

Charles Platt Make Electronics

Want to know how to use an electronic component? This second book of a three-volume set includes key information on electronics parts for your projects--complete with photographs, schematics, and diagrams. You'll learn what each one does, how it works, why it's useful, and what variants exist. No matter how much you know about electronics, you'll find fascinating details you've never come across before. Perfect for teachers, hobbyists, engineers, and students of all ages, this reference puts reliable, fact-checked information right at your fingertips--whether you're refreshing your memory or exploring a component for the first time. Beginners will quickly grasp important concepts, and more experienced users will find the specific details their projects require. Volume 2 covers signal processing, including LEDs, LCDs, audio, thyristors, digital logic, and amplification. Unique: the first and only encyclopedia set on electronic components, distilled into three separate volumes Incredibly detailed: includes information distilled from hundreds of sources Easy to browse: parts are clearly organized by component type Authoritative: fact-checked by expert advisors to ensure that the information is both current and accurate Reliable: a more consistent source of information than online sources, product datasheets, and manufacturer's tutorials Instructive: each component description provides details about substitutions, common problems, and workarounds Comprehensive: Volume 1 covers power, electromagnetism, and discrete semiconductors; Volume 2 includes LEDs, LCDs, audio, thyristors, digital logic, and amplification; Volume 3 covers a range of sensing devices.

This is the simplest, quickest, least technical, most affordable introduction to basic electronics. No tools are necessary--not even a screwdriver. Easy Electronics should satisfy anyone who has felt frustrated by entry-level books that are not as clear and simple as they are supposed to be. Brilliantly clear graphics will take you step by step through 12 basic projects, none of which should take more than half an hour. Using alligator clips to connect components, you see and hear immediateresults. The hands-on approach is fun and intriguing, especially for family members exploring the projects together. The 12 experiments will introduce you to switches, resistors, capacitors, transistors, phototransistors, LEDs, audio transducers, and a silicon chip. You'll even learn how to read schematics by comparing them with the circuits that you build. No prior knowledge is required, and no math is involved. You learn by seeing, hearing, and touching. By the end of Experiment 12, you may be eager to move on to a more detailed book. Easy Electronics will function perfectly as a prequel to the same author's bestseller, Make: Electronics. All the components listed in the book are inexpensive and readily available from online sellers. A very affordable kit has been developed in conjunction with the book to eliminate the chore of shopping for separate parts. A QR code inside the book will take you to the vendor's web site. Concepts include: Transistor as a switch or an amplifier Phototransistor to function as an alarm Capacitor to store and release electricity Transducer to create sounds from a timer Resistor codes A miniature light bulb to display voltage The inner workings of a switch Using batteries and resistors in series and parallel Creating sounds by the pressure of your finger Making a matchbox that beeps when you touch it And more. Grab your copy and start experimenting!

Whether you're interested in becoming a handyman or developing artisanal woodworking skills, the place to begin is by learning the fundamentals of using basic workshop tools correctly. The place to find out how is right here. *Make: Tools* is shop class in a book. Consumer-level 3D printers and CNC machines are opening up new possibilities for makers. But there will always be a need for traditional workshop skills and tools. Charles Platt's *Make: Tools* applies the same approach to its subject matter as his bestselling *Make: Electronics* -- in-depth explanations and hands-on projects that gradually increase in level of challenge. Illustrated in full color with hundreds of photographs and line drawings, the book serves as a perfect introduction to workshop tools and materials for young adults and adults alike. Platt focuses on basic hands tools and assumes no prior experience or knowledge on the part of the reader. The projects all result in fun games, toys, and puzzles. The book serves as both a hands-on tutorial a reference that will be returned to again and again.

A history of electricity and electronics, and how the electron at first bothered mankind, then gradually became useful, and now dominates our lives.

This updated edition is an introduction appropriate for both the student and hobbyist to the theory and practice of electronics. It leads the reader through introductory understanding of the science underlying electronics, building basic circuits, learning the roles of the components, the application of digital theory and the possibilities for innovation by combining sensors, motors, and microcontrollers. Each chapter contains a brief lab to demonstrate the topic covered then moving on to the final projects that build a programmable robot with the Netduino or Arduino microcontroller and projects using the Raspberry Pi. The companion disc has videos of the labs, soldering skills, and code samples for programming of the robot. eBook Customers: Companion files are available for downloading with order number/proof of purchase by writing to the publisher at info@merclearning.com. Features: • Leads the reader through an introductory understanding of electronics with both simple labs and progressing to the construction of a microcontroller-driven robot using open source software and hardware and projects to run on a Raspberry Pi • Companion disc contains videos of labs, tutorials on soldering/ de-soldering, code for the microcontroller robot project, and figures from the text

A new and expanded edition of one of the decade's most influential education books. In this practical guide, Sylvia Martinez and Gary Stager provide K-12 educators with the how, why, and cool stuff that supports making in the classroom, library, makerspace, or anywhere learners learn.

Life on the small asteroid Kopra, the dumping ground whose sole function was to receive specially packaged waste material from surrounding pleasure worlds, was harsh and dirty. Carefully avoided by off-worlders for centuries, Kopra and its rough and ready, filth encrusted inhabitants suddenly became the object of extraordinary interest to officials of the United Asteroid Belt Pleasure World Federation. What happens when the two opposing cultures meet; the super-sanitary citizens of the Pleasure World and the filthy, underfed villages makes an adventure as exciting as it is bizarre.

This book is your introduction to to physical computing with the Arduino microcontroller platform. No prior experience is required, not even an understanding of basic electronics. With color illustrations, easy-to-follow explanations, and step-by-step instructions, the book takes the beginner from

building simple circuits on a breadboard to setting up the Arduino IDE and downloading and writing sketches to run on the Arduino. Readers will be introduced to basic electronics theory and programming concepts, as well as to digital and analog inputs and outputs. Throughout the book, debugging practices are highlighted, so novices will know what to do if their circuits or their code doesn't work for the current project and those that they embark on later for themselves. After completing the projects in this book, readers will have a firm basis for building their own projects with the Arduino. Written for absolute beginners with no prior knowledge of electronics or programming Filled with detailed full-color illustrations that make concepts and procedures easy to follow An accessible introduction to microcontrollers and physical computing Step-by-step instructions for projects that teach fundamental skills Includes a variety of Arduino-based projects using digital and analog input and output

During the ten years since the appearance of the groundbreaking, bestselling first edition of *The Electronics Handbook*, the field has grown and changed tremendously. With a focus on fundamental theory and practical applications, the first edition guided novice and veteran engineers along the cutting edge in the design, production, installation, operation, and maintenance of electronic devices and systems. Completely updated and expanded to reflect recent advances, this second edition continues the tradition. *The Electronics Handbook, Second Edition* provides a comprehensive reference to the key concepts, models, and equations necessary to analyze, design, and predict the behavior of complex electrical devices, circuits, instruments, and systems. With 23 sections that encompass the entire electronics field, from classical devices and circuits to emerging technologies and applications, *The Electronics Handbook, Second Edition* not only covers the engineering aspects, but also includes sections on reliability, safety, and engineering management. The book features an individual table of contents at the beginning of each chapter, which enables engineers from industry, government, and academia to navigate easily to the vital information they need. This is truly the most comprehensive, easy-to-use reference on electronics available.

An insider reveals what can—and does—go wrong when companies shift production to China In this entertaining behind-the-scenes account, Paul Midler tells us all that is wrong with our effort to shift manufacturing to China. Now updated and expanded, *Poorly Made in China* reveals industry secrets, including the dangerous practice of quality fade—the deliberate and secret habit of Chinese manufacturers to widen profit margins through the reduction of quality inputs. U.S. importers don't stand a chance, Midler explains, against savvy Chinese suppliers who feel they have little to lose by placing consumer safety at risk for the sake of greater profit. This is a lively and impassioned personal account, a collection of true stories, told by an American who has worked in the country for close to two decades. *Poorly Made in China* touches on a number of issues that affect us all.

Electricity -- Electronic components -- Semiconductors -- Photonic semiconductors -- Integrated circuits -- Digital integrated circuits -- Linear integrated circuits -- Circuit assembly tips -- 100 electronic circuits.

While basic circuits may be easy to understand, creating a circuit requires a different way of thinking. The purpose of this book is to show how it's done. Being creative, instead of just following instructions, is part of the Maker ethic. This should include designing circuits to do what you want. The hands-on projects in this book progress from simple to complex, breaking circuits into modules to make them easier to understand. It is suitable for adult learners, as well as for teens ages 12 and up. (Younger readers can work through it with adult assistance.) Unique pictorial diagrams included in the book show circuits as they actually appear on a breadboard (not just schematics). Teaches the fundamentals of electronic circuits Starts with basics and builds to more sophisticated designs Explains how to read and draw circuit diagrams Encourages experimentation and hands-on building Includes cartoons and full-color photographs and line drawings One of the relatively few entry-level books on circuit design Shifts the focus away from explaining components and onto showing how to link them together Make: Electronics--Creating Circuits is a standalone book that doesn't require familiarity with Charles Platt's other popular Make: Electronics books.

Shares step-by-step experiments that teach how to add computational power to projects, including light bars, timers, decoders, phototransistors, op-amps, and various sensors.

Burt is a trillion dollars' worth of robot - with a ten minute gap in his programming that renders him virtually useless to his creators. Still, since coming to Earth he has managed to find a snappy new set of clothes, a cure for cancer and a sixteen year old girlfriend. Now he's made some really amazing discoveries about himself and his adopted home. Discoveries ranging from the amazing Presidential robot, to deviant mechanized sex, to mutant wildlife in Lake Michigan, to the truth behind kill-crazed New York City cops. Discoveries that are going to make life a lot harder for the chief programmer and the powers that be . . . and a lot more lethal for Burt and his newfound friends.

Make: Electronics Learning Through Discovery"O'Reilly Media, Inc."

Build your electronics workbench—and begin creating fun electronics projects right away Packed with hundreds of colorful diagrams and photographs, this book provides step-by-step instructions for experiments that show you how electronic components work, advice on choosing and using essential tools, and exciting projects you can build in 30 minutes or less. You'll get charged up as you transform theory into action in chapter after chapter! Circuit basics — learn what voltage is, where current flows (and doesn't flow), and how power is used in a circuit Critical components — discover how resistors, capacitors, inductors, diodes, and transistors control and shape electric current Versatile chips — find out how to use analog and digital integrated circuits to build complex projects with just a few parts Analyze circuits — understand the rules that govern current and voltage and learn how to apply them Safety tips — get a thorough grounding in how to protect yourself—and your electronics—from harm Electronics For Dummies (9781119675594) was previously published as Electronics For

Dummies (9781119117971). While this version features a new Dummies cover and design, the content is the same as the prior release and should not be considered a new or updated product.

Provides information about components, including batteries, capacitors, diodes, and switches. This book offers new step-by-step experiments to teach you how to add computational power to your projects by using comparators, op-amps, sensors, and more.

If you're among the many hobbyists and designers who came to electronics through Arduino and Raspberry Pi, this cookbook will help you learn and apply the basics of electrical engineering without the need for an EE degree. Through a series of practical recipes, you'll learn how to solve specific problems while diving into as much or as little theory as you're comfortable with. Author Simon Monk (Raspberry Pi Cookbook) breaks down this complex subject into several topics, from using the right transistor to building and testing projects and prototypes. With this book, you can quickly search electronics topics and go straight to the recipe you need. It also serves as an ideal reference for experienced electronics makers. This cookbook includes: Theoretical concepts such as Ohm's law and the relationship between power, voltage, and current The fundamental use of resistors, capacitors and inductors, diodes, transistors and integrated circuits, and switches and relays Recipes on power, sensors and motors, integrated circuits, and radio frequency for designing electronic circuits and devices Advice on using Arduino and Raspberry Pi in electronics projects How to build and use tools, including multimeters, oscilloscopes, simulations software, and unsoldered prototypes An all-in-one resource on everything electronics-related! For almost 30 years, this book has been a classic text forelectronics enthusiasts. Now completely updated for today'stechnology, this latest version combines concepts, self-tests, andhands-on projects to offer you a completely repackaged and revisedresource. This unique self-teaching guide featureseasy-to-understand explanations that are presented in auser-friendly format to help you learn the essentials you need towork with electronic circuits. All you need is a general understanding of electronics conceptssuch as Ohm's law and current flow, and an acquaintance withfirst-year algebra. The question-and-answer format, illustrativeexperiments, and self-tests at the end of each chapter make it easyfor you to learn at your own speed. Boasts a companion website that includes more than twentyfull-color, step-by-step projects Shares hands-on practice opportunities and conceptualbackground information to enhance your learning process Targets electronics enthusiasts who already have a basicknowledge of electronics but are interested in learning more aboutthis fascinating topic on their own Features projects that work with the multimeter, breadboard,function generator, oscilloscope, bandpass filter, transistoramplifier, oscillator, rectifier, and more You're sure to get a charge out of the vast coverage included inComplete Electronics Self-Teaching Guide with Projects!

Jump start your journey with electronics! If you've thought about getting into electronics, but don't know where to start, this book gives you the information you need. Starting with the basics of electricity and circuits, you'll be introduced to digital electronics and microcontrollers, capacitors and inductors, and amplification circuits – all while gaining the basic tools and information you need to start working with low-power electronics. Electronics for Beginners walks the fine line of focusing on projects-based learning, while still keeping electronics front and center. You'll learn the mathematics of circuits in an uncomplicated fashion and see how schematics map on to actual breadboards. Written for the absolute beginner, this book steers clear of being too math heavy, giving readers the key information they need to get started on their electronics journey. What You'll Learn Review the basic "patterns" of resistor usage—pull up, pull down, voltage divider, and current limiter Understand the requirements for circuits and how they are put together Read and differentiate what various parts of the schematics do Decide what considerations to take when choosing components Use all battery-powered circuits, so projects are safe Who This Book Is For Makers, students, and beginners of any age

interested in getting started with electronics.

Make: Electronics explores the properties and applications of discrete components that are the fundamental building blocks of circuit design. Understanding resistors, capacitors, transistors, inductors, diodes, and integrated circuit chips is essential even when using microcontrollers.

Make: Electronics teaches the fundamentals and also provides advice on the tools and supplies that are necessary. Component kits are available, specifically developed for the third edition.

Why do the lights in a house turn on when you flip a switch? How does a remote-controlled car move? And what makes lights on TVs and microwaves blink? The technology around you may seem like magic, but most of it wouldn't run without electricity. **Electronics for Kids** demystifies electricity with a collection of awesome hands-on projects. In Part 1, you'll learn how current, voltage, and circuits work by making a battery out of a lemon, turning a metal bolt into an electromagnet, and transforming a paper cup and some magnets into a spinning motor. In Part 2, you'll make even more cool stuff as you: –Solder a blinking LED circuit with resistors, capacitors, and relays –Turn a circuit into a touch sensor using your finger as a resistor –Build an alarm clock triggered by the sunrise –Create a musical instrument that makes sci-fi sounds Then, in Part 3, you'll learn about digital electronics—things like logic gates and memory circuits—as you make a secret code checker and an electronic coin flipper. Finally, you'll use everything you've learned to make the LED Reaction Game—test your reaction time as you try to catch a blinking light! With its clear explanations and assortment of hands-on projects, **Electronics for Kids** will have you building your own circuits in no time.

"This is teaching at its best!" --Hans Camenzind, inventor of the 555 timer (the world's most successful integrated circuit), and author of *Much Ado About Almost Nothing: Man's Encounter with the Electron* (Booklocker.com) "A fabulous book: well written, well paced, fun, and informative. I also love the sense of humor. It's very good at disarming the fear. And it's gorgeous. I'll be recommending this book highly." --Tom Igoe, author of *Physical Computing and Making Things Talk* A "magnificent and rewarding book. ... Every step of this structured instruction is expertly illustrated with photos and crisp diagrams. . . . This really is the best way to learn." --Kevin Kelly, in *Cool Tools* The first edition of **Make: Electronics** established a new benchmark for introductory texts. This second edition enhances that learning experience. Here you will find unique, photographically precise diagrams of breadboarded components, to help you build circuits with speed and precision. A new shopping guide and a simplified range of components, will minimize your investment in parts for the projects. A completely new section on the Arduino shows you how to write properly structured programs instead of just downloading other people's code. Projects have been reworked to provide additional features, and the book has been restructured to offer a step-by-step learning process that is as clear and visually pleasing on handheld devices as it is on paper. Full color is used throughout. As before, **Make: Electronics** begins with the basics. You'll see for yourself how components work--and what happens when they don't. You'll short out a battery and overheat an LED. You'll also open up a potentiometer and a relay to see what's inside. No other book gives you such an opportunity to learn from real-life experiences. Ultimately, you will build gadgets that have lasting value, and you'll have a complete understanding of how they work. From capacitors to transistors to microcontrollers--it's all here. Hans Camenzind, inventor of the 555 Timer (the world's most successful integrated circuit chip), said that "This is teaching at its best!" when he reviewed the first edition. Now the second edition offers even more!

"This is teaching at its best!" --Hans Camenzind, inventor of the 555 timer (the world's most successful integrated circuit), and author of *Much Ado About Almost Nothing: Man's Encounter with the Electron* (Booklocker.com) "A fabulous book: well written, well paced, fun, and informative. I also love the sense of humor. It's very good at disarming the fear. And it's gorgeous. I'll be recommending this book highly." --Tom Igoe, author of *Physical Computing*

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and Making Things Talk Want to learn the fundamentals of electronics in a fun, hands-on way? With *Make: Electronics*, you'll start working on real projects as soon as you crack open the book. Explore all of the key components and essential principles through a series of fascinating experiments. You'll build the circuits first, then learn the theory behind them! Build working devices, from simple to complex. You'll start with the basics and then move on to more complicated projects. Go from switching circuits to integrated circuits, and from simple alarms to programmable microcontrollers. Step-by-step instructions and more than 500 full-color photographs and illustrations will help you use -- and understand -- electronics concepts and techniques. Discover by breaking things: experiment with components and learn from failure. Set up a tricked-out project space: make a work area at home, equipped with the tools and parts you'll need. Learn about key electronic components and their functions within a circuit. Create an intrusion alarm, holiday lights, wearable electronic jewelry, audio processors, a reflex tester, and a combination lock. Build an autonomous robot cart that can sense its environment and avoid obstacles. Get clear, easy-to-understand explanations of what you're doing and why.

THE BOOK THAT MAKES ELECTRONICS MAKE SENSE This intuitive, applications-driven guide to electronics for hobbyists, engineers, and students doesn't overload readers with technical detail. Instead, it tells you--and shows you--what basic and advanced electronics parts and components do, and how they work. Chock-full of illustrations, *Practical Electronics for Inventors* offers over 750 hand-drawn images that provide clear, detailed instructions that can help turn theoretical ideas into real-life inventions and gadgets. **CRYSTAL CLEAR AND COMPREHENSIVE** Covering the entire field of electronics, from basics through analog and digital, AC and DC, integrated circuits (ICs), semiconductors, stepper motors and servos, LCD displays, and various input/output devices, this guide even includes a full chapter on the latest microcontrollers. A favorite memory-jogger for working electronics engineers, *Practical Electronics for Inventors* is also the ideal manual for those just getting started in circuit design. If you want to succeed in turning your ideas into workable electronic gadgets and inventions, is **THE** book. Starting with a light review of electronics history, physics, and math, the book provides an easy-to-understand overview of all major electronic elements, including: Basic passive components o Resistors, capacitors, inductors, transformers o Discrete passive circuits o Current-limiting networks, voltage dividers, filter circuits, attenuators o Discrete active devices o Diodes, transistors, thyristors o Microcontrollers o Rectifiers, amplifiers, modulators, mixers, voltage regulators **ENTHUSIASTIC READERS HELPED US MAKE THIS BOOK EVEN BETTER** This revised, improved, and completely updated second edition reflects suggestions offered by the loyal hobbyists and inventors who made the first edition a bestseller. Reader-suggested improvements in this guide include: Thoroughly expanded and improved theory chapter New sections covering test equipment, optoelectronics, microcontroller circuits, and more New and revised drawings Answered problems throughout the book *Practical Electronics for Inventors* takes you through reading schematics, building and testing prototypes, purchasing electronic components, and safe work practices. You'll find all this in a guide that's destined to get your creative--and inventive--juices flowing.

Packed full of real circuits to build and test, *Hands-On Electronics* is a unique introduction to analog and digital electronics theory and practice. Ideal both as a college textbook and for self-study, the friendly style, clear illustrations and construction details included in the book encourage rapid and effective learning of analog and digital circuit design theory. All the major topics for a typical one semester course are covered including RC circuits, diodes, transistors, op-amps, oscillators, TTL logic, counters, D/A converters and more. There are also chapters explaining how to use the equipment needed for the examples (oscilloscope, multimeter and breadboard) together with pin-out diagrams and manufacturers' specifications for all the key components referred to in the book.

In this powerful, breathless adventure, a benign system of artificial intelligence has taken over the world - and the galaxy beyond. Everyone is biologically immortal; no one is hungry; and there are thousands of colonized planets to choose from. The AIs nurture and protect human beings, enabling all people to enjoy lives of hedonistic pleasure. But when the systems that run a planet become corrupted, the consequences are catastrophic. A man with a rare mix of personality traits - one part computer engineer, one part special investigator, and one part sociopathic rebel - is the only recourse as a world of decadence becomes a world of death and pain.

This book begins with the physical principles involved in the operation of semiconductor components, proceeds through the physical electronics, modeling, and circuit characteristics of these components, and engages the questions and problems that arise in the computer-aided design of complex multicomponent functional assemblies of the type found in modern integrated-circuit packages.

"A hands-on primer for the new electronics enthusiast"--Cover.

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Can human intelligence thrive in computer hardware? *The Silicon Man* tells an intensely human, suspenseful story showing how it may be done, sooner rather than later. Five renegade scientists are pursuing secret research to achieve immortality by uploading themselves into silicon. When one relentless investigator threatens everything they have tried to achieve, the outcome will change the world. William Gibson praised this novel as "a plausible, well-crafted narrative exploring cyberspace in a wholly new and very refreshing way." The *Washington Post* described it as "a well-plotted, fast-paced, and imaginative look into the future." *Science Fiction Review* said that it ranks "right up there with *Michaelmas* and *The Demolished Man*." And Gregory Benford commented, "In fascinating detail, Platt shows us what it would really be like to live (and breathe!) in cyberspace." Nominated for the John W. Campbell award and the Philip K. Dick award. Want to learn even more about electronics in a fun, hands-on way? If you finished the

projects in *Make: Electronics*, or if you're already familiar with the material in that book, you're ready for *Make: More Electronics*. Right away, you'll start working on real projects, and you'll explore all the key components and essential principles through the book's collection of experiments. You'll build the circuits first, then learn the theory behind them! This book picks up where *Make: Electronics* left off: you'll work with components like comparators, light sensors, higher-level logic chips, multiplexers, shift registers, encoders, decoders, and magnetic sensors. You'll also learn about topics like audio amplification, randomness, as well as positive and negative feedback. With step-by-step instructions, and hundreds of color photographs and illustrations, this book will help you use -- and understand -- intermediate to advanced electronics concepts and techniques.

Want to know how to use an electronic component? This third book of a three-volume set includes key information on electronics parts for your projects--complete with photographs, schematics, and diagrams. You'll learn what each one does, how it works, why it's useful, and what variants exist. No matter how much you know about electronics, you'll find fascinating details you've never come across before. Perfect for teachers, hobbyists, engineers, and students of all ages, this reference puts reliable, fact-checked information right at your fingertips--whether you're refreshing your memory or exploring a component for the first time. Beginners will quickly grasp important concepts, and more experienced users will find the specific details their projects require. Volume 3 covers components for sensing the physical world, including light, sound, heat, motion, ambient, and electrical sensors. Unique: the first and only encyclopedia set on electronic components, distilled into three separate volumes Incredibly detailed: includes information distilled from hundreds of sources Easy to browse: parts are clearly organized by component type Authoritative: fact-checked by expert advisors to ensure that the information is both current and accurate Reliable: a more consistent source of information than online sources, product datasheets, and manufacturer's tutorials Instructive: each component description provides details about substitutions, common problems, and workarounds Comprehensive: Volume 1 covers power, electromagnetism, and discrete semi-conductors; Volume 2 includes integrated circuits, and light and sound sources; Volume 3 covers a range of sensing devices. Discusses Uses for the Microcomputer, Including Projects & Methods for Interfacing the Personal Computer with Its Environment

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