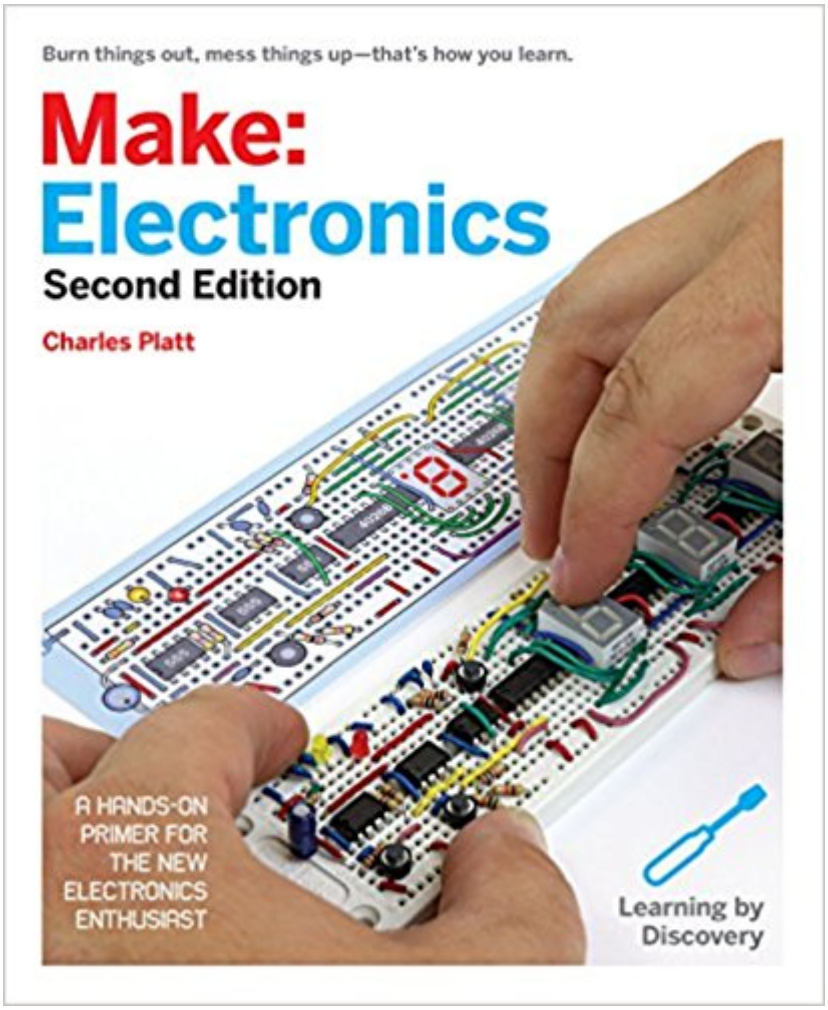
Make: Electronics: Learning Through Discovery



Synopsis

"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 TalkA "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 ToolsThe 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!

Book Information

File Size: 59412 KB

Print Length: 352 pages

Simultaneous Device Usage: Unlimited

Publisher: Maker Media, Inc; 2 edition (August 10, 2015)

Publication Date: August 10, 2015

Sold by:Â Digital Services LLC

Language: English

ASIN: B013PVRTEK

Text-to-Speech: Enabled

X-Ray: Enabled

Word Wise: Enabled

Lending: Not Enabled

Screen Reader: Supported

Enhanced Typesetting: Enabled

Best Sellers Rank: #52,761 Paid in Kindle Store (See Top 100 Paid in Kindle Store) #2 inÂ Kindle Store > Kindle eBooks > Children's eBooks > Science, Nature & How It Works > Electricity & Electronics #3 inÂ Kindle Store > Kindle eBooks > Computers & Technology > Programming > Languages & Tools > C++ #5 inÂ Kindle Store > Kindle eBooks > Children's eBooks > Science, Nature & How It Works > How Things Work

Customer Reviews

What's New in Make Electronics - 2nd Edition "While there are some things that have barely changed at all," says author Charles Platt, "others are significantly different in this edition. The new visuals are undoubtedly the thing that readers will notice first. There's color on every page now, with over 350 images. "A new simplified section provides detailed advice on Internet searches and purchasing components," Charles says. "I think it's a lot easier to understand than the first book, but it's still completely hands-on. Every other book on electronics starts with theory, but I start with putting a battery on your tongueÃ¢Â Â"just as with the original book." Upgraded Projects Throughout! The dice simulation now has a unique new circuit and can run two dice instead of one. The burglar alarm is a new circuit with additional features. The reaction timer is now easier to build and can be precisely calibrated. The sound synthesizer now demonstrates the effects of coils and capacitors. The audio amplifier is now much simpler to build. Several new electromagnetism demonstrations. Three completely new Arduino projects.

I am about a third of the way through this book and I am loving it. This is the perfect introduction to hands-on electronics. I was an engineering student in college (although not electrical engineering) so I was always kind of upset that after spending countless nights of my life doing all sorts of crazy math problems with respect to circuits, I didn't know something as simple as how a relay works, or how to build anything except maybe a simple circuit with a lightbulb and a resistor. I could design and build an RC circuit and calculate its time-constant but why in God's name I would ever NEED to

build an RC circuit was beyond me...No more. This book lets you know that its safe to rip open a relay and see exactly why it works. It will give you a circuit design and then have you build it. It will explain why something is or isn't working, and why. This won't make you an expert in electronics, it is definitely on the simple side of things (like algebraic simplifications of mathematical models that are actually rooted in calculus or differential equations), but that's exactly what I was looking for. This book will empower you to build things. I am reading it side by side with the Electricity & Magnetism chapters of my old Physics textbook so I can make the connections with the real theory and the nastier side of the math, but I really couldn't be happier. In spite of years of college, this book is just now making me feel like I know something about electronics.Also, I recommend buying the kit that's sold for this book because it will save you a little money and a LOT of time. has been out of stock of it forever, but I went to the closest Radioshack and they had it for $75. Other than that, you will need to buy Digital Multimeter, a pair of wire strippers that can deal with 22-gauge wire, a pair of wire-cutters, a pair of needlenose pliers, and a set of precision screw drivers. Seems steep but if you plan on making use of your new-found knowledge for the foreseeable future, you will be using these tools well after you've worked through this book.

This is the book that taught me electronics and ignited my passion for a new hobby. It is a very easy read and teaches everything through hands-on exercises. I would recommend this book without hesitation both to an adult wanting to learn fundamental electronics as well as for any parents who want their kids to learn electronics. It covers the fundamentals with just the right amount of theory and offers lots of practical advice for a beginner on things like soldering and setting up an electronics workshop. The projects that this book will have you build are a lot of fun and at the end of the book I found myself wishing there were more projects like these I could do (luckily now there are, in Make: More Electronics, by the same author). The kits available from Makershed to go along with this book are also a godsend because trying to order all the electronic components needed by this book from an electronic supplier like Mouser can be very intimidating for a beginner.I had a few nits to pick with the first edition of this book: namely the use of TTL (7400LS) logic chips, which I found very finicky, and regardless are not much used anymore. Fortunately, the author has taken reader feedback seriously and addressed my complaint and those of other readers in the second edition. Another change I agree with is the switch in focus from Basic Stamp and Picaxe to Arduino in the section on microcontrollers. Arduino has revolutionized the hobbyist microcontroller landscape and has taken the maker world by storm to the extent that it is now the de facto standard for anyone getting started with microcontrollers. Finally, I found the fact that the author explicitly mentions the

feedback from his readers and integrates the lessons learned from the the first edition into his text very refreshing. The fact that he has acknowledged that making good electronic circuits is a process, even for someone experienced as him, makes this book all the more accessible and educational.

This book is a great introduction to electronics. For me it provides the right amount of hands on circuit building work together with easy to understand explanations of why a circuit is being constructed in the way presented. The supporting diagrams are extremely helpful, providing a diagram showing a drawing of the components on the breadboard along with the corresponding schematic is a very good learning aid.The provided "shopping lists" for components and supplies helps the reader get organized in their pursuit to acquire a basic knowledge of electronics. Acquiring real knowledge of electronics and circuit theory does require the reader to additional resources, as the author himself indicates. But I think this is the best book around for those seeking a basic working knowledge of electronics.

The Make: series of books is simple, easy way to actually get some experience with electrical parts without killing yourself or burning down the house. Kudo’s to Mr. Platt and the Make: team. They actually tell you how to economically get parts and test equipment. They do not worry about the theory behind the set of exercises. Because you do not need to know. Just treat it like a cook book, and have fun. Actually do some things.That is a wonderful approach to building some stuff. Ok, it is for amateurs. Professional products are obviously not built this way any more.But this is similar to the approach to try out lots of options before spending a few million on the multi-layer board layout. That isn’t that much funanyway. And you can try some simple stuff such as programming the little controllers like an Arduino. (There I was upbeat, positive, and notsarcastic. I think that anybody who tries to be helpful and informative deserves an upbeat review. I won’t get into why you would want to learn the theory behind all of this and maybe sit through a few college courses.)

Digital Electronics: A Primer : Introductory Logic Circuit Design (Icp Primers in Electronics and Computer Science) Scaling and Integration of High-Speed Electronics and Optomechanical Systems (Selected Topics in Electronics and Systems) Science Fair Projects With Electricity & Electronics: Electricity & Electronics Make: Arduino Bots and Gadgets: Six Embedded Projects with Open Source Hardware and Software (Learning by Discovery) Learning Evidence: From the Federal Rules to the Courtroom, 2d (Learning Series) (American Casebook: Learning) Introduction to Deep Learning Using R: A Step-by-Step Guide to Learning and Implementing Deep Learning Models Using R Discovery Kids Dinosaurs Rumble Sound Book (Discovery 10 Button) Discovery Kids Moo on the Farm (Discovery 10 Button) Discovery of the Americas, The (Discovery of the Americans) Discovery Kids Honk on the Road! (Discovery Kids 10 Button) Growl with the Animals! (Discovery Kids) (Discovery Kids 10 Button) The Revolutionary War Discovery Kit (Dover Discovery Kit) Living in Bible Times (Candle Discovery) (Candle Discovery Series) The Discovery Revolution: A Guide to the E-Discovery Amendments to the Federal Rules of Civil Procedure