![Cirrus Logic logo]

CIRRUS LOGIC ®

Leading the Digital Entertainment Revolution ™

CRD92688-RX

Class D Digital Amplifier · AM/FM Radio · DVD Player · DVD Recorder · DivX®/MPEG-4 Technology Playback · Surround Sound · Photo Album · CD Player · MP3 Jukebox

Home Theater Recorder Platform

INTEGRATES AUDIO & VIDEO FEATURES FROM AVRS, DVD RECORDERS & DVD PLAYERS INTO AN ALL-IN-ONE ENTERTAINMENT SYSTEM

The CRD92688-RX provides CE designers with an exciting opportunity to launch an entirely new, and potentially high-demand, high-margin product, the Home Theater Recorder.

The single-board solution combines Cirrus Logic's superior audio and video ICs with the Cirrus® Audio Software Library to integrate the functionality and performance of digital audio/video receivers (AVRs), DVD recorders and DVD players. The result is an innovative platform that enables designers to create an all-in-one entertainment system.

The board is comprised of Cirrus Logic's latest MPEG-2 A/V encoder chip, the CS92688, and the CS98300 processor—which forms the heart of Cirrus Logic's current leading solution for the DVD recorder market. The platform enables up to 7.1-channel surround-sound playback, as well as DivX® video compression technology decoding.

The platform also integrates Cirrus Logic's renowned mixed-signal audio products—including the CS4344 stereo D/A converter, the CS8416 digital audio interface receiver and the CS5340

stereo A/D converter. A multichannel Class D digital amplifier enables cooler operation and smaller form factors compared to traditional analog amplifiers. Either a 6-channel or an 8-channel PWM controller is incorporated, depending on system requirements.

A manufacturer's tool kit is provided and includes hardware, software, BOM, schematics, Gerber files, and documentation.
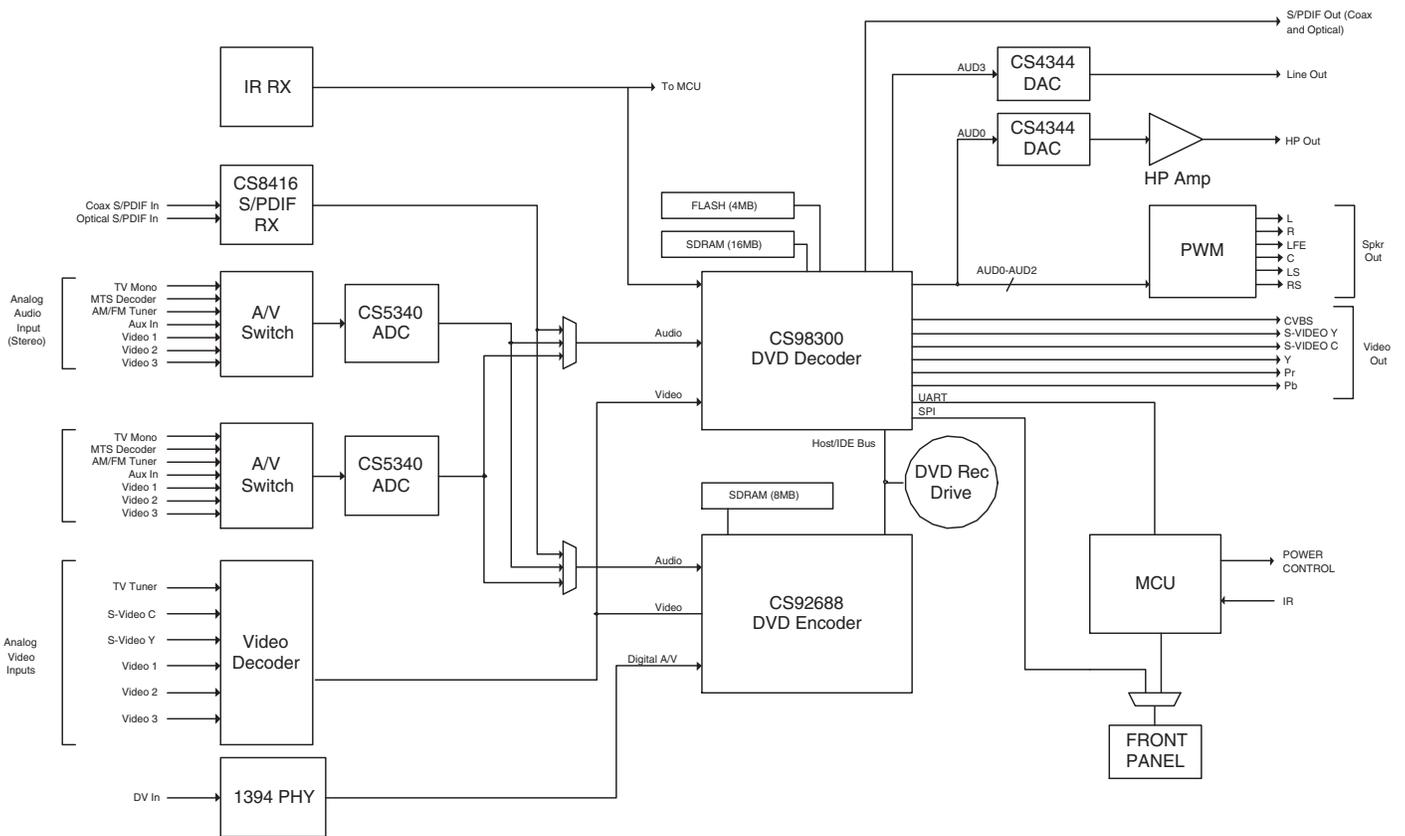
www.cirrus.com

AN ALL-IN-ONE ENTERTAINMENT SYSTEM

- Incorporates all of the standard features found on Cirrus Logic's Sonata™ DVD Recorder platform for high-quality digital audio and video recording, playback, and system control

- Real-time recording on DVD+R/RW discs (support for DVD-R/RW recording will be available soon)

- Cirrus Audio Software Library for the CS98300's integrated 32-bit, 180 MIPS Audio DSP includes Dolby® Digital, Dolby Digital-EX, Dolby Pro Logic® II, Dolby Pro Logic IIx, DTS™, DTS-ES™, DTS Neo:6™, AAC Multi-channel 5.1, MP3 (MPEG-1/2, Layer III), MPEG Multichannel, Microsoft® Windows Media® Audio, SRS Circle Surround II™, Cirrus Original Surround™ and more

- Multichannel MP3 playback supports MP3 decoding with multichannel surround processing, including Dolby Pro Logic II, Dolby Pro Logic IIx, DTS Neo:6, SRS Circle Surround II or Cirrus Original Surround

- End user can enjoy multichannel surround-sound audio while simultaneously recording stereo audio with the CRD92688-RX full duplex audio capability

- Concurrency capability enables the recording of one A/V input (i.e., TV) while viewing a different A/V input (or listening to the radio)

- Digital audio S/PDIF input supports playback of IEC60958 (PCM) or IEC61937 (compressed) audio streams

- Digital audio S/PDIF input supports recording PCM audio with accompanying video (recording PCM audio without video or recording compressed audio will be available soon)

- AM/FM Tuner with GUI/VFD display and RDS support (scheduled recording of radio programs is possible—inquire for availability)

IR RX

To MCU

S/PDIF Out (Coax and Optical)

AUD3 CS4344 DAC Line Out

AUD0 CS4344 DAC HP Amp HP Out

Coax S/PDIF In
Optical S/PDIF In
CS8416 S/PDIF RX

FLASH (4MB)

SDRAM (16MB)

AUD0-AUD2 PWM L / R / LFE / C / LS / RS Spkr Out

Analog Audio Input (Stereo)
TV Mono
MTS Decoder
AM/FM Tuner
Aux In
Video 1
Video 2
Video 3
A/V Switch CS5340 ADC

Audio

CS98300 DVD Decoder

Video

CVBS / S-VIDEO Y / S-VIDEO C / Y / Pr / Pb Video Out

UART
SPI

TV Mono
MTS Decoder
AM/FM Tuner
Aux In
Video 1
Video 2
Video 3
A/V Switch CS5340 ADC

Host/IDE Bus

DVD Rec Drive

SDRAM (8MB)

TV Tuner
S-Video C
S-Video Y
Video 1
Video 2
Video 3
Analog Video Inputs
Video Decoder

Audio

Video

CS92688 DVD Encoder

Digital A/V

MCU POWER CONTROL / IR

DV In 1394 PHY

FRONT PANEL

An All-In-One Entertainment System *(continued)*

- Supports sleep and standby low-power modes
- Composite S-Video, Progressive Scan component video outputs
- Composite, S-Video and DV input (supports for RGB/YPrPb input will be available in future versions)
- Supports European requirements including VPS/PDC and dual SCART
- Cirrus Logic API allows easy integration of customer's existing microcontroller IP
- 5.1 Channel Class D PWM (6x35 W) with simultaneous line-level downmix
- Front panel headphone jack with automatic main channel muting

- Single hardware platform supports NTSC, PAL and SECAM
- Real-time encoding and decoding of digital video in input (MPEG-2 MP@ML or MPEG-1)
- Records audio in Dolby Digital, LPCM or MPEG-1, Layer II formats
- Full DVD player feature support: Playback of VCD, VCD 2.0, SVCD, audio CD, DVD and DVD-Audio and DivX®
- Easy-edit features for skipping commercials and authoring home video content