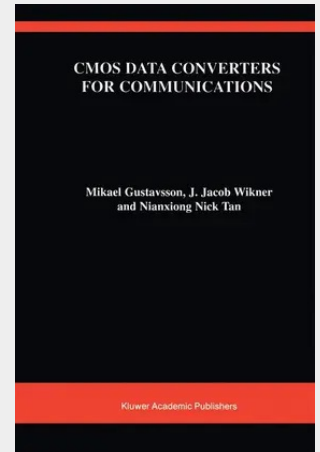


CMOS Data Converters for Communications

distinguishes itself from other data converter books by emphasizing system-related aspects of the design and frequency-domain measures. It explains in detail how to derive data converter requirements for a given communication system (baseband, passband, and multi-carrier systems). The authors also review CMOS data converter architectures and discuss their suitability for communications. The rest of the book is dedicated to high-performance CMOS data converter architecture and circuit design. Pipelined ADCs, parallel ADCs with an improved passive sampling technique, and oversampling ADCs are the focus for ADC architectures, while current-steering DAC modeling and implementation are the focus for DAC architectures. The principles of the switched-current and the switched-capacitor techniques are reviewed and their applications to crucial functional blocks such as multiplying DACs and integrators are detailed. The book outlines the design of the basic building blocks such as operational amplifiers, comparators, and reference generators with emphasis on the practical aspects. To operate analog circuits at a reduced supply voltage, special circuit techniques are needed. Low-voltage techniques are also discussed in this book. CMOS Data Converters for Communications can be used as a reference book by analog circuit designers to understand the data converter requirements for communication applications. It can also be used by telecommunication system designers to understand the difficulties of certain performance requirements on data converters. It is also an excellent resource to prepare analog students for the new challenges ahead.

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235,39 €

219,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9780792377801

Medium: Buch

ISBN: 978-0-7923-7780-1

Verlag: Humana

Erscheinungstermin: 31.01.2000

Sprache(n): Englisch

Auflage: 2000

Serie: The Springer International Series in Engineering and Computer Science

Produktform: Gebunden

Gewicht: 1640 g

Seiten: 378

Format (B x H): 160 x 241 mm

