

# BF592audio

## Blackfin module with 200/400MHz BF592 and dual-channel HQ audio interface



The **BF592audio** module is a very small, low-cost, easy-to-use audio processor system which can be operated in stand-alone or embedded applications. It comes with a powerful 200MHz (400MHz optional) Blackfin DSP and a stereo audio codec with stereo line-in and line-out channels, a microphone input and headphone drivers.

The system was designed for use in high-performance audio processing application such as echo and noise cancellation. It perfectly matches G.165 and G.167 echo-cancellers as well as our frequency domain audio enhancement library.

Information on speech enhancement:  
<http://numeriq.de/017>

Besides audio enhancement applications, the module is suitable for speech compression using standard or non-standard algorithms such as G.722, G.726, G.729, G.723.1, G.722.2, GSM fullrate, GSM halfrate, Speex etc.

Information on speech algorithms:  
<http://numeriq.de/018>

With a size of only 1.0" x 2.0", the board will fit every embedded platform. Widely used 100mill (2.54mm) pin headers are used to connect the module to a target board. Sixteen (16) general purpose I/O pins can be used to configure the firmware or indicate its internal status. Alternatively, these pins can be used as a high-speed synchronous serial port (SPORT1 primary data only), as a UART (RXD & TXD only). SPI port 1 (with five CS outputs). can also alternatively be used as the PPI (lower byte only).

An additional two-wire interface can be used to connect the DSP in an I<sup>2</sup>C bus topology.

### Specifications\*

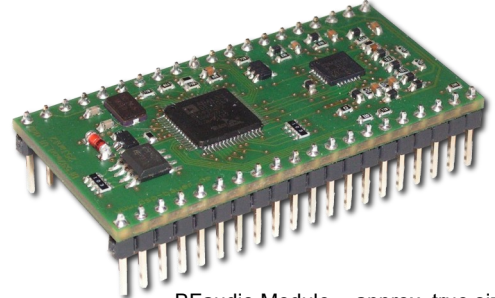
**Power consumption:** approx. 500mW @ 3.3V

**Memory:** 32kB program RAM, 32K+4K data RAM, 2Mb serial flash

**I/O:** 16 general purpose I/O pins, I<sup>2</sup>C, UART, SPI

**Processor:** ADSP-BF592KCPZ (400MHz) or KCPZ-2 (200MHz)

**Physical Dimensions:** approx. 51 x 25.5 x 12mm (2"x1"x.5")



BFaudio Module - approx. true size image

### Typical applications:

Echo Cancelling, Noise Cancelling, Intercoms, Alarm/Announcement Systems, Hands-free Systems

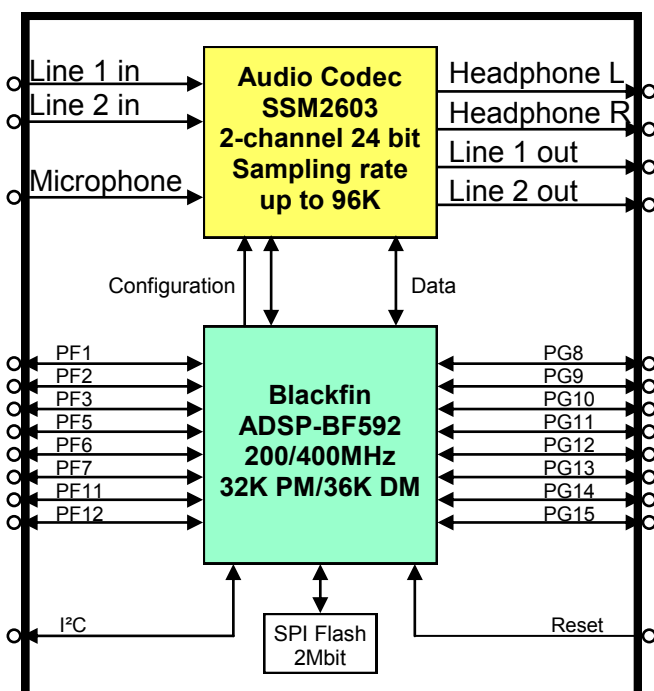
Example projects (miniBSP) for VisualDSP available with the hardware, demonstrating how to use the I/O framework for the board and launch applications.

A motherboard with a PSTN (analog telephone) interface and a mono power amplifier (1Watt) is also available for hands free demonstration and general evaluation purposes.

### About us

Ingenieurbüro Bayer DSP Solutions provides consulting and contract development services for DSP, FPGA and microcontrollers to customers around the world. We cover all Digital Signal Processing topics, including hardware and FPGA design, DSP algorithms and code optimization, software integration, hardware/software co-design and test.

Our preferred targets include Analog Devices SHARC and Blackfin, Texas Instruments DSP, Xilinx FPGA, various ARM families and other platforms.



\*Specifications may change without notice



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