

# Noise Cancellation for Analog Devices Blackfin



## Noise Cancellation

A Noise Cancellation algorithm for Analog Devices Blackfin processors is now available from Bayer DSP Solutions. It is based on a reference microphone solution, i.e. there is a microphone that estimates the background noise which is then removed from the speech channel. The algorithm can be used in noisy environment to create clear speech in open-air intercoms, hands free applications and many more.

In a real-world system, such as intercoms in public transport units the noise cancellation algorithm can be used along with our Acoustic Echo Canceller.



The screenshot above shows the de-noised signal (top) and the original noisy signal (bottom). It can clearly be seen that much of the noise is removed from the original input, while the speech is now clearly standing out from the remaining noise floor. A sound demo can be downloaded from our web-side.

The algorithm was implemented to be independent of the hardware interface, i.e. the user specifies input and output channels and must handle buffers in his framework.

The algorithm is fully re-entrant and can easily be integrated in a "C"-environment.

## Specifications:

- 15 MIPS per channel
- 3 kBytes program memory
- < 100 Bytes global data memory
- < 400 Bytes data memory / channel



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## Support

- Demo for BF533-EZLite available under NDA
- Fully documented library
- Customization/Integration support available
- Code portable to other platforms (DSP, non-DSP)

## Ingenieurbüro Bayer DSP Solutions

Ingenieurbüro Bayer DSP Solutions was founded more than a decade ago by Andreas Bayer, a first hour DSP specialist.

Originally specializing in the telecommunication field, the company has grown its DSP expertise to provide comprehensive services around Digital Signal Processing applications by using DSP chips from Analog Devices, Texas Instruments, NEC, Freescale and other renowned DSP vendors.

Our goal is to provide comprehensive coverage of all Digital Signal Processing topics, including hardware design, FPGA design, DSP algorithms, software integration, tools and complete products.

Today we support many DSP families including Texas Instruments C54x, C55x, C3x, C6x, Analog Devices ADSP218x, SHARC and Blackfin, Motorola DSP56K as well as DSPs from other vendors.

Ingenieurbüro Bayer DSP Solutions is a registered and active Third Party of Analog Devices, Texas Instruments and other silicon vendors.