Pic Basic Projects 30 Projects Using Pic Basic And Pic Basic Pro

Go beyond the jigsaw approach of just using blocks of code you don't understand and become a programmer who really understands how your code works. Starting with the fundamentals on C programming, this book walks you through where the C language fits with microcontrollers. Next, you'll see how to use the industrial IDE, create and simulate a project, and download your program to an actual PIC microcontroller. You'll then advance into the main process of a C program and explore in depth the most common commands applied to a PIC microcontroller and see how to use the range of control registers inside the PIC. With C Programming for the PIC Microcontroller as your guide, you'll become a better programmer who can truly say they have written and understand the code they use. What You'll Learn Use the freely available MPLAX software Build a project and write a program using inputs from switches Create a variable delay with the oscillator source Measure real-world signals using pressure, temperature, and speed inputs Incorporate LCD screens into your projects Apply what you've learned into a simple embedded program Who This Book Is For Hobbyists who want to move into the challenging world of embedded programming or students on an engineering course.
Covering the PIC BASIC and PIC BASIC PRO compilers, PIC Basic Projects provides an easy-to-use

toolkit for developing applications with PIC BASIC. Numerous simple projects give clear and concrete examples of how PIC BASIC can be used to develop electronics applications, while larger and more advanced projects describe program operation in detail and give useful insights into developing more involved microcontroller applications. Including new and dynamic models of the PIC microcontroller, such as the PIC16F627, PIC16F628, PIC16F629 and PIC12F627, PIC Basic Projects is a thoroughly practical, hands-on introduction to PIC BASIC for the hobbyist, student and electronics design engineer. Packed with simple and advanced projects which show how to program a variety of interesting electronic applications using PIC BASIC Covers the new and powerful PIC16F627, 16F628, PIC16F629 and the PIC12F627 models 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

Essential Design Techniques From the Workbench of a Pro Harness the power of the PIC microcontroller unit with practical, common-sense instruction from an engineering expert. Through eight real-world projects, clear illustrations, and detailed schematics, Making PIC Microcontroller Instruments and Controllers shows you, step-by-step, how to design and build versatile PIC-based devices. Configure all necessary hardware and software, read input voltages, work with control pulses, interface with peripherals, and debug your results. You'll also get valuable appendices covering technical terms, abbreviations, and a list of sample programs available online. Build a tachometer that gathers, processes, and displays data Make accurate metronomes using internal PIC timers Construct an asynchronous pulse counter that tracks marbles Read temperature information through an analog-to-digital converter Use a gravity sensor and servos to control the position of a table

Assemble an eight-point touch screen with an input scanning routine Engineer an adjustable, programmable single-point controller Capture, log, monitor, and store data from a solar collector

Includes over 100 specific financing mechanisms -- incorporating bilateral, international, regional, private, and country-specific sources -- designed to support domestic and foreign investment and trade in the Andean and Caribbean Basin regions. Includes the following information on financing sources: basic background, eligibility requirements, application procedures, and key contacts. Comprehensive!

Bring a robot to life without programming or assembly language skills! There's never been a better time to explore the world of the nearly human. With the complete directions supplied by popular electronics author John Iovine, you can: • Build your first walking, talking, sensing, thinking robot • Create 12 working robotic projects, using the fully illustrated instructions provided • Get the best available introduction to robotics, motion control, sensors, and neural intelligence • Put together basic modules to build sophisticated 'bots of your own design • Construct a robotic arm that responds to your spoken commands • Build a realistic, functional robotic hand • Apply sensors to detect bumps, walls, inclines , and roads • Give your robot expertise and neural intelligence You geteverything you need to create 12 exciting robotic projects using off-the-shelf products and workshop-built devices, including a complete parts list. Also ideal for anyone interested in electronic and motion control, this cult classic gives you the building blocks you

need to go practically anywhere in robotics.
This book is ideal for the engineer, technician, hobbyist and student who have knowledge of the basic principles of PIC microcontrollers and want to develop more advanced applications using the 18F series. The architecture of the PIC 18FXXX series as well as typical oscillator, reset, memory, and input-output circuits is completely detailed. After giving an introduction to programming in C, the book describes the project development cycle in full, giving details of the process of editing, compilation, error handling, programming and the use of specific development tools. The bulk of the book gives full details of tried and tested hands-on projects, such as the 12C BUS, USB BUS, CAN BUS, SPI BUS and real-time operating systems. A clear introduction to the PIC 18FXXX microcontroller's architecture 20 projects, including developing wireless and sensor network applications, using I2C BUS, USB BUS, CAN BUS and the SPI BUS, which give the block and circuit diagram, program description in PDL, program listing and program description Numerous examples of using developmental tools: simulators, in-circuit debuggers (especially ICD2) and emulators
This work provides a comprehensive introduction to the PIC family of microcontrollers. It begins with the basics of the PIC chip, and then demonstrates how PIC microcontrollers are architected, programmed and interfaced with the outside world. The book introduces the reader to microprocessor concepts common to all families of microcontrollers and demonstrates how to determine which microcontroller is most suitable. It also

contains more than 30 experiments and 12 complete projects demonstrating various PIC applications. An accompanying diskette provides the software tools needed to programme PIC applications on either DOS or Windows PCs.

PIC Projects and Applications Using C details how to program the PIC microcontroller in the C language. The book takes a learn-by-doing approach, with applications covering topics such as inputs, outputs, keypads, alphanumeric displays, analogue-to-digital conversion, radio transmitters and receivers, data EEPROM, interrupts and timing. To aid debugging, the book provides a section detailing the use of the simulator and in-circuit debugger. With this book you will learn: How to program the PIC microcontroller in C Techniques for using the simulator and debuggers to find faults on your code The ins and outs of interfacing circuits, such as radio modules and liquid crystal displays How to use the PIC on-board functions, such as interrupts and timing modules, and make analogue measurements Relevant parts of the language are introduced and explained when required for those new to the subject Core principles are introduced gradually for self-paced learning Explains how and why a software program works, and how to alter and expand the code

The Newnes Know It All Series takes the best of what our authors have written over the past few years and creates a one-stop reference for engineers involved in markets from communications to embedded systems and everywhere in between. PIC design and development a natural fit for this reference series as it is

one of the most popular microcontrollers in the world and we have several superbly authored books on the subject. This material ranges from the basics to more advanced topics. There is also a very strong project basis to this learning. The average embedded engineer working with this microcontroller will be able to have any question answered by this compilation. He/she will also be able to work through real-life problems via the projects contained in the book. The Newnes Know It All Series presentation of theory, hard fact, and project-based direction will be a continual aid in helping the engineer to innovate in the workplace. Section I. An Introduction to PIC Microcontrollers Chapter 1. The PIC Microcontroller Family Chapter 2. Introducing the PIC 16 Series and the 16F84A Chapter 3. Parallel Ports, Power Supply and the Clock Oscillator Section II. Programming PIC Microcontrollers using Assembly Language Chapter 4. Starting to Program—An Introduction to Assembler Chapter 5. Building Assembler Programs Chapter 6. Further Programming Techniques Chapter 7. Prototype Hardware Chapter 8. More PIC Applications and Devices Chapter 9. The PIC 1250x Series (8-pin PIC microcontrollers) Chapter 10. Intermediate Operations using the PIC 12F675 Chapter 11. Using Inputs Chapter 12. Keypad Scanning Chapter 13. Program Examples Section III. Programming PIC Microcontrollers using PicBasic Chapter 14. PicBasic and PicBasic Pro Programming Chapter 15. Simple PIC Projects Chapter 16. Moving On with the 16F876 Chapter 17. Communication Section IV. Programming PIC Microcontrollers using MBasic Chapter 18. MBasic

Compiler and Development Boards Chapter 19. The Basics—Output Chapter 20. The Basics—Digital Input Chapter 21. Introductory Stepper Motors Chapter 22. Digital Temperature Sensors and Real-Time Clocks Chapter 23. Infrared Remote Controls Section V. Programming PIC Microcontrollers using C Chapter 24. Getting Started Chapter 25. Programming Loops Chapter 26. More Loops Chapter 27. NUMB3RS Chapter 28. Interrupts Chapter 29. Taking a Look under the Hood Over 900 pages of practical, hands-on content in one book! Huge market - as of November 2006 Microchip Technology Inc., a leading provider of microcontroller and analog semiconductors, produced its 5 BILLIONth PIC microcontroller Several points of view, giving the reader a complete 360 of this microcontroller America is in the midst of a rental housing affordability crisis. More than a quarter of those that rent their homes spend more than half of their income for housing, even as city leaders across the United States have been busily dismantling the nation's urban public housing projects. In After the Projects, Lawrence Vale investigates the deeply-rooted spatial politics of public housing development and redevelopment at a time when lower-income Americans face a desperate struggle to find affordable rental housing in many cities. Drawing on more than 200 interviews with public housing residents, real estate developers, and community leaders, Vale analyzes the different ways in which four major American cities implemented the federal government's HOPE VI program for public housing transformation, while also providing a national picture of this program. Some cities

attempted to minimize the presence of the poorest residents in their new mixed-income communities, but other cities tried to serve as many low-income households as possible. Through examining the social, political, and economic forces that underlie housing displacement, Vale develops the novel concept of governance constellations. He shows how the stars align differently in each city, depending on community pressures that have evolved in response to each city's past struggles with urban renewal. This allows disparate key players to gain prominence when implementing HOPE VI redevelopment. A much-needed comparative approach to the existing research on public housing, After the Projects shines a light on the broad variety of attitudes towards public housing redevelopment in American cities and identifies ways to achieve more equitable processes and outcomes for low-income Americans.

This comprehensive tutorial assumes no prior experience with PICBASIC. It opens with an introduction to such basic concepts as variables, statements, operators, and structures. This is followed by discussion of the two most commonly used PICBASIC compilers. The author then discusses programming the most common version of the PIC microcontroller, the 15F84. The remainder of the book examines several real-world examples of programming PICs with PICBASIC. In keeping with the integrated nature of embedded technology, both hardware and software are discussed in these examples; circuit details are given so that readers may replicate the designs for themselves or use them as

the starting points for their development efforts. *Offers a complete introduction to programming the world's most commonly used microcontroller, the Microchip PIC, with the powerful but easy to use PICBASIC language *Gives numerous design examples and projects to illustrate important concepts *Accompanying CD contains the source files and executables discussed in the book as well as an electronic version of the book

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PIC in Practice is a graded course based around the practical use of the PIC microcontroller through project work. Principles are introduced gradually, through hands-on experience, enabling students to develop their understanding at their own pace. Dave Smith has based the book on his popular short courses on the PIC for professionals, students and teachers at Manchester Metropolitan University. The result is a graded text, formulated around practical exercises, which truly guides the reader from square one. The book can be used at a variety of levels and the carefully graded projects make it ideal for colleges, schools and universities. Newcomers to the PIC will find it a painless introduction, whilst electronics hobbyists will enjoy the practical nature of this first course in microcontrollers. PIC in Practice introduces applications using the popular 16F84 device as well as the 16F627, 16F877, 12C508, 12C629 and 12C675. In this new edition excellent coverage is given to the 16F818, with additional information on writing and documenting software. Gentle introduction to using PICs for electronic applications Principles and programming

introduced through graded projects Thoroughly up-to-date with new chapters on the 16F818 and writing and documenting programs

Here's everything the robotics hobbyist needs to harness the power of the PICMicro MCU! In this heavily-illustrated resource, author John Iovine provides plans and complete parts lists for 11 easy-to-build robots each with a PICMicro "brain." The expertly written coverage of the PIC Basic Computer makes programming a snap -- and lots of fun.

LET YOUR CREATIVE SIDE SHINE WITH THE COMPLETE DIY GUIDE TO MAKING EXCITING LED DEVICES Brilliant LED Projects presents 20 hands-on, step-by-step projects for you to make using inexpensive, commonly available components. Projects range from simple, functional devices, such as a "green" LED flashlight and a flashing rear bike light, to more complex designs, including color-changing disco lights and persistence-of-vision (POV) gadgets--all featuring easy-to-follow instructions, highlighted with detailed illustrations. Build with confidence using this book's expert guidance and practical information, including overviews of various LED components, comprehensive listings of tool and supplies, sample clock and driver circuit building blocks, and more. A companion website gives you access to exclusive content, including downloadable assembly codes and programming codes (for the projects powered by the PIC 16F628 microcontroller). Plus, every chapter spotlights key concepts and techniques that make it easy and enjoyable for you to produce eye-catching LED displays.

Great for first-timers and expert hobbyists alike All projects can be built with stripboard--no need to translate complicated schematics, or purchase special PCBs Includes extensive guidelines for safe assembly Learn the basic principles of every project component--from LEDs to dot-matrix displays and various integrated circuits Create your own designs using building blocks and assembly techniques from the book's projects Microcontrollers are present in many new and existing electronic products, and the PIC microcontroller is a leading processor in the embedded applications market. Students and development engineers need to be able to design new products using microcontrollers, and this book explains from first principles how to use the universal development language C to create new PIC based systems, as well as the associated hardware interfacing principles. The book includes many source code listings, circuit schematics and hardware block diagrams. It describes the internal hardware of 8-bit PIC microcontroller, outlines the development systems available to write and test C programs, and shows how to use CCS C to create PIC firmware. In addition, simple interfacing principles are explained, a demonstration program for the PIC mechatronics development board provided and some typical applications outlined. *Focuses on the C programming language which is by far the most popular for microcontrollers (MCUs) *Features Proteus VSMg the most complete microcontroller simulator on the market, along with CCS PCM C compiler, both are highly compatible with Microchip tools *Extensive downloadable content

including fully worked examples
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practical use of the PIC microcontroller through project
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on experience, enabling students to develop their
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the book on his popular short courses on the PIC for
professionals, students and teachers at Manchester
Metropolitan University. The result is a graded text,
formulated around practical exercises, which truly guides
the reader from square one. The book can be used at a
variety of levels and the carefully graded projects make it
ideal for colleges, schools and universities. Newcomers
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programming introduced through graded projects *
Thoroughly up-to-date with new chapters on the 16F818
and writing and documenting programs
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.

This book provides a hands-on introductory course on concepts of C programming using a PIC® microcontroller and CCS C compiler. Through a project-based approach, this book provides an easy to understand method of learning the correct and efficient practices to program a PIC® microcontroller in C language. Principles of C programming are introduced gradually, building on skill sets and knowledge. Early chapters emphasize the understanding of C language through experience and exercises, while the latter half of the book covers the PIC® microcontroller, its peripherals, and how to use those peripherals from within C in great detail. This book demonstrates the programming methodology and tools used by most professionals in embedded design, and will enable you to apply your knowledge and programming skills for any real-life application. Providing a step-by-step guide to the subject matter, this book will encourage you to alter, expand, and customize code for use in your own projects. A complete introduction to C programming using PIC microcontrollers, with a focus on real-world applications, programming methodology and tools Each chapter includes C code project

examples, tables, graphs, charts, references, photographs, schematic diagrams, flow charts and compiler compatibility notes to channel your knowledge into real-world examples Online materials include presentation slides, extended tests, exercises, quizzes and answers, real-world case studies, videos and weblinks

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Dit Engelstalige boek behandelt het gebruik van
Flowcode versie 6, een state-of-the-art, geheel
grafisch gebaseerde programmeeromgeving voor
het snel en eenvoudig ontwikkelen van PIC-
microcontroller-toepassingen. Het boek begint met
enkele eenvoudige projecten en stapsgewijze
instructies. Daarna wordt overgestapt naar meer
complexe projecten, waarbij de lezer wordt
geïnspireerd om vanuit een concept zelf een volledig
werkende PIC-gebaseerde schakeling te
ontwikkelen. Dankzij de gestructureerde presentaties
in het boek is elk project overzichtelijk opgezet en is
het voorzien van alle bijbehorende hardware- en
software-beschrijvingen, met schermafbeeldingen,

schema's en Flowcode-diagrammen. Het doel bij elk project is het verkrijgen van een goed inzicht in de werking van het project en de manier waarop dat is bereikt, met een sterke nadruk op de educatieve kant. Alle source-codes in het boek zijn beschikbaar als gratis download, inclusief de ondersteunende software. De bouwstenen voor de hardware bij de projecten in dit boek bestaan uit E-blocks, waardoor de opbouw gemakkelijk en betrouwbaar is zonder soldeerwerk. Alle projecten in dit boek zijn leuk om te bouwen en te gebruiken. Een geheime deurbel, een jeugdverjager, GPS-tracker, persistence of vision (POV) en een Internet-webserver zijn slechts een paar voorbeelden van de projecten in dit boek. Deze uitgave vormt een perfecte bron voor projecten waarmee u voortdurend uw hardware- en software-vaardigheden kunt verbeteren, wat tenslotte resulteert in geavanceerde microcontroller-toepassingen die u geheel zelf hebt ontwikkeld. The amateur robotics market is maturing every year There are even several companies that cater specifically to the hobbyist and educational market. With the advent of such organisations as FIRST and KISS robotics, it is the perfect time to release a new and clearly improved version of our powerhouse RBB. Key features Covers LEGO to legged robot construction plans to provide a scope from the raw beginner to the intermediate/advanced reader ALL projects are being revamped to be more usable,

more customisable, and more visual -- with illustrations of the final product right at the beginning of the chapter Eliminates the outdated or "out of tune" chapters that don't appeal to current robot audiences UNPRECEDENTED author duo -- literally the two grand masters of the robotic world
The Ultimate Value for PIC Microcontroller Enthusiasts and Engineers Most engineers rely on a small core of books that are specifically targeted to their job responsibilities. These dog-eared volumes are used daily and considered essential. But budgets and space commonly limit just how many books can be added to your core library. The Newnes PIC Microcontroller Ultimate CD solves this problem. It contains seven of our best-selling titles, providing the "next level" of reference you will need for a fraction of the price of the hard-copy books purchased separately. The CD contains the complete PDF versions of the following Newnes titles: • The PIC Microcontroller: Your Personal Introductory Course 3e (Morton) 0750666641 • Interfacing PIC Microcontrollers (Bates) 0750680288 • PIC Basic Projects (Ibrahim) 0750668792 • PIC in Practice 2e (Smith) 0750668261 • Programming the PIC Microcontroller with MBASIC (Smith) 0750679468 • PIC Microcontrollers 2e (Bates) 0750662670 • Programming PIC Microcontrollers with PICBASIC (Hellebuyck) 1589950011 * Over 2200 pages of PIC Microcontroller material * Includes 7 title in full-

function Adobe PDF format * Incredible value at a fraction of the cost of bound books

PIC Microcontrollers are a favorite in industry and with hobbyists. These microcontrollers are versatile, simple, and low cost making them perfect for many different applications. The 8-bit PIC is widely used in consumer electronic goods, office automation, and personal projects. Author, Dogan Ibrahim, author of several PIC books has now written a book using the PIC18 family of microcontrollers to create projects with SD cards. This book is ideal for those practicing engineers, advanced students, and PIC enthusiasts that want to incorporate SD Cards into their devices. SD cards are cheap, fast, and small, used in many MP3 players, digital and video cameras, and perfect for microcontroller applications. Complete with Microchip's C18 student compiler and using the C language this book brings the reader up to speed on the PIC 18 and SD cards, knowledge which can then be harnessed for hands-on work with the eighteen projects included within. Two great technologies are brought together in this one practical, real-world, hands-on cookbook perfect for a wide range of PIC fans. Eighteen fully worked SD projects in the C programming language Details memory cards usage with the PIC18 family

PIC BASIC is the simplest and quickest way to get up and running - designing and building circuits using a microcontroller. Dogan Ibrahim's approach is firmly based in practical applications and project work, making this a toolkit rather than a programming guide. No previous experience with microcontrollers is assumed - the PIC family of microcontrollers, and in particular the popular reprogrammable 16X84 device, are introduced from scratch. The BASIC language, as used by the most popular PIC compilers, is also introduced from square one, with a simple

code used to illustrate each of the most commonly used instructions. The practicalities of programming and the scope of using a PIC are then explored through 22 wide ranging electronics projects. The simplest quickest way to get up and running with microcontrollers Makes the PIC accessible to students and enthusiasts Project work is at the heart of the book - this is not a BASIC primer.

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