

# DTMF Receiver / Generator for Analog Devices Blackfin



## DTMF Generator

The DTMF generator algorithm performs according to ETSI/CEPT targeting PBX and Central Office applications. The algorithm features near perfect frequency and level precision.

### Specifications:

- Frequency precision better than .1%
- Level precision better than .5dB
- Self Timing signal generation (automatic cadences)
- Programmable Pre-emphasis (+2dB)
- ~ .2 MIPS / channel
- ~ 600 words program memory
- 32 Bytes data memory + 8 Bytes data memory per channel
- Complies with CEPT TC/S 46-02, ETSI ES201235-2, Bellcore and ITU-T recommendations
- Runs on all Blackfin devices



## DTMF Receiver

The DTMF receiver algorithm performs better than recommended by ETSI/ITU/Bellcore and is targeted at PBXs and Central Office applications. The algorithm features outstanding speech immunity and is superior to all traditional single chip solutions.

### Specifications:

- Accepts signals and pauses > 40ms in duration
- Rejects signals and pauses < 40ms in duration
- Sustained performance in the presence of noise, frequency deviation and dial tones.
- Spans > 25dB of dynamic range (-4dBV ... -29dBV)
- No detection at Lmin -9dB
- Speech immunity guaranteed, e.g. tested with Mitel's CM7291 tape (10 out of 30 allowed detections)
- 2.6 kBytes program memory total
- 176 Bytes data memory / channel
- Complies with CEPT TC/s 46-02, ETSI ES201235-3. Bellcore and ITU-T recommendations
- Runs on all Blackfin devices

## Support

- Demo for BF533-EZLite available under NDA
- Fully documented separate libraries for Generator and Detector
- 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.



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