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.

The CRD-SB15Wx2 is based around the 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 realtime.

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entirely new signal flow inside DSP Composer can be provided signal flow. With minor changes, an existing C语言 source for the 8051 microcontroller can be recompiled for the CS48AU2B/CS48DV2B Family DSP, and can be connected to the PC via USB 2.0 cable. This connection enables a real-time, in-circuit control & debug of the DSP parameters shown in the DSP Composer .CPA signal flow file.

MICROCONTROLLER PROGRAMMING SIMPLICITY
High-level, well-structured, well-documented C language source for the 8051 microcontroller has been included which works "as-is" with the provided signal flow. With minor changes, an entirely new signal flow inside DSP Composer can be supported by using a powerful new utility called Micro-Condenser by generating "snapshots" of all of the various modes inside DSP Composer. By using 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 the MCU debug 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™

DSP Composer GUI programming interface as shown with 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!

CIRCUIT/3RD PARTY IP SUPPORT BY DSP PART NUMBER

<table>
<thead>
<tr>
<th>Pin-Compatible DSP Part Number</th>
<th>Audyssey by Dolby</th>
<th>Audyssey Laboratories</th>
<th>Cirrus Logic</th>
<th>Dolby Volume®</th>
<th>Dolby Laboratories®</th>
<th>Dolby Volume™</th>
<th>EmbracingSound®</th>
<th>Expamedia QBS HD®</th>
<th>SRS Labs, Inc.</th>
<th>Waves MaxxBass®</th>
<th>Waves MaxxEQ®</th>
<th>Waves MaxxTreble®</th>
<th>Waves™ Stereo®</th>
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* All currently supported Dolby algorithms listed in this document, except Dolby Volume®.
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OBTAINING 3RD PARTY ALGORITHM INSTALLERS
- Installers which include DSP Composer 3rd party Licensed Software Modules, Certified DSP Firmware & Documentation listed in this document 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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