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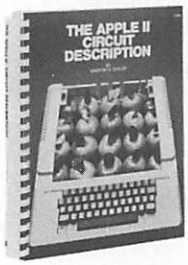

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David L. Heiserman

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Apple® Assembly Language Programming

Malcolm Whapshott

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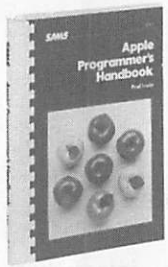

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Paul Irwin

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James S. Coan

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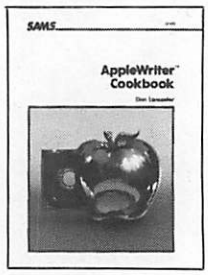

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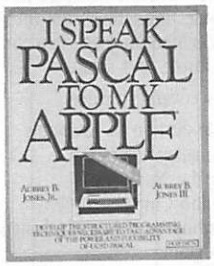

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Jones and Jones

Take full advantage of Apple Pascal and the benefits of a disciplined, logical language with this authoritative text and teacher's manual. Using a step-by-step approach you can master subjects such as Pascal structured and unstructured data types and procedures and functions.

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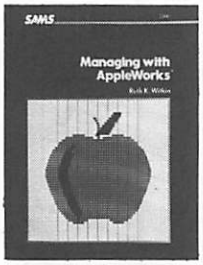

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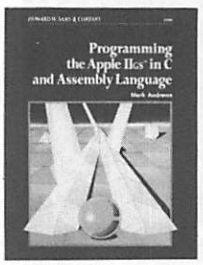

Programming the Apple IIGS in C and Assembly Language

Mark Andrews

This book allows readers to take advantage of the added power, speed, graphics, and sound capabilities of the IIGS—the evolutionary upgrade to the highly successful Apple IIe computer.
This single source gives programmers what is needed to program the Apple IIGS in C and to integrate assembly language to speed up or "supercharge" the programs.

The first half of the book is devoted to basic programming techniques and to an overall look at the Apple IIGS. The second half concentrates on intermediate and advanced programming techniques and is complete with useful type-and-run programs.

Topics covered include:

- Introducing the Apple IIGS
- Programming the Apple IIGS in Assembly Language
- Programming the Apple IIGS in C
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- Addressing
- Using the Apple IIGS Assembler-Editor
- The Apple Programmer's Workshop
- The IIGS Toolbox
- Apple IIGS Graphics:
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- Menus
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- Apple IIGS Sound Synthesizer

Mark Andrews is an assembly language programmer for the Apple IIGS at Apple Computer, Inc. He has written eight books about computers and computer programming.

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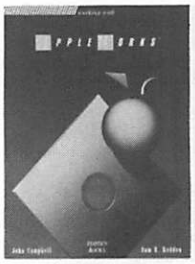

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Campbell and Redden

Working with AppleWorks discusses and explores the capabilities and flexibilities of AppleWorks. Every feature of this powerful software program—word processing, spreadsheets, and database applications—is fully explored. The authors explain how each component of the program works and provide invaluable tips, shortcuts, and cautions for applying this package to your own specific needs.

It is clearly written so that the computer novice or veteran user can immediately utilize AppleWorks for a variety of applications. From writing letters to creating financial statements and sophisticated databases, the step-by-step instructions will enable you to harness AppleWorks' powers efficiently and effectively.

This handbook begins by introducing you to the basic workings of AppleWorks and integrated software.

Topics covered include:

- Introduction and Overview
- The Word Processor
- The Spreadsheet
- The Data Base
- Putting Things Together
- Common Features
- Appendices: Word Processor Commands, The Data Base Commands, Spreadsheet Commands and Functions, Printer Options, Disk Operations, ASCII Character Codes, Questions and Answers, and Printer Problems

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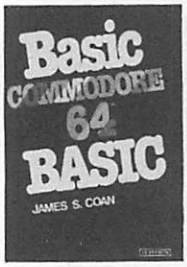

Basic Commodore 64® BASIC

James S. Coan

Here's the key to using and enjoying the Commodore. It is a fast-reading guide to operation and programming. The approach is simple and direct: start with short computer programs, master them quickly, add a new capability, and watch as the desired effect on the program is created and illustrated. Special features and advanced programming techniques are explained.

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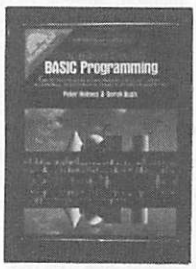

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Glentop/Honeyfold

This unique utility package—Honey-Aid—adds 27 commands to Commodore 64 BASIC. With it you can program and debug your own programs more readily with auto-line numbering and full renumbering.

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Joseph J. Carr

The electronics hobbyist, programmer, engineer, and technician will enjoy the task-oriented programs for amateur radio and electronics in this book.

This book contains two general categories of programs—amateur radio technology and general electronics—that will simplify programming tasks when incorporated into the custom-designed software programs provided. It also makes full use of the analytical potential of the personal computer with 42 practical programs including amateur radio programs.

Topics covered include:

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- Standing-Wave Ratio
- Transmission Line
- Impedance Matching Networks
- Satellite Dish Antenna
- Resistors in Series or Parallel
- Capacitors in Series or Parallel
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Joseph Carr, an electrical engineer, has written over 43 books and more than 200 magazine articles.

256 Pages, 5½ x 8½, Softbound
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Commodore 64® Programmer's Reference Guide

Commodore Computer

A Top Ten best-seller since its introduction, this programmer's working tool and reference source is packed with professional tips and information on exploring your Commodore 64. The perfect companion to your C-64 User's guide, this manual presents detailed information on everything from graphics and sound to advanced machine language techniques.

The most complicated topics are explained with many sample programs and an easy-to-read writing style and each program has been carefully pre-tested with programming needs in mind. Designed to help you get the most out of your Commodore 64, the book is a "must-buy" for everyone from the beginner to the advanced programmer.

Topics covered include:

- Introduction and Applications Guide
- BASIC Programming Rules
- BASIC Language Vocabulary
- Programming Graphics on the Commodore 64
- Programming Sound and Music on Your Commodore 64
- BASIC to Machine Language
- Input/Output Guide
- Appendices: Screen Display Codes, Music Note Values, Error Messages, Chip Specifications, Commodore 64 Quick Reference Card, Schematic Diagram of the Commodore 64

486 Pages, 5½ x 8½, Softbound
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Commodore 64® /128® Assembly Language Programming

Mark Andrews

Here is the first complete book about assembly language for the Commodore 64 and 128 computers. Much more than a reference book, it's a hands-on tutorial that will guide you easily through the complete programming process.

Concentrating on three of the most popular assemblers—Commodore 64, Merlin 64, and Panther C64—this step-by-step guide shows you how to design a personal character set; write joystick-controlled action games; draw on-screen, high-resolution graphics; convert numbers from one base to another; mix BASIC and machine language; and program music and sound.

Topics covered include:

- Introduction to Assembly Language
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- Assembly Language Math
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Commodore 128® Assembly Language Programming

Mark Andrews

For the first time in print, this book reviews the fundamentals of Commodore 128 assembly language and discusses its unusual memory configuration.

Detailing the finer qualities of the 6510/8502 assembler, it concentrates on how to program the assembler and how to use its many features. More specific than BASIC, this language provides the programmer with a more sophisticated vehicle to access the hardware features of any computer.

Topics covered include:

- Introducing Commodore 128 Assembly Language
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- Addressing Modes of the 8502
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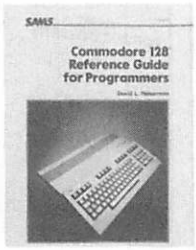

Commodore 128® Reference Guide for Programmers

David L. Heiserman

This book is *the* authoritative guide for programmers: from the beginner who wants to know about the C-128's power to the advanced programmer who requires specific information about the Commodore 128. Covering BASIC as well as assembly language programming, it thoroughly describes the operating system, hardware and software specifics, and input/output features of the computer.

Beginning with an explanation of elementary topics and proceeding through special programming applications, you will learn how to maximize your computer's built-in capabilities.

Topics covered include:

- General Operating Procedures
- BASIC Operations and Programming Procedures
- DOS Operating and Programming Procedures
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- Introduction to CP/M Procedures
- Text Screen Procedures
- Bit-Mapped Graphics Procedures
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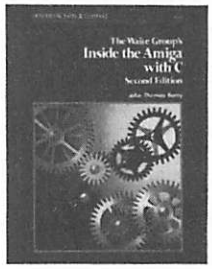

The Waite Group's Inside the AMIGA® with C, Second Edition

John Berry

Everyone who has recently upgraded their AMIGA computer system, or is thinking about doing it, needs this revised edition of *Inside the AMIGA with C*. The book covers the AmigaDOS™ operating system in greater detail, and is compatible with the new AmigaDOS 1.2. Paying particular attention to the AMIGA 500, the book presents special AMIGA graphics features including sprites, Genlock, and blitter objects, with updated information on Intuition™.

Like the original book, code listings in each chapter are carefully constructed both as practical routines and as instructional examples for beginning to intermediate C programmers. The new edition features several new programs that demonstrate the use of color palettes and registers and a software toolkit that contains a library of C routines to create and manage screens, windows, input from gadgets, and control graphics.

Topics covered include:

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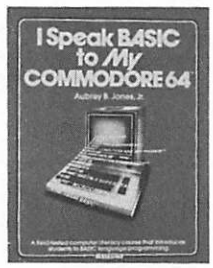

I Speak BASIC to My Commodore 64®

Aubrey B. Jones, Jr.

This comprehensive introduction to the Commodore 64 contains detailed lessons for beginners of all ages. The book has been classroom tested and is an effective teaching aid for groups or individual study.

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The Official Book for the Commodore 128® Personal Computer

Waite, Lafore, and Volpe, The Waite Group

This book examines Commodore's powerful computer with its three different operating modes in 64,® 128, and CP/M.® It details how to create graphics and animation and to use the 64 mode to run thousands of existing Commodore 64 programs. It also shows how to program in three-voice sound and how to use spreadsheets, word processing, the database, and much more.

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GENERAL INTEREST

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Mark J. Robillard

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Martin Sims

Experience new dimensions of art, mathematics, physics, and the frontier of artificial intelligence with this guide to Logo commands and procedures. Both the newcomer and experienced user will be challenged by the power of Logo including exercises to extend their new skills and creative thinking.

Recursion, nested procedures, instruction lists, random variables, and more are covered.

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Basic Robotic Concepts
John M. Holland

This valuable resource thoroughly covers the four most central subjects of robotics—motion control, manipulators, mobility, and vision— in an easy-to-understand manner, with clear explanations. It starts with simple concepts and moves to more complex concepts with many detailed illustrations. Information is presented on the latest developments in important areas such as energy systems, carriage systems, navigation techniques, development, and programming methods.

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Computer-Aided Logic Design
Robert M. McDermott

This reference uses practical, everyday examples such as burglar alarms and traffic light controllers to explain both the theory and the technique of electronic design. CAD topics include common types of logic gates, logic minimization, sequential logic, counters, self-timed systems, and tri-state logic applications. Packed with practical information, this is a valuable source book for the growing CAD field.

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Lawrence Stevens

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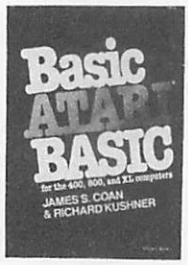

Basic ATARI® BASIC
Coan and Kushner

A complete guide to ATARI BASIC adapted from the best-selling *Basic Apple® BASIC.* Takes you from beginning concepts to more advanced ones in machine operation and programming techniques. Offers over 80 programs—all conveniently indexed. Lo-res and hi-res graphics are fully covered.

340 Pages, 7 x 9¾, Softbound
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The CAD/CAM Primer
Daniel Bowman

Computers have always been good at generating reams of alpha-numeric printed information. Now computer graphics allow us to condense this multitude of printouts into easily understood pictures. Learn the basics about computer-assisted design and manufacture and its probable impact on our lives.

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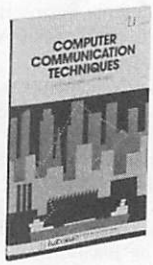

Computer Communication Techniques
Brooner and Wells

It is increasingly desirable for stand-alone microcomputers to communicate with the outside world. This book covers data transfer techniques, hardware matching, standards and protocols, networking, information services, videotex, teletext, software, and what's necessary to use them. Includes UART spec sheets, information sources, an ASCII code chart, a glossary, and many illustrations.

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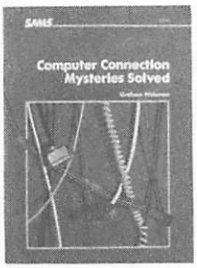
ISBN: 0-672-21998-0
No. 21998, $15.95



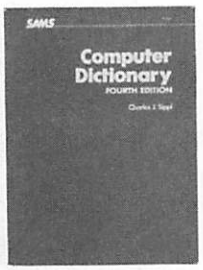
Computer Connection Mysteries Solved

Graham Wideman

This book provides the hows and whys of connecting a personal computer to its peripherals. It provides an introduction to the machinery available: printers, MIDI, Centronics, video hookups, and the RS-232.

The principles, techniques, and case studies will assist users who deal with a variety of system configurations. Simple cookbook solutions are presented early so novices do not need to get into the more technical problems.

272 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22526-3
No. 22526, $18.95



Computer Dictionary, Fourth Edition

Charles J. Sippl

This updated and expanded version of one of Sams most popular references is two books in one—a "browsing" dictionary of basic computer terms and a handbook of computer-related topics. Containing over 12,000 terms and definitions with scores of illustrations and photographs, it clarifies micro, mini, and mainframe terminology. The 1,000 new entries in this edition focus on the RAF classifications.

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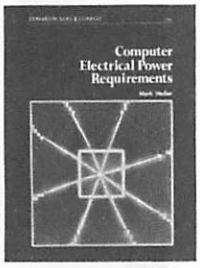
ISBN: 0-672-22205-1
No. 22205, $24.95



Computer Electrical Power Requirements

Mark Waller

This in-depth examination of power regulation problems offers solutions that will help control electrical power input for mini, mainframe, and microcomputers. As a result, permanent and expensive damage to computers can be avoided.

Field engineers, technicians, and computer repair and maintenance professionals involved in problems with computer electrical power will benefit from this book. Its discussion of power regulators and how they can best be implemented to provide "clean power" for computers is especially valuable.

Topics covered include:

- Utility Power
- A Closer Look at Utility Power
- Inside the Building
- Lightning, Static, and Noise
- Grounding
- Personal Computers and Office Electronic Equipment
- Transient Suppression
- Isolation and Distribution
- Voltage Regulation
- M-G Sets, RUPS, and UPS
- Batteries for UPS Systems
- PC Power
- Appendices: The Future, Glossary, Bibliography

Mark Waller is the national sales manager for Computer Power Systems, a subsidiary of Emerson Electric. Specializing in products that control and improve electrical power problems in a computer environment, he has written a number of computer and electronics articles.

250 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22561-1
No. 22561, $19.95

Crash Course in Artificial Intelligence and Expert Systems

Louis E. Frenzel, Jr.

Artificial intelligence (AI) is one of the fastest growing segments of the computer business. It can make your computer easier to use and far more powerful.

This practical, application-oriented course in AI takes a broad, complex subject and explains it concisely so that it is easily understood. The book covers important concepts and techniques.

368 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22443-7
No. 22443, $19.95

Crash Course in Microcomputers, Second Edition

Louis E. Frenzel, Jr.

This unique crash course approach to microcomputers is for those who need to know about microcomputers and programming but do not have time for excess detail. In addition to teaching BASIC programming, it uses photos, illustrations, and applications to clarify potential misunderstandings.

320 Pages, 8½ x 11, Comb-bound
ISBN: 0-672-21985-9
No. 21985, $21.95

Desktop Publishing Bible

James Stockford, Editor
The Waite Group

Publish high-quality documents right on your desktop with this "bible" that tells you what you need to know—everything from print production, typography, and high-end typesetters, to copyright information, equipment, and software.

In this collection of essays, experts from virtually every field of desktop publishing share their tips, tricks, and techniques while explaining both traditional publishing concepts and the new desktop publishing hardware and software.

Topics covered include:

- Publishing Basics: Traditional Print Production, Conventional Typography, Case Studies in Selecting a Publishing System, and a Comparison of Costs for Desktop and Conventional Systems
- Systems: The Macintosh, PC, MS-DOS, An Overview of Microsoft Windows, Graphics Cards and Standards, Monitors, Dot and Laser Printers, UNIX, and High-End Work Stations
- Software: Graphics Software, Page Layout Software, Type Encoding Programs, PostScript, and JustText
- Applications: Newsletters, Magazines, Forms, Comics and Cartooning, and Music

480 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22524-7
No. 22524, $24.95

GENERAL INTEREST

Data Communications: A Manager's View

John Seaman, Editor

Managers and data communications professionals wanting to stay abreast of the latest developments in building information networks need this compilation of articles from *Computer Decisions* magazine.

It includes discussions of electronic mail, microcomputer executive workstations, distributed data processing, policy, networking hardware, and cost-cutting measures.

416 Pages, 6 x 9, Softbound
ISBN: 0-8104-6329-6
No. 46329, $19.95

Experiments in Artificial Intelligence for Microcomputers, Second Edition

John Krutch

This second edition illustrates how artificial intelligence can be applied to a variety of practical activities (expert systems, natural language processing, and game playing) using BASIC. It also shows how to create poetry and develop psychological analyses. This step-by-step instructional text includes the major elements necessary to acquire a thorough understanding.

176 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22501-8
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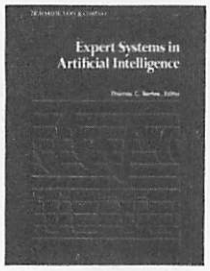


Expert Systems in Artificial Intelligence

Thomas C. Bartee, Editor

This book is a collection of essays for the professional-level business person, analyst, or computer scientist working with artificial intelligence and/or expert systems. Written by leading authorities in AI and expert systems, it highlights the application of AI in finance, communications, space, and military systems.

The book covers in detail problem solving, knowledge representation, and natural-language processing. AI founders review the genesis, development, and funding of their field. Industry experts present an excellent overview of the basic principles behind expert systems and examine the directions of current development.

Topics covered include:

- Space Applications of AI
- Expert Systems for Financial Applications
- Artificial Intelligence for Communications Systems
- Problem Solving Using Artificial Intelligence Systems
- Natural Languages
- Knowledge Representation
- Artificial Intelligence Techniques and C2I Applications
- History of AI Development at DARPA and ONR
- The Early Years
- Expanding AI Research and Founding ARPANET
- AI During IPTO's Middle and Later Years
- Current AI Research
- AI Development as Sponsored by ONR

304 Pages, 7½ x 9¾, Hardbound
ISBN: 0-672-22471-2
No. 22471, $39.95

Industrial Robotics: A Handbook of Automated Systems Design

Ken Stonecipher

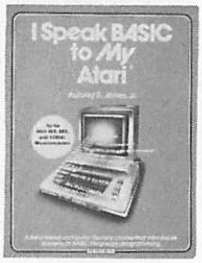
A practical guide that concentrates on cost-accounting procedures for robotics systems, *Industrial Robotics* is a comprehensive and timely resource for decision makers charged with implementing, maintaining, and upgrading these systems.

Learn how to define project requirements and match them to robot capabilities—all with an eye toward cost effectiveness and economy of design. Explore the relationship of artificial intelligence to robot performance.

Topics covered include:

- Early Engineering Planning Tools
- Setting Up a Robotic System
- Microcomputer Control Systems
- Robotic System Specification Considerations
- End Effectors
- Manipulator Control System
- Design Factors
- Joint Arm Kinematics Definitions
- Programming Languages
- Memory Sizes and Their Impact on Future Project Success
- Artificial Intelligence
- Robot Cost Accounting Procedures
- Robot Graphic Representation Systems
- Robots and Their Role in Computer-Aided Manufacturing
- Three Success Stories
- Robot Growth Areas

384 Pages, 7¼ x 10, Hardbound
ISBN: 0-8104-6328-8
No. 46328, $29.95

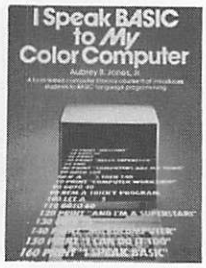


I Speak BASIC to My ATARI®

Aubrey B. Jones, Jr.

Ideal for the computer novice, this book details machine components and operations, without technical jargon or computerese. Beginning ATARI users will learn how to write programs in BASIC. Key programming concepts are defined and illustrated with sample programs. The numerous exercises provide hands-on experience to make learning fun.

229 Pages, 8½ x 11, Softbound
ISBN: 0-8104-6178-1
No. 46178, $10.95



I Speak BASIC to My Color Computer

Aubrey B. Jones, Jr.

This concise, easy-to-read guide is the perfect text for self-study or group learning. Written specifically for the color computer user, it introduces novices to computer operations and BASIC language programming.

The book begins with the inner workings of the computer and progresses into writing simple programs in BASIC. Plenty of examples, exercises, and quizzes are included.

228 Pages, 8½ x 11, Softbound
ISBN: 0-8104-6170-6
No. 46170, $10.95

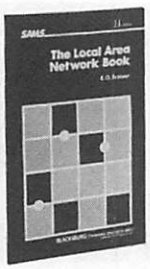
I Speak BASIC to My TRS-80®

Aubrey B. Jones, Jr.

Written for beginners, this easy-to-use text walks you through the basics of computer operations and programming in the BASIC language.

The book defines key terms, explains machine functions, and provides programming examples, exercises, and summaries. All instructions and examples are written in TRS-80-specific BASIC.

219 Pages, 8½ x 11, Softbound
ISBN: 0-8104-6174-9
No. 46174, $10.95



The Local Area Network Book

E. G. Brooner

Localized computer networks are a versatile means of communication. In this book you'll learn how networks developed and what local networks can do; what's necessary in components, techniques, standards, and protocols; how some LAN products work and how real LANs operate; and how to plan a network from scratch.

128 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22254-X
No. 22254, $7.95

Mastering AI Tools and Techniques

Ernest R. Tello

This is a complete guide to AI fundamentals for anyone using IBM PC, AT, and System 2 computers. Suitable for programmers and nontechnical professionals alike, it presents the basic concepts of AI in addition to surveying some of the most exciting and advanced AI research projects.

The book highlights descriptions and evaluations of state-of-the-art natural language processing software, expert system tools, and AI programming languages such as LISP, Prolog® , and Smalltalk™, with special sections on C, Ada® , and Modula-2® . It covers a wide range of systems, from low-cost introductory to the most advanced, and includes a chapter devoted completely to building an expert system, as well as a directory of AI firms. Its comprehensive coverage of AI tools and products offers something for everyone with an interest in AI including computer users, programmers, and students.

Topics covered include:

- Introduction to Artificial Intelligence
- Natural Language/Systems
- Decision Modeling Systems
- Learning Expert Systems
- Professional Expert System Tools
- Advanced Expert System Tools
- AI Programming Languages—LISP, Prolog, Smalltalk, Delivery Tools
- Fundamental Concepts of AI Systems
- Developing an Expert System
- Advanced AI Concepts and Research
- Appendix: Directory of AI Firms

480 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22612-X
No. 22612, $26.95

Modem Connections Bible

Curtis and Majhor, The Waite Group

This book describes modems, how they work, and how to hook ten well-known modems to nine name-brand microcomputers. A handy Jump Table shows where to find the appropriate connection diagram and applies the illustrations to eleven more computers and seven additional modems. It also features an overview of communications software, an explanation of the RS-232C interface, and a section on troubleshooting.

192 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22446-X
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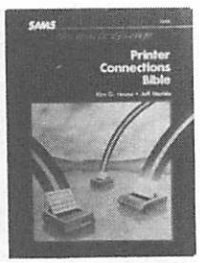

Printer Connections Bible

Marble and House, The Waite Group

This book contains all the information necessary to make the proper connections to get a printer printing. It focuses on the hardware side of connecting, particularly the main interface—the cable itself.

Avoid hours of frustration with this easy-to-follow format including tables and diagrams, information about various printers, computers and software, printer technology, and cables and connectors.

240 Pages, 7½ x 9¾, Softbound
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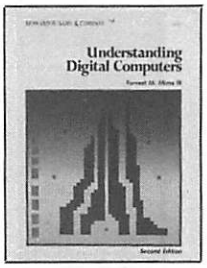

Understanding Digital Computers

Forrest Mims, III

This book is for computer users and prospective computer users who want to understand the fascinating circuits and principles behind the digital computer.

You will discover the basics of binary, sequential, and arithmetic logic and the power of computer memories and memory devices from magnetic tape and floppy disks to magnetic bubbles and laser disks.

320 Pages, 7 x 9, Softbound
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Programmer's Reference Guide to Expert Systems

David Hu

This reference guide is for intermediate level programmers who wish to integrate artificial intelligence techniques, particularly expert systems technology, into their programs. It highlights the uses and advantages of Smalltalk, LISP, and Prolog, three computer languages used in AI/expert system applications, and includes illustrative real-world examples.

352 Pages, 7½ x 9¾, Softbound
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IBM

8088 Assembler Language Programming: The IBM® PC, Second Edition

Willen and Krantz

Written for those programmers who are familiar with high-level languages such as BASIC and Pascal, this book shows you how to write machine language software for the IBM PC. It also serves as an excellent introduction to the more intricate art of assembler language programming. Also included is detailed information about the internal structure of the PC, including the Intel 8088 microprocessor.

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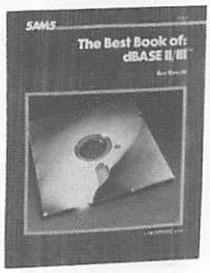

The Best Book of: dBASE II® /III®

Ken Knecht

For readers who already know how a data base performs, this time-saving guide explores the tricks that make dBASE II and dBASE III respond to their needs. In an effort to get the most out of dBASE II and dBASE III and apply these systems to specific business needs, it describes how to detect and correct errors, sort files, create new and useful programs, and manipulate data.

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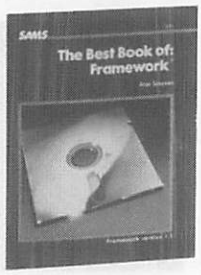

The Best Book of: Framework™

Alan Simpson

Here are practical examples and applications to unleash Framework's frames, word processor, spreadsheet, and other features. This reference illustrates how to access national information systems; interface with WordStar® , dBASE II® /III® , and Lotus® 1-2-3® , use Framework macros; and program with FRED™, Framework's programming language. It is clear, concise, and perfect for any first-time user of Framework.

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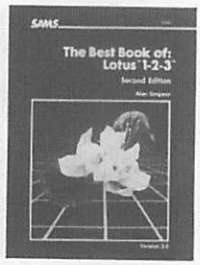

The Best Book of: Lotus® 1-2-3® , Second Edition

Alan Simpson

This tutorial book steps readers through the various functions of the program and shows them how to use Version 2.0 in today's business environment. Each chapter within a section allows newcomers to be productive immediately.

Topics covered include functions and formulas, worksheet formatting, copying ranges, worksheet files, graphs, database management macros, and custom menus.

350 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22563-8
No. 22563, $21.95

The Best Book of: Microsoft® Works for the PC

Ruth K. Witkin

Written with the new user of Microsoft Works in the MS-DOS® environment in mind, this step-by-step guide examines the program's wide variety of features. It uses a combination of in-depth explanations and hands-on tutorials to show the business professional or home user how to apply the software to enhance both business and personal productivity.

Clearly written and easy to understand, this book explains how to use such varied applications as the word processor with mail merge, the spreadsheet with charting, the database with reporting, communications, and integration. For each application the author provides a detailed overview of the hows and whys followed by practical examples that guide the reader easily from idea to finished product. Quick-reference charts, summaries, and end-of-chapter questions and answers enhance the learning process, and each example is illustrated at important developmental stages.

Topics covered include:

- Spreadsheet Essentials
- Exploring the Spreadsheet Menus
- About Formulas and Functions
- Charting Your Spreadsheet
- Exploring the Chart Menus
- Database Essentials
- Filling a Database
- Exploring the Database Menus
- Word Processor Essentials
- Exploring the Word Processor Menus
- Integration Essentials
- Communications Essentials
- Exploring the Communications Menus

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The Best Book of: Multiplan™

Alan Simpson

With all its power and flexibility for calculating, storing, and sorting information, Multiplan is still one of the most popular programs available.

This book will help to minimize your learning time in creating and formatting spreadsheets, learning functions, drawing ranges in and copying formulas, and editing and printing spreadsheets.

160 Pages, 8 x 9¼, Softbound
ISBN: 0-672-22336-8
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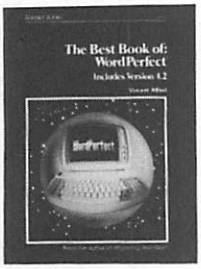
Best Book of: Symphony®

Alan Simpson

This book introduces Symphony. It illustrates how to create, edit, and format documents with word processing; figure taxes and amortize loans with the spreadsheet; display graphs and produce slides with graphics; and create a mailing list with the data base manager. It also shows how to transfer spreadsheets and programs to other computers and interface with other programs like Lotus® 1-2-3® and dBASE II® /III® .

396 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22420-8
No. 22420, $21.95



The Best Book of: WordPerfect®

Vincent Alfieri

From the author of the best-selling *Mastering WordStar,*® this hands-on tutorial provides step-by-step explanations of all WordPerfect features from simple to advanced.

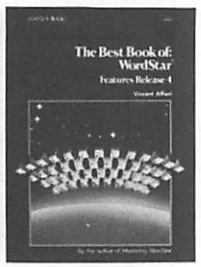
Perfect for beginners, it offers clear and extensive coverage of merge-printing; explores powerful writing aids such as automatic table of contents creation, index generation, and user-defined macros; and contains a thorough discussion of printer setups and the new laser printers.

Over 75 practical examples with screen illustrations are included.

Topics covered include:

- Essential Formatting
- Printers and Printing
- Laser Printers
- Spelling and Hyphenation Tips
- Searching and Replacing Text
- Special Printing Effects
- Using the Math Features
- Working with Two Documents
- Different Formats in a Document
- Pagination and Page Formatting
- Text and Column Blocks
- Enhancing the Finished Product
- Fill-In Documents
- Macros
- File Management
- Sorting by Paragraphs, Lines, Words, and Numbers
- Merge Printing: Form Letters, Form Mailings, Fill-In Forms, Advanced Uses, and Beyond Merge Printing

464 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-46581-7
No. 46581, $21.95



The Best Book of: WordStar® , Features Release 4

Vincent Alfieri

The Best Book of: WordStar includes all of the more than 125 enhancements and revisions found in Version 4.0.

Readers who want to get the most from WordStar, the most popular word-processing program ever published, are guided step-by-step through a series of real-life problems—from opening a file to sending personalized letters and from simple correspondence to complex tables.

This text shows how to import and export WordStar files to and from 1-2-3 and dBASE III PLUS. It provides a thorough explanation of how to use WordStar with laser printers, specifically the HP Laserjet series, and familiarizes the reader with math capability, and shorthand macros.

Topics covered include:

- Print Effects and Printing
- Formatting Essentials
- Moving, Copying, and Deleting Blocks
- Finding and Replacing
- Keyboard Macros and Other Shortcuts
- Fun with Multiple Formats
- Editing Features
- Working with DOS and File Management
- Headers, Footers, and Page Numbering
- Controlling the Page
- Boilerplates, Format Files, and Document Assembly
- Math Maneuvers
- A Form Letter Course
- Conditional Merge Printing
- Automated Document Assembly
- Bibliophilic Occupations
- Working with Laser Printers

576 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-48404-8
No. 48404, $19.95

dBASE III PLUS™ Programmer's Library

Joseph-David Carrabis

Written for intermediate to advanced programmers, this book shows how to quickly build a library of dBASE III PLUS code that can be reused many times with only minor modifications. The author reveals universal patterns for editing, adding, deleting, finding, and transferring records in databases, so that dBASE III PLUS tools can be adapted to a variety of applications.

The book has two major parts. The first provides kernels of code that can be used in applications as varied as dental records keeping, fundraising, small business management, and newsletter subscription systems. The second part shows the code necessary to handle such systems, and how kernels and modular programming help you set them up.

Topics covered include:

- What Is a Library?
- The Basic Kernels of Code
- Database Designs
- Advanced Kernels
- Inventory Systems
- Client/Personnel Record Keeping
- Subscription and General Accounting Systems
- Appendices: Clipper Versions of dBASE III PLUS Listings, and dBASE III PLUS Commands, Functions and Abbreviations

Joseph-David Carrabis is a consultant, author, and lecturer in the microcomputer field. He has designed specialized Lotus® 1-2-3® , WordStar® , Javelin, dBASE II® , dBASE III® , and Framework™ tutorials for various industry training programs.

536 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22579-4
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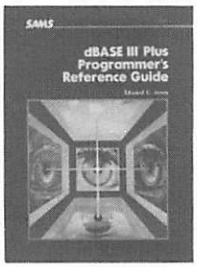

dBASE III PLUS™ Programmer's Reference Guide

Ed Jones

Offering a unique approach to dBASE III PLUS, this book provides such options as menu design, instructions for restructuring programs for added speed, and sample turnkey applications for tracking inventory.

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Ed Jones is an experienced dBASE consultant and author of several successful dBASE books.

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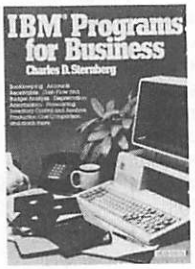

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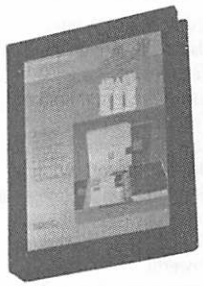

Inside dBASE III®

National Training Systems, Inc.
Jay M. Sedlik, Ph.D., Editor

With this self-training package and dBASE III software, any microcomputer user, pro, or novice can learn to create and use dBASE III files. Requires: IBM® PC, XT, AT or PC compatible, 256K (minimum), two disk drives, dBASE III software, 80-column monochrome monitor, MS DOS® or PC DOS™ version 2.0 or greater. Book and software package, one disk with book and user's reference manual.

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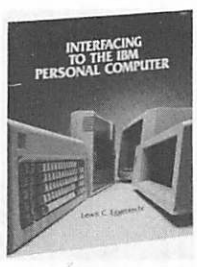

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Tymes, Dowden, and Prael

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Elna Tymes is an experienced computer book author in California with a number of successful books to her credit including *Mastering Appleworks* and *1-2-3 from A to Z.*

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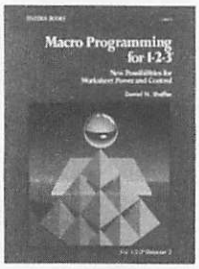

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Daniel N. Shaffer

This book reveals the uses of 1-2-3 Release 2's powerful built-in programming language. With Release 2's expanded macro language, 1-2-3 users can better automate and control routine or tedious worksheet functions, saving time, effort, and keystrokes.

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- Appendices: Summary of Macro Commands, Using the New String Functions, Differences Between Release 1A and 2.0

Dan Shaffer is president of Shaffer & Shaffer of Columbus, Ohio, a computer consulting and book development firm providing services to corporations and government agencies as well as to the banking and insurance industries. He is the author/co-author of six computer science books including the advanced tutorial *1-2-3 Revealed.*

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Robert Lafore is author of *Assembly Language Primer for the IBM PC* and co-author of the very successful *Official Book for the Commodore 128® Personal Computer* and *Soul of CP/M.®*

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Kleeman, Anderson, Angermeyer, Fisher, McCoy, The Waite Group

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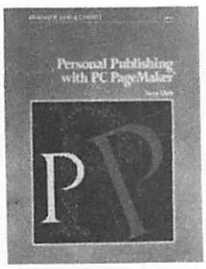

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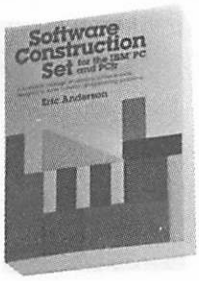

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This tutorial is based on Borland's new Turbo C compiler with its powerful integrated environment that makes it easy to edit, compile, and run C programs. The author's proven hands-on intensive approach includes example porgrams, exercises, and questions and answers and covers CGA and EGA graphic modes.

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LANGUAGES

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Dan Shafer is a technical book author with such Sams books as *Artificial Intelligence Programming on the Macintosh*™ and *Turbo Prolog Primer* to his credit. Shafer specializes in AI programming, especially Prolog. In his monthly newsletter, *Visions: The Shafer Report,* he analyzes future technological trends and impacts.

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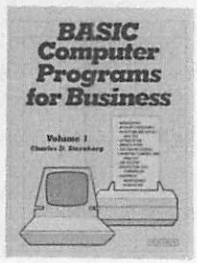

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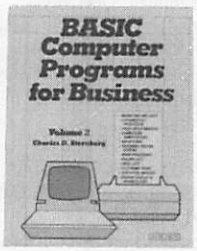

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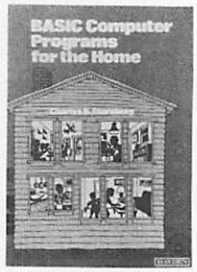

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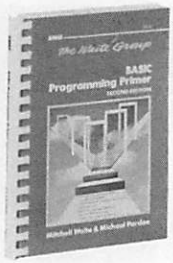

BASIC Programming Primer, Second Edition
Waite and Pardee, The Waite Group

The cornerstone of the Sams/Waite Primer series, this classic text contains a complete explanation of the fundamentals of the language, program control, and organization. Appendices provide information on numbering systems, a comparison of different BASIC programs, and the ASCII character code set.

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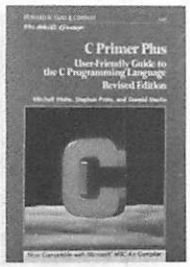

C Primer Plus, Revised Edition

Mitchell Waite, Stephen Prata, and Donald Martin, The Waite Group

This revised and expanded edition of a best-seller presents everything you should know to begin programming in the exciting C language, now used by over 80 percent of the software community. The book is organized for quick learning and encourages problem solving through questions and exercises.

The authors have updated the text with information on C++, AT&T's successor to C, which is used for object-oriented programming. They also explain what is new in the ANSI C language standard and how to write programs that conform to it.

Topics covered include:

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- Loops and Other Control Aids
- How to "Function" Properly
- Storage Classes and Program Development
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ISBN: 0-672-22582-4
No. 22582, $24.95

C Programmer's Guide to Serial Communications

Joe Campbell

This book offers a comprehensive examination and unprecedented dissection of asynchronous serial communications. Written for C programmers and technically advanced users, it contains both theoretical discussion of communications concepts and a practical approach to program design for the IBM® PC and Kaypro environments.

The author introduces a startling advance in the art of programming—the "virtual" UART—which he uses to develop a highly portable C programming library that outperforms costly commercial products; provides functions for fast CRC calculation, XMODEM file transfer, XON/XOFF control, and much more.

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- CRC Calculations
- Interrupts

672 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22584-0
No. 22584, $26.95

C with Excellence: Programming Proverbs

Henry Ledgard with John Tauer

C programmers will learn how to increase their programming skills and to write carefully constructed and readable programs with this handbook on C programming. Its clear and concise style provides both the novice and the expert programmer with guidelines or "proverbs" for writing high-quality, error-free software.

The reader familiar with the fundamentals of C, BASIC, or Pascal will be able to apply these principles to develop systems and application software as well as write C programs that can be easily ported from one microcomputer to another.

After introducing the 24 "proverbs" and their applications, this handbook focuses on the entire development process from conceptualizing to coding, documenting, testing, debugging, and maintaining and modifying programs.

Topics covered include:

- Programming Proverbs
- Structure Is Logic
- Coding the Program
- Global Variables, Selecting Names, Recursion, and Efficiency
- Top-down Programming
- Appendices Include: Summary of Program Standards and a Program for Kriegspiel Checkers

272 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-46294-X
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COBOL Elements of Programming Style

Fuori, Gaughran, Gioia, and Fuori

This practical, self-instructional guide covers all aspects of programming in COBOL for the beginning and experienced programmer.

Using this step-by-step approach almost anyone can build the problem-solving skills needed to write complete and efficient COBOL programs. It has more than 75 program examples, each representing a business data processing task.

464 Pages, 7 x 9¼, Softbound
ISBN: 0-8104-6396-2
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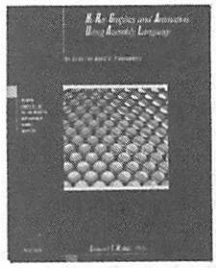

Hi-Res Graphics and Animation Using Assembly Language

Leonard I. Malkin, Ph.D.

Explore the secrets of double hires and color graphics and learn how to create startlingly detailed animated graphics.

This book for Apple® II users shows the secrets of producing professional graphics and other applications including vertical and horizontal movement, internal animation, paddle and joystick controls, collisions and explosions, and the animation of multiple shapes.

320 Pages, 8½ x 11, Softbound
ISBN: 0-8104-6758-5
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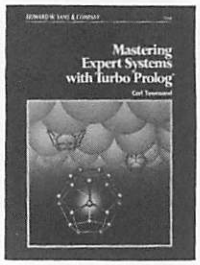
LANGUAGES



Mastering Expert Systems with Turbo Prolog®

Carl Townsend

This book details how to design expert systems with Turbo Prolog using tutorial examples, numerous practical examples, and program listings. Written for the intermediate to advanced user, it provides all the design elements necessary to create an expert system.

It moves from concept to application including a complete expert system illustration. The last chapter shows the certainty factors and design elements needed for additional applications.

Topics covered include:

- Fundamentals
- Introduction to Expert Systems
- Using Turbo Prolog
- The Prolog Language
- Using Rules
- Creating a User Interface
- Using Data Bases
- Controlling the Flow of Execution
- Using Complex Data Structures
- Special Prolog Techniques
- Developing Programs with Turbo Prolog
- The Expert Systems
- Types of Expert Systems
- Search Strategies
- Defining the Goal and Domain
- Representing the Knowledge
- Knowledge Acquisition
- Dealing with Uncertainty
- Appendices: Program Listings, Glossary, Resource Listing, and Turbo Prolog and other Prologs

Carl Townsend has published 18 books. He is a full-time writer and consultant.

272 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22568-9
No. 22568, $19.95

Mastering Turbo Pascal® 4.0, Second Edition

Tom Swan

This book is suited for both beginners and experienced programmers and developers. Its encyclopedic organization makes the information easy to find and use, and the comprehensive coverage of all Turbo Pascal's features makes it a valuable addition to any programmer's library.

The tutorial is written with the same attention to detail as the first edition, and includes enhanced sample program listings, key word lists, summaries, and questions and answers. The revision also provides program amplifications and more advanced programming topics such as units, large memory models, and assembly language linkage.

Topics covered include:

- Programming by Example
- Data—What a Program Knows
- Action—What a Program Does
- Divide and Conquer
- Adding Structure to Data
- Files
- Pointers, Lists, and Trees
- More about Numbers
- Strings, Displays, and Graphics
- Advanced Techniques
- IBM PC and DOS Particulars
- CP/M Particulars
- Turbo Pascal Encyclopedia
- Appendices: Turbo Pascal Railroad Diagrams, Compiler Directives, ASCII Character Codes, Bibliography, Answers to Selected Exercises, and Program Index

Tom Swan has been writing about computer programming for nearly ten years, and his most recent book, *Mastering Turbo Pascal Files* continues to be a top seller.

650 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-48421-8
No. 48421, $22.95

Mastering Turbo Pascal Files

Tom Swan

This book demonstrates how to produce full-scale, integrated, power-user-type programs that use graphics, database access, cursor control, editing, menus, and windows.

This is an advanced guidebook and reference for professional and semi-professional programmers working with Borland International's Turbo Pascal for the IBM® PC. It explains how to use Turbo Pascal to create command and menu-driven applications for dealing with file management, data compatibility, text processing, games, graphics, and communications.

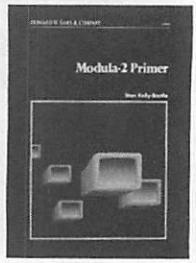
Mastering Turbo Pascal Files details how to write programs to read and write disk files of all kinds and explains the recent advances in disk storage devices, including 3.5-inch microfloppies, WORM drives, and others. Dozens of complete, tested, and practical programs are provided, as is Swan's personal collection of file programming "packages."

Topics covered include:

- File Fundamentals
- In Sequence and At Random
- Text and the Single Character
- Files in the Raw
- Directing the Directory
- Problems of a Sort
- Searches for Tomorrow
- Multi-User Mysteries

Tom Swan's books have sold more than 50,000 copies, including *Mastering Turbo Pascal*, which continues to be a top seller. Swan has also published dozens of articles in leading technical magazines such as *PC World* and *Personal Computing.*

320 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22592-1
No. 22592, $18.95



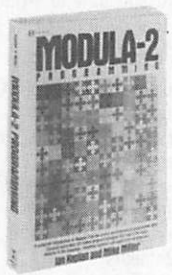
Modula-2® Primer

Stan Kelly-Bootle

This new addition to the Sams primer series provides the first-time Modula-2 user with the vital features of the Modula-2 language. It provides a tutorial approach to Modula-2 and illustrates the relationship between Pascal and Modula-2.

The book provides many complete program examples using Logitech's Modula-2 compiler for the IBM® PC/XT/AT®.

472 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22560-3
No. 22560, $19.95



Modula-2® Programming

Kaplan and Miller

Written to be independent of specific computer systems, this introduction to the module concept contains more than 125 field-tested examples of module programming. It also features a discussion of standard library modules and their functions in I/O operations.

Requiring an understanding of programming concepts, it is ideal for programmers familiar with Pascal, PL/1, C, or FORTRAN 77.

240 Pages, 7 x 9¼, Softbound
ISBN: 0-8104-6480-2
No. 46480, $21.95

Pascal Primer

Fox and Waite, The Waite Group

Waite creates a new standard with the *Pascal Primer*. Now you can generate powerful programs in UCSD™ Pascal. Let this primer swiftly guide you through Pascal program structure, procedures, variables, decision-making statements, and numeric functions. Includes useful examples and quizzes with answers, along with eight quick-reference appendices.

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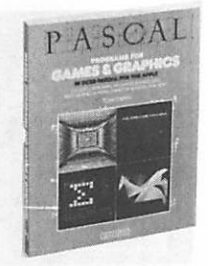
ISBN: 0-672-21793-7
No. 21793, $17.95



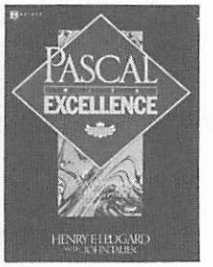
Pascal Programs for Games & Graphics

Tom Swan

This outstanding collection of 22 unusually sophisticated games and graphics helps users realize Apple Pascal's full potential.

The powerful graphics editor enables users to custom-design character sets, change pictures up to full screen, and print a hard copy of the finished pictures as easily as working with text. Learn to design new alphabets, too.

224 Pages, 7 x 9¼, Softbound
ISBN: 0-8104-6271-0
No. 46271, $17.95



Pascal with Excellence

Ledgard with Tauer

Improve your software programs with this easy-to-read book of key concepts in structured programming.

The proverbs cover such concerns as conceptualizing, coding, documenting, testing, debugging, and maintaining and modifying programs. Each proverb is followed by examples of good and bad program segments and is then put to the test in a scenario of top-down programming.

256 Pages, 7 x 9¼, Softbound
ISBN: 0-8104-6490-X
No. 46490, $16.95

Programming in C, Revised Edition

Stephen G. Kochan

This timely revision provides complete coverage of the C language, including language features and over 90 program examples. The comprehensive tutorial approach teaches the beginner how to write, compile, and execute programs and teaches the experienced programmer how to write applications using features unique to C.

Program examples include a step-by-step explanation of all the procedures involved. The book covers all the essentials of C, including program looping, decision-making, arrays, functions, structures, character strings, bit operations, enumerated data types, and ANSI C.

Topics covered include:

- Introduction and Fundamentals
- Writing a Program in C
- Variables, Constants, Data Types, and Arithmetic Expressions
- Program Looping
- Making Decisions
- Arrays
- Functions
- Structures
- Character Strings
- Pointers
- Operations on Bits
- The Preprocessor
- Working with Larger Programs
- Input and Output
- Miscellaneous and Advanced Features
- Appendices: Language Summary, ANSI Standard C, Common Programming Mistakes, the UNIX C Library, Compiling Programs under UNIX, the Program LINT, the ASCII Character Set

476 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-48420-X
No. 48420, $24.95

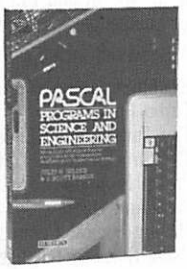
Pascal Programs for Data Base Management

Tom Swan

Here is one of the most practical comprehensive treatments of data base management. It contains PDBS (Pascal Data Base System), a suite of 35 short, UCSD-compatible Apple Pascal programs for creating, reformatting, updating, storing, and sorting a relational data base.

The user can program, correct, and begin using a function after typing just a few screens of code.

288 Pages, 7 x 9¾, Softbound
ISBN: 0-8104-6272-9
No. 46272, $21.95

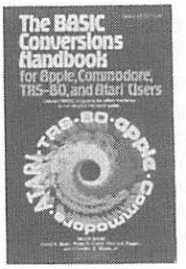


Pascal Programs in Science and Engineering

Gilder and Barrus

This text contains 112 Apple Pascal programs to tackle problems that confront students. Programs are organized into three sets: general math such as derivatives, integrals, curve fitting; basic electricity and electronics; computer-aided design of amplifiers, power supplies, and active and passive filters. All programs are ready to run, easy to modify.

350 Pages, 6¾ x 9¾, Softbound
ISBN: 0-8104-6265-6
No. 46265, $21.95



The BASIC Conversions Handbook for Apple®, Commodore®, TRS-80®, and ATARI® Users, Second Edition

Brain, Oviatt, Paquin, and Stone

If you've ever wanted to use a program on your machine, but it was not written for your machine, this book is for you! Because software follows the same logic, no matter what brand of machine, programs written for one microcomputer will work on just about any other microcomputer if the language differences are compensated for.

296 Pages, 6 x 9, Softbound
ISBN: 0-8104-5538-2
No. 45538, $15.95

LANGUAGES

Topics in C Programming

Kochan and Wood

Here is the most advanced and comprehensive coverage of the maturing C market. This sequel to *Programming in C* describes in detail some of the most difficult concepts in the C language—structures and pointers. It also explores the standard C library and standard I/O library, dynamic memory allocation, linked lists, tree structures, and dispatch tables.

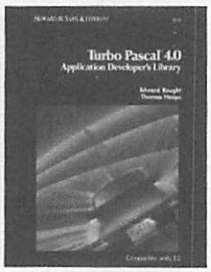
Experienced C programmers can examine the UNIX System Interface through discussions on controlling processes, pipes, and terminal I/O. *Topics in C Programming* also explains how to write terminal-independent programs, how to debug C programs and analyze their performance, and how to use "make" for automatic generation of a programming system.

Topics covered include:

- Structures and Pointers
- The Standard C Library
- The Standard I/O Library
- UNIX System Interface
- Writing Terminal Independent Programs with "curses" Library
- Debugging C Programs
- Generating Programs with "make"

Stephen Kochan and Patrick Wood, formerly of Bell Laboratories, are the principals of a UNIX/C consulting firm called Pipeline Associates. Together they have authored such best-sellers as *Programming in C, Exploring the UNIX System, UNIX Shell Programming,* and *UNIX System Security* .

528 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-46290-7
No. 46290, $24.95



Turbo Pascal® 4.0 Developer's Library

Rought and Hoops

This book provides a comprehensive system of easy-to-use Pascal routines that are ideal for intermediate to advanced Pascal users. Developers will benefit from the high performance and flexibility of the integrated library to create professional software applications compatible with the new Turbo Pascal compiler.

Providing an environment that any developer can readily use, the fully integrated library of routines contains operations for string manipulation, screen display operations, keyboard management, data entry screens, menu management, printer control, time and data manipulation, and file management.

Topics covered include:

- Global Constants, Types, and Variables
- Functions and Procedures
- Retrieve File System Functions and Procedures
- Novell Networking Functions and Procedures
- Sample Applications and Templates
- Using the Libraries with Turbo Pascal 4.0
- Appendices: Cross Reference of Routines by Category, Order of Routine Inclusion, Bibliography, Reader Feedback

Edward Rought and Thomas Hoops are co-owners of a software development and marketing firm. They have several commercial products on the market and contract for custom software packages.

450 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22635-9
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Turbo Prolog® Primer, Revised Edition

Dan Shafer

This primer introduces the language of artificial intelligence—and the new Version 1.1 of Turbo Prolog. It carefully examines the elements of the language, including how programming in Turbo Prolog differs from programming in other, more traditional languages such as Pascal or C.

Programmers who want to explore the power of Prolog, as well as expand their knowledge of artificial intelligence and expert systems, will appreciate the hands-on approach. There are numerous programs that are ready to type in and run on any PC or compatible machine.

Topics covered include:

- Examining and Setting up Turbo Prolog
- The Turbo Prolog Editor
- The Structure of a Turbo Prolog Program
- Facts and Queries
- Making Logical Connections
- Using Rules in Intelligent Prolog Programs
- Creating a Full Turbo Prolog Program
- Equality and Matching
- Arithmetic, Structures, and Lists in Turbo Prolog
- Strings and Type Conversion
- Input and Output
- Screens and Windows
- Sound and Graphics
- Databases in Turbo Prolog
- Controlling Program Flow
- Turbo Prolog Debugging Techniques
- Computer Directives
- Appendices: Glossary, Turbo and Other Prologs, Suggestions for Further Reading

350 Pages, 7½ x 9¾, Softbound
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VSAM: Concepts, Programming, and Design

Ranade and Ranade

Virtual Storage Access Method: the latest versatile and powerful access method for IBM® operating systems.

This broad coverage of VSAM ranges in depth from fundamentals to advanced techniques, with hundreds of practical examples, programs, illustrations, and tables. Data programmers in the IBM mainframe and MVS environment will appreciate the detailed and clear coverage of Alternate Index, ESDS, and RRDS files.

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Z-80 and 8080 Assembly Language Programming

Kathe Spracklen

This book is an extensive introductory look at assembly language programming for the 8080 and Z-80 processors. It provides just about everything the applications programmer needs to know to get the most out of his or her machine.

192 Pages, 6 x 9, Softbound
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Artificial Intelligence Programming on the Macintosh™

Dan Shafer, The Waite Group

This author presents the fundamentals of artificial intelligence (AI) programming theory and techniques through a step-by-step introduction to the next frontier in computer usage. The programming student and hobbyist will be fascinated by the possibilities of music generation, robotics, and problem solving. . .all available through AI on today's microcomputers.

304 Pages, 7½ x 9¾, Softbound
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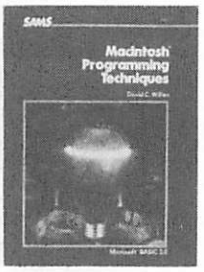
C Programming Techniques for the Macintosh™

Mednieks and Schilke

C—an elegant, fast, and easy language—is steadily growing in popularity. This book combines C programming with the Macintosh ROM toolkit to provide Mac programmers with a wealth of valuable information.
It is a comprehensive introduction to the C programming language, as developed for the Macintosh environment. Users should have intermediate-level programming knowledge and experience with other languages like BASIC.

336 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22461-5
No. 22461, $18.95



Macintosh™ Programming Techniques

David C. Willen

Take advantage of the power and versatility of Microsoft® BASIC 2.0 on your Macintosh computer and get the most from its unique user interface. Learn how to write Macintosh applications using BASIC, and at the same time increase your knowledge of programming structures that allow access to the Macintosh user interface mechanisms. Written in a tutorial style, the author concentrates on the various features of BASIC by function.

400 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22411-9
No. 22411, $22.95

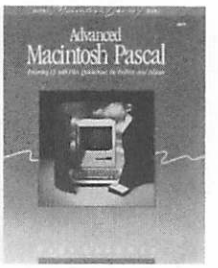
Macintosh™ User's Guide

Gordon McComb

Get started in computing with the revolutionary Apple® Macintosh using this guidebook. Start with an elementary overview of the first real computer for the people, and advance to a sophisticated level of knowledge.

Become familiar with what the Macintosh can do for you, the special features of the mouse, the unique disk system, MacPaint™, MacWrite™, the software, and much more.

440 Pages, 5½ x 8½, Comb-bound
ISBN: 0-672-22328-7
No. 22328, $16.95



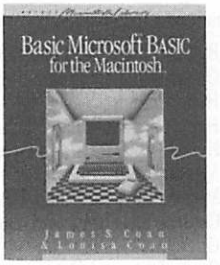
Advanced Macintosh™ Pascal

Paul Goodman

Beginning where most Pascal books leave off, this book introduces programmers to the advanced skills needed to produce "real" applications.

Not only does this book discuss Pascal's "power" structures, thoroughly examining sets, pointers, and records, it also covers basic and advanced QuickDraw routines, data types, programming techniques, and how to use the Macintosh Toolbox.

304 Pages, 7¾ x 9¼, Softbound
ISBN: 0-672-46570-1
No. 46570, $19.95



Basic Microsoft® BASIC for the Macintosh™

Coan and Coan

Develop a solid foundation in programming of Microsoft BASIC with step-by-step instructions, sample programs, and screen illustrations that guide you in writing control routines, subroutines, and complete programs quickly and easily.

Learn how to access Macintosh QuickDraw, ROM, highlight short and simple programs with additional capabilities, save memory with options base, initialize options, and much more.

448 Pages, 7¾ x 9¼, Softbound
ISBN: 0-8104-6558-2
No. 46558, $19.95

dBASE Mac® Programmer's Reference Guide

Edward C. Jones

This detailed guide for using and programming in dBASE for the Macintosh® was written especially for those who need to take full advantage of the program's available power.

This book highlights programming applications using modular code to develop complete applications for any purpose. It provides a detailed explanation of how to use the relational powers of the software, as well as how to add and edit records with full error tracking and data verification, system design, and file transfer from DOS.

Current DOS dBASE users will learn how to take advantage of the unique Macintosh graphical interface when they program or use dBASE Mac.

Topics covered include:

- Creating and Modifying Files
- Working with Display Views
- Managing Data
- Working with Related Files
- Building Applications
- System Design
- Procedural Flow in a dBASE Mac Procedure
- Adding and Modifying Records Under Procedural Control
- User Input and Output
- dBASE Mac for dBASE III Programmers
- Sample/Design Applications
- Appendix: dBASE Mac Commands

300 Pages, 7¾ x 9¼, Softbound
ISBN: 0-672-48416-1
No. 48416, $19.95

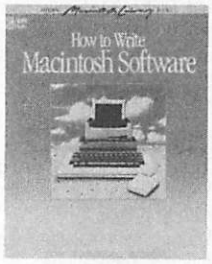
MACINTOSH

The Excel™ Advanced User's Guide
Richard Loggins

This guide provides the means to produce integrated systems of spreadsheet and supporting data that greatly increase productivity and efficiency.

With this book you can master the advanced features of Excel for designing, creating, and implementing integrated business applications. It includes many undocumented features that allow you to examine how each aspect of Excel can be used to solve specific problems.

200 Pages, 7¾ x 9¼, Softbound
ISBN: 0-672-46626-0
No. 46626, $19.95



How to Write Macintosh™ Software
Scott Knaster

This book thoroughly discusses memory allocation, reallocation, purging, and implicit and explicit dereferencing, as well as how to reduce memory fragmentation and segment an application.

It tells how to use two powerful object-code debuggers and how to make your software more effective. Included are valuable appendices: "Assembly Language Overview" and a list of common programming problems.

528 Pages, 7¾ x 9¼, Softbound
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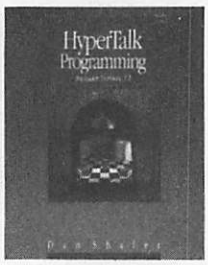
No. 46564, $27.95



HyperTalk™ Programming
Dan Shafer

This exciting new book is a comprehensive tutorial covering every feature of HyperTalk including the concepts behind the language, object-oriented programming, and sample scripts for ready-made applications. It is an essential guide for all HyperCard™ users and programmers.

The book thoroughly explains the powerful programming aids used for the design and development of HyperCard applications including the use of sound, graphics, and communications. It also presents language extensions and how to use them to extend HyperTalk with C or Pascal programming.

Topics covered include:

- Building and Designing Stacks
- Object-Oriented Programming
- HyperCard Refresher
- HyperCard Building Blocks
- HyperTalk Basics and System Messages
- Mouse, Keyboard, and File I/O
- Control Structures and Logical Operators
- Card, Text, and Data Management
- Dialog Boxes
- Graphics Commands and Visual Effects
- Sound and Music Basics
- Math Operators and Functions
- Commands
- Tips, Traps, and Techniques
- Tools and Programming Aids

Dan Shafer, writer of nearly a dozen computer books, has earned a reputation as an author who presents difficult ideas in an easy-to-understand manner. His current titles include *Turbo Prolog Primer, Revised Edition* and *AI Programming on the Macintosh.*

576 Pages, 7¾ x 9¼, Softbound
ISBN: 0-672-48426-9
No. 48426, $24.95

IBM® PC and Macintosh® Networking Featuring: TOPS™ and AppleShare™
Stephen L. Michel

IBM PC and Macintosh owners and users who want to combine the power of their machines will welcome this complete resource for networking the IBM PC and the Macintosh using TOPS and AppleShare.

This book details the specifics of using the Macintosh and the IBM PC on the same network, including transferring files, sharing printers, transporting data from IBM software to Mac and vice versa, and mixing word processing and spreadsheet programs.

Full of networking details, this thorough coverage of TOPS software (one of *PC Magazine's* "The Best of 1986" products) details how to create useful files and share printers and external disk drives.

Topics covered include:

- How the Macintosh and PC Really Differ
- TOPS
- AppleShare
- Coexistence
- Managing the Network
- Appendices: Glossary, ASCII Character Sets, Using PostScript Printers

Stephen L. Michel is a software evaluator and manager for a major computer vendor and has worked with TOPS since its early development. A contributor to *The Macintosh Bible*, Stephen has also written magazine articles for *Computer Currents* and is an editor for *CD ROM Review.*

328 Pages, 7¾ x 9¼, Softbound
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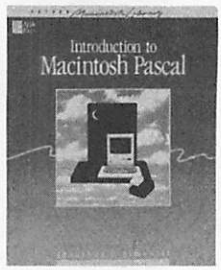

Introduction to Macintosh™ Pascal
Jonathan Simonoff

Learn to create Macintosh Pascal programs easily and quickly.

Written by an Apple documentation writer and Pascal expert, this book emphasizes the system's capabilities beginning with program design concepts and proceeding through graphics, text editing and files, handling sound, and using math operators and functions. This text features many program examples and screen illustrations.

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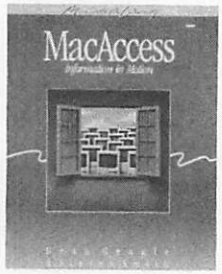

MacAccess: Information in Motion
Gengle and Smith

This book examines the software and hardware required for successful data transfer and offers a step-by-step discussion of a sample telecommunications session, clearly explaining how to send and receive text files. During detailed presentation of the telecommunications session, the focus is set on solutions to common communications problems.

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Harriman and Calica

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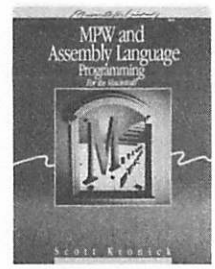

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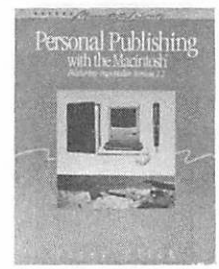

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Owners of PageMaker desktop publishing software or those interested in learning about desktop publishing will welcome this major revision of the dominant book on PageMaker. It now details how to take advantage of the 2.0 version. This text takes the reader from traditional word processing and graphics programs to the production of attractive, functional, finished pages using PageMaker.

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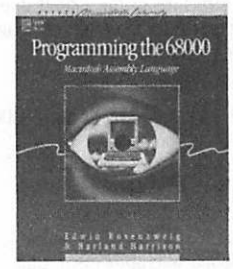

Programming the 68000

Rosenzweig and Harrison

This prime resource for programmers fully examines the power of the Motorola 68000 microprocessor. It details the assembly language processes of coding, editing, compiling, linking, and resource compiling, with thorough explanations of the 68000 instruction set and addressing modes.

It features many example routines and shows how to code a simple electronic spreadsheet called *SimpleCalc.*

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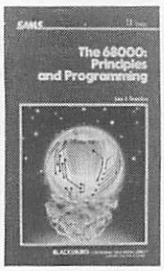

The 68000: Principles and Programming

Leo J. Scanlon

The Motorola 68000 is the first 16-bit microprocessor to have a 32-bit international architecture. Increasing interest in 16-bit chips makes an understanding of this CPU essential for microcomputer professionals and hobbyists alike.

The book starts with fundamental material and gradually introduces more complex topics to help the reader fully understand the 68000 in an orderly manner. From a brief overview of the features of the chip and background information to the instruction set and addressing modes to the processing states, privilege states, and exception structure of the 68000, the book provides thorough coverage of this versatile chip.

Topics covered include:

- An Introduction to the 68000 Microprocessor
- Cross Macro Assembler
- The 68000 Instruction Set
- Mathematical Routines
- Lists and Look-Up Tables
- 68000 Microprocessor Chip Hardware
- Processing States, Privilege States, and Exceptions
- Fundamentals of Interfacing
- 68000 System Development Support
- Appendices: ASCII Character Set, Instruction Execution Times, Hexadecimal/Decimal Conversion Tables, Summary of the 68000 Instruction Set

Leo J. Scanlon is Documentation Manager for the Microelectronic Devices business segment of Rockwell International, and is the author of *6502 Software Design.*

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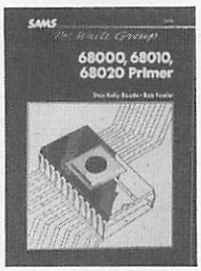

68000, 68010, 68020 Primer

Kelly-Bootle and Fowler
The Waite Group

Beginning with an introduction to the 68000 chips, this book introduces the novice or experienced programmer to the instruction set and addressing modes common to the 68000 family. It progresses to the architecture of the chips, how to program in assembly language, how to utilize the 68000 to its fullest, how code mapping works, how to use various instructions and registers, and how the chips are used in multi-user systems.

Actual programming examples are presented throughout the book to reinforce learning with a handy tear-out instruction card for quick reference at the computer. This book contains everything the programmer needs to know about the 68000 family of microprocessor chips.

Topics covered include:

- Basic Microprocessor Concepts
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- M68000 Programmer's Models
- M68000 Instruction Set—First Steps
- M68000 Instruction Set—Advanced Topics
- Miscellaneous M68000 Instructions
- The MC68010
- The MC68020
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The 8086/8088 Primer, Second Edition

Stephen P. Morse

This revised edition has been updated to provide novices and professionals alike with a thorough introduction to Intel's 8086 and 8088 microprocessors.

The book discusses architecture: the machine organization of the 8086/8088, covering register and memory structure, addressing modes, and the 8086/8088 instruction set.

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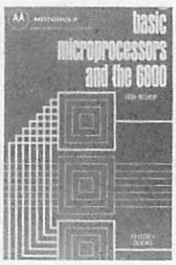

Basic Microprocessors and the 6800

Ron Bishop and the Motorola Semiconductor Group

This volume provides two books in one: a basic guide to microprocessors for the beginner, and a complete description of the M6800 system for the engineer. Each chapter is followed by a problem section.

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How to Program and Interface the 6800

Andrew C. Staugaard, Jr.

This highly structured learning text teaches you all phases of 6800 operation and interfacing. Each chapter clearly indicates the educational objectives, then explains the material concisely. Comprehension is tested with review questions and experiments are provided for hands-on reinforcement.

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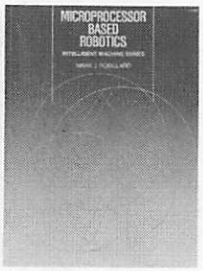

Microprocessor Based Robotics

Mark J. Robillard

This book serves to prepare the designer, experimenter, or scientist-to-be for the new challenge of robotics.

In view of this, the book has been divided into five sections, each section answering one discipline. Under these sections are individual chapters covering specific subjects. In all chapters, actual construction hands-on projects are included along with any necessary programming information.

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Programmable Controller Handbook

Robert E. Wilhelm, Jr.

Bridging the gap between theory and application, this book examines numerous cases of programmable controller applications and programs.

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Topics covered include:

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- Equality and Mathematics
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Programming & Interfacing the 6502, with Experiments

Marvin L. DeJong

Here's a closer look at the 6502, the first 8-bit CPU to gain wide acceptance in the personal microcomputer marketplace. Actually two books in one, this volume begins with assembly language programming and concludes with interfacing techniques. Flowcharts and logic diagrams are used extensively to aid comprehension. A series of related experiments reinforce the concepts presented.

Topics covered include:

- Introduction to Microcomputers
- Writing and Executing Simple Programs Using Data Transfer Instructions
- Simple Input/Output Techniques
- Logical Operations
- Arithmetic Operations
- Branches and Loops
- Register-Shift Instructions
- Indexed Addressing
- Subroutines, the Stack, and Interrupts
- Interval Timers
- Address Decoding
- Control Signals, Output Ports, and Applications
- Data Bus, Buffering, and Applications
- Appendices: Decimal, Binary, and Hexadecimal Number Systems; Instruction Set Summary; Microcomputer Technical Data; Pin Configurations of Frequently Used Chips

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Systems Design with Advanced Microprocessors

John Freer

Rather than taking a theoretical approach, this book provides comprehensive, practical design specifications for many popular 32-bit microprocessors now being used by design engineers.

It discusses only 32-bit microprocessors that are available in volume. The Motorola MC68020 and the Inmos T414 transputer are covered extensively because they represent two major trends in processor architecture. The differences between these two microprocessors are also emphasized.

This will be an important reference for systems designers, engineering/marketing managers of microprocessor-based products, and students of engineering or computer science.

Topics covered include:

- New Architectures and Design Features
- Survey of Advanced Microprocessors, Including the Intel 80386 Chips
- Motorola MC68020
- Inmos T414 Transputer
- 32-Bit Backplane Buses
- Memory and Storage Devices
- Communications Interfaces
- Software Options and Development Systems
- Design Factors
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- Appendices Include: Motorola MC68020 Data, Inmos T414 Data, and a Glossary of Microprocessor Technology

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The Z-80 Microcomputer Handbook

William Barden, Jr.

This handy reference will answer your questions about the Z-80 Zilog CPU. Completely covers hardware, software, machine use, and assembly language, with examples drawn from five different Z-80 microcomputers.

Topics covered include:

- Z-80 Architecture
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- Addressing Modes
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- Z-80 Assembler
- Moving Data—Load, Block Transfer, and Exchange Groups
- Arithmetic and Logical Operations—8- and 16-Bit Arithmetic Group, Decimal Arithmetic
- Shifting and Bit Manipulation—Rotate and Shift, Bit Set, Reset, and Test Groups
- List and Table Operations—I/O and CPU Control Groups
- Z-80 Programming—Commonly Used Subroutines
- Zilog, Inc. and Other Z-80 Microcomputer Systems
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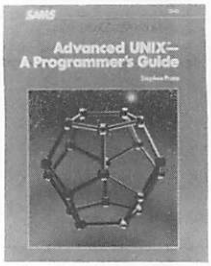

Advanced UNIX® — A Programmer's Guide

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This advanced guidebook goes beyond the basics of UNIX and spells out the details of the system's key components and various programming mechanisms. It shows how to use simple and complex commands, including the Bourne shell, shell scripts, loops, and system calls; how to create UNIX graphics; how to allocate and structure data in memory; and how to maximize the C-UNIX interface.

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- Screen and Keyboard
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- Process, Control
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- Advanced Tools for Programmers

Chris Morgan of The Waite Group is a professor of mathematics and computer science and Director of the Computer Graphics Lab at California State University. He has authored several books about computers and languages.

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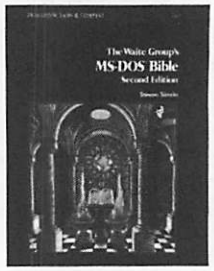

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Steven Simrin

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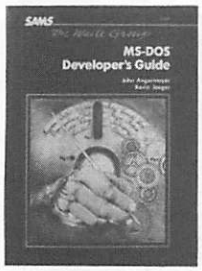

MS-DOS® Developer's Guide

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This useful guide is written expressly for programmers with a working knowledge of 8088 ALC, who want to learn tricks for getting their software running in the MS-DOS environment.

Included are assembly coding tips and explanations of the differences among MS-DOS versions 1.1, 2.1, and 3.1 and between MS-DOS and IBM® PC-DOS™ as well as higher-level language debuggers and aids.

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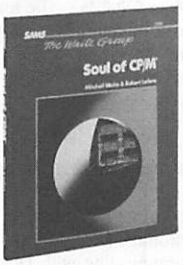

Soul of CP/M:® How to Use the Hidden Power of Your CP/M System

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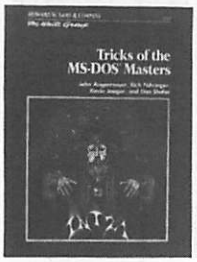

Tricks of the MS-DOS® Masters

Angermeyer, Fahringer, Jaeger, and Shafer, The Waite Group

This Waite Group book is a logical extension of the MS-DOS series, which includes the successful Sams titles *Discovering MS-DOS, MS-DOS Bible,* and *MS-DOS Developer's Guide.*

This title provides the personal user (not necessarily the programmer or software developer) with a wealth of advanced tips about the operating system and tricks for using it most successfully.

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The Waite Group, a developer of computer, science, and technology books, leads the field with its strong line of MS-DOS titles.

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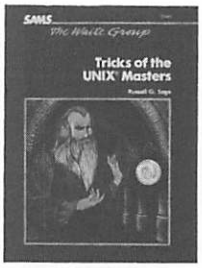

Tricks of the UNIX® Masters

Russell G. Sage, The Waite Group

Many of UNIX's most interesting features and capabilities have virtually been kept secret from users.

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- Personal Management
- Administrative Security
- Hacking the System
- Cracking Security
- Bits and Pieces: Programs, Scripts, Shell Script Bugs and Tricks, Terminal Tricks

Russell G. Sage is a software designer for Olivetti Advanced Technology Center.

416 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22449-6
No. 22449, $24.95

UNIX® Communications

Anderson, Costales, and Henderson, The Waite Group

For UNIX users who need to communicate with other users and other systems, this book takes up where the standard UNIX documentation leaves off, demystifying a sometimes bewildering array of programs, options, and settings. The authors show you step by step how to use, control, and program UNIX communications tools, give examples of their use, and show how they all fit together.

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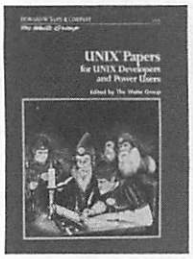
OPERATING SYSTEMS



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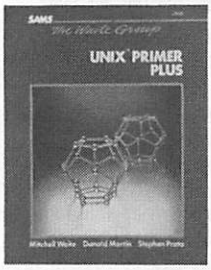

UNIX® Primer Plus

Waite, Martin, and Prata, The Waite Group

Another excellent Waite book. For those who want to learn about the amazing UNIX operating system, this primer presents UNIX in a clear, simple, and easy-to-understand style. This classic is fully illustrated and includes two handy removable summary cards to keep near your computer for quick reference.

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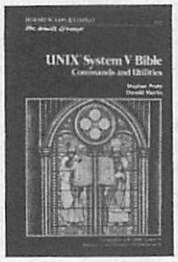

UNIX® System V Bible

Prata and Martin, The Waite Group

You'll never have to open the UNIX manual again! This is a comprehensive reference to UNIX commands and utilities, focusing on the basic and advanced command groups found in standard UNIX System V manuals.

Commands are listed alphabetically and explained in down-to-earth language. Each entry states the purpose of a command, what it does, and how it is used. A graduated set of example programs goes far beyond the UNIX manuals, showing you each command in several different situations.

Features of this unique resource include:

- Detailed Table of Contents for Quick Reference
- Cross-Referencing of Commands and Features
- Friendly Format for Beginning and Advanced Users
- Coverage of All Major UNIX Features
- Guidance to UNIX Command Idiosyncracies

The Waite Group is noted for its strong line of books on C and UNIX. Stephen Prata and Donald Martin are co-authors of *UNIX Primer Plus* and collaborated with Mitchell Waite on the best-selling *C Primer Plus* and *UNIX System V Primer.*

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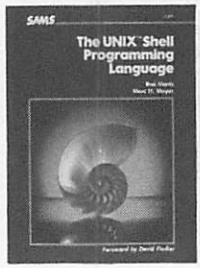

The UNIX® Shell Programming Language

Manis and Meyer

This advanced programming guide emphasizes the Bourne shell, while including the C shell and the Korn shell as well. It demonstrates how the powerful UNIX shell programming language is creating a revolution in programming. This system's versatility and utility are apparent in that the book's many easy-to-use example programs can be run on any computer.

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UNIX® System V Primer, Revised Edition

Waite, Martin, and Prata, The Waite Group

This primer provides a comprehensive overview and introduction to the UNIX System V operating system for the beginning UNIX user. It gives the reader review questions and exercises at the terminal, for an applied, hands-on approach to learning not found in other books on the subject.

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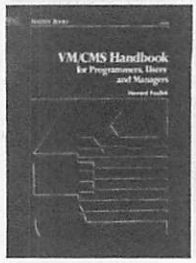

VM/CMS Handbook

Howard Fosdick

This handbook is the first on the market to provide the mainframe audience with an overview of this important IBM® operating system, VM/CMS—Virtual Machine/Conversational Monitor System.

In this book, computer professionals, programmers, and MIS managers operating mainframe computer systems will find detailed coverage of the VM/CMS program development environment, including software components.

The *VM/CMS Handbook* emphasizes the interactive nature of the operating system and its ability to run other operating systems under it as "guests." The author includes mini-tutorials on key topics of the system and a comprehensive summary of the VM/CMS software.

Topics covered include:

- Creating, Changing, Manipulating, and Printing Files
- The Virtual Machine Environment
- Communicating with Other Users
- Program Development with VM/CMS
- VM/CMS Command Languages
- VM/CMS Software
- VM/CMS and the Future
- Appendices: A Roadmap to the VM/CMS Manuals, CMS Commands Summary, and Summary of Selected CP Commands

420 Pages, 7½ x 9¾, Hardbound
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Exploring the UNIX® System

Kochan and Wood

Everything you need to know to maximize the true potential of the UNIX operating system is covered in this book. It teaches you how to use the UNIX system, including the newer UNIX System V, Release 2 version. It provides a vast assortment of commands that perform small, well-defined functions along with the tools needed to combine these commands to perform more sophisticated functions.

Topics covered include:

- Introduction
- What Is an Operating System?
- The UNIX File System
- Getting Started
- Using the UNIX System
- The Old Shell Game
- Screen Editing with *vi*
- In the Office
- Program Development
- Security
- Communications
- Administrating Your System
- Appendices Include: For More Information, Overview of Commands, Complete Command Summary, Administrative Commands, Comparison of sh and csh, Adding New Users

Stephen Kochan and Patrick Wood are experts in UNIX and C and have authored several books in the UNIX Library. After working for Bell Laboratories they began Pipeline Associates, a company that provides training services to the UNIX and C community, as well as specializing in UNIX system security training, consulting, and auditing software.

380 Pages, 7 x 9¾, Softbound
ISBN: 0-8104-6268-0
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UNIX® Shell Programming

Kochan and Wood

Here's a complete, easy-to-understand introduction to UNIX shell programming. The book covers all the features of the standard shell, including the System V, Release 2 shell and the newer Korn shell. Many complete, practical programs are included, and the exercises provide reinforcement for each new shell application.

You'll learn to use the shell and its functions effectively; apply tools like *sed, cut, grep, sort,* and *tr;* use the shell to tailor the UNIX environment to your own individual requirements and customize UNIX commands; write programs in the Korn shell; and use the C shell.

Topics covered include:

- A Review of the UNIX System
- What the Shell Is and What It Does
- Shell Programming Tools
- Writing Your Own Commands and Shell Variables
- Writing Shell Programs
- How to Set Up Program Loops
- Reading Data
- Your Environment
- Parameters
- The Rolo Program
- The Korn Shell
- The C Shell

432 Pages, 7 x 9¾, Softbound
ISBN: 0-8104-6309-1
No. 46309, $24.95

UNIX® System Administration

Fiedler and Hunter

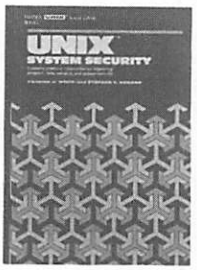
This is an essential guide for everyone who runs a UNIX operating system—UNIX owners, operators, and administrators. It contains the tricks and shortcuts to making your system run easier.

The book begins with a system overview and then proceeds through setting up file systems, adding and removing users from the system, and improving system security. Troubleshooting charts and ready-to-run programs are included.

Topics covered include:

- The System Administrator's Overview of UNIX
- Bringing Up the System
- Checking the File System
- Where Everything Is and How to Find It
- Mounting and Unmounting File Systems
- Shutting Down the System
- Adding and Removing Users for the System
- Backups
- Security
- Terminals
- Printers on the UNIX System
- Modems and an Even Bigger World
- Shell Programming
- Assorted Administration Tips
- Appendices Include: Where to Learn More, Talking to the Outside World, A Typical UUCP Connection

336 Pages, 7 x 9¾, Softbound
ISBN: 0-8104-6289-3
No. 46289, $24.95



UNIX® System Security

Wood and Kochan

This practical guide to system security describes and provides programs for administrating passwords, security auditing, checking file permissions, securing terminals, DES data encryption, and setting up a restricted environment. Sources for the programs described are included.

If you're a UNIX user, administrator, or potential UNIX buyer, this excellent reference contains everything you need to know to make your system secure and keep it that way.

300 Pages, 7¼ x 10, Hardbound
ISBN: 0-8104-6267-2
No. 46267, $34.95

UNIX® Text Processing

Dougherty and O'Reilly

This practical, in-depth reference presents a range of useful UNIX tools that facilitate such word processing functions as format design, printing, and editing. It introduces the tools and illustrates how they can work together to create large writing projects such as technical manuals, reports, and proposals.

With the examples in this text you can put your knowledge to work immediately.

680 Pages, 7½ x 9¾, Softbound
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No. 46291, $26.95

TROUBLESHOOTING & REPAIR

Apple® II Plus/IIe Troubleshooting & Repair Guide

Robert C. Brenner

This manual is structured to make it quick and easy for either the novice or the experienced technician to locate and correct most computer failures.

It introduces troubleshooting and repair in easy-to-understand terms and proceeds step-by-step through the diagnostic techniques for microcomputer hardware.

The appendices provide a wealth of backup information including step-by-step disassembly and reassembly instructions, conversion tables, specification data sheets, and system configuration record and repair sheets.

Topics covered include:

- Basic Troubleshooting
- The Apple II Plus Described
- Apple II Plus Operations
- Specific Troubleshooting and Repair, Apple II Plus
- Apple IIe Described
- Apple IIe Operations
- Specific Troubleshooting and Repair, Apple IIe
- Routine Preventive Maintenance
- Advanced Troubleshooting

256 Pages, 8½ x 11, Softbound
ISBN: 0-672-22353-8
No. 22353, $19.95

Commodore 128® Troubleshooting & Repair

John Heilborn

This book is a step-by-step "how-to" manual written for the owner or operator of a Commodore 128. From hobbyist to service technician, users at all levels will find the information necessary for properly maintaining and repairing the C-128 computer.

Another in the successful consumer-oriented troubleshooting and repair series for Sams, this book covers diagnostic techniques, operation, hardware, preventive maintenance, required tools, data sheets, assembly and disassembly instructions, and a comprehensive glossary. The book explains the inner workings of the Commodore 128 and shows you how to avoid problems through proper care and maintenance.

Topics covered include:

- A Look at the Commodore 128
- Commodore 128 Systems and Subsystems
- Troubleshooting Techniques
- Digital Logic Circuits
- Troubleshooting a System That Doesn't Work
- Troubleshooting a Poor Video or No Video
- Troubleshooting a Defective Keyboard
- Troubleshooting Input/Output Problems
- Preventive Maintenance
- Appendices: Integrated Circuit/Pinouts, Board Layout, I/O Ports, System Specifications, and Commodore Keyboard Codes

160 Pages, 8½ x 11, Softbound
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Commodore 64® Troubleshooting & Repair Guide

Robert C. Brenner

Repair your Commodore 64 yourself, simply and inexpensively. Troubleshooting flowcharts let you diagnose and remedy the probable cause of failure. A chapter on advanced troubleshooting shows the more adventuresome how to perform complex repairs. Some knowledge of electronics is required.

256 Pages, 8½ x 11, Softbound
ISBN: 0-672-22363-5
No. 22363, $19.95

Commodore® 1541 Troubleshooting & Repair Guide

Mike Peltier

This guide provides troubleshooting and repair procedures for the Commodore 64® or VIC 20™ with a 1540, 1541, or 1542 disk drive. It is comprehensive and detailed, offering easy-to-follow, step-by-step instructions. It presents the theory and general operation of the disk drive and points out some common disk drive problems. The diagrams will help readers isolate their disk drive problems.

200 Pages, 8½ x 11, Softbound
ISBN: 0-672-22470-4
No. 22470, $19.95

How to Maintain and Service Your Small Computer

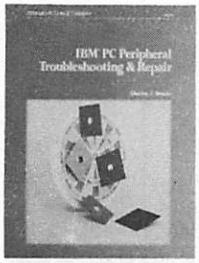
Stephenson and Cahill

Simple repairs can be diagnosed without a trip to the repair store. This book shows you some easy maintenance and operating procedures that will likely reduce problems and down-time. If the problem is more major, then you can apply the skill learned here when dealing with the repair shop for professional servicing. Some basic electronic knowledge is required.

Topics covered include:

- Today's Equipment—A Service Profile
- Servicing Your Equipment—the Options
- Environment and Operating Procedures—Reducing Potential Problems
- Preparation—Skills, Documentation, and Tools
- Troubleshooting Strategy and Skills
- Troubleshooting
- Disk Drives
- Servicing Printers
- Troubleshooting the Main Computer and Keyboard
- Modems, Monitors, Cassette Recorders, and Game Controllers
- Troubleshooting Power Supplies
- Appendices Include: Resistor Color Code, IC Manufacturers' Numbering Systems, Mail-Order Parts Dealers, Pinouts and Base Diagrams, and Troubleshooting Chart

224 Pages, 8½ x 11, Softbound
ISBN: 0-672-22016-4
No. 22016, $17.95



IBM® PC Peripheral Troubleshooting and Repair

C. J. Brooks

Technically oriented personal computer owners, service technicians, students, and hobbyists can learn to service and repair computer peripherals with this step-by-step procedures manual.

Using a cookbook approach, this book presents the basic theory of operation, hardware descriptions, preventive maintenance, and troubleshooting and repair procedures for IBM computer peripherals. Flowcharts, block diagrams, lists of replacement parts, and many illustrations make basic repairs clear.

Reference is made to COMPUTERFACTS™ technical service data from Howard W. Sams when relevant.

Topics covered include:

- Basic Computer Organization
- Troubleshooting Basics
- Disk Drives/Hard Disk Drives/Floppy Disk Drives
- Monitors: IBM Monochrome
- Input Devices: Keyboards, Keypads, and Pointing Devices
- Printers/Impact Printing/Non-Impact Printing
- Modems

C. J. Brooks, an instructor of electronics at National Institute of Technology, is the author of a text on integrated circuits and currently is working on two additional educational texts.

320 Pages, 8½ x 11, Softbound
ISBN: 0-672-22529-8
No. 22529, $19.95

IBM® PC Advanced Troubleshooting & Repair

Robert C. Brenner

Here is in-depth, advanced data for troubleshooting and repair of the IBM PC. This technical book compliments the circuit-tested COMPUTERFACTS™ service data with its descriptive text and expanded circuit explanations.

This book provides more sophisticated data than the author's earlier text, *IBM® PC Troubleshooting & Repair Guide.* It details PC operation and gives a full description of how to use test equipment with PC repair. Troubleshooting programs help locate failures while numerous oscilloscope screen photos and drawings help to identify problems.

Topics covered include:

- System Overview
- Detailed System Operation
- Troubleshooting Techniques
- Preliminary Service Checks
- Detailed Circuit Troubleshooting/Analysis: Power Supply, System Board, Monochrome Monitor/Printer Adapter, Color Graphic Monitor Adapter, Keyboard, Disk Drive Adapter, and Disk Drives (A & B) Type 1
- Appendices: Disassembly Instructions, Reassembly Instructions, Adjustments to System Board and Power Board, Schematic Notes, Switches & Jumpers, and Safety Precautions & Warnings.

Robert Brenner has written several successful computer repair titles for Howard W. Sams, including those for IBM PC, Apple® II Plus/IIe, and Commodore 64® , as well as a repair book for VCRs.

304 Pages, 8½ x 11, Softbound
ISBN: 0-672-22590-5
No. 22590, $24.95

IBM® PC Troubleshooting & Repair Guide

Robert C. Brenner

Keep your IBM PC in top operating condition with this handy reference. Its pages of schematics, photos, and block diagrams will help to identify problems and zero-in on the malfunctioning component quickly, for reduced down-time.

Easy-to-understand circuit diagrams and simple instructions written in a clear, concise style allow you to make most repairs with few or no tools.

Technicians, hobbyists and even computer novices will feel comfortable with the complex world of electronic troubleshooting. Discover how learning can be interesting and rewarding.

Topics covered include:

- The IBM PC Described
- IBM PC Operations
- Basic Troubleshooting
- Specific Troubleshooting & Repair for the IBM PC
- Preventive Maintenance
- Advanced Troubleshooting Techniques
- Appendices: IBM PC Data Sheet, Chip Information Chart, System Unit Disassembly Instructions, System Unit Reassembly Instructions, Keyboard and Disk Drive Disassembly and Reassembly Instructions, Replacing Surface-Mounted Components on the System Board, Summary of Cautions and Notes, ASCII Code Chart, and a Hexadecimal-to-Decimal Conversion Chart

Robert Brenner is a specialist in microelectronic applications and is an avid computer enthusiast.

208 Pages, 8½ x 11, Softbound
ISBN: 0-672-22358-9
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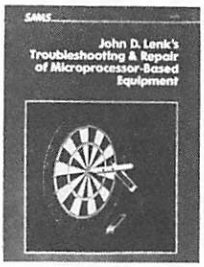

John D. Lenk's Troubleshooting & Repair of Microprocessor-Based Equipment

John D. Lenk

This text provides a simplified, practical system of troubleshooting for the many types of microprocessor-based electronic devices. Concentrating on the basic approach to troubleshooting, the book includes numerous procedures and "tricks" that can be effective in diagnosing, isolating, and locating faults in microprocessor circuits.

Written primarily for working technicians and field service engineers, it is also an excellent guide for students and hobbyists.

Topics covered include:

- Microprocessor Test Equipment
- Problems in Troubleshooting Microprocessors
- Troubleshooting the Gate and IC
- Stimulus-Response Testing
- Vcc and Ground Shorts from Unexpected Causes
- Flip-Flop Troubleshooting
- Register Troubleshooting
- Current Flow Analysis
- Wired-AND and Wired-OR Troubleshooting
- Using the Logic Analyzer
- Step-by-step Procedure for Troubleshooting the VCR

John D. Lenk is one of the industry's foremost authorities on electronics and troubleshooting.

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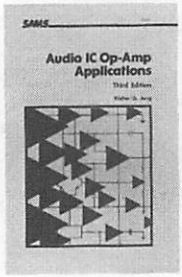
AUDIO



Audio IC Op-Amp Applications, Third Edition

Walter G. Jung

The classic book in its field, this new update includes devices such as the OP-27/37, as well as new applications circuitry to illustrate current trends of use. Included is a brief section on differential input/output IC devices, IC applications in car stereo chips and audio testing, with over 70 pages of industry data.

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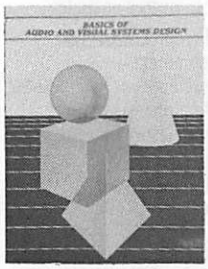

Basics of Audio and Visual Systems Design

Raymond Wadsworth

Newcomers to the audio-visual industry will find indispensable information presented here. System designers, architects, contractors, equipment suppliers, teachers, consultants—all will find these NAVA-sanctioned fundamentals pertinent to system design procedures. Topics include image format, screen size and performance, front versus rear projection, projector output, audio, and the effective use of mirrors.

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Audio Production Techniques for Video

David Miles Huber

This reference book examines the important role that audio plays in video production. It is a well-rounded assessment of the equipment, techniques, and technology required to understand and create in today's world of media production.

Bridging the gap between the currently merging technologies of audio and video production, this book outlines modern audio production and post-production techniques for video. It thoroughly covers the often confusing and misunderstood time code, electronic editing, digital audio, multi-track audio, and live broadcast stereo.

Unlike any other book on the market, this book addresses the specific needs of the audio track in video tape production and the new audio-for-video standards set for the industry.

Topics covered include:

- The Audio Tape Recorder/ Video Tape Recorder
- Synchronization
- Audio Production for Video
- Audio Post-Production for Video
- Introductory Electronic Editing Techniques
- Appendices Include: Preventing and Troubleshooting Time Code Problems; Definitions and Standards of SMPTE, VITC, and Pilo System

David Miles Huber co-authored the very successful second edition of *Modern Recording Techniques.*

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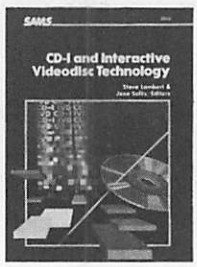

CD-I and Interactive Videodisc Technology

Lambert and Sallis, Editors

This comprehensive reference guide explains how to program interactive videodiscs, CD-I, and other state-of-the-art analog and digital interactive formats.

It analyzes the hardware needed and procedures involved in producing and playing back CD-I including the anticipated time frames, costs, and sources for obtaining CD-I equipment, authoring tools, and mastering information.

224 Pages, 7½ x 9¾, Softbound
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Modern Recording Techniques, Second Edition

Runstein and Huber

For both engineers and students, this revised edition is a valuable guide to state-of-the-art developments and practices in the recording industry. It reflects all the latest equipment, controls, acoustics, and digital effect devices being used in modern recording studios. It also explores the marriage of video and audio multi-track studios and illustrates sound and studio capabilities and limitations.

384 Pages, 7½ x 9¾, Softbound
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No. 22451, $24.95

Handbook for Sound Engineers: The New Audio Cyclopedia

Glen Ballou, Editor ✓

The most authoritative audio reference on the market, this book offers the professional engineer or technician a one-stop guide to the complete field.

Editor Glen Ballou and 13 other audio authorities have written the 31 chapters that are combined into 7 parts as follows:

- Acoustics—Fundamentals; Psychoacoustics; Small Room Acoustics; Common Factors; Acoustic Design; Recording Studio Design; Rooms for Speech, Music, and Cinema; Open Plan Rooms
- Electronic Components for Sound Engineering—Resistors, Capacitors, and Inductors; Transformers; Tubes, Discrete Solid-State Devices, and Integrated Circuits; Heat Sinks, Wire, and Relays
- Electroacoustic Devices—Microphones; Loudspeakers, Enclosures, and Headphones
- Audio Electronic Circuits and Equipment—Amplifiers; Attenuators; Filters and Equalizers; Delay; Power Supplies; Constant- and Variable-Speed Devices; VU and Volume Indicator Meters and Devices; Consoles and Systems
- Recording and Playback—Disk, Magnetic, and Digital
- Design Applications—Sound System Design; Systems for the Hearing Impaired; the Broadcast Chain; Image Projection
- Measurements—Audio Measurements; Fundamentals and Units of Measurements

1,264 Pages, 8 x 10, Hardbound
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Introduction to Professional Recording Techniques

Bruce Bartlett,
The John Woram Audio Series

This all-inclusive introduction to the equipment and techniques for state-of-the-art recording—whether in residences or professional studios or on location—offers a wealth of valuable information on topics not found in other books on audio recording.

Geared primarily for the audio hobbyist or aspiring professional, this book delivers a comprehensive discussion of recording engineering and production techniques, including special coverage of microphones and microphone techniques, sampling, sequencing, and MIDI. It provides up-to-date coverage of monitoring, special effects, hum prevention, and spoken-word recording, as well as special sections on recognizing good sound and troubleshooting bad sound.

Topics covered include:

- The Recording and Reproduction Chain
- Simple Home Recording
- Setting Up the Studio
- Microphones and Microphone Techniques
- Control-Room Techniques
- On-Location Recording
- Judging the Recording
- Appendices Include: dB or not dB, Introduction to SMPTE Time Code, and Further Education

Bruce Bartlett is an experienced audio professional with over 100 articles to his credit, including articles on recording techniques published in *Modern Recording & Music* magazine.

416 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22574-3
No. 22574, $24.95

The Microphone Manual: Design and Application

David Miles Huber

This excellent reference bridges the gap between the equipment manufacturer and the microphone user by clearly introducing and explaining microphone design, characteristics, and theory. The book is written for intermediate to advanced audio users, professional audio and video technicians and engineers, and students. The latest microphone technology—including wireless microphones, clip and boundary microphones, electrical characteristics of the microphone, single and stereo microphone placement techniques—is fully detailed and illustrated.

Topics covered include:

- Basic Theory of Operation
- The Microphone Transducer
- Microphone Characteristics
- Electrical Interface-Cable/ Connector
- Microphone Accessories
- Fundamentals of Single-Microphone Techniques
- Fundamentals of Stereo-Microphone Techniques
- Applied Microphone Techniques in Music Production
- Applied Microphone Techniques in Video/Film Production
- Speech and Music Reinforcement
- Appendices: The Use of Omnidirectional Microphones for Modern Recording, Microphone Techniques for Predictable Tonal Balance Control, the PZM™ Boundary Booklet, Listing of Popular Professional Microphones, Glossary of Microphone Terms

336 Pages, 7½ x 9¾, Softbound
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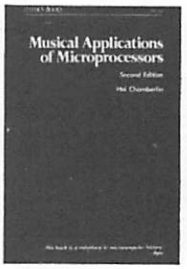

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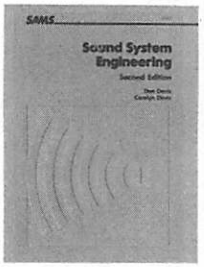

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- Audio and Acoustic Instrumentation
- Putting it All Together
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BASIC ELECTRICITY & ELECTRONICS

ABC's of Electronics, Fourth Edition
Farl Jacob Waters

This self-contained tutorial on the fundamentals of electronics is the revision of the highly successful third edition.

Other books address the subject of electronics on varying levels, but this is one of the few that uses a self-instructional format. It is concise yet covers a broad range of topics. It is written so that readers can understand electronics without getting involved with heavy mathematics.

The many illustrations and review questions make this an excellent, quick introduction to such electronics concepts as atoms and electrons, magnetic forces, and basic electronic components and their applications. Computer basics are also covered.

Topics covered include:

- The Electron
- Electricity and Magnetism
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- Solid-State Diode
- Transistors
- Integrated Circuits
- Basic Amplifier Circuits
- Operational Amplifiers
- Radio Frequency Production
- Radiation of Radio Frequency Waves
- Digital Circuits
- Computer Basics

F.J. Waters has authored nine electronics books and has written numerous articles for *Radio Electronics* magazine. Mr. Waters most recently wrote language programs for the U.S. Army Finance and Accounting Center.

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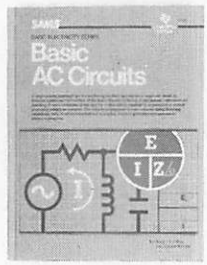

Basic AC Circuits
Fulton and Rawlins

Basic AC Circuits continues the tradition of the *Basic Electricity Series* of self-paced, individualized learning. The text covers concepts, terms, and the mathematics required to understand AC circuit problems, simple or complex.

Using a easy-to-understand format, the book is designed to improve your analysis techniques so that you can ultimately predict and control ac circuit behavior in a system. Detailed objectives begin each lesson and numerous examples illustrate the basic concepts and principles as they are introduced. Finally, those concepts are applied to practical problems so that solutions become more apparent. A set of questions at the end of each chapter help you evaluate your progress as you learn.

Topics covered include:

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- The Sine Wave and Phase
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- Phasor Algebra
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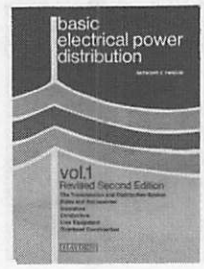

Basic Electrical Power Distribution, Volume 1
Anthony J. Pansini

This popular two-volume training course includes most types of equipment used in a typical power distribution system. Volume 1 provides a step-by-step explanation of the journey of electricity from generator to consumer, then goes on to describe and illustrate components of the system, including poles and line equipment.

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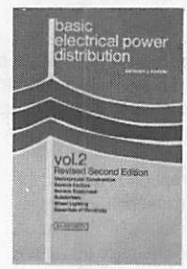

Basic Electrical Power Distribution, Volume 2
Anthony J. Pansini

Volume 2 of this course begins with an extensive discussion of underground construction and equipment and goes on to describe manholes, cables, service factors and equipment, substations, and street lighting. Like Volume 1, it is profusely illustrated with diagrams, graphs, and tables, many of them new to this edition. It includes an introduction to principles of electricity.

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Basic Electricity/Electronics, Volume 1: Basic Principles, Second Edition
Training and Retraining, Inc.

With this text students learn the basic concepts of electricity and electronics. The 15 chapters take the student from an introduction to circuit fundamentals through discussions of meters, the telephone, schematic diagrams, resistors, transitors, soldering, transformers, capacitors, crystal diodes, and vacuum tubes to descriptions of the operation of radio and television transmitters and receivers.

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Basic Electricity/Electronics, Volume 2: How AC & DC Circuits Work, Second Edition
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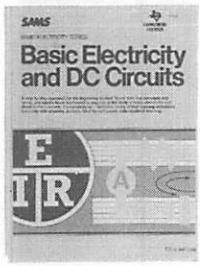

Basic Electricity and DC Circuits, Second Edition

Oliva and Dale

This comprehensive text provides the important concepts, terms, and related mathematics the beginning student needs to understand basic electricity. Text is reinforced with worked-out examples. From basic definitions through advanced concepts and applications, this book is designed with the reader in mind.

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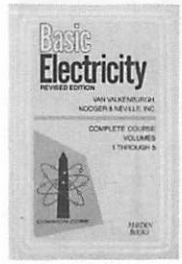

Basic Electricity, Revised Edition, Volumes 1-5

Van Valkenburgh, Nooger & Neville, Inc.

This complete, illustrated course for mastering the fundamentals of electricity for beginners offers thorough, comprehensive coverage in clear, concise terminology. You'll learn how electricity is produced, why it behaves in certain ways in circuits, and how it is measured, controlled, and used. The combined 5-volume edition is an excellent choice for reference or library use.

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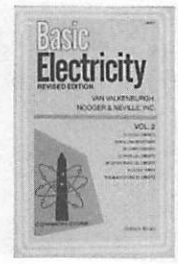

Basic Electricity, Revised Edition, Volume 2

Van Valkenburgh, Nooger & Neville, Inc.

Electric circuits, Ohm's law, resistance, and Thevenin's and Norton's theorems are each discussed in Volume 2. In a concise, textual method, the authors advance from the history of circuits, through their many and varied uses today. Troubleshooting hints for DC series and parallel circuits are included at the end of the book.

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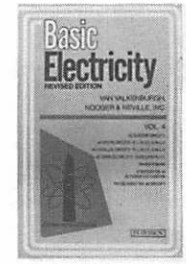

Basic Electricity, Revised Edition, Volume 4

Van Valkenburgh, Nooger & Neville, Inc.

Continue your study of electricity with Volume 4. This text introduces AC electric circuits, parallel and complex circuits, and AC power distribution. Learn about transformers and how to troubleshoot both open and short transformer circuits. A section on review and self-test questions is included.

128 Pages, 6 x 9, Softbound
ISBN: 0-8104-0879-1
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Basic Electricity and an Introduction to Electronics, Third Edition

Howard W. Sams Editorial Staff

Extensive two-color illustrations and frequent questions and answers enhance this introduction to electronics. The mathematics of electrical calculations are clearly presented, including Ohm's law, Watt's law, and Kirchhoff's laws. Other topics include cells and batteries, magnetism, alternating current, measurement and control, and electrical distribution.

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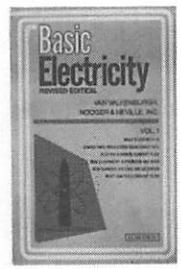

Basic Electricity, Revised Edition, Volume 1

Van Valkenburgh, Nooger & Neville, Inc.

Begin your study with Volume 1 of the Basic Electricity Series and learn what electricity is, how it flows, how it is measured, and how it is produced and used. A brief study of Ohm's law is also included, along with a table of elements. Each chapter includes a review, self-test questions, and problem solutions and experiments.

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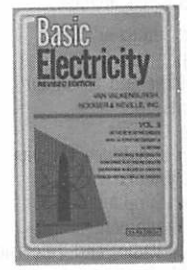

Basic Electricity, Revised Edition, Volume 3

Van Valkenburgh, Nooger & Neville, Inc.

Volume 3 of the Basic Electricity Series will provide the beginner with basic information on alternating currents and provide the experienced electrician with a good review of the subject. Learn about AC meters, resistance, inductance and capacitance in AC circuits. A review of the material presented is included with a troubleshooting drill on simple AC circuits.

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ISBN: 0-8104-0878-3
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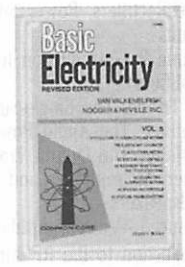

Basic Electricity, Revised Edition, Volume 5

Van Valkenburgh, Nooger & Neville, Inc.

Volume 5 of the Basic Electricity Series provides the student of electricity with a study of generators and motors, beginning with an introduction to generators. AC/DC generators, motors, systems and controls, and machinery maintenance and troubleshooting are all included. When you complete this volume, you will have a basic working knowledge of electricity and its functions.

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This book contains the most understandable six-volume course on basic electronics ever offered. Adapted from the US Navy Common Core Training Program used since 1953, more than 100,000 naval technicians have been trained in electricity and electronics using these same volumes. You'll find this expanded course will teach you faster and more easily than you ever thought possible.

Topics covered include:

- Volume 1—Introduction to Electronics:
  What a Power Supply Is, Half-Wave Rectifiers, Power Supply Circuits
- Volume 2—Introduction to Amplifiers:
  The Triode, The Single-Stage Amplifier, The Audio Power Amplifier, The Output Transformer, Microphones and Loudspeakers
- Volume 3—Video Amplifiers:
  Introduction to the RF Amplifier, Tuned Circuits, Introduction to Oscillators
- Volume 4—What a Transmitter Is:
  Class C Amplifiers, Frequency Multipliers, Transmission Lines, Amplitude Modulation
- Volume 5—Introduction to Receivers:
  Receiver Antennas, TRF Receivers, Troubleshooting the Superheterodyne Receiver
- Volume 6—Transistors:
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Basic Electronics Technology

Evans, Mullen, and Smith

This overview of electronic technology based on semiconductor devices and integrated circuits includes information on both circuit and systems applications. The comprehensive text is divided into two major parts—analog and digital. Both sections feature general and detailed discussion, and new ideas are supported with simple math and practical, worked-out examples. Although the text is designed to be a reference book, it is well suited for use as an electronics textbook or for use in self-study with quizzes at the end of each chapter to reinforce learning.

Topics covered include:

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- Amplifier and Oscillator Circuits
- Radio Circuits
- Audio and Video Circuits and Systems
- Power Supplies
- Test Equipment
- Audio, Radio, and Television Troubleshooting
- Digital Circuits
- Microprocessor Concepts
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A completely revised edition of the widely acclaimed course in electronics, this five-volume set covers all the information on the latest applications of solid-state electronics. Features of this revision include extensive illustrations, comprehensive review sections, more experiments and applications, and the most up-to-date coverage available. Bound in one volume, this book is an excellent reference tool.

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Volume 2 explores audio information systems beginning with amplification, audio amplifiers, audio systems, and continues with troubleshooting amplifiers and oscillators. Discover how power supplies, amplifiers, and I/O devices are used in the construction of hi-fi and stereo sound systems. Public address systems and high-fidelity audio systems are discussed in detail.

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Volume 4 continues a discussion on information transmission by describing information reception—the process whereby an original message, whether voice, music, picture, alphanumeric data, or sensory information, is recovered from a transmitted signal. Discover how receivers are used in satellites, computers, air and highway travel, and radio and TV broadcasts.

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Electricity One-Four, Revised Second Edition

Harry Mileaf, Editor

This hardbound text combines in one handy edition, the first four volumes to give the electricity student excellent introductory to intermediate material. Important points are summarized in text form on the illustrations to further aid the student in retaining what has been learned.

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Harry Mileaf, Editor

This combined cloth edition puts all seven courses of study together for your convenience. It is logically organized to fit the learning process. Each volume covers a given area of knowledge, which in itself is complete, but also prepares the student for the ensuing volumes. Within each volume, the topics are taught in incremental steps and each topic treatment prepares the student for the next topic.

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Electricity One, Revised Second Edition
Harry Mileaf, Editor

Volume one of this complete course in the fundamentals of electricity introduces the general principles and applications of electricity. A brief, lucid treatment of atomic theory prepares the reader to clearly grasp the vital concepts of electrical charges and electron theory. Discussion of the theory of magnetism leads into an explanation of electromagnetism.

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Electricity Two, Revised Second Edition
Harry Mileaf, Editor

Electricity Two explains the means of using electricity— the electric circuit. Each component of the basic DC circuit is described, as well as practical aspects of resistance and resistors. Series and parallel circuits are examined in depth. Ohm's and Kirchhoff's laws and Norton's and Thevenin's theorems are clearly presented and then applied to the analysis of circuits.

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Electricity Three, Revised Second Edition
Harry Mileaf, Editor

This volume applies general circuit principles to alternating current. Discussion of the basis, characteristics, and advantages of AC precedes a thorough examination of the AC waveform and the characteristics and components of the AC circuits. The reader gains a knowledge of inductors, transformers, and capacitors, as well as an understanding of basic AC circuits.

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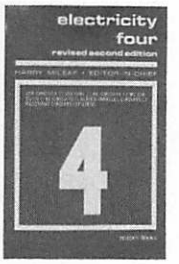

Electricity Four, Revised Second Edition
Harry Mileaf, Editor

Volume four of the Electricity Series is devoted to the more complex combinations of AC circuits, the LCR (inductance, capacitance, resistance) circuits. The reader is first given a quick and complete grasp of the use of vectors in circuit analysis. This enables the reader to master series and parallel RL, RC, LC, and LCR circuits. Included are resonant circuits, filter circuits, and fluctuating DC circuits.

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Electricity Five, Revised Second Edition
Harry Mileaf, Editor

Electricity Five details the construction and operation of testing equipment. The concepts and practical considerations of the basic current-measuring meter movement are presented, and then the methods of employing this basic movement for the measurement of electrical quantities are given. Included are summary sections, and review questions on each topic are discussed.

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Electricity Six, Revised Second Edition
Harry Mileaf, Editor

Electricity Six examines power sources, the devices that produce electricity. The construction and operation of batteries is demonstrated. The subject of generators, DC and AC, is covered from theory to practical considerations. The "concept-unit" approach of this volume makes it an excellent study tool, either in classroom use, or for self-study.

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Electricity Seven, Revised Second Edition
Harry Mileaf, Editor

The final volume of the Electricity Series shows how electrical energy is converted to useful mechanical energy by means of the electric motor. This volume details and demonstrates theoretical and practical aspects of all kinds and types of electrical motors, both AC and DC, and includes material on starters and controllers.

160 Pages, 6 x 9, Softbound
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BASIC ELECTRICITY & ELECTRONICS

Electronics One-Seven, Revised Second Edition
Harry Mileaf, Editor

Beginning with the concept of the electronic signal, this complete course examines electronic circuits in detail from a functional point of view. Each self-contained unit is appropriate for class or as a reference or refresher text. The step-by-step presentation provides all necessary theory and important applications in seven concise volumes.

1,072 Pages, 6¼ x 9¼, Hardbound
ISBN: 0-8104-5961-2
No. 45961, $42.95

Electronics Two, Revised Second Edition
Harry Mileaf, Editor

This book describes the functional units or "electronic building blocks," of electronic devices. Each building block is explained in terms of its effects on the signal and its relationship to the other stages. Consideration is given to the power supply, oscillators, amplifiers, modulators, demodulators, mixers, and combinations to form complete equipment.

128 Pages, 6 x 9, Softbound
ISBN: 0-8104-5955-8
No. 45955, $12.95

Electronics Four, Revised Second Edition
Harry Mileaf, Editor

Electronics Four promotes a complete understanding of the theory, operation, design, and function of semiconductors and integrated circuits. A concise background of atomic and electron theory demonstrates how the elements of diodes and transistors, described in detail, are used to produce desired effects on electronic signals. All parameters are carefully outlined, and attention is given to stabilization and compensation factors.

160 Pages, 6 x 9, Softbound
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Electronics Six, Revised Second Edition
Harry Mileaf, Editor

This volume of the Electronics Series explains and describes oscillators, multivibrators, modulators, mixers, converters, detectors, and discriminators. Tube and transistor versions are considered throughout with circuit diagrams provided for both types. The configuration, operation, and function of each of these essential "electronic building blocks" is detailed.

160 Pages, 6 x 9, Softbound
ISBN: 0-8104-5959-0
No. 45959, $12.95

Electronics One, Revised Second Edition
Harry Mileaf, Editor

Electronics One introduces electronics as the "study of how electricity is used to show, tell or otherwise inform." The concept of the electronic signal is fully developed, with explanations of how various characteristics such as amplitude, phase, and frequency can be used to carry signal intelligence. All forms of signal modulation are considered in this volume, with specific sections on frequency mixing and harmonics.

160 Pages, 6 x 9, Softbound
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Electronics Three, Revised Second Edition
Harry Mileaf, Editor

Volume three provides a comprehensive discussion of electron tubes, beginning with the fundamental theory of their operation. Diodes, tetrodes, and pentodes receive particular emphasis, and a detailed comparison of their functions is given in terms of their effects on electronic signals. Consideration is given to bias, coupling, and impedance matching.

144 Pages, 6 x 9, Softbound
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Electronics Five, Revised Second Edition
Harry Mileaf, Editor

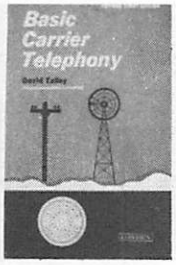
This book is a comprehensive discussion of power supplies and amplifiers. Power supply circuits and how they rectify, filter, transform, and regulate the input power are examined in depth. The primary amplifiers are described in detail and amplifier circuits are discussed in terms of their configurations, capabilities, and uses. Both transistor and tube types are given consideration.

160 Pages, 6 x 9, Softbound
ISBN: 0-8104-5958-0
No. 45958, $10.95

Electronics Seven, Revised Second Edition
Harry Mileaf, Editor

Electronics Seven examines all important auxiliary circuits and antennas. The purpose and operation of AVC, AGC, limiter, clipper, separator, AFC, counter, gating, and time-delay circuits are detailed and illustrated with circuit diagrams. Significant tubespace and transistor-type variations are indicated. The principles of antenna operation are considered, and attention is given to antenna arrays.

136 Pages, 6 x 9, Softbound
ISBN: 0-8104-5960-4
No. 45960, $12.95



Basic Carrier Telephony, Third Edition

David Talley

This text is a basic course in the principles and applications of carrier telephony. Abundantly illustrated, with questions and problems throughout, and requiring little mathematics, this text has successfully trained personnel throughout the communications and electronics fields.

Learn basic carrier principles, plus modulation/demodulation processes, transmission and signaling features, and carrier applications to radio systems.

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- Wire Transmission Principles
- Telephone Transmission Practices
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- FDM Modulation and Demodulation Process
- Electrical Filters
- FDM Carrier System Operations
- Carrier Transmission and Signaling Features
- FDM Cable Carrier Systems
- PCM Carrier Systems
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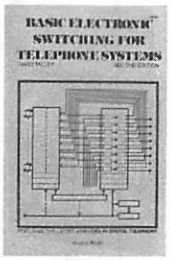
224 Pages, 6 x 9, Softbound
ISBN: 0-8104-5848-9
No. 45848, $15.95



Basic Electronic Switching for Telephone Systems, Second Edition

David Talley

Designed for training and industrial use, this book begins with a history and explanation of key concepts. Subsequent chapters discuss central control units, memory systems and devices, and electronic switching systems for suburban and rural communities. A complete section on digital telephony includes Bell and GTE systems.

Topics covered include:

- Telecommunication Switching Systems and Networks
- Concepts of Electronic Switching Systems
- Central Processor Fundamentals
- The Central Control Unit
- Memory Systems and Devices
- Stored Program Control and Call Handling Operations
- Switching Networks, Master Control Center, and Power System
- Electronic Switching Systems for Suburban and Rural Areas
- Digital Telephony

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ISBN: 0-8104-0960-7
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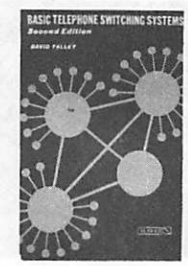

Basic Telephone Switching Systems, Second Edition

David Talley

This comprehensive text explains the principles of telephone switching systems. It includes data on new signaling and switching techniques, E & M signaling interface for electronic central offices, and automatic number identification methods used in step-by-step, panel, and crossbar systems. CCIS and CCSS are explained along with tandem centers, modern traffic service positions, and automatic message accounting functions.

200 Pages, 6 x 9, Softbound
ISBN: 0-8104-5687-7
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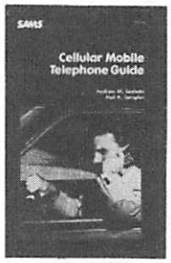
Cable Television, Second Edition

John Cunningham

With this text, engineers and technicians can learn to examine each component in a cable system, alone and in relation to the system as a whole. Sections include component testing, troubleshooting, noise reduction, and system failure. An overview of fiber optics and communications satellites is also provided.

392 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21755-4
No. 21755, $15.95



Cellular Mobile Telephone Guide

Seybold and Samples

The traveller's friend and valuable business tool, cellular mobile phones have become increasingly popular and have undergone many technological changes. This guide will assist current and prospective users in purchasing, leasing, or renting systems best suited to their needs.

This handy reference compares model, prices, dealers/suppliers, installation methods, and telephone companies with hints on saving money and time.

224 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22416-X
No. 22416, $9.95

The Complete Guide to Security

Martin Clifford

Complex electronic security systems are not just extensive, but also expensive. Elaborate measures are not required. This book helps you protect against burglary, theft, and armed robbery anywhere, with a wealth of practical advice and information on simple self-protection devices.

336 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21955-7
No. 21955, $13.95

CONSUMER ELECTRONICS

Electronic Telephone Projects, Second Edition

Anthony J. Caristi

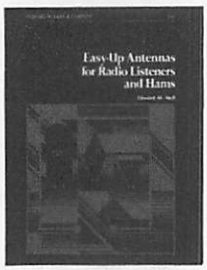
If you want to enhance your telephone but can't find what you're looking for, why not do it yourself? This book shows how to make 22 creative projects that turn a telephone into a favorite household tool. It begins with an introduction to telephone operations and legal requirements for connecting equipment to phone company lines, then introduces the techniques and devices used in the various projects.

This new edition contains seven completely new projects, plus a new approach to one previous project. Each operation is clearly detailed with step-by-step instructions and procedures.

Projects include:

- Soft Tone
- Telephone Sentry
- Telephone Bug
- Automatic Record/Call
- Speakerphone
- Dial Tone
- Auto-Dial
- Ring-A-Thing
- Telephone Trigger
- CB Telephone Patch
- Conferencer
- Telephone Beacon
- Automatic Bell Cutoff
- The Babysitter
- Telephone Computer Memory
- Duo-Phone
- Touch Tone Dialer and Electronic Ringer
- The Frustrator
- Teleguard
- Tattletale
- Telephone Night Light
- Telephone Toll Restrictor

256 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22485-2
No. 22485, $10.95



Easy-Up Antennas for Radio Listeners and Hams

Edward M. Noll

Any radio listener or licensed ham radio operator—whether novice, technician, or new, general, or advanced licensee—will want to read this book to learn how to do some low-cost "homebrewing."

Moving from basic construction techniques and testing to outdoor, indoor, mobile, built-in, and loop antennas, the book covers the very latest antenna designs and construction practices.

Topics covered include:

- Radio Services
- Basic Antennas and Their Construction
- Antenna Tests and Comparisons
- Vertical Variations
- Dipole and Longwire Variations
- Directional Longwire and Beam Antennas
- Special HF Antennas
- Medium- and Long-Wave Antennas
- Confined Space and Indoor Antennas
- VHF/UHF Antennas
- International Antenna Dimension Tables for Radio Listeners
- Fundamentals and Tests
- Antennas for the Novice Operator
- Antennas for General- and Advanced-Class Licensees
- Antennas for the New Technician and New VHF/UHF Operator
- International Antenna Dimension Tables for Ham Radio Operators

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No. 22495, $16.95

Guide to Home Air Conditioners & Refrigeration Equipment, Second Edition

Bernard Lamere

A valuable text that will prove beneficial to technicians and students in understanding the operation and servicing of cooling systems, as well as save homeowners considerable inconvenience and money!

Written in easy-to-understand terms, the book explains how an electric motor produces a cooling effect and how to remedy common malfunctions. Various types of air conditioning equipment are discussed, with hints on how to choose the appropriate unit. Also covered are gas refrigerators, heat pumps, cooling with solar energy, and resistance heat and cooling units in mobile homes. Illustrations and a glossary are provided.

Topics covered include:

- How Cooling Equipment Works
- A Look at Air Conditioning
- Unit Inoperative
- Unit Hums, Will Not Start
- Unit Runs, Will Not Cool
- Dial and Cycle Defrost Refrigerators
- The No-Frost Refrigerator-Freezer
- Other Tests, Procedures, and Comments
- Freezing with Fire—The Gas Refrigerator

144 Pages, 6 x 9, Softbound
ISBN: 0-8104-0956-1
No. 40956, $12.50

The Hidden Signals on Satellite TV, Second Edition

Harrington and Cooper

This is the authoritative guide for the technically-oriented hobbyist. It details the satellite services available and demonstrates how to access and use the non-video transmissions on your satellite receiver.

The comprehensive coverage includes such non-video signals as audio channels, news services, teletext services, and commodity and stock market reports.

240 Pages, 8½ x 11, Softbound
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How to Build Speaker Enclosures

Badmaieff and Davis

A practical guide to the whys and hows of constructing high quality, top performance speaker enclosures. A wooden box alone is not a speaker enclosure—size, baffling, sound insulation, speaker characteristics, and crossover points must all be carefully considered.

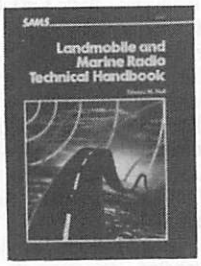
144 Pages, 5½ x 8½, Softbound
ISBN: 0-672-20520-3
No. 20520, $6.95

The Ku-Band Satellite Handbook

Mark Long

This book will be the industry standard for Ku-Band satellite technology—the future of satellite communications. It explores the various aspects of the transmission and reception of video, voice, and data signals by commercial communications satellites operating on frequencies within the 11- to 12-GHz range. Topics covered include the evolution of satellite, earth station antennas, and transportable uplinks.

320 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22522-0
No. 22522, $24.95



Landmobile and Marine Radio Technical Handbook

Edward M. Noll

A must for anyone interested in radio communications, this book is an invaluable learning tool for two-way radio communications and a complete reference source for experienced users.

It covers the entire two-way field-private landmobile service, marine radio telephone and radiotelegraph, marine navigation, and Citizens Band. And if you're seeking certification, it's an ideal study guide, reflecting up-to-date FCC licensing information.

576 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22427-5
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Mastering Packet Radio: The Hands-On Guide

Dave Ingram

Packet radio is the hottest new area of amateur radio communications—it's a technique of breaking information down into small pieces, called "packets," and sending them over amateur radio. Written to appeal to all amateur radio enthusiasts, whether novice or seasoned veterans, *Mastering Packet Radio* is the newest, most complete guide to the technology and capabilities of this rapidly expanding communications medium.

It covers simple concepts as well as the more technical subjects. Easy to understand and well illustrated, the book includes an explanation of packet, what it is, how it works, why it is used, and the hardware involved.

Topics covered include:

- The Packet Radio Revolution
- Basic Concepts of Packet Radio
- Technical Aspects of Packet Radio
- Home Computers and Data Communication Terminals
- Survey of Amateur Equipment for Packet Radio
- Setting Up the Packet Station
- The Ins and Outs of Packet Radio Operations
- Packet Networks, Bulletin Boards, and HF Linking Concepts
- Packet Radio, Oscar Satellites, and Electronic Mailboxing
- Packet Portable: It Goes Where You Go
- Packet Radio Tomorrow: A Look Ahead

208 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22567-0
No. 22567, $12.95

Radio Handbook, Twenty-Third Edition

William I. Orr, Editor

The Best Ever! This 23rd edition of the radio communication handbook gives complete documentation in the hf, vhf, and uhf spectrums. Theory, equipment design, and construction techniques are covered in detail for the advanced engineer, technician, or advanced radio amateur.

Bill Orr (W6SAI), the editor, and his staff of contributing editors—all hams with extensive technical knowledge and experience—have added a wealth of brand new material on such topics as:

- Electric Wave Filters
- Installation and Maintenance of Marine Radio Equipment
- VCR and Video Disc Player Interference
- Antennas for Mobile Operations

New construction projects have been added, including:

- High-Power hf Amplifiers
- Control and Sequencing Circuits for Amateur Stations
- High-Performance Low-Pass Speech Filter
- An Easy-to-Build CW Filter
- New Advanced Communications Receiver

Also featured:

- New Tables on Computer Drive General-Purpose Filters
- New Pi and Pi-L Network Charts for Linear Amplifiers
- New Circuit Data on hf-vhf Amplifier Design
- New Data on Sloper and Inverted-V Antennas
- New Dimensional Data for hf Yagi Beam Antennas
- And Much, Much More!

672 Pages, 7¾ x 10, Hardbound
ISBN: 0-672-22424-0
No. 22424, $29.95

Radio Operator's License Q & A Manual, Revised Tenth Edition

Milton Kaufman

This newly revised manual is among the most helpful for passing FCC Radiotelephone examinations. A complete discussion of the general radiotelephone operator's license includes all new requirements and FCC rulings.

Adopted as the standard text in schools teaching commercial radio operation, this comprehensive reference offers a review of essential theory and typical FCC-type practice examinations.

544 Pages, 7 x 10, Softbound
ISBN: 0-8104-0666-7
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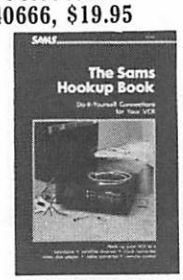


The Sams Hookup Book: Do-It-Yourself Connections for Your VCR

Howard W. Sams Engineering Staff

This step-by-step guide provides all the information needed for both simple and complex hookups of home entertainment equipment. It offers instructions to hookup a video cassette recorder to a TV, cable converter, satellite receiver, remote control, block converter, or video disc player.

104 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22248-5
No. 22248, $4.95

CONSUMER ELECTRONICS

The Satellite TV Handbook

Anthony T. Easton

This handbook shows how to cut cable TV costs in half, see blacked-out TV shows, and pick up live and unedited network TV shows. It is for anyone who has considered starting a minicable system or plugging into video-supplied college courses, business news, and children's networks. It also discusses how to buy or build and aim satellite antennas.

384 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22055-5
No. 22055, $16.95

Satellites Today

Baylin and Gale

This general introduction discusses key concepts of the fascinating universe of satellite communications. The history of satellite communications, the cost of satellite systems, system components, legal questions that have been and remain to be decided, and up-to-date coverage of the latest developments in satellites are all examined here in terms any lay person could understand.

175 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22492-5
No. 22492, $12.95

Shortwave Radio Listening with the Experts

Gerry L. Dexter, Editor

Experts in shortwave listening share their expertise to make this single-volume treasure complete. Its 25 chapters cover everything needed to get the most value from both the simplest and the most sophisticated receiver.

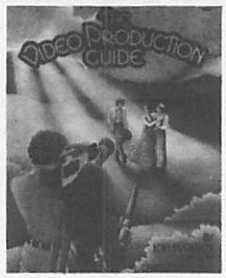
Because even the more experienced listeners are not equally strong in all facets of band specialties, this book can be used by the beginner as well as the established listener.

Topics covered include:

- Setting Up Your Shack
- Antennas for Shortwave Reception
- Purchasing the Right Shortwave Receiver
- Fundamentals of Shortwave Radio Propagation
- Recognizing Languages
- Printed Materials for the DX'er
- Tape Recording and Shortwave
- The Verification Game
- The Association of North American Radio Clubs
- Computers and DX'ing
- Over-the-Horizon Radar
- DX'ing the U.S. Pirates
- An Overview of the Numbers Stations Mystery
- Challenges and Changes in Medium-Wave Listening
- FM DX'ing
- Exploring the VHF/UHF Action Bands
- Utility Monitoring
- World Radioteletype Press Stations
- Amateur Band DX'ing

The 25 contributors are known by the shortwave listening community for their area of expertise.

528 Pages, 7½ x 9¾, Softbound
ISBN: 0-672-22519-0
No. 22519, $22.95



The Video Production Guide

Lon McQuillin

This book contains real-world applications for those who want to learn how video production really works. Preproduction planning, creativity and organization, people handling, single and multi-camera studio and on-location production, direction techniques, editing, special effects, and distribution of the finished production are addressed.

352 Pages, 8½ x 11, Softbound
ISBN: 0-672-22053-9
No. 22053, $28.95

Video Tape Recorders, Second Edition

Harry Kybett

Helical video tape recorders continue to be the equipment of choice in entertainment, industry, and broadcasting. This book shows you how to operate and service helical VTRs and includes numerous examples of recorder circuitry and mechanical transport systems.

400 Pages, 5½ x 8½, Softbound
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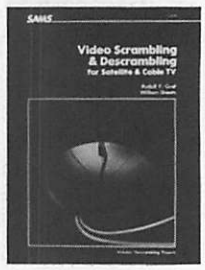
No. 21521, $14.95



Video Scrambling & Descrambling for Satellite & Cable TV

Graf and Sheets

Learn the secrets of signal scrambling and descrambling (encoding and decoding) from the experts. This book discusses the theory and techniques needed to understand how over-the-air and cable signals are decoded and encoded. Projects are included such as how to build a scrambler and descrambler and how to build a video test generator with scrambling capability.

Topics covered include:

- Scrambling Systems and Future Possibilities
- Scrambling/Descrambling Techniques—Basic Circuitry
- More Scrambling/Descrambling Techniques
- The SSAVI System
- Advanced Scrambling Methods—Satellite Techniques
- Political, Legal, and Consumer Aspects of Scrambling
- Digitizing Audio and Video Signals
- Cable and Satellite Decoder Circuitry
- Commercial Satellite Encryption Systems
- Satellite TV and Interference Considerations
- Data Encryption Standard (DES)
- Manufacturers' Data Sheets
- US Patents and Scrambling Systems
- Technical Data

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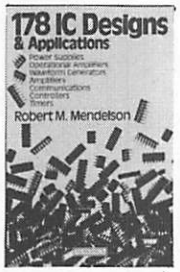
ISBN: 0-672-22499-2
No. 22499, $19.95



178 IC Designs & Applications

Robert M. Mendelson

Most integrated circuits used in the design of appliances, projects, and electronic devices are linear IC's. This book promotes a complete understanding of these linear IC's.

Contains complete collections of IC's, each with its own illustration. Basic designs and applications are presented, demonstrating how they are used in power supplies, operational amplifiers, waveform generators, amplifiers, communications, and more.

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The 555 Timer Applications Sourcebook With Experiments

Howard M. Berlin

This book explains the 555 timer and shows how to use it, either alone or with other solid-state devices. Learn how to use the 555 timer and its counterpart, the 556 dual timer, in various specialized applications. Study the internal workings of the timer IC and how to connect it in monostable or astable multivibrator circuits. Experiments allow you to gain a basic practical knowledge.

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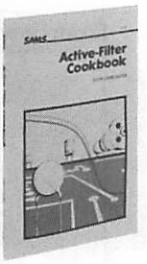

Active-Filter Cookbook

Don Lancaster

Need an active filter but don't want to take the time to design it? Don Lancaster presents a catalog of predesigned filters, which he encourages you to borrow and adapt to your needs. The book teaches you how to construct high-pass, low-pass, and band-pass filters having Bessel, Chebyshev, or Butterworth response. It can also be used as a reference for analysis and synthesis techniques.

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No. 21168, $15.95

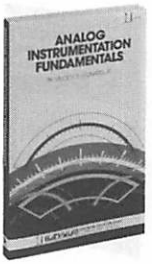
Active Filter Design

Carson Chen

This comprehensive text provides both students and engineers with a clear understanding of the hows and whys of active filter design. Commonly used filtering terms are given, and a broad array of filter circuits are examined. Aids for determining which filtering circuit to use in a given application are supplied.

The discussion then progresses through to the final theoretical chapters, which deal with mathematical approximations in a clear, concise manner.

144 Pages, 6 x 9, Softbound
ISBN: 0-8104-0959-3
No. 40959, $13.95



Analog Instrumentation Fundamentals

Vincent F. Leonard, Jr.

Probably the best book available on analog instrumentation. Subjects include ammeters, voltmeters, ohmmeters, bridges, filters, and attenuators. Hands-on experiments add clarity to the concepts presented.

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No. 21835, $19.95

Crash Course in Digital Technology

Louis E. Frenzel, Jr.

Back by popular demand, the "crash course" format is applied to digital technology. This concise volume provides a solid foundation in digital fundamentals, state-of-the-art components, circuits, and techniques in the shortest possible time.

Its objective is to give a solid foundation in digital fundamentals. It builds the specific knowledge and skills necessary to understand, build, test, and troubleshoot digital circuitry.

208 Pages, 8½ x 11, Softbound
ISBN: 0-672-21845-3
No. 21845, $19.95

CMOS Cookbook, Second Edition

Don Lancaster
Revised by Howard M. Berlin

The second edition of CMOS Cookbook is an update of the classic best seller. Like the first edition, it is written at a beginning-intermediate level with a minimum of math.

The book includes everything you need to know to use Complimentary Metal-Oxide Semiconductor integrated circuits. It features the latest CMOS series of devices and subfamilies with tabular comparisons to earlier versions. A TTL and CMOS interfacing and functional equivalency conversion chart is included as is an explanation of interfacing CMOS with ECL and other logic types. Over 50 new devices have been added to the numeric and function listings. New chapters on LED/LCD display interfacing, IC memories, and PLAs complete this revision.

Topics covered include:

- Some Basics
- Some CMOS Integrated Circuits
- Logic
- Multivibrators
- Clocked Logic: JK and D Flip-Flops
- Counters and Shift Registers
- CMOS Op-Amps, Analog Switches, and Phase-Locked Loops
- Digital Displays
- IC Memories and Programmable Logic Arrays
- Getting It All Together
- Appendices: TTL-to-CMOS Conversion Chart and Some Product Sources

528 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22459-3
No. 22459, $18.95

GENERAL INTEREST

Crash Course in Electronics Technology

Louis E. Frenzel, Jr.

This third book of the successful Howard W. Sams "Crash Course" series will help hobbyists, technicians, students, and laypersons learn the basics of electricity and electronics.

In a step-by-step format, electricity is introduced briefly followed by a discussion of circuit basics and electronic devices. The book continues with electronic communication, controls, motors, test equipment, and troubleshooting. Everything is presented in a self-paced, self-instructional format, and the book is loaded with clear illustrations and examples.

Topics covered include:

- Introduction to Electronics
- Principles of Magnetism and Electricity
- Resistors and Resistive Circuits
- Inductance and Transformers
- Capacitance and Capacitors
- Resonance and Filters
- Diodes and Transistors
- Amplifiers
- Operational Amplifiers
- Oscillators
- Pulse Techniques
- Power Supplies
- Amplitude and Frequency
- Industrial Control
- Test Equipment and Troubleshooting

Lou Frenzel is an experienced electronics engineer, educator, and author. He has written several computer and electronics books, including *Crash Course in Digital Technology* and *Crash Course in Microcomputers.*

400 Pages, 8½ x 11, Softbound
ISBN: 0-672-22494-1
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Design of Op-Amp Circuits With Experiments

Howard M. Berlin

This book provides an experimental approach to the understanding of op-amp circuits. Thirty-five experimens illustrate the design and operation of linear amplifiers, differentiators and converters, voltage and current converters, and active filters.

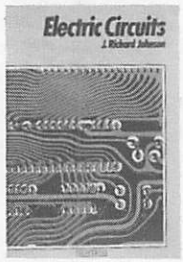
224 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21537-3
No. 21537, $12.95

Design of Phase-Locked Loop Circuits With Experiments

Howard M. Berlin

Learn more about TTL and CMOS devices. This book contains a wide range of lab-type experiments that reinforce the textual introduction to the theory, design, and implementation of phase-locked loop circuits using these technologies.

256 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21545-4
No. 21545, $12.95

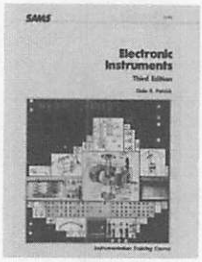


Electric Circuits

J. Richard Johnson

Featuring more than 300 worked examples and 900 practice problems, *Electric Circuits* is written for electrical/electronics students in colleges and technical institutes. The text covers electricity and the structure of matter, basic and complex circuits and vectors, DC and AC measurements, complex networks, and much more. Practice problems include schematic diagrams emphasizing alternate solutions.

888 Pages, 7¼ x 10¼, Hardbound
ISBN: 0-8104-0655-1
No. 40655, $38.95



Electronic Instruments, Third Edition

Dale R. Patrick

This book will help technicians understand and learn to use electronic instruments, including the latest digital instruments and computer-based systems used in industry today.

Beginning with a general introduction to electricity, the text moves on to real instruments covering each piece of equipment's operation, circuitry, and uses. Theory is introduced only when necessary for direct applications.

272 Pages, 8½ x 11, Softbound
ISBN: 0-672-22482-8
No. 22482, $21.95

Electronic Prototype Construction

Stephen D. Kasten

Breadboarding can be fun. Learn contemporary construction design methods for building your working prototypes. Discusses IC-based and microcomputer-related schematics and ideas for evaluation and testing. Techniques include wire-wrapping, designing, making, and using double-sided PC boards; fabricating enclosures, connectors, and wiring; and screen printing the panels, chassis, and PC boards.

400 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21895-X
No. 21895, $17.95

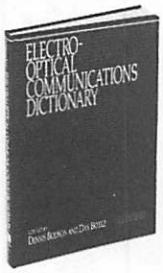
Electronic Test Instruments: A User's Sourcebook

Robert Witte

Going beyond the details of how to operate test equipment, this book explains why a particular instrument is used for a task, how it works, and what is being measured.

From simple meters to spectrum analyzers, this manual offers practical techniques and shortcuts that illustrate how to use the latest digital instruments necessary for understanding, designing, or troubleshooting electronic circuits and systems.

272 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22483-6
No. 22483, $14.95



Electro-Optical Communications Dictionary

Bodson and Botez, Editors

Advances in laser, computer, process, and manufacturing technologies have all contributed greatly to the growth and development of the electro-optical communications field. This reference enables users with those varying backgrounds to achieve understanding and use the precise terminology associated with electro-optical communications.

176 Pages, 6¼ x 9¼, Hardbound
ISBN: 0-8104-0961-5
No. 40961, $24.95

Electrostatic Discharge Control

Bhar and McMahon

This text explores electrostatic discharge (ESD), its impact on electronic components, and measures used to control it. The authors offer practical information to control static discharge and subsequent component damage in manufacturing.

This is also a guide for implementing an ESD control program, including criteria for protective materials and equipment, and development of personnel training programs.

244 Pages, 6 x 9¼, Hardbound
ISBN: 0-8104-5689-3
No. 45689, $16.95

Fiber Optics Communications, Experiments, and Projects

Waldo T. Boyd

Another Blacksburg tutorial teaching new technology through experimentation, this book teaches light beam communication fundamentals, introduces the simple electronic devices used, and shows how to participate in transmitting and receiving voice and music by means of light traveling along slender glass fibers.

224 Pages, 5½ x 8½, Softbound
ISBN: 0-672-21834-8
No. 21834, $15.95

First Book of Modern Electronics Fun Projects

Art Salsberg, Editor

Novice and seasoned electronics buffs will enjoy these 20 fun and practical projects from the pages of *Modern Electronics* magazine.

Electronics hobbyists are introduced to many project-building areas. The necessary tools for each project accompany the step-by-step instructions, illustrations, photos, and circuit drawings.

176 Pages, 8½ x 11, Softbound
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No. 22503, $12.95

Forrest Mims' Circuit Scrapbook II

Forrest Mims, III

This is a compilation of nearly 70 projects found in the tremendously popular column by Forrest Mims, "Electronics Notebook"—from the pages of *Modern Electronics*. Each column explores a specific area of electronics in depth, but no prior knowledge is assumed. Each project and experiment is unique. This book will be useful for work in laboratories, at technical schools and universities, and for the avid hobbyist.

272 Pages, 8½ x 11, Softbound
ISBN: 0-672-22552-2
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Fun Way Into Electronics, Volume 1

Dick Smith

The first of three volumes, this book provides projects as instructional building blocks for the beginner to experience electronics on a "fun" level.

20 simple electronic projects assume no prior knowledge of electronics or building projects. Components are fully illustrated with instructions for connecting into the circuit. Projects include a transistor tester, electronic siren, and a CB radio receiver.

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Dick Smith

The 20 projects in this second volume begin where Volume 1 left off. More practical, complex, and professional looking, these projects include a universal timer, wireless microphone, home intercom, and a mosquito repeller. The projects are educational and completely safe and have been fully tested by electronics experts.

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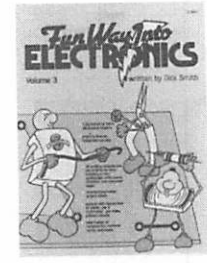

Fun Way Into Electronics, Volume 3

Dick Smith

Now that you're an avid hobbyist, you'll want to tackle the advanced projects in Volume 3 of the *Fun Way Into Electronics* set of books. These projects are based around an IC, ranging from simple timers to more complex digital counters and include a mini synthesizer and color organ.

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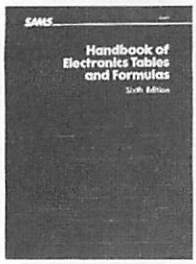
GENERAL INTEREST



Handbook of Electronics Tables and Formulas, Sixth Edition

Howard W. Sams Engineering Staff

Already a classic, this revised edition is *the* reference book for engineers, technicians, hobbyists, and everyone involved in the field of electronics. This expanded and updated sixth edition reflects the recent developments in the rapidly changing electronics industry. New in this edition you'll find computer programs for calculating electrical and electronics equations and formulas.

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Donald E. Herrington

This update of a standard reference features expanded coverage of logic diagrams and a chapter on flow charts. Beginning with a general discussion of electronic diagrams, the book systematically covers the various components that comprise a circuit. It explains logic symbols and their use in digital circuits, interprets sample schematics, analyzes the operation of a radio receiver, and explains the various kinds of logic gates.

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You can learn lots of ways to use the IC timer in this easy-to-use second edition, which includes many new IC devices. Ready to use applications are presented in practical working circuits. All circuits and component relationships are clearly defined and documented.

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J. Richard Johnson

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The author takes the reader logically through the fundamentals of schematic diagrams including component symbols and diagram formation and functional flow and block diagrams.

210 Pages, 6 x 9, Softbound
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IC Op-Amp Cookbook, Third Edtiion

Walter G. Jung

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Joseph J. Carr

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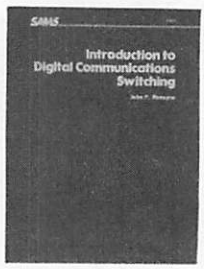

Introduction to Digital Communications Switching

John P. Ronayne

This detailed introduction to the concepts and principles of communications switching and communications transmission is technically rigorous. It explores the essential topics: pulse code modulation, error sources and prevention, digital exchanges, and control. It also discusses the present realities of the digital network, with references to the Open Systems Interconnection model.

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Rudolf F. Graf

This comprehensive electronics dictionary clearly and accurately defines more than 23,000 technical terms dealing with computers, microelectronics, communications, semiconductors, and fiber optics. Over 3500 new entries and 5000 definitions, including abbreviations, cross-references, and acronyms have been added, making this sixth edition the most up-to-date, all-inclusive electronics dictionary in the world.

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Art Salsberg, Editor

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Each project has been built and tested by experts who share their electronics adventures with you. Parts lists include where-to-buy information for parts and, when available, for printed-circuit boards and complete parts kits.

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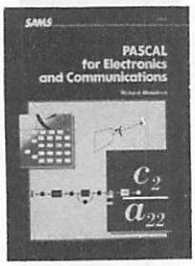

Pascal for Electronics and Communications

Richard Meadows

This is the book for hobbyists, students, and engineers who wish to learn to write programs in standard Pascal.

With this book, the reader will learn to apply programming to common analytical and circuit-design problems in electronics and communication engineering through hands-on examples. Exercises and problems appear at the end of each chapter.

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Each project is presented in the clearest way possible, with background theory, construction details, parts list, and scores of photos and line drawings to guide your way.

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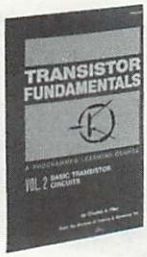

Transistor Fundamentals, Volume 2

Brite and Pike, Training & Retraining, Inc.

This introductory text explains transistor principles, voltage, current, resistance, inductance, capacitance, and circuitry. It provides all the information you'll need to develop a firm understanding of solid-state electronics and troubleshooting techniques.

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TTL Cookbook

Don Lancaster

An early Lancaster effort that is still a tech classic, this is a complete look at TTL, including what it is, how it works, how it's interconnected, how it's powered, and how it's used in many practical applications. No technician's library is complete without it.

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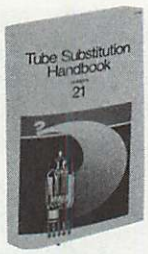

Tube Substitution Handbook, Twenty-First Edition

Howard W. Sams Engineering Staff

This guide contains more than 6,000 receiving tube and 4,000 picture tube substitutes in both color and black and white. Also includes 300 industrial substitutions for receiving tubes, and 600 communications substitutes. Includes pinouts. Special Piggyback Edition: Includes a regular handbook plus a pocket-size handbook for carrying ease.

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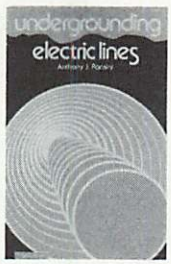

Undergrounding Electric Lines

Anthony J. Pansini

This text describes the materials, construction practices, equipment, and modern methods for installing, maintaining, and restoring cables.

In addition to the where, what, and how, it also tells the why of each operation. Actual field practices are described, with many pictures and diagrams, and an emphasis on safety and service reliability.

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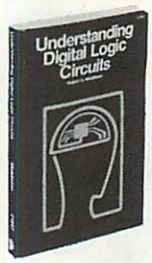

Understanding Digital Logic Circuits

Robert G. Middleton

Designed for the service technician engaged in radio, television, or audio troubleshooting and repair, this book painlessly expands the technician's expertise into digital electronics. Beginning with digital logic diagrams, the reader is introduced to basic adders and subtracters, flip-flops, registers, and encoders and decoders. Memory types are also discussed in detail.

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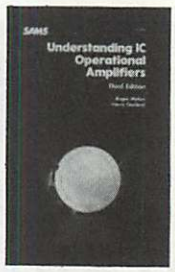

Understanding IC Operational Amplifiers, Third Edition

Melen and Garland

The op-amp is discussed in detail for the electronics hobbyist and technician. New, expanded, and updated applications include material on computer-aided design techniques and IC op-amps in microprocessors. Fundamental concepts are covered as well as design considerations, and specification sheets are included in appendices.

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Advanced Digital Troubleshooting

Alvis J. Evans

Advanced Digital Troubleshooting provides comprehensive coverage of digital test equipment for intermediate-level electronics technicians, maintenance technicians, technical students, and hobbyists. The book emphasizes practical troubleshooting techniques, going into specifics at the board and even component level where necessary.

Beginning with a brief review of digital circuits, it presents successful approaches to troubleshooting and includes digital test instruments such as digital logic probes, oscilloscopes, logic analyzers, and an in-circuit emulator. Detailed coverage of microprocessor troubleshooting, digital system maintenance, and several helpful tips round out this well-illustrated tutorial.

Topics covered include:

- Electrical Characteristics of Digital Systems
- Digital Troubleshooting Methodology and Approaches
- Microcomputer Fundamentals
- Meet the Main Chips
- Software and the Diagnostic Program
- Using Basic Digital Troubleshooting Instruments
- The Logic Analyzer
- An In-Circuit Emulator
- Signature Analysis
- Repair Checkout and Preventive Maintenance

Al Evans has written three books on technology and holds an MS from East Texas State University. He has taught troubleshooting for twenty years.

208 Pages, 8½ x 11, Softbound
ISBN: 0-672-22571-9
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Basics of Fractional Horsepower Motors and Repair

Gerald Schweitzer

This book brings theory and practice together in its profusely illustrated explanation of the various fractional horsepower motors.

It presents basic procedures for testing, repairing, and maintaining them, including a troubleshooting chart for each motor type—split-phase, capacitor, repulsion, shaded-pole, universal, and three-phase motors.

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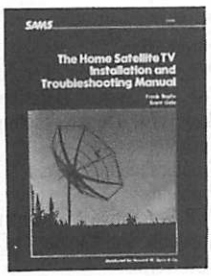

The Home Satellite TV Installation and Troubleshooting Manual

Baylin and Gale

This is a complete, authoritative manual covering the selection, installation, and troubleshooting of home satellite TV systems. It is written in a clear, concise style making it suitable for service technicians and dealers, as well as home hobbyists.

Discover the fundamentals of satellite broadcasting theory, how a satellite works, and the frequencies involved.

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Heller and Bentz

Here is a complete, and concise introduction to the field of compact disc players and digital signal processing. It takes a comprehensive look at the hardware of the CD system and provides the necessary audio and digital background.

Useful for the beginning audio/video technician as well as the more experienced technician and hobbyist, this book clearly explains the audio signal including such problem areas as signal to noise, channel separation, and frequency response.

Basic digital theory is discussed first. Then more advanced information—such as hardware, lasers, circuits, adjustments and troubleshooting, controls, motor drives, laser pickups, focus servos, and tracking—is presented.

Topics covered include:

- The Audio Signal
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- The Overview of the System
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- Handling of Disc and Player
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- Troubleshooting
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John D. Lenk's Troubleshooting & Repair of Audio Equipment

John D. Lenk

This manual provides the most up-to-date data available and a simplified approach to practical troubleshooting and repair of major audio devices. It will enable both the beginning and the intermediate level technician or hobbyist to apply tips and tricks to any specific equipment.

208 Pages, 8½ x 11, Softbound
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Ku-Band Satellite TV: Theory, Installation, and Repair

Baylin and Gale

This book is a complete step-by-step guide to the theory, installation, and servicing of Ku-Band satellite receivers for engineers, laymen, and hobbyists alike.

Written in an understandable, easy-to-read manner, this book offers a comprehensive look at the theory and practice underlying this rapidly growing discipline of modern satellite communication.

Satellite components are discussed and equipment selection guidelines are given.

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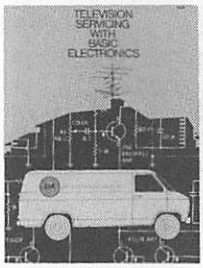
TROUBLESHOOTING & REPAIR



Television Servicing with Basic Electronics

Joseph G. Sloop (EIA)

Use this introductory text to learn how to quickly isolate a television servicing problem and then troubleshoot that section to repair your TV in a minimum number of steps. The book uses block diagrams and troubleshooting charts to help guide you through the information. It covers the basic math required for TV servicing, covers test equipment, discusses the importance of public relations and emphasizes safety for the technician.

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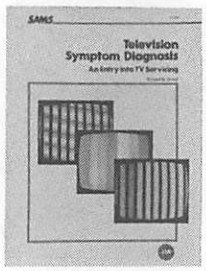

Television Symptom Diagnosis, An Entry into TV Servicing, Second Edition

Richard W. Tinnell

This easy-to-use text provides you with a basis for entry-level servicing of monochrome and color TV sets. It focuses on identification of abnormal circuit operations and symptom analysis.

It teaches the skills necessary for any technician.

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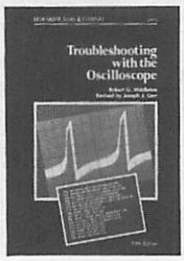

Troubleshooting with the Oscilloscope, Fifth Edition

Robert G.Middleton
Revised by Joseph J. Carr

This book can help technicians and hobbyists maximize their use of the oscilloscope and "painlessly" familiarize them with the wide selection of scopes now available.

Readers learn to use the oscilloscope to make and save money by repairing electronic equipment. They can also keep up on the latest advances in technology with this step-by-step guide.

This fifth edition emphasizes digital troubleshooting and applications and features the "what, why, and how-to" of the time-domain analyzer, data-domain analyzer, and logic-state analyzer. Specific facts of television receiver troubleshooting are included.

Topics covered include:

- Introduction to the Oscilloscope
- How to Operate an Oscilloscope
- Using Oscilloscope Probes
- TV Signal Tracing in RF, IF, and Video Amplifiers
- Signal Tracing in the TV Sync Section
- Troubleshooting the TV AFC and Horizontal Oscillator Section
- Waveform Tests in the Horizontal Sweep Section
- Troubleshooting in the TV Vertical Sweep Section
- Signal Tracing in the TV Sound-IF and Audio
- Special Oscilloscopes and Their Applications
- Digital Logic Troubleshooting with the Oscilloscope

256 Pages, 5½ x 8½, Softbound
ISBN: 0-672-22473-9
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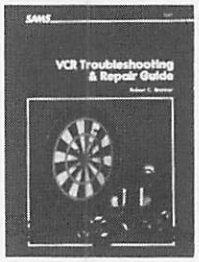

VCR Troubleshooting & Repair Guide

Robert C. Brenner

With approximately 25 million video cassette recorders on the market, this long-awaited book will help owners repair these popular machines when they break down.

This helpful troubleshooting guide is for the electronics hobbyist, layperson, or technician who needs a preventive maintenance and troubleshooting reference for VCRs. Limited electronics experience is required to use it, but more sophisticated service and repair functions are discussed, and valuable information for the service technician is included.

Topics covered include:

- Introduction
- Principles of Video Recording
- The VCR System Described
- Basic VCR Troubleshooting Techniques
- Troubleshooting Specific Problems
- VCR Preventive Maintenance
- Appendix and Glossary of VCR Terms

Robert Brenner is a specialist in microelectronic applications as well as troubleshooting and repair of electronic equipment. He is also the author of the best-selling troubleshooting and repair books for the Apple®, IBM®, and Commodore 64®.

256 Pages, 8½ x 11, Softbound
ISBN: 0-672-22507-7
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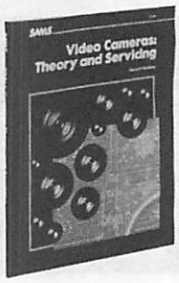

Video Cameras: Theory and Servicing

Gerald P. McGinty

This entry-level technical primer provides a clear, well-illustrated presentation of video camera theory and servicing. Learn about beam focus and deflection, the characteristics of a Vidicon tube and other tubes, camera alignment, and much more.

Troubleshooting hints and explanations about flicker, excessive noise, poor resolution, color shading, deflection problems, and lens problems are given so you will have a better understanding of video cameras and their function.

Topics covered include:

- Elements of Image Conversion
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- Enhancement
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- Sync Generators
- Camera Interface and Accessories
- Three-Tube Camera Alignment
- Single-Tube Camera Alignment
- Troubleshooting
- Appendices: IRE Units, Coaxial Cable

236 Pages, 8½ x 11, Softbound
ISBN: 0-672-22382-1
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PROFESSIONAL/REFERENCE

Data Communications, Networks, and Systems

Thomas C. Bartee, Editor-in-Chief

Data Communications, Networks, and Systems is the most current publication it its field, written by 11 experts and edited by prominent Harvard University professor Thomas C. Bartee. It presents a comprehensive overview of state-of-the-art communications systems, how they operate, and what new options are open to system users.

Use this reference book to learn the advantages and disadvantages of local area networks; how modems, multiplexers and concentrators operate; the characteristics of fiber optics and coaxial cables; and the forces shaping the structure and regulation of common carrier operations. The book's ten chapters contain a wealth of information—much of which has never before been published—providing an excellent reference tool for all communications professionals.

Topics covered include:

- Transmission Media
- Carriers and Regulation
- Modems, Multiplexers, and Concentrators
- Protocols
- PBX Local Area Networks
- Baseband and Broadband Local Area Networks
- Computer and Communications Security
- Local Area Network Standards

Thomas C. Bartee has published numerous books and papers on digital communications, digital computers, computer programming, and mathematics.

368 Pages, 8 x 10¼, Hardbound
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Thomas C. Bartee, Editor-in-Chief

Communications professionals who must stay abreast of state-of-the-art technology will benefit from this comprehensive collection of data.

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Digital Satellite Communications

Tri T. Ha

Communications satellites, weather satellites, and spy satellites demand ever-greater sophistication from the scientific and technical community.

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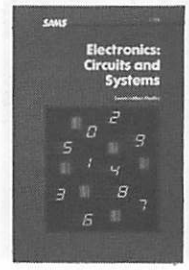

Electronics: Circuits and Systems

Swaminathan Madhu

This book is written to fulfill the needs of managers, engineers, scientists, and students who do not have a background in electronics, but who wish to acquire a well-rounded and thorough grasp of electronic devices, circuits and systems, both analog and digital.

In a concise, easy-to-understand style, it provides examples, drill problems, and summary sheets containing formulas, graphics, and relationships.

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Feedback Amplifier Principles

Dr. Sol Rosenstark

This is a complete reference to understanding and designing feedback amplifiers for electrical engineers and senior or graduate level students.

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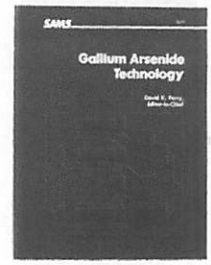

Gallium Arsenide Technology

David K. Ferry, Editor-in-Chief

Gallium arsenide is quickening the pace of invention among engineers, technicians, and system users throughout the electronics industry. It is already the material of choice for opto-electronic devices and promises to be combined with silicon to produce faster and less expensive digital circuits.

This is a comprehensive introduction to gallium arsenide, a book for every professional in electronics-related fields. It is the reference you'll need to understand the "material of today" and its applications of tomorrow.

Topics covered include:

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- Bulk Growth of Gallium Arsenide
- Metalorganic Chemical Vapor Deposition
- Molecular Beam Epitaxy and the Technology of Selectively Doped Heterostructure Transistors
- Low-Noise GaAs Microwave MESFETs
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- MESFET Integrated Circuits
- GaAs Photodetectors
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- The Physics of Submicron/ Ultrasubmicron Dimensions

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PROFESSIONAL/REFERENCE

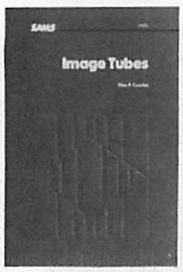

Image Tubes

Illes P. Csorba

This text provides a wealth of valuable, hard-to-find data on electron optics, imaging, and image intensification systems. It explains every detail of image tube theory, design, construction, and components and includes material on the design and operation of camera tubes, power components, and secondary electron emitters, as well as data on photomultiplier tubes and electron guns.

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Micro-Mainframe Connection

Thomas Wm. Madron

Focusing on the organizational environment, this book explores the opportunities, technologies, and problems involved in implementing the transfer of data between the mainframe and the micro workstation—more comprehensively than any other book on the market.

Designed to help managers and technical support people design and implement micro-mainframe networks, it gives complete information about features, facilities, and requirements, including cost considerations.

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Mobile Communications Design Fundamentals

William C.Y. Lee

An authoritative introduction to mobile communications design, this thought-provoking professional reference provides easy-to-understand methods of analysis for the communications engineer and the engineering student.

Mobile Communications Design Fundamentals provides many tools a system designer will need.

Practical design methods and curves are presented in a straightforward format, using many helpful illustrations and examples. This text avoids heavy mathematics, relying instead on physical interpretations that are easier to read and faster to learn.

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- Mobile Radio Interference
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Dr. William C.Y. Lee, a pioneer in mobile radio communications, has worked with advanced programs for various military systems and has conducted research in satellite communications.

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Optical-Fiber Transmission

E.E. Bert Basch, Editor-in-Chief

The most comprehensive review available for every issue surrounding modern fiber-optics technology including the fundamental and practical engineering principles for all parts of a state-of-the-art optical-fiber communication system.

Optical-Fiber Transmission will provide a valuable reference and text for academic researchers, graduate students, and practicing engineers attempting to understand, research or design a fiber-optic system.

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- Optical Sources for Lightwave System Applications
- Modulation of Optical Sources
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- Receiver Design of Optical Fiber Systems
- Communication Theory for Fiber Optic Transmission Systems
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This reference guide was written by nationally recognized authorities under the direction of E. E. Bert Basch.

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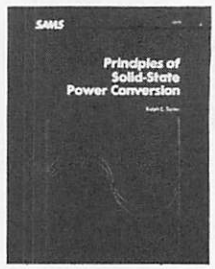

Principles of Solid-State Power Conversion

Ralph E. Tarter, Editor-in-Chief

Experts have contributed the comprehensive tools necessary to meet the growing demands placed upon solid-state power conversion equipment.

This professional reference discusses methods to achieve increased proficiency, improved reliability, higher packaging density, high stability, and improved performance. Safety and electro-magnetic compatibility requirements are also presented.

Over 20 years of hands-on experience is outlined in this excellent reference book.

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- Switching Regulators
- DC-AC Converters
- Protection and Safety
- Electromagnetic Compatibility and Grounding
- Semiconductor and Equipment Cooling
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- Regulated Power Supplies
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Ralph E. Tarter has been actively involved in the power conversion field for over 25 years. His background covers devices from low-power switching supplies to high-power systems for fusion research.

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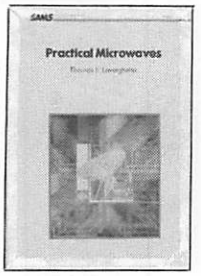
PROFESSIONAL/REFERENCE



Practical Microwaves

Thomas S. Laverghetta

Here's the reference book for engineers who require a quick introduction to microwave technology. This comprehensive, well-illustrated text begins with a brief overview followed by chapters detailing major concepts. Topics include microwave circuit materials, transmission lines, components (including transistors and diodes), the Smith chart, S-parameters, test equipment, and test set-ups.

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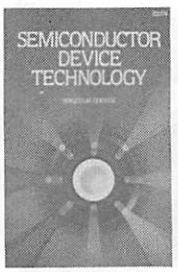

Semiconductor Device Technology

Malcolm E. Goodge

This book explains fundamental principles of semiconductor technology, then discusses the practical operation and performance of commercial diodes, FETs, bipolar transistors, specialized switching, and optical devices. It shows in detail how planar fabrication takes place and thoroughly covers design, manufacture, and application of monolithic and film-type ICs.

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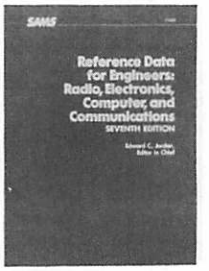

Reference Data for Engineers: Radio, Electronics, Computer, and Communications, Seventh Edition

Edward C. Jordan, Editor-in-Chief

Written by 70 professionals, this book was originally published as a limited private edition used by engineers, mathematicians, and physicists at ITT. Forty years later, it has become a familiar and dependable reference for engineers worldwide.

In this completely updated seventh edition, the title has been changed to reflect the range of disciplines included. The scope of coverage has been greatly expanded.

Topics covered include:

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- Modern-Network-Theory Design
- Rectifiers, Filters, and Power Supplies
- Optical, Analog, and Digital Communications
- Computer Communications Networks
- Satellite and Space Communications
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This expanded edition contains 48 chapters edited by Edward C. Jordan and written by more than 70 engineers, scientists, educators, and specialists.

1,368 Pages, 7½ x 9¾, Hardbound
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Telecommunications Networks: A Technical Introduction

Robert J. "Bert" Murphy

Rapid technical advances and the increased importance of transmitting information (voice and data) have created a need for documented technical information that, until now, was found only in industry journals.

This comprehensive introduction to telecommunications networks offers an overview for the telecommunications or data communications professional. It provides especially strong chapters on switching, traffic engineering, transmission, ISDN, and network management.

Topics covered include:

- History of the Information Age
- Switching Systems
- Traffic Engineering
- Transmission
- Data
- Data Systems Configuration
- Telecommunication Services
- Current Network Environment
- Integrated Services Digital Network
- Network Management
- Planning a Private Network
- Network Illustrations
- Future Networks

R.J. "Bert" Murphy has worked over 20 years in this industry for, among others, GTE Communication Systems. Currently Vice-President of Network Engineering for National Digital Services, he works with corporations seeking to integrate their private network to optimize networks. He has written articles on various telecommunications subjects for technical journals and the IEEE.

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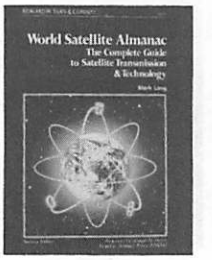

World Satellite Almanac, Second Edition

Mark Long

This book is a complete guide to the transmission and reception of video, voice, and data communications technology. The second edition is expanded to provide a global perspective for the developing technologies in satellite communications.

Workers in the satellite field will welcome this comprehensive reference that contains a wealth of charts, maps, tables, and graphs relating to satellite footprints, as well as current information regarding FCC decisions.

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- International Satellite Reception Techniques
- The Intelsat Global Satellite Communication System
- Intersputnik and the Soviet Statsionar Satellite System
- The Inmarsat Maritime Satellite System
- Eutelsat and the European Satellite System
- Arabsat Satellite System
- Palapa Satellite System
- International Telecommunications Union (ITU) Regions 1,2 and 3 (within each region, lists every satellite by location; includes technical specifications, channel assignments, and footprint maps.)

Mark Long has written several best-selling books and over 100 magazine and newspaper articles on satellite technology.

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UNDERSTANDING SERIES

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No single invention has influenced the electronics industry more than the integrated circuit. This volume covers all the major benefits of IC technology for the experimenter, serious hobbyist, and electronics technician in an easily-understood, fully-illustrated text for individualized learning.

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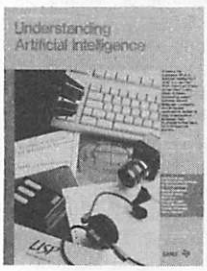

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Henry C. Mishkoff

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- Typical Digital Engine Control System
- Vehicle Motion Control
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William Ribbens is professor of Electronic Engineering at the University of Michigan and conducts research in automotive electronics.

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- Synchronous Modems and Digital Transmission
- Fiber Optic and Satellite Communications
- Protocols and Error Control
- Alternatives in Local Area Networks
- Architectures and Packet Networks
- Network Design and Management
- ISDN (Integrated Services Digital Network)

Gilbert Held is Chief of Data Communications for the United States Office of Personnel Management.

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Understanding Digital Troubleshooting, Second Edition

Don L. Cannon

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Louis E. Frenzel, Jr.

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Jeff Hecht

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Cannon and Luecke

This book provides insight into basic concepts and fundamentals. It explains actual applications of 4-bit, 8-bit, and 16-bit microcomputers, software, programs, programming concepts, and assembly language. The book provides an individualized learning format for the newcomer who wants to know what they do and how they work.

288 Pages, 7 x 9, Softbound
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Understanding Security Electronics

Joseph J. Carr

This book details how to select, install, and maintain a security system. A self-instructional format is used to describe the theory of operation, design, and applications of electronic security devices and systems.

With this information homeowners, business professionals, and security personnel will be able to safeguard property on a do-it-yourself basis.

Electronics technicians and engineers will be able to apply their knowledge and experience to the field of security. Circuit designs and theory are provided for various control elements of security systems, and the advantages and disadvantages of various systems are discussed.

Topics covered include:

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- Photoelectric and Infrared Detectors
- Ultrasonic and Microwave Intrusion Detectors
- Proximity Detectors
- Audio and Visual Monitoring
- Alarm and Signaling Systems
- Access Control
- Holdup and Assault Alarms
- Custom Integrated Circuits
- Computers in Security Systems
- Detection of Objects
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- Computer Crime
- Electrical Eavesdropping and Secure Communications
- Personnel Identification

304 Pages, 7 x 9, Softbound
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Understanding Solid State Electronics, Fourth Edition

Hafford and McWhorter

This book explains complex concepts such as electricity, semiconductor theory, how electronic circuits make decisions, and how integrated circuits are made. It helps you develop a basic knowledge of semiconductors and solid-state electronics. A glossary simplifies technical terms.

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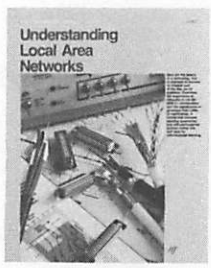

Understanding Local Area Networks

Stan Schatt

This tutorial on the latest local area network technologies provides an in-depth description of the major LANs on the market as well as a conceptual framework to help the reader understand how LANs communicate with mainframe computers. It details why they are important to business and how they are configured to transmit information from one location to another.

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Understanding MS-DOS®

O'Day and Angermeyer, The Waite Group

Even though MS-DOS is a very powerful and intricate operating system, this book allows beginning programmers to learn, using a hands-on approach at the keyboard.

You'll discover shortcuts for creating and editing files, sorting files, and creating batch files and be able to recognize the differences between hard and floppy disks.

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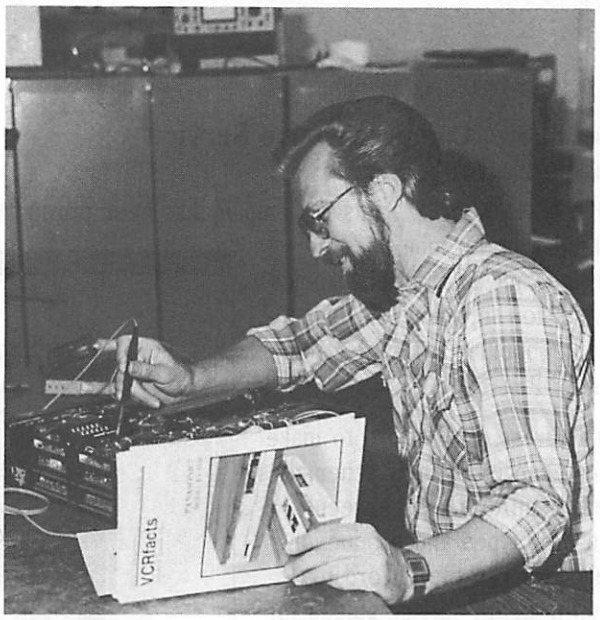

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*VCR-61 has 2 system control boards. VCR-56 has 1 system control board.

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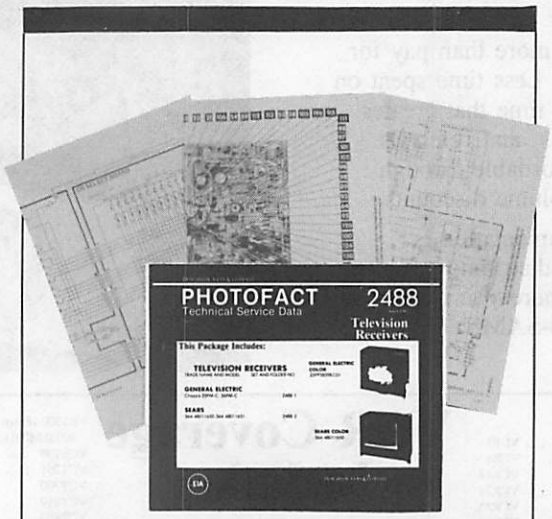

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