CRD-SB15Wx2 Soundbar

15W X 2 CHANNEL SOUND BAR WITH 2 VRMS SUB LINE OUT

JUST ADD SPEAKER ENCLOSURE, DRIVERS & POWER...

The CRD-SB15Wx2 Soundbar Reference Design / Turn-Key Manufacturing Kit includes all necessary design files (hardware, software, firmware, documentation) to enable from the beginner speaker driver / enclosure manufacturer who has almost no electronics design experience to be able to customize and manufacture a complete state-of-the-art 15W x 2 Channel Soundbar in the shortest time to market window ever before possible.

CS48520/CS48AU2B/CS48DV2B Family of DSPs, all of which feature a 32-bit fixed-point DSP engine that offers dual MACs, making 300 million multiply-accumulates at the disposal of the designer. Each of these DSPs is capable of supporting both standard processing and an array of 3rd party algorithms.

A complete list of all of the available algorithms supported by these 3 pin-compatible DSP part numbers is listed on the back of this document.

The CRD-SB15Wx2 has already been cost-optimized for manufacturability, undergone strict design for manufacturability rules, is RoHS compliant and has already passed EN55022 / CISPR 22 / FCC Class B, Part 15 EMI Testing so there should be no delay when you are ready to go to mass production.

AN INTUITIVE DSP GUI PROGRAMMING ENVIRONMENT

Every algorithm can be placed completely customizable signal flow and then compiled, downloaded, and then optimized in real-time. The speaker cabinet and drivers can also benefit from multiband Parametric EQ to assist in flattening the frequency response as well as notch out resonation frequencies or peak passive frequencies that have been impacted by a passive crossover - again in real-time.

SOUND BAR REFERENCE DESIGN / TURN-KEY MANUFACTURING DESIGN KIT

CRD-SB15Wx2 Evaluation Board Audio Path Block Diagram

Feature-rich processing and customized signal flows can be easily developed using the Cirrus Logic Audio Software Library, which includes both 3rd party certified application programs and a modular plug-in environment for easy customization using the DSP Composer GUI development tool. The framework includes certified state-of-the-art matrix audio decoders, virtualizers, speaker equalization capabilities, & a wide variety of audio enhancement algorithms.

The CRD-SB15Wx2 is based around the

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LEARN MORE AT
www.cirrus.com

COMPLETE REFERENCE DESIGN & TURN-KEY MANUFACTURING DESIGN KIT INCLUDES THE FOLLOWING & MORE:

Cirrus Logic IC Data Sheets:
CS8416, CS4525, CS4353, CS485xx Family DSP, CS48AU2B, CS48DV2B

Cirrus Logic Application Notes:
AN277 - Creating DSP Composer Primitives, a Tutorial
AN299 - CS485xx Family Firmware User’s Manual
AN298xxx - Appendices to AN298 covering specific algorithms

Cirrus Logic Hardware User’s Manual:
CS485xx Family (covers CS48520, CS48AU2B and CS48DV2B devices)

CS485xx Family Evaluation Kit Installer:
DSP Composer with example.cpa files featuring:
Cirrus Virtualizer Technology, Cirrus Bass Enhancement, Cirrus Dynamic Volume Leveler (Cirrus Logic Royalty-Free Algorithm Installers) & Primitives

Opal Kelly USB Driver Installer for CDB-USBMASTER;
generated from Micro-Condenser and supplied USB

CS485xx Family Firmware User’s Manual

CS485xx Family (covers CS48520, CS48DV2B

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entirely new signal flow inside DSP Composer can be provided signal flow. With minor changes, an example .cpa file which implements: SRS TruVolume + SRS TruSurround HD / WOW HD + Multiband PEQ + Hard Limiter + Custom Filtering. Various supplied example .cpa files will allow you to come up the learning curve quickly!

The supplied USB Interface MCU Debug Adapter, with the latest available Keil compiler (available at http://www.keil.com/c51), the developer can quickly make changes to microcontroller code and then download it via the MCU Debug header.

**AVAILABLE CERTIFIED AUDIO ALGORITHMS IN ROM**

- Cirrus Framework™ applications library in ROM:
  - 1:2 Up-sampler
  - 2:1, 4:1 Decimator
  - Advanced Bass Manager
  - Crossbar mixer
  - Dolby®-certified pink-noise/signal generator
  - Dolby Headphone®
  - Dolby® Pro Logic® II
  - Dolby® Pro Logic® IIX
  - Dolby® Virtual Speaker®
  - SRS® CircleSurround® II / CS Auto®
  - SRS® TruBass™
  - SRS TruSurround XT™
  - SRS WOW™
  - Multichannel Tone Control
  - Multiband Parametric/Graphic EQ
  - Independent Channel Delay

**AVAILABLE CERTIFIED DOWNLOADABLE AUDIO ALGORITHMS**

- Additional certified Cirrus Framework™ applications available for download:
  - Audyssey EQ™
  - Audyssey Dynamic Volume®/Dynamic EQ™
  - Audyssey Adaptive Bass eXtension (ABX)™
  - Audyssey BassXT™
  - Cirrus® Bass Enhancement (CBE)
  - Cirrus® Original Multichannel Surround 2 (COMS2) - “Hall, Theater, etc. DSP effects”
  - Cirrus® Virtualizer Technology (CVT)
  - Cirrus® Dynamic Volume Leveler (DVL)
  - Dolby® Volume
  - DTS Neo:6®
  - DTS Surround Sensation Speaker®

- EmbracingSound®
- EmbracingSound®
- Expedia® GBS HD®
- SRS® FOCUS™
- SRS® Dialog Clarity™
- SRS® Definition™
- SRS® WOW HD™
- SRS® TruBass™
- SRS® TruSurround® HD™ / HD4™
- Waves® MaxxBass®
- Waves® MaxxEQ®
- Waves® MaxxTreble®
- Waves® Stereo®
- Waves® Volume®

- DTS Neo:6®, Dolby® Volume, Audyssey EQ™ and Audyssey Dynamic Volume® are available upon request from your Cirrus Logic FAE, upon confirmed execution of: Cirrus Logic Software Licensing Agreement & respective 3rd Party Evaluation Licensing Agreement. Before going to mass production, both Cirrus Logic Software Distribution Agreement & 3rd Party Manufacturing Agreement must also be executed.

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