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   Nota di contenuto   Cover; Contents; Foreword; Preface; Acknowledgments; Chapter 1:
                       Signal Paths from Analog to Digital; Introduction; A Refresher; Accuracy
                       vs. Speed-Analog and Digital; Interface Electronics; The Basic Functions
                       for Analog-to-Digital Conversion; Summary; Chapter 1 Quiz; Chapter
                       2: Signal Paths from Digital to Analog; Introduction; The Digital-to-
                       Analog Portion; Filtering; Conditioning the Signal; Transducing the
                       Signal; Summary; Chapter 2 Quiz; Chapter 3: Sensors; Introduction;
                       Temperature Sensors; Angular and Linear Position; Rotation;
                       Magnetoresistor Sensor; Pressure; Light Sensors
                       Other SensorsSummary; Chapter 3 Quiz; Chapter 4: Signal
                       Conditioning; Introduction; Amplification; Bipolar NPN Amplifier;
                       Amplifier Frequency Response; Coupling; Small-Signal vs. Large Signal;
                       Classes of Amplifiers; Field-Effect Transistor Amplifiers; A N-Channel
                       JFET Amplifier Design; An NPN MOSFET Amplifier; Operational
                       Amplifiers; Conditioning the Output of a Pressure Sensor; A More
                       Sophisticated Pressure Sensor Amplifier; Current Mirror; Applications of
                       Op Amps; Oscillators; Power Amplifiers; Class B Audio Power Amplifier;
                       Special Signals; RC Time Constants; Frequency Selection

Sommario/riassunto	Today's control system designers face an ever-increasing "need for speed? and accuracy in their system measurements and computations. New design approaches using microcontrollers and DSP are emerging, and designers must understand these new approaches, the tools available, and how best to apply them.This practical text covers the latest techniques in microcontroller-based control system design, making use of the popular MSP430 microcontroller from Texas Instruments.The book covers all the circuits of the system, including: ·Sensors and their output signals·Design and app