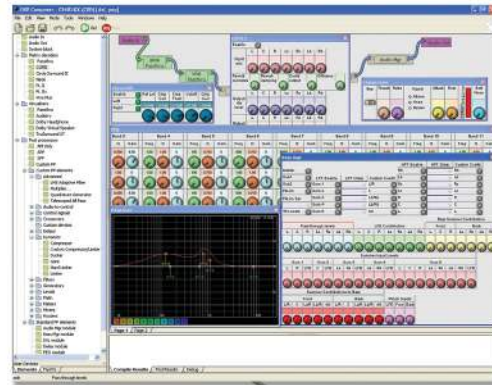
Ordering Information:

Device:	CS497004-CQZ
Package:	144-pin LQFP
Dev. Board:	CRD49700-USB
HDMI Adapter:	CRD-HDMI-DC-Z
Application Note:	AN304, AN304 Family
Tools:	DSP Composer GUI Software Programming Tool, DSP Controller GUI AVR front panel simulator, DSP Condenser Source Code Generator

CS49700 Architecture

DSP Composer GUI programming interface

CRD49700-USB HD Audio Decoder development board

CRD49700-USB Evaluation Kit + CRD-HDMI-DC-Z Evaluation Board

HDMI Adapter
Data Delivery
CRD-HDMI-DC-Z
(Optional Accessory)

USB Interface Adapter
DSP Controller
DSP Composer
DSP Condenser
HDMI RCVR Control
CRD-USBMASTER-DC-Z
(Included with CRD49700 Evaluation Kit)

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