



## Analog Circuit Design: Low-Power Low-Voltage, Integrated Filters, and Smart Power : 3rd Workshop on Advances in Analogue Circuit Design : Papers (Hardback)

By -

Kluwer Academic Publishers, United States, 1995. Hardback. Book Condition: New. 1995 ed.. 236 x 160 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*.The realization of signal sampling and quantization at high sample rates with low power dissipation is an important goal in many applications, including portable video devices such as camcorders, personal communication devices such as wireless LAN transceivers, in the read channels of magnetic storage devices using digital data detection, and many others. This paper describes architecture and circuit approaches for the design of high-speed, low-power pipeline analog-to-digital converters in CMOS. Here the term high speed is taken to imply sampling rates above 1 Mhz. In the first section the different conversion techniques applicable in this range of sample rates is discussed. Following that the particular problems associated with power minimization in video-rate pipeline ADCs is discussed. These include optimization of capacitor sizes, design of low-voltage transmission gates, and optimization of switched capacitor gain blocks and operational amplifiers for minimum power dissipation. As an example of the application of these techniques, the design of a power-optimized 10-bit pipeline AID converter (ADC) that achieves =1.67 mW per MS/s of...



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