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› Pearson Lab Manual for Electronic Devices, Global Edition (Model 129224934X)

## Pearson 129224934X

# Pearson Lab Manual for Electronic Devices, Global Edition

Model: 129224934X

Author: Thomas Floyd

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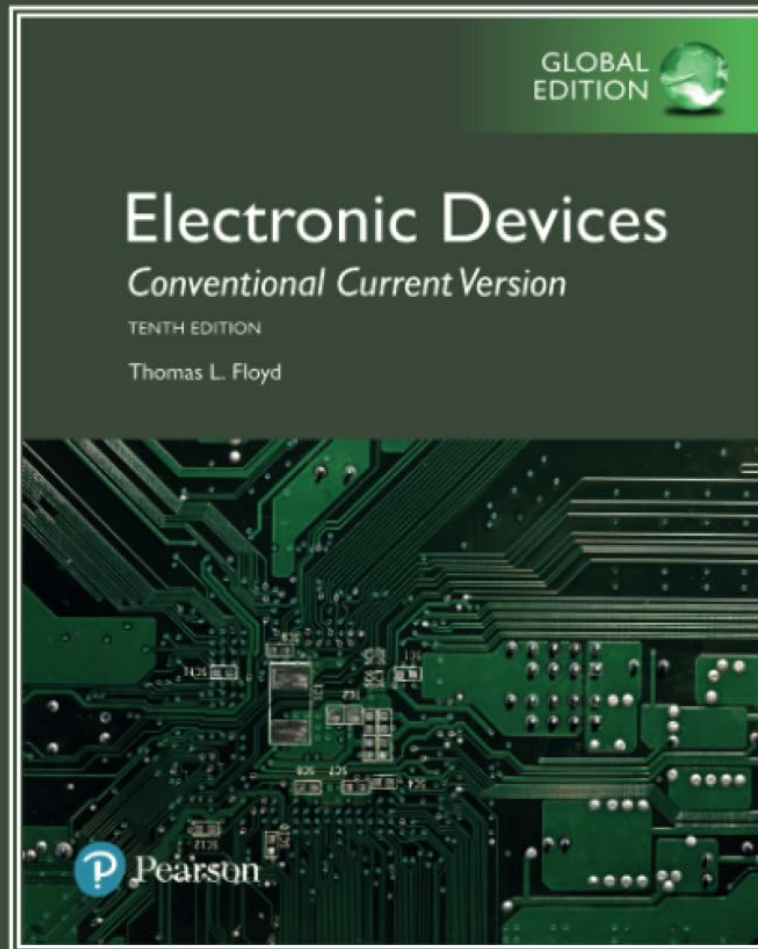
## 1. INTRODUCTION

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This laboratory manual is designed to accompany the textbook *Electronic Devices, Tenth Edition, Global Edition*, by Thomas L. Floyd. It provides seventeen experiments directly coordinated with the textbook chapters, offering practical application of theoretical concepts.

Each experiment is structured into two or three independent parts, allowing instructors flexibility in assigning content based on course objectives and available laboratory time. The manual aims to enhance understanding through hands-on experience with electronic devices.

# Laboratory Exercises for



David M. Buchla • Steven Wetterling



**Figure 1.1:** Front cover of the Pearson Lab Manual for Electronic Devices, Global Edition. This image displays the title, "GLOBAL EDITION", and a globe icon, indicating its international scope.

## 2. USING THIS MANUAL

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The experiments in this manual are directly linked to the chapters of the *Electronic Devices* textbook. Each chapter corresponds to a specific experiment, which may contain multiple independent parts. This modular design allows for adaptable laboratory sessions.

Device Applications discussed in the textbook often have an experimental component, indicated by a specific icon within this manual, to bridge theoretical knowledge with practical laboratory work. Many experiments also include a Multisim component, with circuit files available for download from the

publisher's website.

- **Chapter Coordination:** Experiments align with textbook chapters.
- **Independent Parts:** Most experiments are divided into 2-3 parts that can be performed independently.
- **Multisim Integration:** Access Multisim circuit files for selected experiments online.

### 3. EXPERIMENT TYPES (A AND B OPTIONS)

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Experiments 12 through 16 offer a dual-track approach, labeled as 'A' and 'B', providing flexibility in experimental methodology:

- **A Experiments:** These experiments utilize traditional discrete components and operational amplifiers (op-amps) on standard protoboards. They are suitable for programs emphasizing conventional electronic devices.
- **B Experiments:** These experiments incorporate a programmable Analog Signal Processor (ASP) module. The ASP allows for the implementation of equivalent circuits using dynamically programmable analog signal processing, controlled by Computer Aided Design (CAD) software.

The manual provides detailed procedures for programming the ASP, including a software tutorial. Experiment 12-B, Part 1, serves as a software tutorial and should be completed before other B experiments. Similarly, the initial steps of Experiment 15-B, Part 2, offer a tutorial for the AnadigmFilter program.

### 4. SOFTWARE AND ONLINE RESOURCES

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To fully utilize this manual, access to specific software and online resources is recommended:

- **Multisim Components:** Circuit files for Multisim are available on the Pearson Global Editions website. Visit [www.pearsonglobaleditions.com/Floyd](http://www.pearsonglobaleditions.com/Floyd) for downloads.
- **Anadigm CAD Software:** The programmable Analog Signal Processor (ASP) used in B experiments is controlled by free CAD software from Anadigm. This software can be downloaded from [www.anadigm.com](http://www.anadigm.com). The AnadigmDesigner2 (AD2) CAD software includes the AnadigmFilter program, a powerful active filter design tool.

No additional hardware is required for the initial software tutorials for the ASP technology, only a computer with the downloaded software.

### 5. PRODUCT SPECIFICATIONS

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<b>Author</b>	Thomas Floyd
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GLOBAL  
EDITION

This popular laboratory manual accompanies the best-selling text *Electronic Devices*, Tenth Edition, Global Edition, by Thomas L. Floyd. The experiments are directly coordinated with the text. Each chapter in the text is linked to a single experiment that has multiple, independent parts. The Device Applications in the text have an experimental component (indicated with an icon in this manual) to further link text and laboratory work. Most experiments also have a Multisim component, with circuits available on the website [www.pearsonglobaleditions.com/Floyd](http://www.pearsonglobaleditions.com/Floyd)

Five experiments in this manual have a dual track approach (these are labeled A and B). The A experiment uses traditional op-amps and components whereas the B experiment uses a Programmable Analog Module to implement an equivalent circuit in a dynamically programmable analog signal processor. The procedures for programming the analog signal processor are given in detail and include a software tutorial for using the free software that can be downloaded from the Internet. Depending on course objectives, either the A or B experiment or a mix of both can be assigned.

This is a special edition of an established title widely used by colleges and universities throughout the world. Pearson published this exclusive edition for the benefit of students outside the United States and Canada. If you purchased this book within the United States or Canada, you should be aware that it has been imported without the approval of the Publisher or Author.

**Pearson Global Edition**

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**Figure 5.1:** Back cover of the Pearson Lab Manual. This image displays the ISBN barcodes and additional publisher information, including the website [www.pearsonglobaleditions.com](http://www.pearsonglobaleditions.com).

## 6. SUPPORT AND IMPORTANT INFORMATION

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### 6.1 Publisher Information

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