A Micropower Cochlear Prosthesis System Demonstrator

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Abstract—This demonstrator presents an ultra low power mixed-signal implementation of a cochlear prosthesis system. A laptop PC provides an audio stimulus to the cochlear chip. A microcontroller on the demonstrator board monitors the output channels of the chip and returns these to the PC to be displayed as a spectrogram. The audiological settings of the implant chip are controlled via a GUI running on the PC.

For more details on the cochlear chip please see:

J. Georgiou and C. Toumazou, "A Micropower Cochlear Prosthesis System," Circuits and Systems, 2003. ISCAS '03. Proc. of the 2003 IEEE Int. Symp. Vol. 3, pp. 834-837