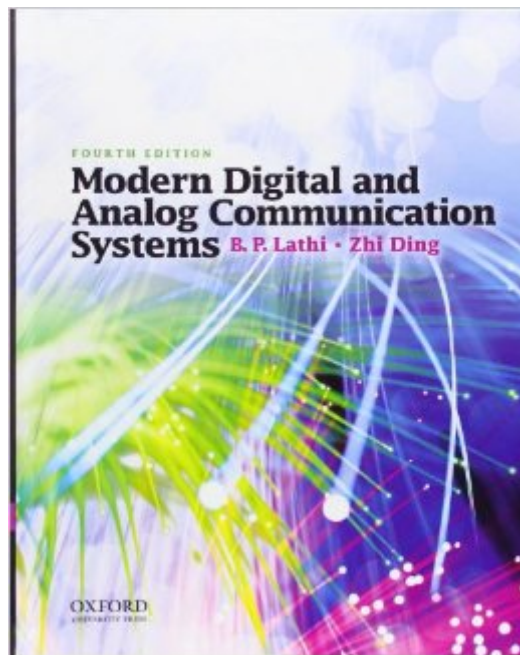# Modern Digital And Analog Communication Systems (The Oxford Series In Electrical And Computer Engineering)

Synopsis

An ideal first text on communication systems in electrical engineering, Modern Digital and Analog Communication Systems is now in its fourth edition. Retaining the superb pedagogical style of the first three editions, the authors first introduce the fundamentals of signals and systems and core communication topics; they then present the tools essential to the design and analysis of digital communications. Featuring a seamless blend of mathematics and heuristics, carefully crafted examples to clarify mathematical abstractions, and new and updated MATLAB exercises, this text provides a thorough coverage of modern communication system theory and application that is easily accessible to students. Modern Digital and Analog Communication Systems is suitable for students with or without prior knowledge of probability theory. Only after laying a solid foundation in how communication systems work do the authors delve into analyses of communication systems that require probability theory and random processes. Revised, expanded, and updated throughout, the fourth edition reflects the many technological advances in the field, such as OFDM and CDMA, pervasive communication applications such as cellular systems, wireless LAN systems, and DSL modem technology services.Features * Flexible organization (outlined in the preface) that accommodates a variety of course structures, including one-semester, two-semester, one-quarter, and two-quarter* Accessible to students with no background in probability theory* Abundant real-world examples that are applicable to students' everyday lives* Gives intuitive insights--rather than just proofs--wherever possible, as well as heuristic explanations of theoretical resultsA solutions manual is available for adopting professors.

Book Information

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Customer Reviews

I needed to take a Computer Engineering course at my university that required this textbook, and ordered it on because they had the best deal. It shipped fast, and the book is of great quality. It feels very dense, like a tome, and you can feel the load of knowledge in it.There's two major gripes I have with this textbook.1. There is a major shortage of example problems. Following along with each chapter is difficult, especially as the material gets more difficult or abstract. What few examples it does contain are vague and don't reference the material very well. Examples are critical in truly understanding how solve a problem.2. There are more homework problems than you would ever like to do, however there are no solutions for these problems. Considering the complexity and difficulty of the problems, even a simple one-liner in the back for each problem would be helpful, like most math textbooks. It's incredibly frustrating to spend hours working on problems only to realize in class you were doing them wrong.This book is only a success with a very good professor. If your professor doesn't teach very well, you need to find the solutions to the homework problems, to have some sort of reference. Honestly.

First time I used the text book written by Sir B. P. Lathi as an undergraduate student in 1982. The book was called Communication Systems for our course with the same name. That was an excellent book and gave good mathematical treatment, basically on Analog Communication System. After graduating as MSEE I have been using his two books for teaching communication systems. This Title "Modern Digital and Analog Communication Systems as primary text and "Linear Systems and Signals" as supporting text for course on Communication Systems. Though other books from Haykin, Proakis, Couch, Stern, Zimmer, etc. have been useful to me as well, yet the simplified manner in which B. P. Lathi explains concepts supported by mathematical models is unique and liked by my students as well. It is worth noting that concepts of Information Theory are introduced at undergraduate level only in this text book as a separate chapter. This helps in understanding the connection between Communication Theory and Information Theory. This was available even in his first text book written in 1960s. With the inclusion of MATLAB examples it has become easy to understand and comprehend the performance of various modulation schemes.However, keeping in view the increased importance of Wireless Communication, the topics related to multicarrier communication (OFDM), error control, channel models, and MIMO

system, could have been expanded, perhaps as a separate chapter, like it is done by Prof Gallager in his new book " Introduction to Digital Communication".

About 20 years ago, this book was my introduction to communication systems. Without the fundamentals I learned from this book, I would have never been able to work in the field of communications. I like this book because it is highly readable and covers important topics which communication engineers must understand. This fourth edition provides not only expanded MATLAB examples but covers also more recent material on the subject of communication systems. I'd recommend this book for undergrad/grad students willing to understand the basics of analog and digital communications.

I have the 3rd ed. of this book and find it a great book - very carefully written and easy to follow. This made me buy the 4th ed. of the same (used) book because, as has been advertised, the new (4th) ed. contains some new topics like OFDM, 802.11a/b/g/n, DSL, MIMO, LDPC, etc. However, even before I finish reading Chapter 3 of the book, I have discovered some typos of the new book already, some of which were not found in the 3rd edition. Example typos are in Eq. 2.66(p.49), Eq. 3.16(p.99), Eq. 3.17(p.100), Fig. 3.9b(p.101), Fig. 3.10a&b(p.102), Fig. 3.16a&b(p.109), Fig. 3.17a&b(p.111), Fig. 3.18b(p.111), Fig. 3.20b(p.113), Fig. 3.22b&d(p.116), footnote on tp(p.127), Fig. 3.29b(p.130), Fig. 3.41a(p.145), etc. While I am not sure if a list of errata of the book has been provided to the readers, my trust on the book has been lowered quite a bit as compared to its previous (3rd) edition.

I used this text in a graduate communication systems engineering course. It was perfect. I read the text, worked on the example problems, and was easily about to do the problems at the end of each chapter. This is an excellent text. You can teach yourself the material just by reading the book.

I actually enjoy reading this book for my Communications Engineering class. My professor is not the best at explaining example problems, so it's been a relief to find clearly worked out examples for each section of each chapter. It also explains the concepts clearly and thoroughly. I don't think I would have learned anything in this class with out the aid of this textbook.

I gather this is one of the few books one might consider "complete" regarding this subject matter. It covers pretty much everything right from the beginning of the subject, from signal theory through to

processing and systems. It's all quite well explained, I had little trouble understanding most of it. It is a little light on the systems theory though. I had to turn to Google to find circuit examples for the implementation of various types of practical tranciever systems. All in all though, pretty thorough and surprisingly easy to understand, even when concepts get a heavy mathematical treatment.

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