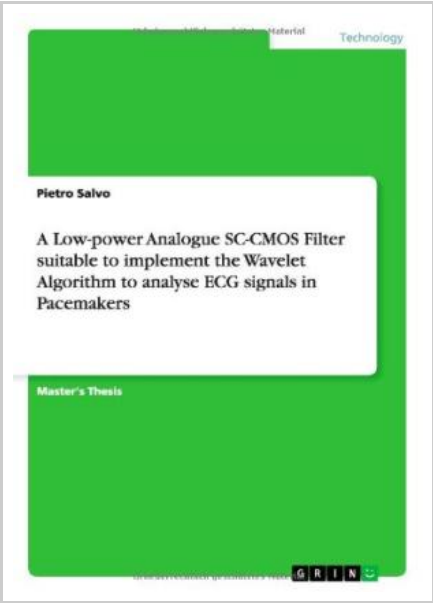

A Low-Power Analogue SC-CMOS Filter Suitable to Implement the Wavelet Algorithm to Analyse ECG Signals in Pacemakers

By Pietro Salvo

GRIN Verlag. Paperback. Book Condition: New. Paperback. 72 pages. Dimensions: 8.3in. x 5.8in. x 0.2in.Masters Thesis from the year 2004 in the subject Engineering - General, Basics, grade: -, University of Pisa, language: English, abstract: The detection of the QRS complex is very important because it is related to different heart dysfunctions. The wavelet transformation is an useful tool to characterize non-stationary signals such as the QRS complex because it gives good estimation of time and frequency localization. Starting from the mathematical expression of the Gaussian function, chosen as mother wavelet, after the Laplace Transform, the Pad Approximation will be used to arrive at a rational form of the function suitable for a filter implementation. It will be shown that a switched-capacitor (SC) realization is preferable instead of a direct implementation of the filter in Continuous Time in order to avoid high-value resistor elements. The optimization of the sensitivity, noise and dynamic range of the filter will be carried out following a State-Space methodology. The resulting circuit is a 7th order complementary metal-oxide semiconductor (CMOS) SC filter. This item ships from multiple locations. Your book may arrive from Roseburg,OR, La Vergne,TN. Paperback.

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