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Nota di contenuto	Cover; Front matter; Half Title Page; Title Page; Copyright; Contents; Foreword; Preface; Acknowledgments; 1. Data Converter History; SECTION 1-1 Early History; SECTION 1-2 Data Converters of the 1950's and 1960's; SECTION 1-3 Data Converters of the 1970's; SECTION 1-4 Data Converters of the 1980's; SECTION 1-5 Data Converters of the 1990's; SECTION 1-6 Data Converters of the 2000's; 2. Fundamentals of Sampled Data Systems; SECTION 2-1 Coding and Quantizing; SECTION 2-2 Sampling Theory; SECTION 2-3 Data Converter AC Errors; SECTION 2-4 General Data Converter Specifications SECTION 2-5 Defining the Specifications 3. Data Converter Architectures; SECTION 3-1 DAC Architectures; SECTION 3-2 ADC Architectures; SECTION 3-3 Sigma-Delta Converters; 4. Data Converter Process Technology; SECTION 4-1 Early Processes; SECTION 4-2 Modern Processes; SECTION 4-3 Smart Partitioning; 5. Testing Data Converters; SECTION 5-1 Testing DACs; SECTION 5-2 Testing ADCs; 6. Interfacing to Data Converters; SECTION 6-1 Driving ADC Analog

Inputs; SECTION 6-2 ADC and DAC Digital Interfaces (and Related Issues); SECTION 6-3 Buffering DAC Analog Outputs SECTION 6-4 Data Converter Voltage References SECTION 6-5 Sampling Clock Generation; 7. Data Converter Support Circuits; SECTION 7-1 Voltage References; SECTION 7-2 Low Dropout Linear Regulators; SECTION 7-3 Analog Switches and Multiplexers; SECTION 7-4 Sample-and-Hold Circuits; 8. Data Converter Applications; SECTION 8-1 Precision Measurement and Sensor Conditioning; SECTION 8-2 Multichannel Data Acquisition Systems; SECTION 8-3 Digital Potentiometers; SECTION 8-4 Digital Audio; SECTION 8-5 Digital Video and Display Electronics; SECTION 8-6 Software Radio and IF Sampling SECTION 8-7 Direct Digital Synthesis (DDS)SECTION 8-8 Precision Analog Microcontrollers; 9. Hardware Design Techniques; SECTION 9-1 Passive Components; SECTION 9-2 PC Board Design Issues; SECTION 9-3 Analog Power Supply Systems; SECTION 9-4 Overvoltage Protection; SECTION 9-5 Thermal Management; SECTION 9-6 EMI/RFI Considerations; SECTION 9-7 Low Voltage Logic Interfacing; SECTION 9-8 Breadboarding and Prototyping; INDEX; SUBJECT INDEX

Sommario/riassunto

This comprehensive handbook is a one-stop engineering reference. Covering data converter fundamentals, techniques, applications, and beginning with the basic theoretical elements necessary for a complete understanding of data converters, this reference covers all the latest advances in the field. This text describes in depth the theory behind and the practical design of data conversion circuits as well as describing the different architectures used in A/D and D/A converters. Details are provided on the design of high-speed ADCs, high accuracy DACs and ADCs, and sample-and-hold amplifie
