

Parallel Port Complete Programming Interfacing Using The Pcs Parallel Printer Port

Jeffrey Hirst Johnson shows how to turn any IBM PC or compatible computer into a high-performance data communications system, not by installing expensive, special-purpose boards and peripherals, but by taking advantage of the serial and parallel ports that come with the computer.

Learn to write C++ programs by interfacing a computer to a wide range of popular and fundamental real-world technologies. Unique and original approach to use the PC to do real things- not just number crunching and graphics – but writing programs to interact with the outside world. Learn C++ programming in an enjoyable and powerful way. Includes a purpose-designed circuit board

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PC Based Instrumentation and Control is a guide to implementing computer control, instrumentation and data acquisition using a standard PC and some of the most popular computer languages. Numerous examples of configurations and working circuits, as well as representative software, make this a practical, hands-on guide to implementing PC-based testing and calibration systems and increasing efficiency without compromising quality or reliability. Guidance is given on modifying the circuits and software routines to meet the reader's specific needs. The third edition includes updated coverage of PC hardware and bus systems, a new chapter on virtual instruments and an introduction to programming and software development in a modern 32-bit environment. Additional examples have been included, with source code and executables available for download from the companion website www.key2control.com.

A practical guide to programming for data acquisition and measurement - must-have info in just the right amount of depth for engineers who are not programming specialists. This book offers a complete guide to the programming and interfacing techniques involved in data collection and the subsequent measurement and control systems using an IBM compatible PC. It is an essential guide for electronic engineers and technicians involved in measurement and instrumentation, DA&C programmers and students aiming to gain a working knowledge of the industrial applications of computer interfacing. A basic working knowledge of programming in a high-level language is assumed, but analytical mathematics is kept to a minimum. Sample listings are given in C and can be downloaded from the Newnes website. Practical guidance on PC-based acquisition Written for electronic engineers and software engineers in industry, not academics or computer scientists A textbook with strong foundations in industry

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

This book provides an easy-to-understand, step-by-step approach to learning the fundamentals of Assembly language programming for Intel's architectures, using a GNU/Linux-based computer as a tool. Offering students of computer science and engineering a hands-on learning experience, the book shows what actions the machine instructions perform, and then presents sample programs to demonstrate their application. The book is suitable for use during courses on Microprocessors, Assembly language programming, and Computer Organization in order to understand the execution model of processors. This knowledge also helps strengthen concepts when students go on to study operating systems and compiler construction. The concepts introduced are reinforced with numerous examples and review exercises. An Instructor's CD provides all the programs given in the book and the solutions to exercises. Key Features • Discusses programming guidelines and techniques of using Assembly language programs • Shows techniques to interface C and Assembly language programs • Covers instructions from general purpose instruction sets of IA32 processors • Includes MMX and MMX-2 instructions • Covers SSE and SSE-2 instructions • Explains input-output techniques and their use in GNU/Linux-based computers • Explains GNU/Linux system calls along with methods to use them in programs • Provides a list of suggested projects • Gives ample references to explore further

Why purchase expensive add-on cards or bus interfaces when you can develop effective and economical data acquisition and process controls using C programs? Using the under-employed printer adapter (that is, the parallel port of your PC), you can turn your computer into a powerful tool for developing microprocessor applications. Learn how to build a complete data acquisition system and such varied applications as a CCD camera controller, a photometer interface, and a wave form generator. The book also covers the enhanced parallel port (EPP), the extended capabilities port (ECP), interfacing analog-to-digital converters, and data acquisition under Linux. This extraordinary software approach to interfacing through the parallel port will be especially appealing to programmers involved in control systems design and device development, as well as to those who work with real-time and embedded systems. ;

Provides advice for Visual Basic programmers attempting to interface hardware through standard ports.

Everything you need to prepare for the CompTIA A+ exams CompTIA A+ is the most sought-after certification for PC technicians. This guide covers every aspect of the required exams 220-801 and 220-802. Fully updated to cover the latest best practices, current software and hardware, and mobile OSes, this Deluxe guide also includes an exclusive bonus CD featuring additional practice exams, flashcards, instructional videos, and the entire e-book in ePDF, eMobi, and ePub versions. Includes a coupon for 10% Off CompTIA Certification Exams Fully updated to cover the latest exams and exam objectives Covers personal computer components, laptops and portable devices, operating systems, printers and scanners, networks, security, safety and environmental issues, communication, and professionalism Bonus CD features the Sybex Test Engine with additional practice exams, twice the electronic flashcards as the Standard edition, and eMobi, ePub, and ePDF versions of the book CompTIA A+ Complete Deluxe Study Guide, 2nd Edition is a complete test-prep guide that will help you pass the A+ exam with confidence.

A hands-on introduction to microcontroller project design with dozens of example circuits and programs. Presents practical designs for use in data loggers, controllers, and other small-computer applications. Example circuits and programs in the book are based on the popular 8052-BASIC microcontroller, whose on-chip BASIC programming language makes it easy to write, run, and test your programs. With over 100 commands, instructions, and operators, the BASIC-52 interpreter can do much more than other single-chip BASICs. Its abilities include floating-point math, string handling, and special commands for storing programs in EPROM, EEPROM, or battery-backed RAM.

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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 "The book covers the Visual Studio 2008 development environment, the .NET framework and C# programming language from data types and program flow to more advanced concepts including object oriented programming." --Back cover. For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site (Computerworld.com), twice-monthly publication, focused conference series and custom research form the hub of the world's largest global IT media network. ??????????????????2001?

Designed for a one-semester course in Finite Element Method, this compact and well-organized text presents FEM as a tool to find approximate solutions to differential equations. This provides the student a better perspective on the technique and its wide range of applications. This approach reflects the current trend as the present-day applications range from structures to biomechanics to electromagnetics, unlike in conventional texts that view FEM primarily as an extension of matrix methods of structural analysis. After an introduction and a review of mathematical preliminaries, the book gives a detailed discussion on FEM as a technique for solving differential equations and variational formulation of FEM. This is followed by a lucid presentation of one-dimensional and two-dimensional finite elements and finite element formulation for dynamics. The book concludes with some case studies that focus on industrial problems and Appendices that include mini-project topics based on near-real-life problems. Postgraduate/Senior undergraduate students of civil, mechanical and aeronautical engineering will find this text extremely useful; it will also appeal to the practising engineers and the teaching community.

This book constitutes the refereed proceedings of the 5th International Workshop on Cryptographic Hardware and Embedded Systems, CHES 2003, held in Cologne, Germany in September 2003. The 32 revised full papers presented were carefully reviewed and selected from 111 submissions. The papers are organized in topical sections on side channel attack methodology, hardware factorization, symmetric cypher attacks and countermeasures, secure hardware logic, random number generators, efficient multiplication, efficient arithmetics, attacks on asymmetric cryptosystems, implementation of symmetric cyphers, hyperelliptic curve cryptography, countermeasures to side channel leakage, and security of standards.

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 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.

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. This well-organized book is intended for the undergraduate students of Electrical, Electronics and Communications, Computer, Instrumentation and Instrumentation and Control Engineering; and postgraduate students of science in Electronics, Physics and Instrumentation. Data acquisition being the core of all PC-based measurements and control instrumentation systems engineering, this book presents detailed discussions on PC bus based data acquisition, remote data acquisition, GPIB data acquisition and networked data acquisition configurations. This book also describes sensors, signal-conditioning and principles of PC-based data acquisition. It provides several latest and advanced techniques. This book stresses the need for understanding the use of Personal Computers in measurement and control instrumentation applications. KEY FEATURES : • Provides several laboratory experiments to help the readers to gain hands-on experience in PC-based measurement and control. • Provides a number of review questions/problems (with solutions to the odd numbered problems) and objective type questions with solutions. • Presents a number of working circuits, design and programming examples. • Presents comparison of properties, features and characteristics of different bus systems, interface standards, and network protocols. • Includes the advanced techniques such as sigma-delta converter, RS-485, I2C bus, SPI bus, FireWire, IEEE-488.2, SCPI and Fieldbus standards.

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 Axelson 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.

The "M-CORE" family of microprocessors is the latest 32-bit integrated circuit from Motorola designed to be a multi-purpose "microcontroller." The processor architecture has been designed for high performance and cost-sensitive embedded control applications with particular emphasis on reduced power consumption. This is the first book on the programming of the new language instruction set using the M-CORE chip. Embedded Microcontroller Interfacing for M-CORE Systems is the third of a trio of books by G. Jack Lipovski from the University of Texas. The first two books are on assembly language programming for the new Motorola 6812 16-bit microcontroller, and were written to be textbooks and professional references. This book was written at the request of the Motorola design team for the professional users of its new and very successful M-CORE chip microcontrollers. Written with the complete cooperation and input of the M-CORE design engineers at their headquarters in Austin, Texas, this book covers all aspects of the programming software and hardware of the M-CORE chip.

- * First introductory level book on the Motorola MoCORE
- * Teaches engineers how a computer executes instructions
- * Shows how a high-level programming language converts to assembler language
- * Teaches the reader how a microcontroller is interfaced to the outside world
- * Hundreds of examples are used throughout the text
- * Over 200 homework problems give the reader in-depth practice
- * A CD-ROM with HIWARE's C++ compiler is included with the book
- * A complete summary chapter on other available microcontrollers

There's a great deal of excitement surrounding the use of Linux in embedded systems -- for everything from cell phones to car ABS systems and water-filtration plants -- but not a lot of practical information. Building Embedded Linux Systems offers an in-depth, hard-core guide to putting together embedded systems based on Linux. Updated for the latest version of the Linux kernel, this new edition gives you the basics of building embedded Linux systems, along with the configuration, setup, and use of more than 40 different open source and free software packages in common use. The book also looks at the strengths and weaknesses of using Linux in an embedded system, plus a discussion of licensing issues, and an introduction to real-time, with a discussion of real-time options for Linux. This indispensable book features arcane and previously undocumented procedures for:

- Building your own GNU development toolchain
- Using an efficient embedded development framework
- Selecting, configuring, building, and installing a target-specific kernel
- Creating a complete target root filesystem
- Setting up, manipulating, and using solid-state storage devices
- Installing and configuring a bootloader for the target
- Cross-compiling a slew of utilities and packages
- Debugging your embedded system using a plethora of tools and techniques
- Using the uClibc, BusyBox, U-Boot, OpenSSH, tftpd, tftp, strace, and gdb packages

By presenting how to build the operating system components from pristine sources and how to find more documentation or help, Building Embedded Linux Systems greatly simplifies the task of keeping complete control over your embedded operating system.

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