

Usb Complete

"How much do you need to know about electronics to create something interesting, or creatively modify something that already exists? If you're in a technical field such as software development, and don't have much experience with electronics components, this hands-on reference helps you find answers to technical questions quickly. Filling the gap between a beginner's primer and a formal textbook, Practical Electronics: Components and Techniques explores aspects of electronic components and techniques that you would typically learn on the job and from years of experience. Even if you've worked with electronics, or have a background in electronics theory, you're bound to find important information that you may not have encountered before. Among the book's many topics, you'll discover how to: Read the data sheet for an electronic component ; Use a variety of tools involved with electronics work ; Assemble various types of connectors ; Minimize noise and interference on a signal interface circuit. Explore topics not usually covered in theoretical books, and go deeper into practical aspects than a step-by-step, project-oriented approach, with Practical Electronics: Components and Techniques." --

The quick way to learn Windows 10 This is learning made easy. Get more done quickly with Windows 10. Jump in wherever you need answers--brisk lessons and colorful screenshots show you exactly what to do, step by step. Discover fun and functional Windows 10 features! Work with the new, improved Start menu and Start screen Learn about different sign-in methods Put the Cortana personal assistant to work for you Manage your online reading list and annotate articles with the new browser, Microsoft Edge Help safeguard your computer, your information, and your privacy Manage

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connections to networks, devices, and storage resources

In this new, highly practical guide, expert embedded designer and manager Lewin Edwards answers the question, "How do I become an embedded engineer?" Embedded professionals agree that there is a treacherous gap between graduating from school and becoming an effective engineer in the workplace, and that there are few resources available for newbies to turn to when in need of advice and direction. This book provides that much-needed guidance for engineers fresh out of school, and for the thousands of experienced engineers now migrating into the popular embedded arena. This book helps new embedded engineers to get ahead quickly by preparing them for the technical and professional challenges they will face. Detailed instructions on how to achieve successful designs using a broad spectrum of different microcontrollers and scripting languages are provided. The author shares insights from a lifetime of experience spent in-the-trenches, covering everything from small vs. large companies, and consultancy work vs. salaried positions, to which types of training will prove to be the most lucrative investments. This book provides an expert's authoritative answers to questions that pop up constantly on Usenet newgroups and in break rooms all over the world.

- An approachable, friendly introduction to working in the world of embedded design
- Full of design examples using the most common languages and hardware that new embedded engineers will be likely to use every day
- Answers important basic questions on which are the best products to learn, trainings to get, and kinds of companies to work for

Biometrics-based authentication and identification are emerging as the most reliable method to authenticate and identify individuals. Biometrics requires that the person to be identified be physically present at the point-of-identification

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and relies on 'something which you are or you do' to provide better security, increased efficiency, and improved accuracy. Automated biometrics deals with physiological or behavioral characteristics such as fingerprints, signature, palmprint, iris, hand, voice and face that can be used to authenticate a person's identity or establish an identity from a database. With rapid progress in electronic and Internet commerce, there is also a growing need to authenticate the identity of a person for secure transaction processing. Designing an automated biometrics system to handle large population identification, accuracy and reliability of authentication are challenging tasks. Currently, there are over ten different biometrics systems that are either widely used or under development. Some automated biometrics, such as fingerprint identification and speaker verification, have received considerable attention over the past 25 years, and some issues like face recognition and iris-based authentication have been studied extensively resulting in successful development of biometrics systems in commercial applications. However, very few books are exclusively devoted to such issues of automated biometrics. *Automated Biometrics: Technologies and Systems* systematically introduces the technologies and systems, and explores how to design the corresponding systems with in-depth discussion. The issues addressed in this book are highly relevant to many fundamental concerns of both researchers and practitioners of automated biometrics in computer and system security.

USB Complete: The Developer's Guide, Fifth Edition
Lakeview Research LLC

Gain the Sybex advantage with this complete guide to A+ certification The CompTIA A+ Complete Study Guide is your complete solution for A+ exam preparation. Covering 100% of Exam 220-901 and Exam 220-902 objectives, this book gives

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you everything you need to ensure that you not only understand the basics of IT, but that you can demonstrate your understanding effectively. Now in its third edition, this guide has been updated to reflect the exam's new focus. Coverage includes the latest best practices, Windows 8/8.1 and mobile OSes, and an emphasis on the practical skills required on the job. Clear and concise, this book helps you solidify your understanding of crucial hardware and operating system maintenance and troubleshooting topics covered on the exam. You also gain access to the Sybex exclusive online interactive learning environment and test bank, featuring bonus practice exams, electronic flashcards, and a searchable PDF glossary of the most important terms you need to understand. The CompTIA A+ certification is the essential computer technician credential, and is required by over 100 leading employers. This book helps you prepare and practice so you can approach the exam with confidence, and pass with flying colors. Review the components of personal computers, laptops, and portable devices Understand operating systems, networks, and security Get up to speed on safety and environmental issues Practice effective communication and the "soft skills" of professionalism More than just a review of computer parts, this book covers everything you'll see on the exam. Why go in unprepared when you can have the Sybex advantage? A guide to using embedded systems with Ethernet covers such topics as hardware and firmware, TCP/IP protocols, creating embedded Web sites, local networks and the Internet, and sending and receiving e-mail using SMTP and POP3.

Approximately 80 percent of the world's population now owns a cell phone, which can hold evidence or contain logs about communications concerning a crime. Cameras, PDAs, and GPS devices can also contain information related to

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corporate policy infractions and crimes. Aimed to prepare investigators in the public and private sectors, Digital Forensics for Handheld Devices examines both the theoretical and practical aspects of investigating handheld digital devices. This book touches on all areas of mobile device forensics, including topics from the legal, technical, academic, and social aspects of the discipline. It provides guidance on how to seize data, examine it, and prepare it as evidence for court. This includes the use of chain of custody forms for seized evidence and Faraday Bags for digital devices to prevent further connectivity and tampering of evidence. Emphasizing the policies required in the work environment, the author provides readers with a clear understanding of the differences between a corporate investigation and a criminal investigation. The book also: Offers best practices for establishing an incident response policy and seizing data from company or privately owned digital devices Provides guidance in establishing dedicated examinations free of viruses, spyware, and connections to other devices that could taint evidence Supplies guidance on determining protocols for complicated crime scenes with external media and devices that may have connected with the handheld device Considering important privacy issues and the Fourth Amendment, this book facilitates an understanding of how to use digital forensic tools to investigate the complete range of available digital devices, including flash drives, cell phones, PDAs, digital cameras, and netbooks. It includes examples of commercially available digital forensic tools and ends with a discussion of the education and certifications required for various careers in mobile device forensics. Provides information on writing a driver in Linux, covering such topics as character devices, network interfaces, driver debugging, concurrency, and interrupts.

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Praised by instructors for its concise, focused approach and user-friendly format, the Illustrated Series engages both computer rookies and hot shots in mastering MICROSOFT ACCESS 2013 quickly and efficiently. Skills are accessible and easy-to-follow thanks to the Illustrated Series' hallmark 2-page layout, which allows students to see an entire task in one view. New Learning Outcomes outline the skills covered in each lesson, and larger full-color screens represent exactly what students should see on their own computers. Each unit begins with a brief overview of the principles of the lesson, and introduces a case study for further application. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

This unique guide goes beyond all the USB specification overviews to provide designers with the expert knowledge and skills they need to design and implement USB I/O devices.

Updated and revised to reflect the most current data in the field, perennial bestseller *The Essentials of Computer Organization and Architecture, Fourth Edition* is comprehensive enough to address all necessary organization and architecture topics, but concise enough to be appropriate for a single-term course. Its focus on real-world examples and practical applications encourages students to develop a "big-picture" understanding of how essential organization and architecture concepts are applied in the computing world. In addition to direct correlation with the ACM/IEEE CS2013 guidelines for computer organization and

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architecture, the text exposes readers to the inner workings of a modern digital computer through an integrated presentation of fundamental concepts and principles. The fully revised and updated Fourth Edition includes the most up-to-the-minute data and resources available and reflects current technologies, including tablets and cloud computing. All-new exercises, expanded discussions, and feature boxes in every chapter implement even more real-world applications and current data, and many chapters include all-new examples. A full suite of student and instructor resources, including a secure companion website, Lecture Outlines in PowerPoint Format, and an Instructor Manual, complement the text. This award-winning, best-selling text is the most thorough, student-friendly, and accessible text on the market today.

Key Features:

- * The Fourth Edition is in direct correlation with the ACM/IEEE CS2013 guidelines for computer organization and architecture, in addition to integrating material from additional knowledge units.
- * All-new material on a variety of topics, including zetabytes and yottabytes, automata, tablet computers, graphic processing units, and cloud computing
- * The MARIE Simulator package allows students to learn the essential concepts of computer organization and architecture, including assembly language, without getting caught up in unnecessary and confusing details.
- * Full suite of ancillary materials, including a secure companion website, PowerPoint lecture outlines, and an Instructor Manual
- * Bundled with an optional Intel supplement

Ideally suited for single-term courses

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For the first time in a single reference, this book provides the beginner with a coherent and logical introduction to the hardware and software of the PIC32, bringing together key material from the PIC32 Reference Manual, Data Sheets, XC32 C Compiler User's Guide, Assembler and Linker Guide, MIPS32 CPU manuals, and Harmony documentation. This book also trains you to use the Microchip documentation, allowing better life-long learning of the PIC32. The philosophy is to get you started quickly, but to emphasize fundamentals and to eliminate "magic steps" that prevent a deep understanding of how the software you write connects to the hardware. Applications focus on mechatronics: microcontroller-controlled electromechanical systems incorporating sensors and actuators. To support a learn-by-doing approach, you can follow the examples throughout the book using the sample code and your PIC32 development board. The exercises at the end of each chapter help you put your new skills to practice. Coverage includes: A practical introduction to the C programming language Getting up and running quickly with the PIC32 An exploration of the hardware architecture of the PIC32 and differences among PIC32 families Fundamentals of embedded computing with the PIC32, including the build process, time- and memory-efficient programming, and interrupts A peripheral reference, with extensive sample code covering digital input and output, counter/timers, PWM, analog input, input capture, watchdog timer, and communication by the parallel master port, SPI, I2C, CAN, USB, and UART An introduction to the Microchip Harmony programming

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framework Essential topics in mechatronics, including interfacing sensors to the PIC32, digital signal processing, theory of operation and control of brushed DC motors, motor sizing and gearing, and other actuators such as stepper motors, RC servos, and brushless DC motors For more information on the book, and to download free sample code, please visit <http://www.nu32.org> Extensive, freely downloadable sample code for the NU32 development board incorporating the PIC32MX795F512H microcontroller Free online instructional videos to support many of the chapters

Developers who want to access USB devices from their embedded systems will find a helpful resource in *USB Embedded Hosts: The Developer's Guide*. This new book from the author of *USB Complete* shows how small systems can take advantage of the same wealth of USB devices available to conventional PCs. The book begins with a review of USB host communication protocols. Readers then learn which USB host requirements are relaxed for embedded systems and what new requirements some embedded systems must meet. To help in selecting a development platform, the book explores available hardware and software for USB host communications in small systems. The heart of the book focuses on communicating with USB devices. The topics (with example code) include USB drives, keyboards, virtual serial ports, network bridges, mics, speakers, video cameras, and printers, plus devices that don't fit defined USB classes. Also discussed are systems that support both USB host and device functions. The

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example code is written for the BeagleBoard-xM open development board using a distribution of Linux targeted to small systems. Also covered is how to use Linux commands and utilities to learn about, monitor, and debug communications with USB devices.

Provides advice for Visual Basic programmers attempting to interface hardware through standard ports. This is a "How-To" book which explains, with hands-on examples, how to design and implement a SuperSpeed USB peripheral that can interface to your hardware using a 32-bit 100MHz bus with standard or custom protocols. The book is based on the Cypress FX3 SuperSpeed Device and the firmware examples are written around a low-cost SuperSpeed Explorer board and a companion CPLD board which are available from www.cypress.com/fx3book. The software examples are written for the Windows operating system and the CPLD examples are written in Verilog. The source code for all of the examples is downloadable from the book web site. If you currently think that SuperSpeed USB design is only for the elite then look inside this book and discover that SuperSpeed technology has now been made accessible to the rest of us!

Developers who design and program USB devices have a new resource in the fifth edition of USB Complete: The Developer's Guide. This edition adds an introduction to USB 3.1 and SuperSpeedPlus bus, which offers a 2x increase in bus speed over USB 3.0's SuperSpeed. For designs that don't require USB 3.1's capabilities, the book also covers USB 2.0 technology and applications. USB Complete Fifth Edition bridges the gap between the technical specifications and the real world of design and programming. Author Jan

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Axelsson distills the fundamentals of the protocols and guides developers in choosing device hardware, deciding whether to target a USB class driver or another host driver, and writing device firmware and host applications. Example code in Visual C# shows how to detect and access USB devices and how to program and communicate with vendor-defined devices that use the human-interface-device (HID) class driver and Microsoft's WinUSB driver. Also covered are how to use bus power, including new advanced power delivery capabilities, wireless communications for USB devices, and developing embedded hosts, including dual-role USB On-The-Go devices. Programmers and hardware designers can rely on USB Complete's Fifth Edition to help get projects up and running quickly. Students and hobbyists will learn how to use the interface built into every PC. Instructors will find inspiration and guidance for class projects.

Provides information on designing devices that share and store data with PCs and other USB hosts.

The latest edition in a series of woodworking reference books provides comprehensive coverage of woodworking fundamentals, including 1,200 easy-to-follow photographs and drawings. 12,500 first printing.

Unboxing Android USB focuses on apps that use USB. This book covers everything starting from simple tasks like managing media with USB to complex tasks like Android ADB and developing application which exploit the potential of USB framework. With use cases that help developers build real world apps in real-time utilizing the advanced features of USB framework Unboxing Android USB tries to cover every single aspect of the app development cycle in totality. Unboxing Android USB helps you learn newly introduced android open accessory protocol with unique examples such as using USB Keyboard with Android device without USB host mode enabled and switching from MTP to MSC. The book is

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organized based on the USB functions, with each chapter explaining different USB classes available in Android. The functionalities are explained by starting from the USB specification followed by block diagrams that explain different blocks available in that USB class, followed by sequence diagram that elucidates flow of control and data. Each chapter has a unique sample Android application that uses the particular USB function.

When PCs and peripherals began showing up with USB ports in the late 1990s, many predicted that legacy serial (COM) ports would soon be obsolete. The predictions were wrong. While most standard peripherals now use USB, serial ports are the interface of choice for devices that require simple programming, long cables, operation in harsh environments, or basic networking capabilities. Serial ports are more versatile than ever due to developments such as USB virtual COM ports, the .NET SerialPort class, enhanced microcontroller USARTs, and new wireless interfaces. Serial Port Complete Second Edition is a completely revised and updated guide to programming and interfacing to COM ports, USB virtual COM ports, and serial ports in embedded systems. Author Jan Axelson shows how to: § Access COM ports using the SerialPort class in Microsoft's .NET Framework. § Program embedded systems for serial-port communications. § Design and program USB devices accessed as virtual COM ports. § Upgrade RS-232 designs to USB with no changes to host software or device firmware. § Design circuits for electrically harsh environments. § Create serial networks of embedded systems and PCs. § Use serial ports in wireless links. Example code is provided for PCs and embedded systems in both Basic and C/C#. The author maintains a website with articles, program code, and other links of interest to developers of serial-port applications (janaxelson.com).

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A fact-packed, illustrated introduction to the human body and how it works. Full of extraordinary photographs plus activities and experiments to try, it explores everything from allergies to brain waves, from x-rays to zits.

Interviews and essays describe the way of life and crafts of pioneer America still surviving in the Appalachian region. A guide to using Linux on embedded platforms for interfacing to the real world. "Embedded Linux" is one of the first books available that teaches readers development and implementation of interfacing applications on an Embedded Linux platform.

Annotation An arsenal of study aids for anyone preparing to take the CompTIA A+ certification exams, this book is the industry standard in terms of measuring a technician's hardware and software knowledge. The topics covered include managing hardware, IT troubleshooting and maintenance, networking, and more.

This book aims to examine innovation in the fields of computer engineering and networking. The book covers important emerging topics in computer engineering and networking, and it will help researchers and engineers improve their knowledge of state-of-art in related areas. The book presents papers from The Proceedings of the 2013 International Conference on Computer Engineering and Network (CENet2013) which was held on 20-21 July, in Shanghai, China.

"This series of books is truly an important part of my library.... They are consistently accurate.... I would recommend them to anyone doing hardware design or support, as well as to any developers who write low-level system code." Paul Tomlinson "Windows Developer's Journal" "Universal Serial Bus System Architecture" "provides an in-depth discussion of USB and is based on the 1.0 version of the Universal Serial Bus specification. It focuses on the USB protocol, signaling

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environment, and electrical specifications, along with the hardware/software interaction required to configure and access USB devices. Although this book does not focus on writing USB device drivers, it does contain useful background information that aids in understanding the USB software environment. Key topics include: differential signaling environment device configuration suspend/resume operations device descriptors device requests (commands) transfer mechanisms USB transaction protocols bus-powered devices self-powered devices host controller designs (UHC and OHC) error detection and handling device class definitions If you design or test hardware or software that involves USB, "Universal Serial Bus System Architecture "is an essential, time-saving tool. The "PC System Architecture Series" is a crisply written and comprehensive set of guides to the most important PC hardware standards. Each title is designed to illustrate the relationship between the software and hardware and explains thoroughly the architecture, features, and operations of systems built using one particular type of chip or hardware specification. MindShare Inc.is one of the leading technical training companies in the computer industry, providing innovative courses for dozens of companies, including Intel, IBM, and Compaq. Don Anderson passes on his wealth of experience in digital electronics and computer design by training engineers, programmers, and technicians for MindShare. 0201461374B04062001

From 9/11 to Charlie Hebdo along with Sony-pocalypse and DARPA's \$2 million Cyber Grand Challenge, this book examines counterterrorism and cyber security history, strategies and technologies from a thought-provoking approach that encompasses personal experiences, investigative journalism, historical and current events, ideas from thought leaders and the make-believe of Hollywood such as 24, Homeland and The Americans. President Barack

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Obama also said in his 2015 State of the Union address, "We are making sure our government integrates intelligence to combat cyber threats, just as we have done to combat terrorism. In this new edition, there are seven completely new chapters, including three new contributed chapters by healthcare chief information security officer Ray Balut and Jean C. Stanford, DEF CON speaker Philip Polstra and security engineer and Black Hat speaker Darren Manners, as well as new commentaries by communications expert Andy Marken and DEF CON speaker Emily Peed. The book offers practical advice for businesses, governments and individuals to better secure the world and protect cyberspace.

This guide takes the pain out of designing for this popular interface with specific, detailed examples that show how to develop USB devices and the applications that communicate with them. How the USB communicates with the PC, deciding if a project should use a USB interface, choosing a USB controller chip for peripheral design, and determining code with Windows applications are covered in detail.

Have you ever wondered how to use the USB hardware to send and receive data from an attached device? Wondered how to detect and initialize the controller, retrieve the device's descriptors, configure the device, and then communicate with it to send or retrieve its data? This book explains the ins and outs of the four major controllers, starting with the UHCI, OHCI, EHCI, and then the new Super Speed xHCI Controller. It explains in detail how to communicate with the various devices such as HID mice and keyboards, mass storage devices, including UASP devices, printers, and other USB devices. If you are interested in working with bare hardware to communicate with the USB, with no operating system to get in the way, you don't need to look any further. This book does not need to be on the shelf every USB enthusiast, it needs to be right on the desk. Third Edition -- 20180420

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BlackBerry smart phones aren't just for business. In fact, throw away that boring spreadsheet, tear up that yearly budget report—the BlackBerry is a lean, mean game-playing machine. Carol Hamer and Andrew Davison, expert software game developers, show you how to leverage the BlackBerry Java™ Development Environment (based on Java ME) to design and create fun, sophisticated game applications from role playing to dueling with light sabers. The BlackBerry: not as clumsy or as random as a blaster—an elegant device, for a more civilized age. In this book, Carol and Andrew give you the professional techniques you need to use music, 2D and 3D graphics, maps, and game design patterns to build peer-to-peer games, role playing games, and more for the BlackBerry.

8115C-5.TXT The complete guide to the revolutionary new USB standard. Written for everyone—from users to engineers. Operating system support and troubleshooting techniques. USB hubs, bus interconnects, devices, hosts, protocols, and more. The new Universal Serial Bus standard handles everything from joysticks to live video, all at breathtaking speeds. USB devices are coming fast, and built-in USB support is a key feature of Windows 98. Now there's a complete guide to making the most of this hot new connectivity standard: *Universal Serial Bus Explained*. Co-authored by the best-selling author of *RS-232 Made Easy*, this book is written in layman's terms for every interested computer user—and it's comprehensive enough to serve the needs of hardware and software developers. You'll find thorough coverage of: Setting up USB hardware and interfacing peripherals. USB protocols and data flow: what actually happens “on the wire.” A close look inside USB hubs, bus interconnects, devices, and hosts. Troubleshooting USB: Analyzing bus traffic and device configuration. USB support in Windows and other operating systems. *Universal*

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Serial Bus Explained shows how the USB standard delivers easy peripheral expansion, fast data transfer, guaranteed bandwidth for multimedia, low cost, true “plug-and-play” support, and a whole lot more. It answers today's most frequently asked questions about USB and the new generation of devices that utilize it. Detailed appendices provide more information about the USB specification; Internet-based resources, periodicals and technical conferences; and an extensive source list for USB devices and software. Whether you want to use USB devices or invent them, this is the only USB book you'll ever need.

The first comprehensive guide to discovering and preventing attacks on the Android OS As the Android operating system continues to increase its share of the smartphone market, smartphone hacking remains a growing threat. Written by experts who rank among the world's foremost Android security researchers, this book presents vulnerability discovery, analysis, and exploitation tools for the good guys. Following a detailed explanation of how the Android OS works and its overall security architecture, the authors examine how vulnerabilities can be discovered and exploits developed for various system components, preparing you to defend against them. If you are a mobile device administrator, security researcher, Android app developer, or consultant responsible for evaluating Android security, you will find this guide is essential to your toolbox. A crack team of leading Android security researchers explain Android security

risks, security design and architecture, rooting, fuzz testing, and vulnerability analysis Covers Android application building blocks and security as well as debugging and auditing Android apps Prepares mobile device administrators, security researchers, Android app developers, and security consultants to defend Android systems against attack Android Hacker's Handbook is the first comprehensive resource for IT professionals charged with smartphone security.

The Complete Book of Classic MG Cars covers all the marque's collectible production saloons and sports cars, from the 14/28 and 14/40 sports cars to the iconic postwar convertibles like the MGA and MGB, as well as latter-day takes on the classic MG formula, such as the RV8. First produced in Oxford, England, in 1924, MG cars proved instantly appealing, with a cheeky spirit that would win the hearts of millions around the globe, not least of all in the United States. This was due in no small part to the fact that the price was as attractive as the styling and the performance. Inexpensive and fun became quintessential MG traits. In this installment of Motorbooks' Complete Book series, author Ross Alkureishi offers a chronological model-by-model marque history. Narratives discuss design, production, and technology, while specification tables highlight key technical and performance data. Hundreds of photos illustrate the vehicles and even

include detail shots of engine bays and interiors. Originally formed as a side business, MG became one of the world's most recognized car brands. From prewar saloons to fast and affordable two-seat sports cars in the pre- and postwar periods, MG has exuded fun, thanks to models like the Midgets and Magnettes, the traditionally styled T-Types, and the vehicles that would become the marque's most recognizable: the MGA, MGB, and MGC. MG would undergo several ownership changes throughout the years, and Alkureishi expertly shows how different ownership groups affected MG cars, good or bad. Along the way, the company competed on racetracks around the world, and Alkureishi describes the most successful of these exploits in complementary sidebars. *The Complete Book of Classic MG Cars* is the essential guide to this important chapter in the history of motoring. *Understanding the Machine*, the first volume in the landmark *Write Great Code* series by Randall Hyde, explains the underlying mechanics of how a computer works. This, the first volume in Randall Hyde's *Write Great Code* series, dives into machine organization without the extra overhead of learning assembly language programming. Written for high-level language programmers, *Understanding the Machine* fills in the low-level details of machine organization that are often left out of computer science and engineering courses. Learn: • How the

machine represents numbers, strings, and high-level data structures, so you'll know the inherent cost of using them. • How to organize your data, so the machine can access it efficiently. • How the CPU operates, so you can write code that works the way the machine does. • How I/O devices operate, so you can maximize your application's performance when accessing those devices. • How to best use the memory hierarchy to produce the fastest possible programs. Great code is efficient code. But before you can write truly efficient code, you must understand how computer systems execute programs and how abstractions in programming languages map to the machine's low-level hardware. After all, compilers don't write the best machine code; programmers do. This book gives you the foundation upon which all great software is built.

NEW IN THIS EDITION, COVERAGE OF: •

Programming languages like Swift and Java • Code generation on modern 64-bit CPUs • ARM processors on mobile phones and tablets • Newer peripheral devices • Larger memory systems and large-scale SSDs

Rather than yet another project-based workbook, *Arduino: A Technical Reference* is a reference and handbook that thoroughly describes the electrical and performance aspects of an Arduino board and its software. This book brings together in one place all the information you need to get something done

with Arduino. It will save you from endless web searches and digging through translations of datasheets or notes in project-based texts to find the information that corresponds to your own particular setup and question. Reference features include pinout diagrams, a discussion of the AVR microcontrollers used with Arduino boards, a look under the hood at the firmware and run-time libraries that make the Arduino unique, and extensive coverage of the various shields and add-on sensors that can be used with an Arduino. One chapter is devoted to creating a new shield from scratch. The book wraps up with detailed descriptions of three different projects: a programmable signal generator, a "smart" thermostat, and a programmable launch sequencer for model rockets. Each project highlights one or more topics that can be applied to other applications.

Learn how to develop your own applications to monitor or control instrumentation hardware. Whether you need to acquire data from a device or automate its functions, this practical book shows you how to use Python's rapid development capabilities to build interfaces that include everything from software to wiring. You get step-by-step instructions, clear examples, and hands-on tips for interfacing a PC to a variety of devices. Use the book's hardware survey to identify the interface type for your particular device, and then follow detailed examples

to develop an interface with Python and C. Organized by interface type, data processing activities, and user interface implementations, this book is for anyone who works with instrumentation, robotics, data acquisition, or process control. Understand how to define the scope of an application and determine the algorithms necessary, and why it's important Learn how to use industry-standard interfaces such as RS-232, RS-485, and GPIB Create low-level extension modules in C to interface Python with a variety of hardware and test instruments Explore the console, curses, TkInter, and wxPython for graphical and text-based user interfaces Use open source software tools and libraries to reduce costs and avoid implementing functionality from scratch

In part two of bestselling author and national radio host Medved's sweeping historical narrative, this volume reveals moments of divine destiny in U.S. history from the civil war to modern day.

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