



Symphony™ SoundBite Development Kit

Freescale introduces the Symphony SoundBite Development Kit, designed for cost-sensitive applications and college laboratories, providing a very low-cost entry point into high-end DSP solutions.

The Symphony SoundBite development kit brings much of the performance of Freescale's full-featured evaluation module (DSPAUDIOEVMMB1E motherboard and DSxP371DB1E daughtercard) for the Symphony™ DSP56371 digital signal processor to a more compact and user-friendly design at a very manageable price point. The Symphony SoundBite is capable of simultaneously processing 8 independent channels of line-level audio via 4 pairs of 3.5mm stereo jacks. One input/output pair of jacks is shared with the AKM S/PDIF receiver and transmitter, enabling optical digital audio input and output. The analog processing is handled by four AKM 24-bit stereo codecs at sampling rates up to 192 kHz. Multiple banks of DIP switches and multi-colored LEDs connected to the DSP's GPIO pins allow for user interaction with the DSP application.

Key Processor Features

- 24-bit Symphony DSPB56371 Digital Signal Processor, 180 (MIPS) at 180 MHz core clock
- Dual-Harvard architecture core (two data memory spaces in addition to program space)
On-chip memories:
 - 4-44k x 24-bit words of PRAM
 - 28-36k x 24-bit words of XRAM
 - 16-48k x 24-bit words of YRAM
- Two Enhanced Serial Audio Interfaces (ESAIs) provide up to 8 channels of digital audio input and output.
- Serial Host Interface (SHI) allows for I²C or SPI communication

Key Board Features

- Powered by USB bus voltage or external power adaptor
- On-board USB interface that provides JTAG debug, I²C and SPI serial communication with the DSP
- 1x AK4584 24-bit 192 kHz stereo codec with integrated S/PDIF transceiver
- 3x AK4556 24-bit 192kHz stereo codecs
- On-board microphone and pre-amplifier
- Expansion header for off-board GPIO interfacing
- 8-position DIP input switch
- 9 LED indicators

The Symphony SoundBite Development Kit includes the Symphony SoundBite evaluation board, a mini USB cable and a CD-ROM with all the software and documentation needed to get started. An external power supply is recommended for optimum audio performance. The Symphony Studio software is expected to be available for download in November 2007 on the Freescale Symphony audio web site: www.freescale.com/symphony. Please check the web site regularly for updates. The Symphony SoundBite evaluation board includes the Symphony DSP56371 processor on a small form-factor PCB, 256KB serial (I²C) EEPROM memory, mini USB interface and a DIP switches for user inputs.

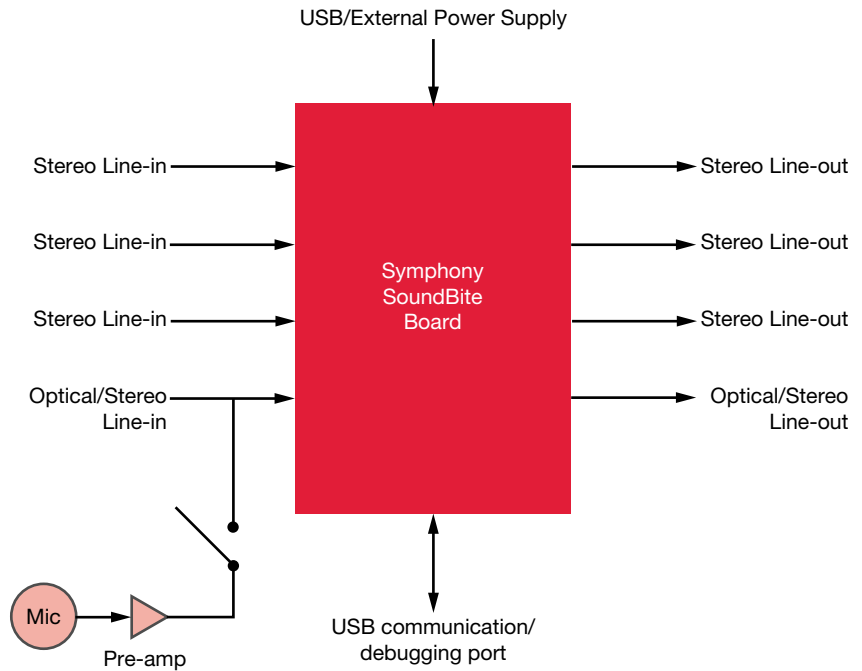
Documentation:

- Symphony SoundBite Hardware Reference Guide and schematic
- Symphony DSP56300 Family Manual
- Symphony DSP56371 User's Guide and Data Sheet
- Symphony SoundBite application examples

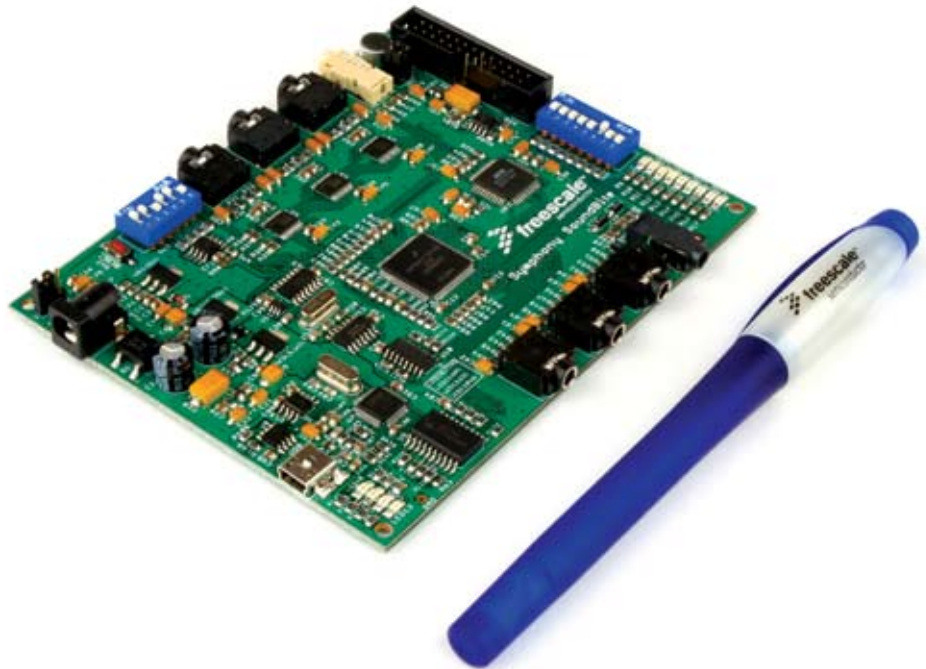
Package:

- 4x5 inch double sided PCB

High-level Symphony SoundBite Overview



Note: All analog inputs and outputs are stereo



Learn More: For additional information about Freescale's Symphony portfolio, visit the following website at www.freescale.com/symphony