

Computer Based Data Acquisition Systems Design Techniques By Taylor James L

Programming the Parallel Port
 A Minicomputer-controlled Data Acquisition System
 Data Acquisition Techniques Using PC
 PC-BASED INSTRUMENTATION
 A Personal Computer-based, Multitasking Data Acquisition System
 Practical Data Acquisition for Instrumentation and Control Systems
 Real-Time Data Acquisition in Human Physiology
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 Data Acquisition Using LabVIEW
 Signal Conditioning and PC-based Data Acquisition Handbook
 The data acquisition systems handbook
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 LabVIEW for Data Acquisition
 PC Interfacing and Data Acquisition
 A Real-time Data Acquisition System for a Low Speed Wind Tunnel
 Signal Conditioning and PC-based Data Acquisition Handbook
 Build Your Own Low-cost Data Acquisition and Display Devices
 Practical Data Acquisition for Instrumentation and Control Systems
 Data Acquisition Systems
 SPEED2, a Computer Program for the Reduction of Data from Automatic Data Acquisition Systems
 Data Acquisition Techniques Using PC
 PC Based Instrumentation and Control
 Embedded Systems Design for High-Speed Data Acquisition and Control
 Advanced Data Acquisition and Intelligent Data Processing
 Introduction to Data Acquisition with LabVIEW
 A Computer Based Data Acquisition System for C-14 Measurements
 Data Acquisition and Real-time Systems
 Data Acquisition Applications

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DIAZ GAEL

Programming the Parallel Port Elsevier

The practical, succinct LabVIEW data acquisition tutorial for every professional. No matter how much LabVIEW experience you have, this compact tutorial gives you core skills for producing virtually any data acquisition (DAQ) application-input and output. Designed for every engineer and scientist, LabVIEW for Data Acquisition begins with quick-start primers on both LabVIEW and DAQ, and builds your skills with extensive code examples and visual explanations drawn from Bruce Mihura's extensive experience teaching LabVIEW to professionals. Includes extensive coverage of DAQ-specific programming techniques Real-world techniques for maximizing accuracy and efficiency The 10 most common LabVIEW DAQ development problems-with specific solutions Addresses simulation, debugging, real-time issues, and network/distributed systems Preventing

unauthorized changes to your LabVIEW code An overview of transducers for a wide variety of signals Non-NI alternatives for hardware and software LabVIEW for Data Acquisition includes an extensive collection of real-world LabVIEW applications, lists of LabVIEW tips and tricks, coverage of non-NI software and hardware alternatives, and much more. Whatever data acquisition application you need to create, this is the book to start and finish with. RELATED WEBSITE The accompanying website includes an evaluation version of LabVIEW and key LabVIEW code covered in the book.

A Minicomputer-controlled Data Acquisition System Cambridge University Press

Modern science and engineering relies heavily on understanding computer hardware and software in order to make effective use of these tools in the laboratory and industrial environments. The authors of Modern Instrumentation: A Computer Approach have succeeded in producing a highly readable source that will serve both newcomers to the field as well as experienced professionals. Including both fundamentals and applications, the book first describes the role of the computer in instrument systems and provides numerous practical examples. The second part of the book

explores specific software packages and their capabilities for applications such as, instrument design and simulation, data acquisition, data processing, and the potential of artificial intelligence in instrument design. Because of the full integration of theory with practical applications of leading software packages, this book is an extremely useful reference for those who use computer-based instrument technology for data acquisition and who are involved with hardware or software development for laboratory and process control.

Data Acquisition Techniques Using PC University of Queensland Press(Australia)

Introduction to Data Acquisition & Control; Analog and Digital Signals; Signal Conditioning; The Personal Computer for Real Time Work; Plug-in Data Acquisition Boards; Serial Data Communications; Distributed & Standalone Loggers/Controllers; IEEE 488 Standard; Ethernet & LAN Systems; The Universal Serial Bus (USB); Specific Techniques; The PCMCIA Card; Appendix A: Glossary; Appendix B: IBM PC Bus Specifications; Appendix C: Review of the Intel 8255 PPI Chip; Appendix D: Review of the Intel 8254 Timer-Counter Chip; Appendix E: Thermocouple Tables; Appendix F: Numbers Systems; Appendix G: GPIB (IEEE-488) Mnemonics & their Definition;

Appendix H: Practical Laboratories & Demonstrations; Appendix I: Command Structure & Programming.

PC-BASED INSTRUMENTATION Academic Press

Reviews the state-of-the-art in personal computer-based data acquisition systems for application in the hydraulic engineering community. This title provides the engineer with information on various aspects of data acquisition systems such as: types of data acquisition systems; uncertainty in measurement system; and more.

A Personal Computer-based, Multitasking Data Acquisition System Good Press

Data Acquisition Techniques Using Personal Computers contains all the information required by a technical professional (engineer, scientist, technician) to implement a PC-based acquisition system. Including both basic tutorial information as well as some advanced topics, this work is suitable as a reference book for engineers or as a supplemental text for engineering students. It gives the reader enough understanding of the topics to implement a data acquisition system based on commercial products. A reader can alternatively learn how to custom build hardware or write his or her own software. Featuring diverse information, this book will be useful to both the technical professional and the hobbyist. Contains tables of reference information on PC/XT/AT computers that are usually not found in a single source Includes hardware information, such as I/O addresses, memory maps, and hardware interrupts Discusses software reference material including BIOS and DOS interrupt calls Presents valuable hardware interface information including timing diagrams, design examples, and descriptions of standard interfaces, such as the RS-232 serial interface

Practical Data Acquisition for Instrumentation and Control Systems BoD – Books on Demand

This digital electronics text focuses on "how to" design, build, operate and adapt data acquisition systems. The material begins with basic logic gates and ends with a 40 KHz voltage measurer. The approach aims to cover a minimal number of topics in detail. The data acquisition circuits described communicate with a host computer through parallel I/O ports. The fundamental idea of the book is that parallel I/O ports (available for all popular computers) offer a superior balance of simplicity, low cost, speed, flexibility and adaptability. All circuits and software are thoroughly tested. Construction details and troubleshooting guidelines are included. This book is intended to serve people who teach or study one of the following: digital electronics, circuit design, software that interacts outside hardware, the process of computer based acquisition, and the design, adaptation, construction and testing of measurement systems.

Real-Time Data Acquisition in Human Physiology Newnes

The Signal Conditioning Handbook is a 144-page guide to making sensor-based measurements using PC-based data acquisition equipment. The latest revision has expanded coverage to include new sensor types that have emerged since the last publication, as well as expanded coverage of additional topics including: Analog to Digital Conversion? Multiplexing? Electrical Measurements? Fundamental Signal Conditioning? Temperature Measurement? Strain Measurements? Vibration and Sound? Displacement and Position Sensing? Noise Reduction and Isolation? Digital and Pulse Train Signal Conditioning? Transducer Electronic Data Sheets

Computer-based Data Acquisition Systems Tab Books

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.

On-Line Data-Acquisition Systems in Nuclear Physics, 1969 New York : PBI

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

Data Acquisition Using LabVIEW "O'Reilly Media, Inc."

Data acquisition systems have numerous applications. This book has a total of 13 chapters and is divided into three sections: Industrial applications, Medical applications and Scientific experiments. The chapters are written by experts from around the world, while the targeted audience for this book includes professionals who are designers or researchers in the field of data acquisition systems. Faculty members and graduate students could also benefit from the book.

Signal Conditioning and PC-based Data Acquisition Handbook Academic Press

'Data acquisition' is concerned with taking one or more analogue signals and converting them to digital form with sufficient accuracy and speed to be ready for processing by a computer. The increasing use of computers makes this an expanding field, and it is important that the conversion process is done correctly because information lost at this stage can never be regained, no matter how good the computation. The old saying - garbage in, garbage out - is very relevant to data acquisition, and so every part of the book contains a discussion of errors: where do they come from, how large are they, and what can be done to reduce them? The book aims to treat the data acquisition process in depth with less detailed chapters on the fundamental principles of measurement, sensors and signal conditioning. There is also a chapter on software packages, which are becoming increasingly popular. This is such a rapidly changing topic that any review of available programs is bound to be out of date before the book reaches the readers. For this reason, I have described the data handling which is available in various types of program and left it to the reader to select from whatever is on the market at the time.

The data acquisition systems handbook Packt Publishing Ltd

""Covers all areas of computer-based data acquisition--from basic concepts to the most recent technical developments--without the burden of long theoretical derivations and proofs. Offers practical, solution-oriented design examples and real-life case studies in each chapter and furnishes valuable selection guides for specific types of hardware."--Provided by publisher.

An Introduction to Automated Data Acquisition Routledge

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

Guidelines for PC-based Data Acquisition Systems for Hydraulic Engineering Academic Press

The second edition of this highly successful text focuses on the major changes that have taken place in this field in recent times. Data Acquisition Techniques Using PCs, Second Edition, recognises that data acquisition is the core of most engineering and many life science systems in measurement and instrumentation. It will prove invaluable to scientists, engineers, students and

technicians wishing to keep up with the latest technological developments. Teaches the reader how to set up a PC-based system that measures, analyzes, and controls experiments and processes through detailed design examples Geared for beginning and advanced users, with many tutorials for less experienced readers, and detailed standards references for more experienced readers Fully revised new edition discusses latest programming languages and includes a list of over 80 product manufacturers to save valuable time

Data Acquisition and Process Control Using Personal Computers Pearson Education

On-Line Data-Acquisition Systems in Nuclear Physics, 1969 is a treatise by the National Research Council. It provides an in-depth view of the role of computers dealing with the related calculative tasks.

A Computer-controlled Central Digital Data Acquisition System CRC Press

Data Acquisition Techniques Using Personal Computers contains all the information required by a technical professional (engineer, scientist, technician) to implement a PC-based acquisition system. Including both basic tutorial information as well as some advanced topics, this work is suitable as a reference book for engineers or as a supplemental text for engineering students. It gives the reader enough understanding of the topics to implement a data acquisition system based on commercial products. A reader can alternatively learn how to custom build hardware or write his or her own software. Featuring diverse information, this book will be useful to both the technical professional and the hobbyist.

Real World Instrumentation with Python Springer Science & Business Media

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.

Data Acquisition for Sensor Systems CRC Press

A mini-computer based real-time data acquisition system designed for use in the Aeronautical Research Laboratories low-speed wind tunnel is presented. The report provides an overview of the logical arrangement of the software components of the system and describes their interaction with the mini-computer operating system, data structures, and system hardware. Keywords: Wind tunnels; Data acquisition; Real-time operations. (Australia).

Data Acquisition Systems Academic Press

""Covers all areas of computer-based data acquisition--from basic concepts to the most recent technical developments--without the burden of long theoretical derivations and proofs. Offers practical, solution-oriented design examples and real-life case studies in each chapter and furnishes valuable selection guides for specific types of hardware.

Modern Instrumentation PHI Learning Pvt. Ltd.

* Covers all aspects of the data acquisition system from design and specification to programming, installation and configuration * Gives both the novice and experienced user a solid understanding of interfacing the PC and standalone instruments to real-world signals from the laboratory to the industrial plant * Provides a thorough grasp of PC data acquisition systems and the ability to design, specify, install and configure and program data acquisition systems quickly and effectively This book focuses on data acquisition and control using the PC and standalone instruments. The PC has made a dramatic impact in the ease with which the technician, scientist and engineer today can set up their own test and measurement system at a remarkably low cost. And this book aims to show you how easy it is with plenty of carefully researched information. The popular IEEE 488 interface is also covered. All aspects of the data acquisition system are included from design and specification to programming, installation and configuration. This book gives both the novice and experienced user a solid grasp of the principles and practical implementation of interfacing the PC and standalone instruments to real-world signals from the laboratory to the industrial plant. Once you have read the book, you will have a thorough grasp of PC data acquisition systems and will be able to design, specify, install and configure and program data acquisition systems quickly and effectively. * Covers all aspects of the data acquisition system from design and specification to programming, installation and configuration* Gives both the novice and experienced user a solid understanding of interfacing the PC and standalone instruments to real-world signals from the laboratory to the industrial plant* Provides a thorough grasp of PC data acquisition systems and the ability to design, specify, install and configure and program data acquisition systems quickly and effectively