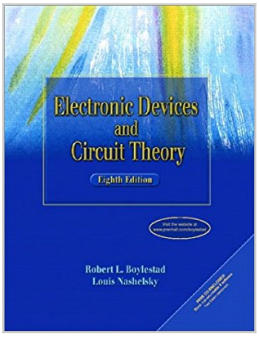

Electronic Devices and Circuit Theory (8th Edition)

By Robert L. Boylestad, Louis Nashelsky

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For upper-level courses in devices and circuits, at 2-year or 4-year engineering and technology institutes. Highly accurate and thoroughly updated, this text has set the standard in electronic devices and circuit theory for over 25 years. Boylestad offers students a complete and comprehensive survey, focusing on all the essentials they will need to succeed on the job. This very readable presentation is supported by strong pedagogy and content that is ideal for new students of this rapidly changing field. Its colorful, student-friendly layout boasts a large number of stunning photographs. A broad range of ancillary materials is available for instructor support.

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Electronic Devices and Circuit Theory (8th Edition) By Robert L. Boylestad, Louis Nashelsky Bibliography

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- Binding: Hardcover
- 1020 pages

Editorial Review

From the Publisher
A new edition of this highly-successful text! As it has for the past quarter-century, Electronic Devices and Circuit Theory offers students a complete and comprehensive study of the electronic devices and circuits they need to understand for success on the job. The authors take a systems approach to their subject, covering topics in a "building block" fashion that ensures students comprehend fundamental concepts such as diodes and transistors before they tackle such advanced topics as compound configurations, power supplies, and oscilloscopes. For each device examined, the text covers most configurations and applications. Included are discussions of the full range of related topics typically addressed in the course, with clear, precise explanations and plenty of examples to back them up. A color format highlights and defines important concepts, while line drawings present circuits and devices as they appear in the "real world."

From the Back Cover

As the leading text of its kind, this valuable classic has set the standard for 30 years. Now in its eighth edition, it retains the same measure of excellence as it continues to provide the most current and comprehensive coverage of electronic devices and circuit theory available. Following are only a few of the features integrated throughout this outstanding text:

- a *systems approach,* enabling the reader to become adept in the application of packaged systems
- *troubleshooting,* necessary for a complete understanding of real-world situations
- hands-on *applications* utilizing PSpice® and Electronics Workbench®
- elaborate use of *problem sets* and *examples* to reinforce basic concepts

This is a core text for an upper-level course in devices and active circuits, appropriate for two- and four-year colleges, universities, and schools of technology. Included with each copy of the text-is a CD-ROM containing Electronics Workbench® Version 5 and Electronics Workbench Multisim® circuit files, as well as CircuitMaker® circuit files and Student Version software. In addition, the following ancillaries are available:

- Laboratory Manual, ISBN 0-13-092213-7
- Prentice Hall Test Manager, ISBN 0-13-092211-0
- Instructor's Resource Manual, ISBN 0-13-092212-9
- PowerPoint® Transparencies, ISBN 0-73-092278-8
- Instructor's Supplement CD, ISBN, 0-1,3-093264-7
- CourseCompass, ISBN 0-13-062304-0
- WebCT, ISBN 0-13-062305-9
- Blackboard, ISBN 0-13-062303-2

Of added benefit to the reader is the Study Guide on the Companion Website, found at **http://www.prenhall.com/boylestad**. This content enables the user to conveniently practice self-tests that measure progress.

In this edition we have written additional practical examples and summaries at the end of each chapter, and

have expanded coverage of computer software. The chapter on IC construction was deleted and replaced with a well-written description of the process that first appeared in *Smithsonian Magazine.* It has some stunning photographs and content that is excellent for the new students of this rapidly changing field.

Over the years we have learned that improved readability can be obtained through the general appearance of the text, so we are committed to the format you find in this and recent editions of the text. We hope you agree that it makes the text material appear "friendlier" to the broad range of students using the text. As in the past, we continue to be committed to the strong pedagogical sense of the text, accuracy, completeness, and a broad range of ancillary materials that support the educational process.

PEDAGOGY

Reviewers and current users appear to be quite satisfied with the manner in which the content lends itself to a typical course syllabus. The improved pedagogy of the last two editions seems to support the instructor's lecture and helps students build the foundation necessary for future studies. The number of examples continues to grow, and isolated boldface statements continue to identify important concepts and conclusions. Color continues to be employed in a manner that helps define important regions of characteristics, or identifies important regions or parameters of a network. Icons at the top of the page, developed for each chapter of the text, facilitate referencing a particular area of text as quickly as possible. Problems which have been developed for each section of the text, progress from the simple to the more complex. The title of each section is repeated in the problem section to identify the problems associated with a particular subject matter.

SYSTEMS APPROACH

There is no question that the growing development of packaged systems requires that the student become aware at the earliest opportunity of a "systems approach" to the design and analysis of electronic systems. Isolated no-load networks are first discussed in Chapters 8 and 9 to introduce the important parameters of any package and develop the important equations for the configuration. The impact of a source or load impedance on the individual package is then defined in Chapter 10 on a general basis before examining specific networks. Finally, the impact of tying the individual packages together is examined in the same chapter to establish some understanding of the systems approach. The later chapters on op-amps and IC units further develop the concepts introduced in these early chapters.

ACCURACY

The goal of any educational publication is to be absolutely free of errors. There is nothing more distressing to a student than to find that he or she has suffered for hours over a simple printing error. In fact, after all the hours that go into preparing a manuscript and checking every word, number, or letter there is nothing more distressing to an author than to find that errors have crept into the publication. Based on past history and the effort put into this publication, we believe you will find the highest level of accuracy obtainable for a publication of this kind.

SUMMARIES

In response to current users, summaries are added at the end of eactl chapter, reviewing the salient concepts and conclusions. To emphasize specific words and phrases, boldface lettering is used in much the same manner as a student would use a highlighting marker. The list of equations appearing with each summary was limited to those an instructor realistically hopes the student will bring away from the course.

PRACTICAL EXAMPLES

While the text now has over 80 practical examples, over 40 were added to this edition and they appear in their own sections. They provide an understanding of the design process that is normally not available at this level. Practical considerations associated with using the electronic devices introduced in this text are discussed as experienced by professionals in the field. The level of coverage is well beyond the surface description of the operation of a particular product. Networks are reduced for clarity and equations are developed to explain why specific response levels are obtained. An effort was made to give some idea of the range of application for each device introduced. Too often the student believes that each electronic device serves a particular purpose, and that's it. In general, the authors are pleased with the results of this demanding effort and invite your comments and suggestions so that the content can be improved upon in the future.

TRANSISTOR MODELING

BJT transistor modeling is an area that can be approached in a variety of ways. Some institutions employ the r_e model exclusively, while others lean toward the hybrid approach or to a combination of the two. This edition will emphasize the r_e model with sufficient coverage of the hybrid model to permit a comparison between the results obtained with each approach. An entire chapter (Chapter 7) has been devoted to the introduction of the models to ensure a clear, correct understanding of each and the relationships that exist between the two.

EQUATION DEVELOPMENT

For years the development of the equations for small-signal BJT and JFET networks avoided the impact of the output parameter r_o. In addition, results were often provided with no idea how they were obtained. Further, approximate equations were provided with no idea what conditions had to be satisfied to permit use of the equations. For these reasons, and probably others, the details of each derivation are provided in this text. The effect of r_o was separated for each development to first permit a less complex development. The effect of r_o was then demonstrated and the conditions under which the effect of r_o can be ignored were introduced. In most cases, the derivations are unique to any publication of this type. They were the result of extensive hours searching for the best path for the analysis. However, the result is a complete development of each equation that we hope will remove any doubt as to their validity.

COMPUTER SOFTWARE

In recent editions, both PSpice and Electronics Workbench examples were included. For this edition Mathcad was added to demonstrate the versatility of the package for an area such as electronics. Not only can it be used to quickly solve simultaneous equations, but also long series of calculations can be placed in storage for retrieval when a particular configuration is encountered. Numerous examples appear throughout the text, and we believe the student and instructor will find them quite interesting. The detailed coverage of PSpice was expanded slightly, but there is a larger expansion of the coverage of Electronics Workbench due to its growing popularity. For all the software packages there is no requirement that the student become versed in their use to proceed through the text. Although sufficient detail is provided for each application to permit a student to apply each to a variety of configurations, there is no requirement that the packages actually be used.

TROUBLESHOOTING

Troubleshooting is undoubtedly one of the most difficult subjects to discuss and develop in an introductory text. A student is just becoming familiar with the characteristics and operation of a device and now is asked

to find an answer to an unexpected result. It is an art that has to develop with experience and exposure. The content of this text is essentially a review of situations that frequently occur in the laboratory environment. Some general hints as to how to isolate a problem are introduced along with a list of typical causes.

ANCILLARIES

The range of ancillary material is quite extensive, including a laboratory manual to which new experiments have been added. There is also an instructor's resource manual, which contains solutions to the in-text problems and the laboratory experiments as well as a test item file. PowerPoint® transparencies and a Prentice Hall Test Manager are also available.

The CD-ROM included with every copy of the book contains Electronics Workbench Version 5 and Multisim circuit files and CircuitMaker Student Version Software and circuit files. Circuits appearing on the CD-ROM are designated in the text by a special icon next to the selected illustration.

Additional support for the student can be found at **www.prenhall.com/boylestad** in the form of an online student study guide. CourseCompass and Blackboard complete the supplements package.

USE OF THE TEXT

In general the text is divided into two main components: the do analysis and the ac or frequency response. For some schools the do section is sufficient for a one-semester introductory sequence, while for others the entire text may be covered in one semester by picking and choosing specific topics. In any event, the text is one that "bolds" from the earlier chapters. Superfluous material is relegated to the later chapters to avoid excessive content on a particular subject early in the development stage. For each device the text covers a majority of the important configurations and applications—the text is very complete! By choosing specific examples and applications the instructor can reduce the content of a course without losing the progressive building characteristics of the text. Then again, if an instructor feels that a specific area is particularly important, the detail is provided for a more extensive review.

Robert L. Boylestad
Louis Nashelsky

Users Review

From reader reviews:

Christopher Hannah:

Information is provisions for anyone to get better life, information currently can get by anyone in everywhere. The information can be a know-how or any news even an issue. What people must be consider whenever those information which is from the former life are challenging be find than now is taking seriously which one is suitable to believe or which one the particular resource are convinced. If you have the unstable resource then you buy it as your main information we will see huge disadvantage for you. All of those possibilities will not happen throughout you if you take Electronic Devices and Circuit Theory (8th Edition) as your daily resource information.

Molly Maldonado:

Are you kind of hectic person, only have 10 or maybe 15 minute in your morning to upgrading your mind proficiency or thinking skill also analytical thinking? Then you are receiving problem with the book in comparison with can satisfy your limited time to read it because pretty much everything time you only find reserve that need more time to be read. Electronic Devices and Circuit Theory (8th Edition) can be your answer mainly because it can be read by an individual who have those short spare time problems.

Tara Payton:

This Electronic Devices and Circuit Theory (8th Edition) is completely new way for you who has fascination to look for some information because it relief your hunger details. Getting deeper you upon it getting knowledge more you know or you who still having little digest in reading this Electronic Devices and Circuit Theory (8th Edition) can be the light food for you personally because the information inside this book is easy to get by means of anyone. These books develop itself in the form and that is reachable by anyone, that's why I mean in the e-book form. People who think that in guide form make them feel sleepy even dizzy this reserve is the answer. So there is not any in reading a publication especially this one. You can find actually looking for. It should be here for a person. So , don't miss the idea! Just read this e-book variety for your better life as well as knowledge.

Blanche Jackson:

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