

## COMPUTER COMMUNICATIONS AND NETWORKS

The Essential PIC18<sup>®</sup> Microcontroller

SID KATZEN

Microprocessors are the key component of the infrastructure of our 21st-century electronic- and digital information-based society. More than four billion are sold each year for use in 'intelligent' electronic devices; ranging from smart egg-timers through to aircraft management systems.

Most of these processors devices appear in the form of highly-integrated microcontrollers, which comprize a core microprocessor together with memory and analog/digital peripheral ports. By using simple cores, these single-chip computers are the cost- and size-effective means of adding the brains to previous dumb widgets; such as the credit card.

Using the same winning format as the successful Springer guide, *The Quintessential PIC<sup>®</sup> Microcontroller*, this down-to-earth new textbook/guide has been completely rewritten based on the more powerful PIC18 enhanced-range Microchip MCU family. Throughout the book, commercial hardware and software products are used to illustrate the material, as readers are provided real-world in-depth guidance on the design, construction and programming of small, embedded microcontroller-based systems. Suitable for stand-alone usage, the text does not require a prerequisite deep understanding of digital systems.

### Topics and features:

- \* Uses an in-depth bottom-up approach to the topic of microcontroller design using the Microchip enhanced-range PIC18<sup>®</sup> microcontroller family as the exemplar
- \* Includes fully worked examples and self-assessment questions, with additional support material available on an associated website
- \* Provides a standalone module on foundation topics in digital, logic and computer architecture for microcontroller engineering
- \* Discusses the hardware aspects of interfacing and interrupt handling, with an emphasis on the integration of hardware and software
- \* Covers parallel and serial input/output, timing, analog, and EEPROM data-handling techniques
- \* Presents a practical build-and-program case study, as well as illustrating simple testing strategies

This useful text/reference book will be of great value to industrial engineers, hobbyists and people in academia. Students of Electronic Engineering and Computer Science, at both undergraduate and postgraduate level, will also find this an ideal textbook, with many helpful learning tools.

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COMPUTER SCIENCE

ISBN 978-1-84996-228-5



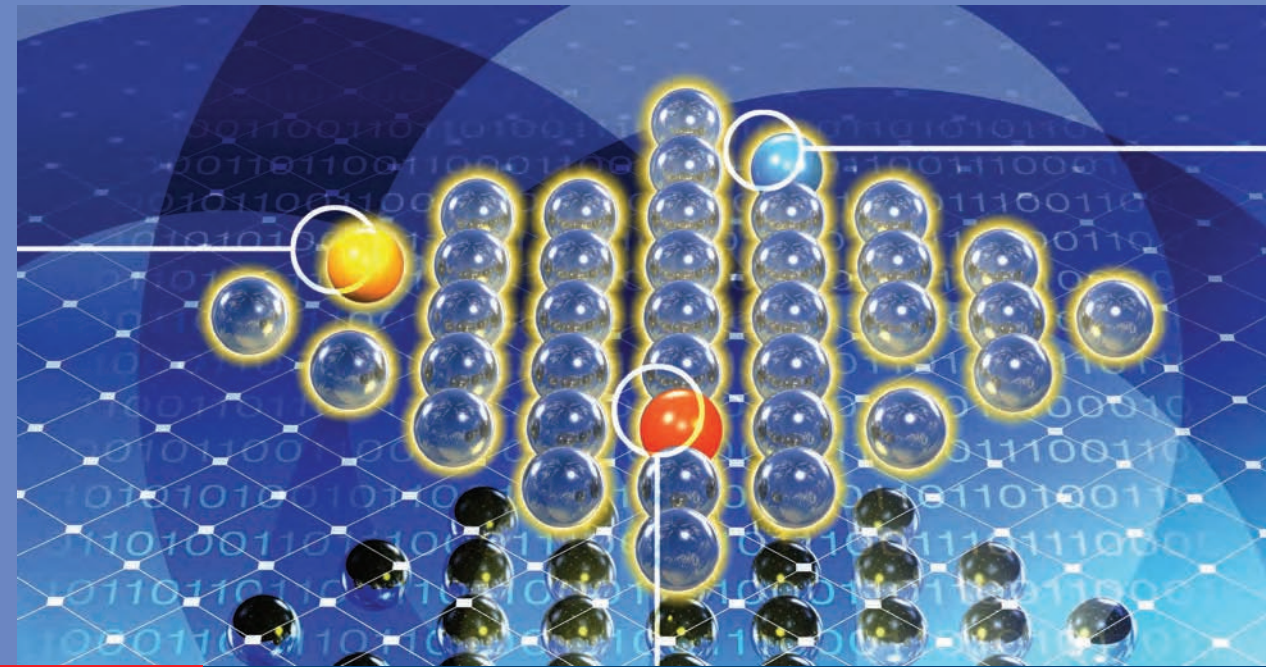
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