

Embedded Systems

Architecture, Programming and Design



Raj Kamal

Embedded Systems

Architecture, Programming and Design

Raj Kamal

Institute of Computer Sciences and Electronics

Devi Ahilya University

Indore

and

TIFAC Center of Relevance and Excellence in Network Engineering

Arulmigu Kalasalingam College of Engineering

Krishnankoil



Tata McGraw-Hill Publishing Company Limited

NEW DELHI

McGraw-Hill Offices

New Delhi New York St Louis San Francisco Auckland Bogotá Caracas

Kuala Lumpur Lisbon London Madrid Mexico City Milan Montreal

San Juan Santiago Singapore Sydney Tokyo Toronto

Information contained in this work has been obtained by Tata McGraw-Hill, from sources believed to be reliable. However, neither Tata McGraw-Hill nor its authors guarantee the accuracy or completeness of any information published herein, and neither Tata McGraw-Hill nor its authors shall be responsible for any errors, omissions, or damages arising out of use of this information. This work is published with the understanding that Tata McGraw-Hill and its authors are supplying information but are not attempting to render engineering or other professional services. If such services are required, the assistance of an appropriate professional should be sought.



Tata McGraw-Hill

© 2003, Tata McGraw-Hill Publishing Company Limited

Twelfth reprint 2007
RBLYCRLYRADYC

No part of this publication can be reproduced in any form or by any means without the prior written permission of the publishers

This edition can be exported from India only by the publishers, Tata McGraw-Hill Publishing Company Limited

ISBN 0-07-049470-3

Published by Tata McGraw-Hill Publishing Company Limited,
7 West Patel Nagar, New Delhi 110 008, Typeset at Script Makers,
19, A1-B, DDA Market, Pashchim Vihar, New Delhi 110 063 and printed at
Sai Printo Pack Pvt. Ltd., Y-56, Okhla Industrial Area, Phase II, New Delhi 110 020

Cover: Rashtriya Printers

The McGraw-Hill Companies

Embedded Systems

Architecture, Programming and Design

Written for the first course on Embedded Systems, the book keeps the needs of budding systems designers in sharp focus. The book first details the basic hardware and software elements of an embedded system followed by interfacing and software techniques to embed codes into the system.

Salient Features

- Thorough explanation of embedded system programming concepts, OS, RTOS functions and inter-process synchronization.
- Modeling of programs and use of software engineering practices for single as well as multiprocessor systems.
- Simultaneous coverage of two Real Time Operating Systems — μ C/OS - II and VxWorks .
- Case studies in consumer electronics, communications, automobile electronics, and secure transaction systems-on-chip, illustrating programming with RTOS .
- Emphasis on pedagogical aids — illustrations, examples, keywords and their definitions, review questions, and exercises.

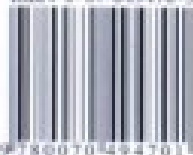
The McGraw-Hill Companies



Tata McGraw-Hill

Visit us at: www.tatamcgrawhill.com

ISBN 0-07-049470-3



9 780070 494701