

Mechatronics For The Evil Genius 25 Build It Yourself Projects

Have some thoroughly green evil fun! This wickedly inventive guide explains how to create a variety of practical, environmentally friendly items you can use for yourself or resell for profit. Recycling Projects for the Evil Genius is filled with detailed directions on how to successfully complete each green project and discusses important safety issues. Using easy-to-find components and tools, this do-it-yourself book shows you how to brew up green cleaners, transform all types of paper into building materials, safely rid your home and yard of pests, and much more--all on the cheap! Recycling Projects for the Evil Genius: Features step-by-step instructions and helpful illustrations Covers essential safety measures Reveals the scientific principles behind the projects Removes the frustration factor--all required parts are listed, along with sources Make your own green: Household cleaners Laundry soap Citrus oil extract Pest and weed control solutions Recycled plastic lumber and landscape blocks Recycled asphalt shingle paver bricks and road patch compound Concrete paper mache blocks, garden walls, stepping stones, and structures Solar-powered composter Garden-friendly charcoal And more Each fun, inexpensive, and slightly wicked Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze.

"The integration of electronic engineering, electrical engineering, computer technology and control engineering with mechanical engineering -- mechatronics -- now forms a crucial part in the design, manufacture and maintenance of a wide range of engineering products and processes. This book provides a clear and comprehensive introduction to the application of electronic control systems in mechanical and electrical engineering. It gives a framework of knowledge that allows engineers and technicians to develop an interdisciplinary understanding and integrated approach to engineering. This second edition has been updated and expanded to provide greater depth of coverage." -- Back cover.

This much anticipated follow-up to the wildly popular cultclassic Electronic Gadgets for the Evil Genius gives basement experimenters 40 all-new projects to tinker with. Following the tried-and-true Evil Genius Series format, each project includes a detailed list of materials, sources for parts, schematics, documentation, and lots of clear, well-illustrated instructions for easy assembly. The convenient two-column format makes following step-by-step instructions a breeze. Readers will also get a quick briefing on mathematical theory and a simple explanation of operation along with enjoyable descriptions of key electronics topics such as various methods of acceleration, power conditioning, energy storage, magnetism, and kinetics.

ENGAGE YOUR WARPED SENSE OF HUMOR WITH HUNDREDS OF PRACTICAL GAG DEVICES YOU BUILD YOURSELF!

Give your friends and family the shock of their lives! 51 High-Tech Practical Jokes for the Evil Genius has everything you need to pull devastatingly funny (and safe!) technical pranks. From the "evasive beeping thing" to "rats in the walls" to the "rigged lie detector," you'll find a plethora of pranks that will feed your inner hacker while you create a state of utter confusion around you! Using easy-to-find parts and tools that all Evil Geniuses can get their hands on, these well-played yet harmless pranks will confound your unsuspecting targets every time. Plus, every gadget can be mixed and matched, allowing you to create hundreds of larger, even more twisted evil prank devices! 51 High-Tech Practical Jokes for the Evil Genius gives you: Instructions and plans for 51 simple-to-advanced projects, complete with 200 how-to illustrations that let you build each device visually Frustration-factor removal—all the needed parts are listed, along with sources Video links to many of the practical jokes on YouTube.com 51 High-Tech Practical Jokes for the Evil Genius provides you with all the instructions, parts lists, and sources you need to pull hilarious pranks, such as: Evasive random beeping things Dripping faucet simulator Hungry garbage can critter Humungous dropping spider Horrible computer failure TV remote control jammer Possessed animatronic doll Flying Ouija board Voices from the grave The barbecue box Ultrasimple pulse shocker Disposable camera taser Ghost door knocker Radio station blocker And many more!

IF EVIL'S YOUR NAME, THEN THESE ARE YOUR GAMES! Always wanted to be a genius game creator? This Evil Genius guide goes far beyond a typical programming class or text to reveal insider tips for breaking the rules and constructing wickedly fun games that you can tweak and customize to suit your needs! In Programming Video Games for the Evil Genius, programming wunderkind Ian Cinnamon gives you everything you need to create and control 57 gaming projects. You'll find easy-to-follow plans featuring Java, the most universal programming language, that run on any PC, Mac, or Linux computer. Illustrated instructions and plans for an awesome mix of racing, board, shoot 'em up, strategy, retro, and puzzle games Gaming projects that vary in difficulty--starting with simple programs and progressing to sophisticated projects for programmers with advanced skills An interactive companion website featuring a free Java compiler, where you can share your projects with Evil Geniuses around the globe Removes the frustration-factor--all the parts you need are listed, along with sources Regardless of your skill level, Programming Video Games for the Evil Genius provides you with all the strategies, code, and insider programming advice you need to build and test your games with ease, such as: Radical Racing Screen Skier Whack an Evil Genius Tic-Tac-Toe Boxing Snake Pit Space Destroyers Bomb Diffuser Trapper Oiram Java Man Memory Ian Says

CREATE FIENDISHLY FUN SPY TOOLS AND COUNTERMEASURES Fully updated throughout, this wickedly inventive guide is packed with a wide variety of stealthy sleuthing contraptions you can build yourself. 101 Spy Gadgets for the Evil Genius, Second Edition also shows you how to reclaim your privacy by targeting the very mechanisms that invade your space. Find out how to disable several spy devices by hacking easily available appliances into cool tools of your own, and even turn the tables on the snoopers by using gadgetry to collect information on them. Featuring easy-to-find, inexpensive parts, this hands-on guide helps you build your skills in working with electronics components and tools while you create an impressive arsenal of spy gear and countermeasures. The only limit is your imagination! 101 Spy Gadgets for the Evil Genius, Second Edition: Contains step-by-step instructions and helpful illustrations Provides tips for customizing the projects Covers the underlying principles behind the projects Removes the frustration factor--all required parts are listed Build these and other devious devices: Spy camera Infrared light converter Night vision viewer Phone number decoder Phone spammer jammer Telephone voice changer GPS tracking device Laser spy device Remote control hijacker Camera flash taser Portable alarm system Camera trigger hack Repeating camera timer Sound- and motion-activated cameras Camera zoom extender

FUEL YOUR EVIL URGES WHILE YOU BUILD GREEN ENERGY PROJECTS! Go green as you amass power! Fuel Cell Projects for the Evil Genius broadens your knowledge of this important, rapidly developing technology and shows you how to build practical, environmentally conscious projects using the three most popular and widely accessible fuel cells! In Fuel Cell Projects for the Evil Genius, high-tech guru Gavin Harper gives you everything you need to conduct practical experiments and build

energizing fuel cell projects. You'll find complete, easy-to-follow plans that feature clear diagrams and schematics, as well as: Instructions for fascinating sustainable energy projects, complete with 180 how-to illustrations Explanations of how fuel cells work and why the hydrogen economy will impact our lives in the near future Frustration-factor removal-all the needed parts are listed, along with sources Science fair project ideas that are on the cutting edge of the latest technological developments Fuel Cell Projects for the Evil Genius gives you complete plans, instructions, parts lists, and sources to: Understand how hydrogen could meet our energy needs in a post-carbon economy Build a fuel cell car to race against your friends Build an intelligent fuel cell car which autonomously drives Build a simple fuel cell using adhesive bandages Hydrogen fuel your iPod Have a hydrogen barbecue-cook your food with zero carbon emissions! Discover how the amounts of hydrogen supplied to fuel cells affect the amounts of electricity produced And much more!

Electrical Engineering 101 covers the basic theory and practice of electronics, starting by answering the question "What is electricity?" It goes on to explain the fundamental principles and components, relating them constantly to real-world examples. Sections on tools and troubleshooting give engineers deeper understanding and the know-how to create and maintain their own electronic design projects. Unlike other books that simply describe electronics and provide step-by-step build instructions, EE101 delves into how and why electricity and electronics work, giving the reader the tools to take their electronics education to the next level. It is written in a down-to-earth style and explains jargon, technical terms and schematics as they arise. The author builds a genuine understanding of the fundamentals and shows how they can be applied to a range of engineering problems. This third edition includes more real-world examples and a glossary of formulae. It contains new coverage of: Microcontrollers FPGAs Classes of components Memory (RAM, ROM, etc.) Surface mount High speed design Board layout Advanced digital electronics (e.g. processors) Transistor circuits and circuit design Op-amp and logic circuits Use of test equipment Gives readers a simple explanation of complex concepts, in terms they can understand and relate to everyday life. Updated content throughout and new material on the latest technological advances. Provides readers with an invaluable set of tools and references that they can use in their everyday work.

CREATE FIENDISHLY FUN tinyAVR MICROCONTROLLER PROJECTS This wickedly inventive guide shows you how to conceptualize, build, and program 34 tinyAVR microcontroller devices that you can use for either entertainment or practical purposes. After covering the development process, tools, and power supply sources, tinyAVR Microcontroller Projects for the Evil Genius gets you working on exciting LED, graphics LCD, sensor, audio, and alternate energy projects. Using easy-to-find components and equipment, this hands-on guide helps you build a solid foundation in electronics and embedded programming while accomplishing useful--and slightly twisted--projects. Most of the projects have fascinating visual appeal in the form of large LED-based displays, and others feature a voice playback mechanism. Full source code and circuit files for each project are available for download. tinyAVR Microcontroller Projects for the Evil Genius: Features step-by-step instructions and helpful illustrations Allows you to customize each project for your own requirements Offers full source code for all projects for download Build these and other devious devices: Flickering LED candle Random color and music generator Mood lamp VU meter with 20 LEDs Celsius and Fahrenheit thermometer RGB dice Tengu on graphics display Spinning LED top with message display Contactless tachometer Electronic birthday blowout candles Fridge alarm Musical toy Batteryless infrared remote Batteryless persistence-of-vision toy Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze. Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Mechatronics for the Evil Genius 25 Build-it-Yourself Projects McGraw Hill Professional

Have some evil fun inside your head! This wickedly inventive guide offers 19 build-it-yourself projects featuring high-tech devices that can map, manipulate, and even improve the greatest computer on earth--the human brain. Every project inside Mind Performance Projects for the Evil Genius is perfectly safe and explores cutting-edge concepts, such as brain wave mapping, lucid dream control, and hypnosis. Using easy-to-find parts and tools, this do-it-yourself book offers a wide variety of brain-bending bio hacks you can accomplish on your own. You'll find detailed guidelines, parameters, schematics, code, and customization tips for each project in the book. The only limit is your imagination! Mind Performance Projects for the Evil Genius: Features step-by-step instructions, complete with helpful illustrations Allows you to customize each project for your purposes Discusses the underlying principles behind the projects Removes the frustration factor--all required parts are listed, along with sources Build these and other lid-flipping gadgets: Biofeedback device Reaction speedometer Body temperature monitor Heart rate monitor Lie detector White noise generator Waking reality tester Audio dream director Lucid dream mask Alpha meditation goggles Clairvoyance tester Visual hypnosis aid Color therapy device Synchro brain machine

The popular evil genius format provides hobbyists with a fun and inexpensive way to learn Mechatronics (the merger of electronics and mechanics) via 25 complete projects. Projects include: mechanical race car, combat robot, ionic motor, electromagnet, robotic arm, light beam remote control, and more Includes "parts lists" and "tool bin" for each project Covers all the preparation needed to begin building, such as "how to solder," "how to recognize components and diagrams," "how to read a schematic," etc.

Program Arduino with ease! Using clear, easy-to-follow examples, Programming Arduino: Getting Started with Sketches reveals the software side of Arduino and explains how to write well-crafted sketches using the modified C language of Arduino. No prior programming experience is required! The downloadable sample programs featured in the book can be used as-is or modified to suit your purposes. Understand Arduino hardware fundamentals Install the software, power it up, and upload your first sketch Learn C language basics Write functions in Arduino sketches Structure data using arrays and strings Use Arduino's digital and analog inputs and outputs in your programs Work with the Standard Arduino Library Write sketches that can store data Program LCD displays Use an Ethernet shield to enable Arduino to function as a web

server Write your own Arduino libraries In December 2011, Arduino 1.0 was released. This changed a few things that have caused two of the sketches in this book to break. The change that has caused trouble is that the classes 'Server' and 'Client' have been renamed to 'EthernetServer' and 'EthernetClient' respectively. To fix this: Edit sketches 10-01 and 10-02 to replace all occurrences of the word 'Server' with 'EthernetServer' and all occurrences of 'Client' with 'EthernetClient'. Alternatively, you can download the modified sketches for 10-01 and 10-02 from here:

<http://www.arduinobook.com/arduino-1-0> Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Bring your electronic inventions to life! "This full-color book is impressive...there are some really fun projects!" -GeekDad, Wired.com Who needs an electrical engineering degree? This intuitive guide shows how to wire, disassemble, tweak, and re-purpose everyday devices quickly and easily. Packed with full-color illustrations, photos, and diagrams, Hacking Electronics teaches by doing--each topic features fun, easy-to-follow projects. Discover how to hack sensors, accelerometers, remote controllers, ultrasonic rangefinders, motors, stereo equipment, microphones, and FM transmitters. The final chapter contains useful information on getting the most out of cheap or free bench and software tools. Safely solder, join wires, and connect switches Identify components and read schematic diagrams Understand the how and why of electronics theory Work with transistors, LEDs, and laser diode modules Power your devices with a/c supplies, batteries, or solar panels Get up and running on Arduino boards and pre-made modules Use sensors to detect everything from noxious gas to acceleration Build and modify audio amps, microphones, and transmitters Fix gadgets and scavenge useful parts from dead equipment

WHIP UP SOME FIENDISHLY FUN PICAXE MICROCONTROLLER DEVICES "Ron has worked hard to explain how the PICAXE system operates through simple examples, and I'm sure his easy-to-read style will help many people progress with their PICAXE projects." --From the Foreword by Clive Seager, Revolution Education Ltd. This wickedly inventive guide shows you how to program, build, and debug a variety of PICAXE microcontroller projects. PICAXE Microcontroller Projects for the Evil Genius gets you started with programming and I/O interfacing right away, and then shows you how to develop a master processor circuit. From "Hello, World!" to "Hail, Octavius!" All the projects in Part I can be accomplished using either an M or M2 class PICAXE processor, and Part II adds 20X2-based master processor projects to the mix. Part III culminates in the creation of Octavius--a sophisticated robotics experimentation platform featuring a 40X2 master processor and eight breadboard stations which allow you to develop intelligent peripherals to augment Octavius' functioning. The only limit is your imagination! PICAXE Microcontroller Projects for the Evil Genius: Features step-by-step instructions and helpful photos and illustrations Allows you to customize each project for your purposes Offers all the programs in the book free for download Removes the frustration factor--all required parts are listed, along with sources Build these and other devious devices: Simple mini-stereo jack adapter USBS-PA3 PICAXE programming adapter Power supply Three-state digital logic probe 20X2 master processor circuit TV-R input module 8-bit parallel 16X2 LCD board Serialized 16X2 LCD Serialized 4X4 matrix keypad SPI 4-digit LED display Countdown timer Programmable, multi-function peripheral device and operating system Octavius--advanced robotics experimentation platform L298 dual DC motor controller board Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze. Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

The objective of FUNDAMENTALS OF MECHATRONICS is to cover both hardware and software aspects of mechatronics systems in a single text, giving a complete treatment to the subject matter. The text focuses on application considerations and relevant practical issues that arise in the selection and design of mechatronics components and systems. The text uses several programming languages to illustrate the key topics. Different programming platforms are presented to give instructors the choice to select the programming language most suited to their course objectives. A separate laboratory book, with additional exercises is provided to give guided hands-on experience with many of the topics covered in the text. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

54 super-entertaining projects offer insights into the sights, sounds, and smells of nature Nature meets the Evil Genius via 54 fun, safe, and inexpensive projects that allow you to explore the fascinating and often mysterious world of natural phenomena using your own home-built sensors. Each project includes a list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions. Projects include: rain detector, air pressure sensor, cloud chamber, lightning detector, electronic gas sniffer, seismograph, radiation detector, and more

Projects include: FM radios, aircraft radios,VHF ham radio receivers,VHF public service radio, old-time radio tubes, shortwave receivers, and free energy receivers Covers early radio models such as crystal radio as well as more contemporary options Appeals to skill levels from novice to advanced

This do-it-yourself guide shows you how to program and build projects with the Arduino Uno and Leonardo boards and the Arduino 1.0 development environment. It gets you started right away with the simplified C programming you need to know and demonstrateshow to take advantage of the latest Arduino capabilities. You'll learn how to attach an Arduino board to your computer, program it, and connect electronics to it to create your own devices. A bonus chapter uses the special USB keyboard/mouse-impersonation feature exclusive to the Arduino Leonardo--

125 Wickedly Fun Ways to Test the Laws of Physics! Now you can prove your knowledge of physics without expending a lot of energy. 125 Physics Projects for the Evil Genius is filled with hands-on explorations into key areas of this fascinating field. Best of all, these experiments can be performed without a formal lab, a large budget, or years of technical experience! Using easy-to-find parts and tools, this do-it-yourself guide offers a wide variety of physics experiments you can accomplish on your own. Topics

covered include motion, gravity, energy, sound, light, heat, electricity, and more. Each of the projects in this unique guide includes parameters, a detailed methodology, expected results, and an explanation of why the experiment works. 125 Physics Projects for the Evil Genius: Features step-by-step instructions for 125 challenging and fun physics experiments, complete with helpful illustrations Allows you to customize each experiment for your purposes Includes details on the underlying principles behind each experiment Removes the frustration factor--all required parts are listed, along with sources 125 Physics Projects for the Evil Genius provides you with all of the information you need to demonstrate: Constant velocity Circular motion and centripetal force Gravitational acceleration Newton's laws of motion Energy and momentum The wave properties of sound Refraction, reflection, and the speed of light Thermal expansion and absolute zero Electrostatic force, resistance, and magnetic levitation The earth's magnetic field The size of a photon, the charge of an electron, and the photoelectric effect And more

Program your own MicroPython projects with ease—no prior programming experience necessary! This DIY guide provides a practical introduction to microcontroller programming with MicroPython. Written by an experienced electronics hobbyist, Python for Microcontrollers: Getting Started with MicroPython features eight start-to-finish projects with clear, easy-to-follow instructions for each. You will learn how to use sensors, store data, control motors and other devices, and work with expansion boards. From there, you'll discover how to design, build, and program all kinds of entertaining and practical projects of your own. • Learn MicroPython and object-oriented programming basics • Interface with a PC and load files, programs, and modules • Work with the LEDs, timers, and converters • Control external devices using serial interfaces and PWM • Build and program a let ball detector using the three-axis accelerometer • Install and program LCD and touch-sensor expansion boards • Record and play sounds using the AMP audio board

The term “mechatronics” was coined in 1969, merging “mecha” from mechanism and “tronics” from electronics, to reflect the original idea at the basis of this discipline, that is, the integration of electrical and mechanical systems into a single device. The spread of this term, and of mechatronics itself, has been growing in the years, including new aspects and disciplines, like control engineering, computer engineering and communication/information engineering. Nowadays mechatronics has a well-defined and fundamental role, in strict relation with robotics. Drawing a sharp border between mechatronics and robotics is impossible, as they share many technologies and objectives. Advanced robots could be defined as mechatronic devices equipped with a “smart brain”, but there are also up-to-date mechatronic devices, used in tight interaction with humans, that are governed by smart architectures (for example, for safety purposes). Aim of this book is to offer a wide overview of new research trends and challenges for both mechatronics and robotics, through the contribution of researchers from different institutions, providing their view on specific subjects they consider as “hot topics” in both fields, with attention to new fields of application, new challenges to the research communities and new technologies available. The reader of this book will enjoy the various contributions, as they have been prepared with actual applications in mind, along a journey from advanced actuators and sensors to human-robot interaction, through robot control, navigation, planning and programming issues. The book presents several state-of-the-art solutions, like multiple-stage actuation to cope with conflicting specification of large motion-spans, ultra-high accuracy, model-based control for high-tech mechatronic systems, modern approaches of software systems engineering to robotics, aand humanoids for human assistance. The reader can also find new techniques in approaching the design of mechatronic systems in some possible industrial and service robotics scenarios, with a particular attention for the interaction between humans and mechanisms.

A dozen fiendishly fun projects for the Raspberry Pi! This wickedly inventive guide shows you how to create all kinds of entertaining and practical projects with Raspberry Pi operating system and programming environment. In Raspberry Pi Projects for the Evil Genius, you'll learn how to build a Bluetooth-controlled robot, a weather station, home automation and security controllers, a universal remote, and even a minimalist website. You'll also find out how to establish communication between Android devices and the RasPi. Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout makes following the step-by-step instructions a breeze. Build these and other devious devices: LED blinker MP3 player Camera controller Bluetooth robot Earthquake detector Home automation controller Weather station Home security controller RFID door latch Remote power controller Radon detector Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. Microchip continually updates its product line with more capable and lower cost products. They also provide excellent development tools. Few books take advantage of all the work done by Microchip. 123 PIC Microcontroller Experiments for the Evil Genius uses the best parts, and does not become dependent on one tool type or version, to accommodate the widest audience possible. Building on the success of 123 Robotics Experiments for the Evil Genius, as well as the unbelievable sales history of Programming and Customizing the PIC Microcontroller, this book will combine the format of the evil genius title with the following of the microcontroller audience for a sure-fire hit.

This work looks under the hood of all robotic projects, stimulating teachers, students, and hobbyists to learn more about the gamut of areas associated with control systems and robotics. It offers a unique presentation in providing both theory and philosophy in a technical yet entertaining way.

The Fiendishly Fun Way to Master Electronic Circuits! Fully updated throughout, this wickedly inventive guide introduces electronic circuits and circuit design, both analog and digital, through a series of projects you'll complete one simple lesson at a time. The separate lessons build on each other and add up to projects you can put to practical use. You don't need to know anything about electronics to get started. A pre-assembled kit, which includes all the components and PC boards to complete the book projects, is available separately from ABRA electronics on Amazon. Using easy-to-find components and equipment, Electronic Circuits for the Evil Genius, Second Edition, provides hours of rewarding--and slightly twisted--fun. You'll gain valuable experience in circuit construction and design as you test, modify, and observe your results--skills you can put to work in other exciting circuit-building projects. Electronic Circuits for the Evil Genius: Features step-by-step instructions and helpful illustrations Provides tips for customizing the projects Covers the underlying electronics principles behind the projects Removes the frustration factor--all required parts are listed, along with sources Build these and other devious devices: Automatic night light Light-sensitive switch Along-to-digital converter Voltage-controlled oscillator Op amp-controlled power amplifier Burglar alarm Logic gate-based toy Two-way intercom using transistors and op amps Each fun, inexpensive Genius project includes a detailed list of materials, sources for

parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze. Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists. UNDERSTAND, MAINTAIN, AND IMPROVE THE ELECTRICAL AND ELECTRONIC SYSTEMS IN YOUR HOME AND AUTO If you've ever felt lost when choosing a home entertainment system, wondered how to test an electrical outlet to see if it's grounded, or puzzled over how to make the Wi-Fi in the front room reach the back—then this book is for you! Making Everyday Electronics Work: A Do-It-Yourself Guide explains how electricity works and shows you how to take care of the electronics and electrical systems around your house. Save time and money by doing your own electrical diagnostics with help from this practical resource! Learn how to measure electrical current strength, test for electromagnetic interference, and trace failures in circuits. Save power and even replace your current power source with alternative forms of energy. And don't let a tangle of cables and an alphabet-soup of electronics terms keep you from installing a new entertainment system. You'll learn all the practical information you need to know in this easy-to-understand book! Learn the basics of electronics--DC/AC, batteries, power supplies, electromagnetics, semiconductors, digital logic, taking electrical measurements, and more Assemble a practical workbench and acquire essential tools for DIY testing and repairs Manage your breaker or fuse box, circuits, and outlets Explore alternative electricity sources such as generators, fuel cells, and solar, wind, and hydro power Learn how your car or truck's electrical system works Successfully set up a hi-fi stereo, TV, or home theater system Resolve problems with interference among wireless devices

* Everything the hobbyist needs to build more than 21 inexpensive "evil genius" electronic devices * Each chapter contains a detailed list of materials, sources for obtaining parts, schematics, documentation, and instructions for assembly * Projects include an ultrasonic microphone, body heat detector, lightning bolt generator, infrared viewer, and a Star Wars light saber The purpose of "Evil Genius" is to create an entertaining book made up of a series of projects that will explain electronics from static electricity (rubbing a balloon) to developing robots. The book will include the tools necessary for the reader to create the projects in the book at very little cost or inconvenience. The book will be divided into 19 sections, each one with two or more projects. The introduction to each section will take up two pages, as well as the "For Consideration" at the end. The section introduction and "For Consideration" will explain the history, theory, and parts in the section. Each project will use material readily available at "Radio Shack", "Wal-Mart", "Home Depot" and "Toys R Us". In some cases, the reader will have to go to Digi-Key or Jameco. It will also focus on using prebuilt components where ever possible along with using common chips instead of building circuits out of discrete components. The major sections are: -Start here-Basic electronics-Semiconductors-Applied electronics-Digital electronics-The PIC micro microcontroller and "C" programming language-Games and applications-Robot muscles-Robot sensors-Robot structures-Sample robot applications Plans, diagrams, schematics, and lists of parts and tools for model rocket projects.

Publisher's Note: Products purchased from Third Party sellers are not guaranteed by the publisher for quality, authenticity, or access to any online entitlements included with the product. The Evil Genius meets the Bionic Woman in this wildly cool book detailing all the parts, circuits, tools and know-how needed to build 25 bionic experiments The best-selling Evil Genius format provides hobbyists with a fun and inexpensive way to learn bionics via 25 complete projects. Once the focus of popular 70's TV, bionics (integrating mechanical and electronic materials with living matter) are being used more than ever to replace or repair physiological or anatomical functions or disorders.

EVIL NEVER SOUNDED SO CLEAR Listen up! Telephone Projects for the Evil Genius has everything you need to build and customize both wired and wireless phone gadgets that not only save you money, but also improve the quality of your life! Using easy-to-find parts and tools for creating both retro and modern phone projects, this do-it-yourself guide begins with some background on the development of the landline phone and the cell. You'll review basic building techniques, such as installing components, building circuits, and soldering. Then you'll dive into the projects, which, while they range from easy to complex, are all designed to optimize your time and simplify your life! Telephone Projects for the Evil Genius: Features step-by-step instructions for 40 clever and practical phone projects, complete with 150 how-to illustrations Shows you how to enhance both wire-connected phones and cell phones Leaves room for you to customize your projects Removes the frustration-factor-all the parts you need are listed, along with sources From simple phone gadgets to sophisticated remote control devices, Telephone Projects for the Evil Genius provides you with all the schematics, charts, and tables you need to complete such fun projects as: Ringing phone light flasher Telephone amplifier Telephone ring-controlled relay Remote telephone bell project Touch tone generator Phone voice scrambler Caller ID decoder project TeleAlert phone pager and control Wireless remote phone ringer Conferencer And much more!

A complete and up-to-date op amp reference for electronics engineers from the most famous op amp guru.

CREATE RADICAL NEW RIDES WITH THESE OUTLANDISH PROJECTS!./p> Want to take your evil talents on the road? Bike, Scooter, and Chopper Projects for the Evil Genius has everything you need to morph your old, unwanted wheels into fabulous, fully functional vehicles. Now you can fuel your artistic side, conserve energy, and get where you need to go with serious attitude! Dozens of pictures throughout the building process help you create these rad rides, some that you power yourself and some that will propel you for extensive distances with just the push of a button, running on inexpensive power obtained from a wall socket or the sun. Each project can be modified, mixed together, and customized, enabling you to create literally hundreds of new devices-the only limit is your imagination! Features illustrated instructions and plans for more than 13 highly detailed projects, all of which can be built using easily available parts and a few basic tools. Shows you how to completely dismantle a standard bicycle in order to twist it into something much more evil. Gives you alternative design ideas that leave room for you to mix or change the projects to suit your own evil agenda. Learn new skills and look cool - this book is for everyone with a desire to chop and create. Garage hackers unite! Regardless of your skill level, Bike, Scooter, and Chopper Projects for the Evil Genius will arm you with the skills you need in order to churn out your very own evil rides. Have a look at what is on our Evil Genius drawing board... Attitude and Style Gladiator Chopper Trike Old Skool Attitude The Whipper Snapper Speed and Comfort StreetFox Tadpole Trike DeltaWolf Racing Trike Little Warrior Trike Alternative Transportation Ucan2 HandCycle SpinCycle Vortex SkyStyle Tallbike Electric Power Sparky MiniBike LongRanger Bike Silent Speedster Kids Electric Trike

UNLEASH YOUR INNER MAD SCIENTIST! "Wonderful. I learned a lot reading the detailed but easy to understand instructions."--BoingBoing This wickedly inventive guide explains how to design and build 15 fiendishly fun electronics projects. Filled with photos and illustrations, 15 Dangerously Mad Projects for the Evil Genius includes step-by-step directions, as well as a construction primer for those who are new to electronics projects. Using easy-to-find components and equipment, this do-it-yourself book shows you how to create a variety of mischievous gadgets, such as a remote-controlled laser, motorized multicolored LEDs that write in the air, and a surveillance robot. You'll also learn to use the highly popular Arduino microcontroller board with three of the projects. 15 Dangerously Mad Projects for the Evil Genius: Features step-by-step instructions and helpful illustrations Covers essential safety measures Reveals the scientific principles behind the projects Removes the frustration factor--all required parts are listed, along with sources Build these devious devices to amaze your friends and confound your enemies! Coil gun Trebuchet Ping pong ball minigun Mini laser turret Balloon-popping laser gun Touch-activated laser sight Laser-grid intruder alarm Persistence-of-vision display Covert radio bug Laser voice transmitter Flash bomb High-brightness LED strobe Levitation machine Snailbot Surveillance robot Each fun, inexpensive Evil Genius project includes a detailed list of materials, sources for parts, schematics, and lots of clear, well-illustrated instructions for easy assembly. The larger workbook-style layout and convenient two-column format make following the step-by-step instructions a breeze. VIDEOS, PHOTOS, AND SOURCE CODE ARE AVAILABLE AT WWW.DANGEROUSLYMAD.COM Make Great Stuff! TAB, an imprint of McGraw-Hill Professional, is a leading publisher of DIY technology books for makers, hackers, and electronics hobbyists.

Design, build, and pilot custom drones?no prior experience necessary! This fun guide shows, step-by-step, how to construct powerful drones from inexpensive parts, add personalized features, and become a full-fledged pilot. DIY Drones for the Evil Genius: Design, Build, and Customize Your Own Drones not only covers safety, mechanics, drone design, and assembly, but also teaches the basics of Aerospace Engineering. You will discover how to add video transmitters, GPS, first-person view, and virtual reality goggles to your creations. The book walks you through the FAA licensing process and takes a look at advanced concepts, such as artificial intelligence and autonomous flight. • Learn about aircraft parts, control mechanics, and safety practices • Become an expert pilot—even handle flips and high-speed maneuvers • Pick the perfect parts for your high-performance drone • Find out how to solder and start assembling your drone • Program the aircraft, calibrate the motors, and start flying! • Add LED lights, GoPro mounts, and self-balancing camera gimbals • Explore the world of first-person-view (FPV) drones and high-speed racing • See how artificial intelligence can be put to use in the drone industry

Learn how to program robotic vehicles with ardupilot libraries and pixhawk autopilot, both of which are open source technologies with a global scope. This book is focused on quadcopters but the knowledge is easily extendable to three-dimensional vehicles such as drones, submarines, and rovers. Pixhawk and the ardupilot libraries have grown dramatically in popularity due to the fact that the hardware and software offer a real-time task scheduler, huge data processing capabilities, interconnectivity, low power consumption, and a global developer support. This book shows you how take your robotic programming skills to the next level. From hardware to software, Advanced Robotic Vehicles Programming links theory with practice in the development of unmanned vehicles. By the end of this book, you'll learn the pixhawk software and ardupilot libraries to develop your own autonomous vehicles. What You'll Learn Model and implement elementary controls in any unmanned vehicle Select hardware and software components during the design process of an unmanned vehicle Use other compatible hardware and software development packages Understand popular scientific and technical nomenclature in the field Identify relevant complexities and processes for the operation of an unmanned vehicle Who This Book Is For Undergraduate and graduate students, researchers, makers, hobbyists, and those who want to go beyond basic programming of an Arduino for any kind of robotic vehicle.

Author Tom Hedrick has elicited and gathered strategic and tactical advice from the top professionals in sportscasting. Over 76 top-notch sports broadcasting personalities share their experience and acquired wisdom, including Curt Gowdy, Ray Scott, Bob Costas, Jack Buck, Jim Nantz, Keith Jackson, Bob Starr, Joe Castiglione, Kevin Harlan, and Mitch Holthus. While their stories are enjoyable and motivating, these pros do more than reminisce. They itemize specific actions with lists of do's and don'ts and tips. Most importantly, they talk about the strong personal values and philosophies that are and have been essential to their success and to the journey for getting there.

Learn the five key skills needed to become a quadcopter developer: design, modeling, control, simulation, and implementation. This book provides a crash course on drone development for beginners and can also serve as a comprehensive reference for those who want a detailed guide for future projects. You'll review key features often missed in other books: a deeper review of controls, step by step modeling, and methods for simulating and designing drones. Although the quadcopter is used as the main example throughout the book, you'll also see how to apply the development knowledge to other aircrafts or aerial systems. Highly visual and easy to understand, this book features Simulink and Matlab tools, but the skills covered can be used in other environments such as Scilab or other programming languages. Drones To Go merges maker knowledge and technical information with scientific knowledge and design essentials. What You'll Learn Review the main families of control: geometric, linear, and common dynamic feedback control Understand the mathematics of a quadcopter Follow step-by-step instructions on modeling and control equations Focus on pedagogical development to answer any doubts in the design process Who This Book Is For Makers to scientists CREATE YOUR OWN SYNCHRONIZED ROBOT ARMY! PLAN, DESIGN, ASSEMBLE, AND PROGRAM ROBOT SQUADS THAT COMMUNICATE and cooperate with each other to accomplish together what they can't do individually. Build Your Own Teams of Robots with LEGO MINDSTORMS NXT and Bluetooth shows you how to construct a team capability matrix (TCM) and use the Bluetooth Robotic-Oriented Network (BRON) so your robot teams can share sensors, actuators, end effectors, motor power, and programs. Find out how the Bluetooth communications protocol

works and how to program Bluetooth in NXT-G, NXC, LabVIEW, and Java. Learn how to send and receive Bluetooth messages, data, and commands among robots, between a robot and a computer, and between an Android smart phone and a robot. Through teamwork, your robots will be able to accomplish amazing feats! THE STEP-BY-STEP ROBOT TEAM PROJECTS IN THE BOOK INCLUDE: * Crime Scene Investigation Robot Team * Robot Convoy * Rubik's Cube Solver LEARN HOW TO: Coordinate multiple robots to work together as a team to perform tasks Combine two or more microcontrollers to make a single, multicontroller/multi-agent robot Take advantage of sensor and actuator capabilities in a team environment Establish goals and teamwork strategies for your robots Control your robot teams with NXT-G Bluetooth bricks and LabVIEW for NXT Bluetooth VI Activate your team using a smart phone Give your team of robots Java power with leJOS Use Java on the Linux and Darwin operating systems Watch video demonstrations of the projects and download code and examples in multiple languages (NXT-G, Java, LabVIEW, and NXC) from the book's companion website at www.robotteams.org. Downloads are also available at mhprofessional.com/robotteams.

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