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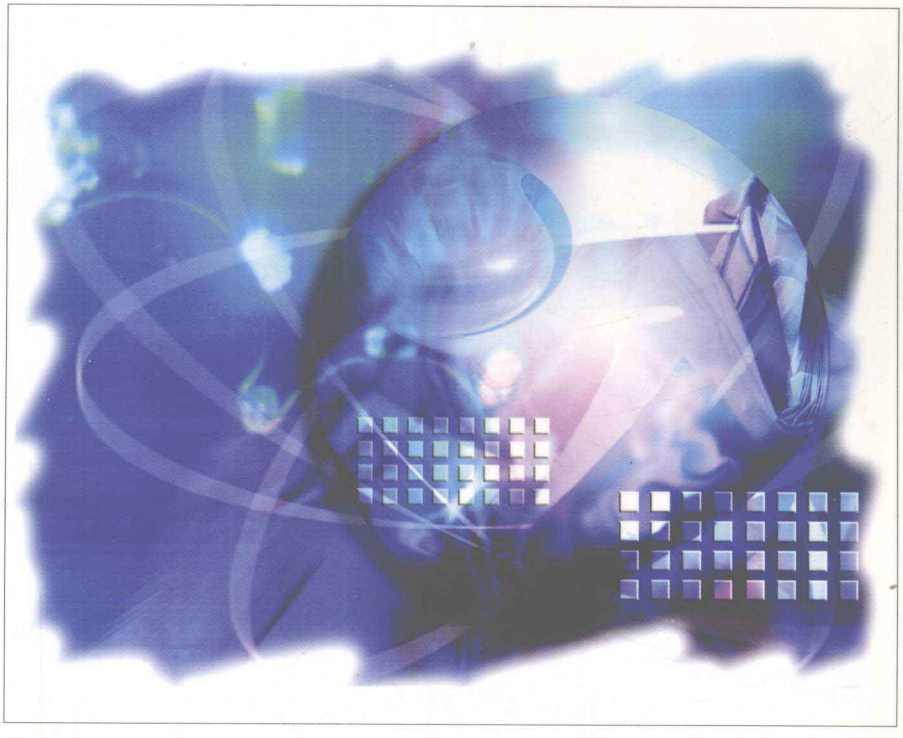
电子工程系列丛书（影印版）

The Essential Guide to Telecommunications
Third Edition

通信新技术入门
第3版



ANNABEL Z. DODD

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出 版 前 言

电子工程是信息科学的基础。高等学校新的教学要求指出：计算机专业和电子学专业的学生应相互学习并渗透到彼此的专业领域，拓宽知识面，以适应信息技术飞速发展的时代。培养通晓相关专业领域知识的人才，已成为21世纪理工科教育的迫切要求。为此，我们挑选与信息科学、电子学有关的国外优秀著作，组成“电子工程系列丛书（影印版）”，奉献给国内读者。1999年我们曾推出了奥本海姆的《信号与系统（第2版）》、奥法尼德斯的《信号处理导论》和拉贝的《数字集成电路》。这三本影印版图书获得了读者的广泛支持。本世纪我们将继续进行这项工作。根据读者的意见，今后我们出版的影印版图书，其开本尺寸不再缩小，基本保持其原版开本尺寸。

我们希望，这套丛书能为国内高校师生、工程技术人员以及科研单位的工作人员提供新的知识和营养，也衷心期待着读者对我们一如既往的支持。

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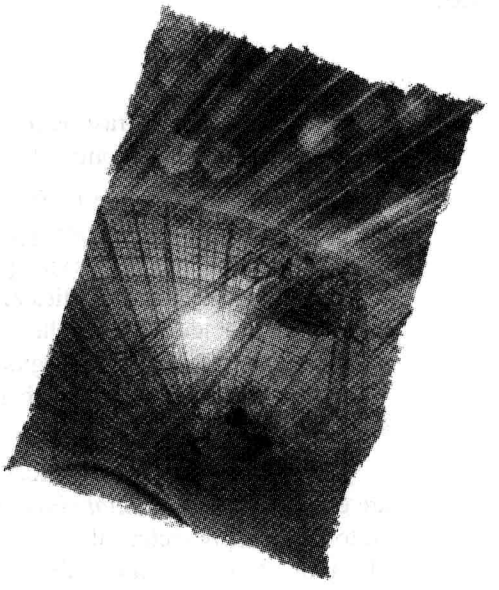
About the Author

Annabel Z. Dodd, adjunct professor at Northeastern University's state-of-the-art program, teaches courses in Telecommunications and Data Communications for the Non-Technical. She was an adjunct professor in the Master of Science in Technology Management program at the State University of New York at Stony Brook in 2000, where she taught in a joint program with The Institute of Industrial Policy Studies, Seoul, South Korea. Formerly in marketing at New England Telephone and Telecommunications and Manager at Dennison Manufacturing Company, now Avery Dennison, she consults with major corporations and institutions and gives seminars to organizations worldwide. The Massachusetts Telecommunications Council honored her as the Professor of the year 2000. Annabel Dodd can be visited on the Web at www.doddontheline.com.

Preface



Enormous changes in telecommunications occurred in the two years between the second and third editions of *The Essential Guide to Telecommunications*. The *Essential Guide to Telecommunications* is intended as a road map clarifying technologies, history and trends in telecommunications. Technological innovations in fiber optics and attendant lower costs has led to the construction of vast networks. The book contrasts the glut of these fiber optic networks in long distance routes and some urban areas with their scarcity in developing countries, rural and most suburban regions.

The Essential Guide to Telecommunications explains how technology and regulatory factors impact each other. Deregulation and the presence of competition have resulted in the development of technological innovations. These innovations, particularly those in gigabit Ethernet and optical switching, are examined.

Cellular service has grown tremendously in the last decade. It is a key technology for providing basic voice service in large parts of the world. The book examines technologies used to provide greater capacity for basic voice service in fast growing urban areas, rural communities and tall skyscrapers. It also explains the advanced cellular technologies for transmitting higher speed data and accessing the Internet over wireless networks. It also addresses the concerns about safety. It is not known what impact fears about cancer and driving safety will have on the cellular market.

The Essential Guide to Telecommunications, third edition, reviews telecommunications in Europe, Asia and Latin America, as well as in developing countries, and the wide-reaching impact of wireless technology in these areas. Deregulation of local long distance and international services, as well as industry structure and major carriers, are covered. The structure of the telecommunications industry and steps in deregulation are examined in key areas of the world. The pace of adoption of technologies, such as high-speed Internet access, also is highlighted. The significance of a strong

telecommunications infrastructure on the economy and on international trade is widely recognized and has prompted governments' attention worldwide.

The Essential Guide to Telecommunications, third edition, presents profiles of industry segments and vendor types to provide readers an understanding of the industry. The roles of Internet service providers, backbone Internet providers, competitive local exchange carriers, utilities and cable TV companies are explained. The number of network providers and resellers and the fast pace of mergers has created new layers of complexity. In addition, regulatory rulings and the Telecommunications Act of 1996 are examined in light of their impact on consumers, commercial organizations and carriers.

The language and significance of important telecommunications technologies are explored. *The Essential Guide to Telecommunications*, third edition, is not intended to be a deeply technical book. Rather, it is an overview of technologies and an explanation of the structure of the telecommunications industry. Technologies important in competition for local calling, high-capacity communications, third generation wireless services and Internet access are clarified. Intertwined with high-level technical explanations are examples of how the various vendors interconnect their networks. The book explains key technologies and options available for small and large organizations and consumers. It further explores significant trends, applications and the impact of the Internet.

This book is intended for non-technical people working in the field of telecommunications, laymen interested in learning more about the field and people responsible for the administration of telecommunications services for their organizations. They include regulatory staff, salespeople, law firms, research organizations, marketing personnel, human resources professionals, project managers, telecommunications managers and high-level administrators.

The Essential Guide to Telecommunications, third edition, starts out with interpretations of fundamental concepts so that readers will have a basis for understanding more complex, new telecommunications services. It examines the structure of the industry, local competition, regulatory proceedings, the Internet, convergence and wireless services.

Along with explanations of technology are examples of applications and historical highlights. How the industry evolved and how the technology changed is explained. The stories and descriptions that accompany the technical details are key to the book.

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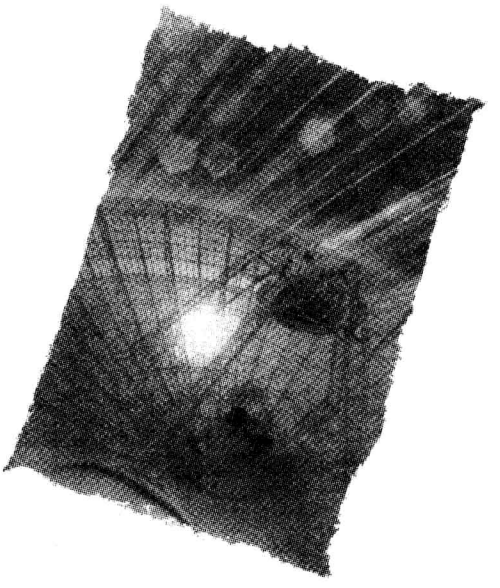

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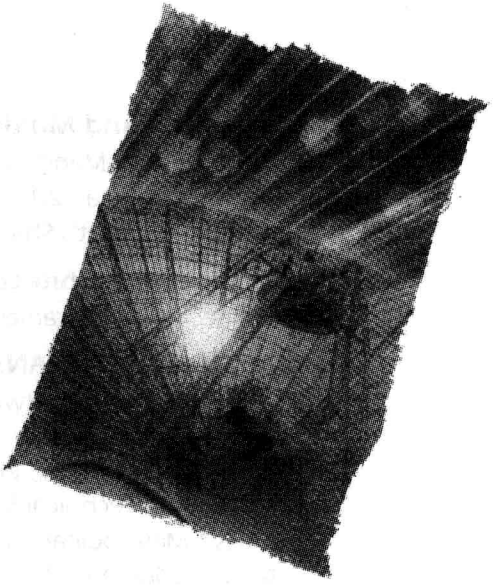

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