

Analog Devices Technical Books (Rev.A, 2-29-2016)

Note: Please use the active hyperlinks in this document to reach the table of contents and the URL downloads for each book.

[Data Conversion Handbook, Edited by Walt Kester, Published by Newnes/Elsevier, 2005 \(Also published as Analog-Digital Conversion, Analog Devices, 2004\)](#)

Complete discussion of the theoretical and practical aspects of analog-to-digital and digital-to-analog conversion. Includes history, architectures, support circuits, theory, specifications, testing, and practical applications. Includes a comprehensive chapter on grounding, layout, and decoupling.

[Op Amp Applications Handbook, Edited by Walt Jung, Published by Newnes/Elsevier, 2005 \(Also published as Op Amp Applications, Analog Devices, 2002\)](#)

Op amp history, theory, testing, and a large number of application circuits for both precision and high speed.

[Linear Circuit Design Handbook, Edited by Hank Zumbahlen, Published by Newnes/Elsevier, 2008 \(Also published as Basic Linear Design, Analog Devices, 2007\)](#)

Fundamentals and applications of data acquisition components. Contains much of the material covered in Data Conversion Handbook and Op Amp Applications Handbook plus more.

[High Speed System Applications, Edited by Walt Kester, Analog Devices, 2006](#)

High speed converter architectures, interfaces, clock distribution, input drive circuits, DACs, PLLs, DDS, and practical PCB layout.

[Mixed Signal and DSP Design Techniques, Edited by Walt Kester, Published by Newnes/Elsevier, 2002 \(Also published as Mixed Signal and DSP Design Techniques, Analog Devices, 2000\)](#)

Theory of sampled data systems, ADCs and DACs for DSP applications, FFT and digital filter fundamentals, DSP hardware, interfacing, and practical PCB layout.

[3RD Edition, A Designer's Guide to Instrumentation Amplifiers, Lew Counts and Charles Kitchen, Analog Devices, 2006](#)

Classic book on theory and applications of instrumentation amplifiers.

[Practical Design Techniques for Sensor Signal Conditioning, Edited by Walt Kester, Analog Devices, 1999](#)

Complete sensor signal conditioning manual including bridge circuits, strain, force, pressure, flow measurements. high impedance sensors, position and motion sensors, temperature sensors. Fundamentals of amplifiers and ADCs for signal conditioning.

[Practical Power Solutions, Edited by Walt Kester, Analog Devices, , 2009](#)

Modern power solutions using linear regulators, switching regulators, hot swap controllers, sequencers. Power circuit applications for FPGAs, DSPs, and linear circuit. PCB layout techniques for switching regulators.

[The Scientist & Engineer's Guide to Digital Signal Processing, Steven W. Smith, 1999](#)

The Scientist & Engineer's Guide to Digital Signal Processing, by Steven W. Smith, Ph.D, provides a practical introduction to Digital Signal Processing. Covering a wide range of topics, this book is an ideal introductory text for those new to DSP, and an excellent reference for more experienced users.

[A Technical Tutorial on Digital Signal Synthesis, Ken Gentile and Rick Cushing, Analog Devices, 1999](#)

An excellent theoretical and practical treatment of direct digital synthesis (DDS).

Classic Books and Articles from the Archives of Analog Devices (Main Landing page continued)

[Practical Design Techniques for Power and Thermal Management, Edited by Walt Kester, 1998](#)

Theory and applications for references, low dropout linear regulators, switching regulators, switched capacitor voltage converters, battery chargers, temperature sensors, hardware monitoring, PCB layout techniques relating to power supplies.

[High Speed Design Techniques, Analog Devices, Edited by Walt Kester, 1996](#)

The second high speed seminar from Analog Devices representing a major update of the material covered in the 1990 High Speed Design Seminar.

[Practical Analog Design Techniques, Analog Devices, Edited by Walt Kester, 1995](#)

Notes from a worldwide seminar that includes solutions to practical analog problems, such as single-supply amplifiers and systems, high speed, measurement, and hardware techniques.

[Linear Design Seminar, Edited by Walt Kester, Analog Devices, 1995](#)

Notes from a general purpose linear seminar including basics of amplifiers, data converters, data acquisition, filtering, and hardware design techniques.

[A Tutorial in AC Induction and Permanent Magnet Synchronous Motors, Vector Control with Digital Signal Processors, Fred Flett, Analog Devices, 1994](#)

A detailed treatment of AC induction and permanent magnet synchronous motors with emphasis on vector control using digital signal processors.

[System Applications Guide, Edited by Walt Kester, Analog Devices, 1993](#)

A worldwide seminar including a comprehensive discussion of the major parts of a system from the input amplifier to the digital outputs.

[Amplifier Applications Guide, Edited by Walt Kester, Analog Devices, 1992](#)

A worldwide seminar series focused primarily on amplifiers and their applications, with emphasis on single-supply and precision.

[Mixed-Signal Design Seminar, Edited by Walt Kester, Analog Devices, 1991](#)

The first Analog Device's worldwide seminar to treat the fundamentals of data conversion for DSP applications, including Fast Fourier Transforms, Digital Filters, and DSP hardware.

[High Speed Design Seminar, Edited by Walt Kester, Analog Devices, 1990](#)

The first in a series of worldwide seminars on high speed circuits and applications.

[Linear Design Seminar \(Dave Kress's original, Green Cover\), Analog Devices, 1987](#)

A general purpose seminar on linear circuits.

[RMS-to-DC Application Guide Second Edition, Lew Counts and Charles Kitchen, Analog Devices, 1986](#)

An excellent treatment of the theory and applications of RMS-to-DC converters.

[Analog-Digital Conversion Handbook, Edited by Dan Sheingold, Analog Devices/Prentice-Hall, 1986](#)

An industry-classic book on analog-digital conversion that stood the test of time over two decades.

CMOS DAC Application Guide, Analog Devices, Third Edition, Phil Burton, Analog Devices, 1984

A comprehensive treatment of CMOS DAC technology of the 1980s with theory and practical applications.

Transducer Interfacing Handbook, Edited by Dan Sheingold, Analog Devices, 1980

A major treatment of transducers, and transducer signal conditioning.

Synchro and Resolver Conversion, Geoffrey Boyes, Analog Devices, 1980

An excellent treatment of synchros, resolvers, and resolver-to-digital conversion with applications. Prepared by the staff of Memory Devices, a division of Analog Devices in the UK where the products were initially manufactured during the 1970s.

Multiplier Application Guide, Edited by Dan Sheingold, Analog Devices, 1978

A detailed treatment of the theory and applications of analog multipliers.

Analog-Digital Conversion Notes, Edited by Dan Sheingold, Analog Devices, 1977

The popularity of the 1972 Analog-Digital Conversion Handbook led to this update that became the basis for a popular seminar series.

Nonlinear Circuits Handbook, Analog Devices, Edited by Dan Sheingold, Analog Devices, 1976

One of the first books devoted exclusively to nonlinear circuits including multipliers, modulators, mixers, logarithmic amplifiers, rms-to-dc converters, and other translinear circuits.

Analog-Digital Conversion Handbook, Analog Devices, Edited by Dan Sheingold, Analog Devices, 1972

An industry first in a series of comprehensive books on analog-to-digital conversion.

Ray Stata Op Amp Articles, 1960s

These are a collection of technical articles written by Ray Stata shortly after the founding of ADI. The material is timeless, although some of the terminology has been changed. Of particular interest is the "Speaks Out" article. This was a popular series in EEE magazine where various "experts" spoke out on topics of interest at the time. Ray discusses a number of pitfalls in applying op amps that are still troublesome to engineers today.

Evolution from Operational Amplifier to Data Amplifier, Robert Demrow, Analog Devices, 1968

A classic analysis of op amps provided by an early Analog Devices' scientist, Robert Demrow.

Applications Manual for Computing Amplifiers for Modeling, Measuring, Manipulating, and Much Else, George A. Philbrick Researches, Edited by Dan Sheingold, 1966

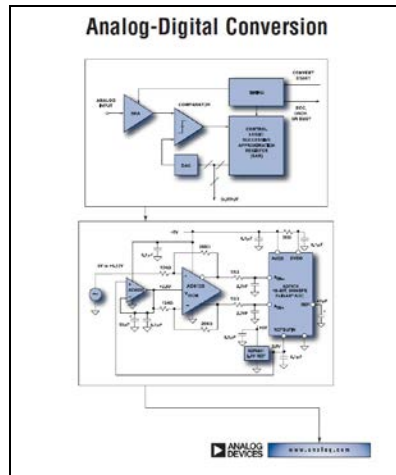
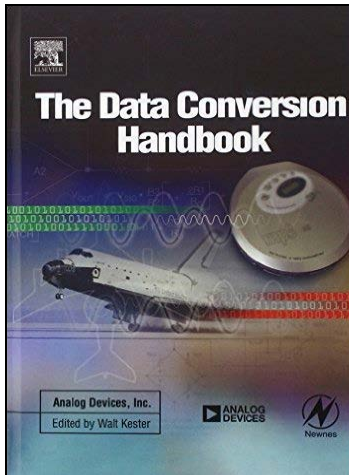
A classic publication by George A. Philbrick Researches on the basics of operational amplifiers. Includes a discussion of using op amps as computational elements in analog computers.

The following pages are the individual landing pages for each of the books.

The pages give a brief description of the book and list the individual chapters that can be downloaded. Approximate file sizes for each chapter are given.

A .zip file allows downloading the complete book if desired.

***The Data Conversion Handbook, Edited by Walt Kester, Newnes, 2005, ISBN 0-7506-7841-0
Also published as Analog-Digital Conversion, Analog Devices, Inc. 2004, ISBN 0-916550-27-3***



The Data Conversion Handbook is written for design engineers who routinely use data converters and related circuitry. Comprising Data Converter History, Fundamentals of Sampled Data Systems, Data Converter Architectures, Data Converter Process Technology, Testing Data Converters, Interfacing to Data Converters, Data Converter Support Circuits, Data Converter Applications, and Hardware Design Techniques, it may be the ultimate expression of product "augmentation" as it relates to data converters. The last chapter discusses practical issues, including common pitfalls and solutions related to the non-ideal properties of passive components.

The Analog-Digital Conversion book is available for download:

[Front](#) (123 kB) [Analog Dialogue]

[Chapter 1: Data Converter History](#) (9.7 MB) [Analog Dialogue]

[Chapter 2: Fundamentals of Sampled Data Systems](#) (1.5 MB) [Analog Dialogue]

[Chapter 3: Data Converter Architectures](#) (4.7 MB) [Analog Dialogue]

[Chapter 4: Data Converter Process Technology](#) (5.7 MB) [Analog Dialogue]

[Chapter 5: Testing Data Converters](#) (3.3 MB) [Analog Dialogue]

[Chapter 6: Interfacing to Data Converters](#) (1.2 MB) [Analog Dialogue]

[Chapter 7: Data Converter Support Circuitry](#) (2.0 MB) [Analog Dialogue]

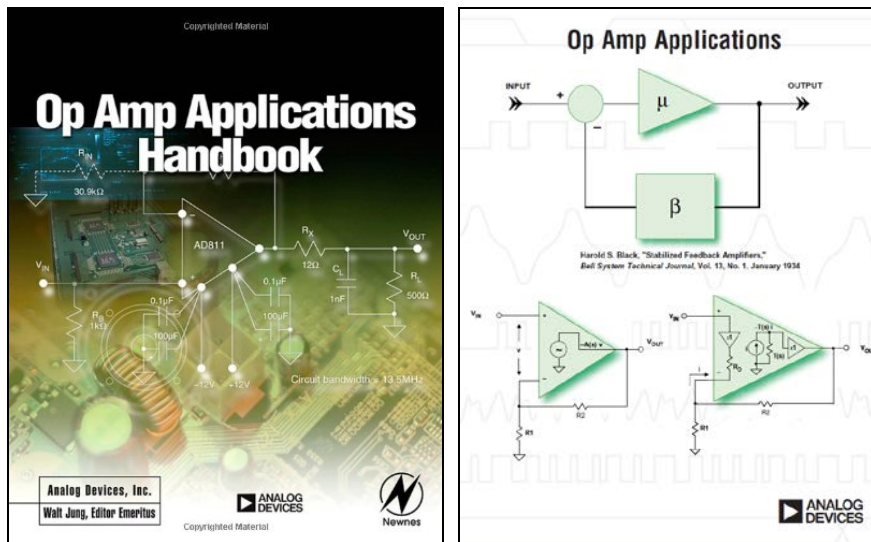
[Chapter 8: Data Converter Applications](#) (5.7 MB) [Analog Dialogue]

[Chapter 9: Hardware Design Techniques](#) (3.3 MB) [Analog Dialogue]

[Index](#) (368 kB) [Analog Dialogue]

[Analog-Digital Conversion - zip file of entire book](#) [Analog Dialogue]
(35 MB)

Op Amp Applications Handbook, Edited by Walt Jung, Published by Newnes/Elsevier, 2005, ISBN-0-7506-7844-5 (Also published as **Op Amp Applications**, Analog Devices, 2002, ISBN-0-916550-26-5)



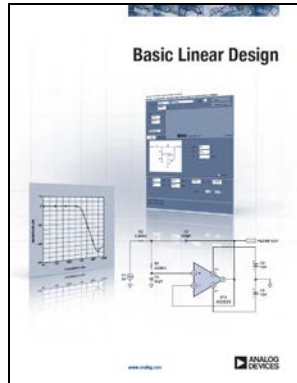
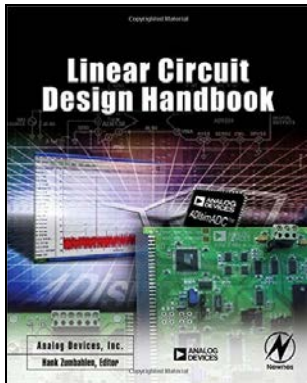
This may well be the ultimate op amp book. It is brimming with application circuits, handy design tips, historical perspectives, and in-depth looks at the latest techniques to simplify designs and improve their performance. But this is more than just the last word on applications. A brief but fascinating History section outlines the early development of the feedback amplifier, starting with H. S. Black's invention of seventy years ago—and provides priceless insights into the application needs, technological developments, and creative personalities that drove the many generations of op-amp designs.

The Op Amp Applications book is available for download:

[Front](#) (126 kB) [Analog Dialogue]
[Section H: Op Amp History](#) (3.7 MB) [Analog Dialogue]
[Section 1: Op Amp Basics](#) (1.7 MB) [Analog Dialogue]
[Section 2: Specialty Amplifiers](#) (692 kB) [Analog Dialogue] [Analog Dialogue]
[Section 3: Using Op Amps with Data Converters](#) (590 kB) [Analog Dialogue]
[Section 4: Sensor Signal Conditioning](#) (780 kB) [Analog Dialogue]
[Sections 5-1 to 5-4: Analog Filters](#) (2.3 MB) [Analog Dialogue]
[Sections 5-5 to 5-8: Analog Filters](#) (2.3 MB) [Analog Dialogue]
[Section 6: Signal Amplifiers](#) (4 MB) [Analog Dialogue]
[Section 7: Hardware and Housekeeping Techniques](#) (2.9 MB) [Analog Dialogue]
[Index](#) (310 kB)

[Op Amp Applications -- zip file of entire book](#) [Analog Dialogue]
 (17 MB)

Linear Circuit Design Handbook, Edited by Hank Zumbahlen, Published by Newnes/Elsevier, 2008, ISBN-978-0-7506-8703-4 (Also published as Basic Linear Design, Analog Devices, 2007, ISBN-0-916550-28-1)



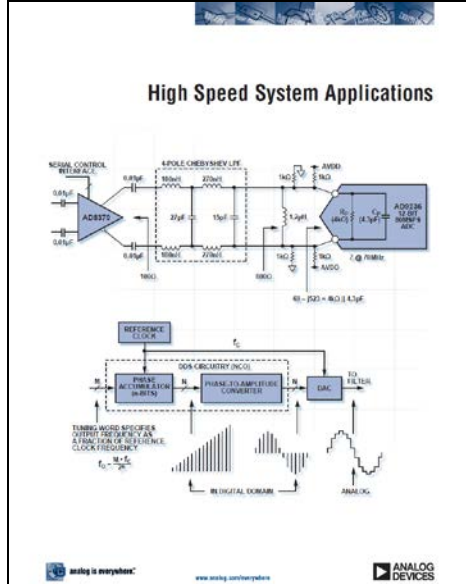
Fundamentals and applications of data acquisition components. Contains much of the material covered in Data Conversion Handbook and Op Amp Applications Handbook plus more. Effective analog circuit design requires a strong understanding of linear devices. Linear Circuit Design Handbook bridges the gap between component theory and practical circuit design. Providing complete coverage of analog components and showing how to use them effectively, it serves as a useful reference for engineers involved in analog and mixed-signal design.

Note: The Linear Circuit Design Handbook does not contain Chapter 13 of Basic Linear Design.

The Basic Linear Design book is available for download:

[Cover](#) (2.8 MB) [Analog Dialogue]
[Introduction](#) (122 kB) [Analog Dialogue]
[Chapter 1: The Op Amp](#) (3.9 MB) [Analog Dialogue]
[Chapter 2: Other Linear Circuits](#) (3 MB) [Analog Dialogue]
[Chapter 3: Sensors](#) (2.2 MB) [Analog Dialogue]
[Chapter 4: RF/IF Circuits](#) (1.4 MB) [Analog Dialogue]
[Chapter 5: Fundamentals of Sampled Data Systems](#) (470 kB) [Analog Dialogue]
[Chapter 6: Converters](#) (4.2 MB) [Analog Dialogue]
[Chapter 7: Data Converter Support Circuitry](#) (1.4 MB) [Analog Dialogue]
[Chapter 8: Analog Filters](#) (5.1 MB) [Analog Dialogue]
[Chapter 9: Power Management](#) (1.5 MB) [Analog Dialogue]
[Chapter 10: Passive Components](#) (690 kB) [Analog Dialogue]
[Chapter 11: Overvoltage Effects on Analog Integrated Circuits](#) (1.2 MB) [Analog Dialogue]
[Chapter 12: Printed Circuit Board \(PCB\) Design Issues](#) (2 MB) [Analog Dialogue]
[Chapter 13: Design Development Tools](#) (8 MB) [Analog Dialogue]
[Index](#) (406 kB) [Analog Dialogue]

[Basic Linear Design - zip file of entire book](#) [Analog Dialogue]
(35 MB)



High speed converter architectures, interfaces, clock distribution, input drive circuits, DACs, PLLs, DDS, and practical PCB layout.

[Table of Contents](#) (50 kB) [sitecore]

[Section 1: High Speed Data Conversion Overview](#) (2.5 MB) [sitecore]

Converter Sampling Rate, Resolution, Architectures, and Applications

Successive Approximation ADCs

Pipelined ADCs

Measures of ADC Dynamic Performance

High Speed ADC Applications in Software Radios

CCD/CIS Imaging for Digital Cameras and Camcorders

ADC Applications in Video

Flat Panel Display Interface Electronics

High Speed ADC Applications in Ultrasound

ADC Evaluation Hardware and ADIsimADC® Modeling Tool

[Section 2: Optimizing Data Converter Interfaces](#) (1.8 MB) [sitecore]

Interface Overview

Driving the ADC Analog Input

Single-Ended DC Coupled Amplifier Drivers for ADCs

Differential Amplifier Drivers for ADCs

Equivalent Input Circuit Models for Buffered (BiCMOS)

and Unbuffered (CMOS) Pipelined ADCs

Resonant Matched Design Example

Wideband Design Example

Transformer Drivers

Transformer Driver Design Example

Sampling Clock Drivers

ADC Data Outputs

[Section 3: DACs, DDSs, PLLs, and Clock Distribution](#) (7.9 MB) [sitecore]

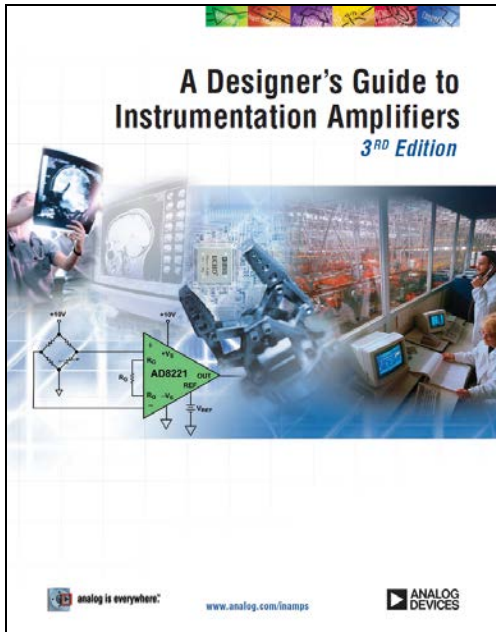
- High Speed CMOS DACs
- DAC Applications in Transmitters
- Buffering DAC Outputs
- DAC Evaluation Hardware and Software
- Direct Digital Synthesis
- DDS On-Line Interactive Design Tool
- Phase Locked Loops
- ADIsimPLL PLL Design Software
- Clock Generation and Distribution
- ADIsimCLK Design and Evaluation Software
- Generating Low Jitter Clocks Using DDS Systems

[Section 4: PC Board Layout and Design Issues](#) (3.7 MB) [sitecore]

- Grounding and Layout
- Decoupling
- Design Tools

[High Speed System Applications -- zip file of entire book](#) (15 MB) [ftp]

A Designer's Guide to Instrumentation Amplifiers, 3RD Edition, Lew Counts and Charles Kitchen, Analog Devices, 2006



Classic book on theory and applications of instrumentation amplifiers.

[Table of Contents, Bibliography and Acknowledgements](#) (103 kB) [sitecore]

[Chapter I - In-Amp Basics](#) (240 kB) [sitecore]

[Chapter II - Inside an Instrumentation Amplifier](#) (267 kB) [sitecore]

[Chapter III – Monolithic Instrumentation Amplifiers](#) (972 kB) [sitecore]

[Chapter IV - Monolithic Difference Amplifiers](#) (500 kB) [sitecore]

[Chapter V - Applying In-Amps Effectively](#) (853 kB) [sitecore]

[Chapter VI - In-Amp and Diff Amps Applications](#) (691 kB) [sitecore]

[Chapter VII - Matching In-Amps Circuits to Modern ADCs](#) (190 kB) [sitecore]

[Appendix A - Instrumentation Amplifier Specifications](#) (143 kB) [sitecore]

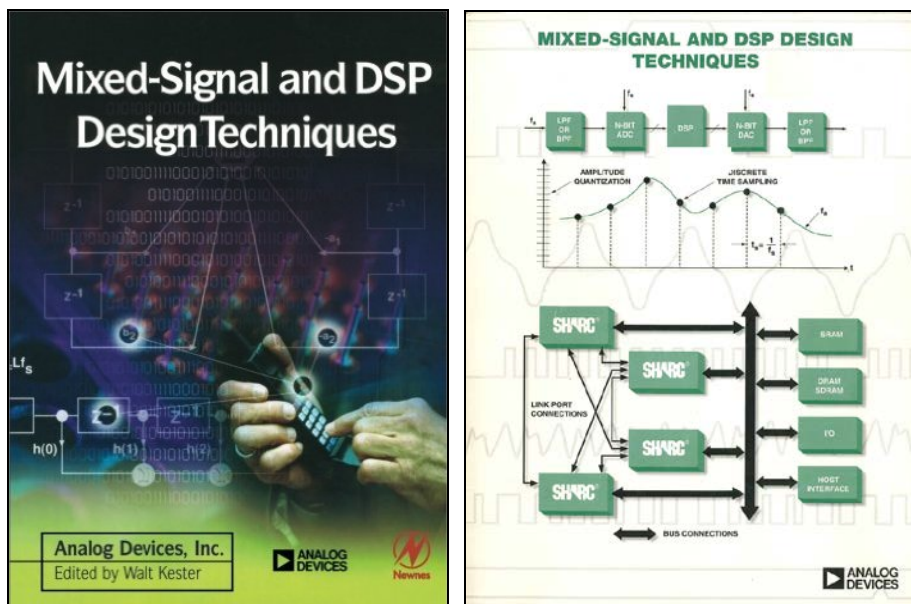
[Appendix B - Amplifiers Selection Table](#) (67 kB) [sitecore]

[Subject Index](#) (54 kB) [sitecore]

[Device Index](#) (74 kB) [sitecore]

[A Designers Guide to Instrumentation Amplifiers – pdf file of entire book](#) (4 MB) [sitecore]

Mixed Signal and DSP Design Techniques, Edited by Walt Kester, Published by Newnes/Elsevier, 2002, ISBN-0-75067-611-6 (Also published as Mixed Signal and DSP Design Techniques, Analog Devices, 2000, ISBN-0-916550-22-2)



Theory of sampled data systems, ADCs and DACs for DSP applications, FFT and digital filter fundamentals, DSP hardware, interfacing, and practical PCB layout.

Mixed Signal and DSP Design Techniques, Analog Devices, 2000 can be downloaded:

[Outline](#) (89 kB) [sitecore]

[Section 1: Introduction](#) (139 kB) [sitecore]

[Section 2: Sampled Data Systems](#) (423 kB) [sitecore]

[Section 3: ADCs For DSP Applications](#) (280 kB) [sitecore]

[Section 4: DACs For DSP Applications](#) (197 kB) [sitecore]

[Section 5: Fast Fourier Transforms](#) (318 kB) [sitecore]

[Section 6: Digital Filters](#) (347 kB) [sitecore]

[Section 7: DSP Hardware](#) (1.1 MB) [sitecore]

[Section 8: Interfacing To DSPs](#) (242 kB) [sitecore]

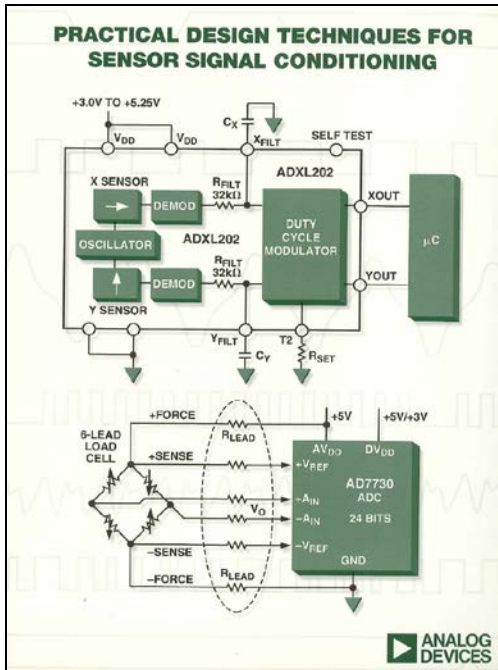
[Section 9: DSP Applications](#) (432 kB) [sitecore]

[Section 10: Hardware Design](#) (501 kB) [sitecore]

[Index](#) (149 kB) [sitecore]

[Mixed Signal and DSP Design Techniques](#) -- zip file of entire book (3.76 MB) [analog dialogue]

Practical Design Techniques for Sensor Signal Conditioning, Edited by Walt Kester, Analog Devices, 1999, ISBN-0-916550-20-6



Compete sensor signal conditioning manual including bridge circuits, strain, force, pressure, flow measurements. high impedance sensors, position and motion sensors, temperature sensors. Fundamentals of amplifiers and ADCs for signal conditioning.

[Outline](#) (84 kB) [sitecore]

[Section 1: Introduction](#) (119 kB) [sitecore]

[Section 2: Bridge Circuits](#) (169 kB) [sitecore]

[Section 3: Amplifiers for Signal Conditioning](#) (354 kB) [sitecore]

[Section 4: Strain, Force, Pressure, and Flow Measurements](#) (132 kB) [sitecore]

[Section 5: High Impedance Sensors](#) (245 kB) [sitecore]

[Section 6: Position and Motion Sensors](#) (169 kB) [sitecore]

[Section 7: Temperature Sensors](#) (237 kB) [sitecore]

[Section 8: ADCs for Signal Conditioning](#) (228 kB) [sitecore]

[Section 9: Smart Sensors](#) (198 kB) [sitecore]

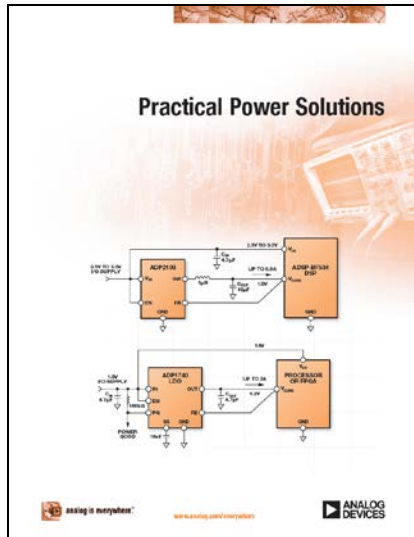
[Section 10: Hardware Design Techniques](#) (522 kB) [sitecore]

[Index](#) (67 kB) [sitecore]

[Practical Design Techniques for Sensor Signal Conditioning – zip file of entire book](#) (2.3 MB)

[ftp]

Practical Power Solutions, Edited by Walt Kester, Analog Devices, 2009



Modern power solutions using linear regulators, switching regulators, hot swap controllers, sequencers. Power circuit applications for FPGAs, DSPs, and linear circuit. PCB layout techniques for switching regulators.

[Table of Contents](#) (98 kB) [ftp]

[Section 1: Point-of-Load Power](#) (2.9 MB) [ftp]

Fixed Power Point-of-Load Applications

Linear Regulators

Switching Regulators and Controllers

Powering FPGAs

Powering DSPs

ADIsimPower Design Tool

Technical References

[Section 2: System Power Management and Portable Power](#) (2.8 MB) [ftp]

Designing a Typical System Power Chain

Microprocessor Supervisory Functions

Power Supply Monitoring and Sequencing

Hot Swap Controllers

Temperature Monitoring

Digital Isolation and Isolated Power

Digital Power Applications

Powering Portable Systems

Technical References

[Section 3: Power for Mixed Analog/Digital Systems](#) (3 MB) [ftp]

General Guidelines for Powering Analog Circuits

Powering Amplifiers

Powering ADCs

Powering Precision Analog Microcontrollers

Voltage References

Powering Clock Circuits

Reducing Power Supply Noise by Bulk Filtering

Reducing Ripple and Noise by Localized Decoupling and Filtering

[Reducing Power Supply Noise Using LDO Post Regulators](#)
[Reducing Power Supply Noise by Physical Separation from Analog Circuits](#)
[Reducing Noise in Mixed-Signal Circuits by Proper Grounding](#)
[Technical References](#)

[Section 4: Hardware Design Techniques](#) (1.4 MB) [ftp]

[Passive Components](#)
[Active Components](#)
[Power Supply Layout and Grounding](#)
[Shielding](#)
[Thermal Design](#)
[Technical References](#)

[Practical Power Solutions – zip file of entire book](#) (8.9 MB) [ftp]

The Scientist and Engineer's Guide to Digital Signal Processing, Steven W. Smith, Second Edition, California Technical Publishing , 1999, ISBN 0-9660176-7-6, ISBN 0-9660176-4-1, ISBN 0-9660176-6-8

This book provides a practical introduction to Digital Signal Processing. Covering a wide range of topics, this book is an ideal introductory text for those new to DSP, and an excellent reference for more experienced users.

[Table of Contents \(48 kB\)](#) [sitecore]

FOUNDATIONS

[Chapter 1: The Breadth and Depth of DSP \(41 kB\)](#) [sitecore]

[Chapter 2: Statistics, Probability and Noise \(417 kB\)](#) [sitecore]

[Chapter 3: ADC and DAC \(572 kB\)](#) [sitecore]

[Chapter 4: DSP Software \(129 kB\)](#) [sitecore]

FUNDAMENTALS

[Chapter 5: Linear Systems \(207 kB\)](#) [sitecore]

[Chapter 6: Convolution \(255 kB\)](#) [sitecore]

[Chapter 7: Properties of Convolution \(223 kB\)](#) [sitecore]

[Chapter 8: The Discrete Fourier Transform \(373 kB\)](#) [sitecore]

[Chapter 9: Applications of the DFT \(332 kB\)](#) [sitecore]

[Chapter 10: Fourier Transform Properties \(505 kB\)](#) [sitecore]

[Chapter 11: Fourier Transform Pairs \(427 kB\)](#) [sitecore]

[Chapter 12: The Fast Fourier Transform \(135 kB\)](#) [sitecore]

[Chapter 13: Continuous Signal Processing \(309 kB\)](#) [sitecore]

DIGITAL FILTERS

[Chapter 14: Introduction to Digital Filters \(200 kB\)](#) [sitecore]

[Chapter 15: Moving Average Filters \(165 kB\)](#) [sitecore]

[Chapter 16: Windowed-Sinc Filters \(286 kB\)](#) [sitecore]

[Chapter 17: Custom Filters \(272 kB\)](#) [sitecore]

[Chapter 18: FFT Convolution \(114 kB\)](#) [sitecore]

[Chapter 19: Recursive Filters \(294 kB\)](#) [sitecore]

[Chapter 20: Chebyshev Filters \(194 kB\)](#) [sitecore]

[Chapter 21: Filter Comparison \(125 kB\)](#) [sitecore]

APPLICATIONS

[Chapter 22: Audio Processing \(280 kB\)](#) [sitecore]

[Chapter 23: Image Formation and Display \(605 kB\)](#) [sitecore]

[Chapter 24: Linear Image Processing \(2 MB\)](#) [sitecore]

[Chapter 25: Special Imaging Techniques \(593 kB\)](#) [sitecore]

[Chapter 26: Neural Networks \(and more!\) \(386 kB\)](#) [sitecore]

[Chapter 27: Data Compression \(304 kB\)](#) [sitecore]

[Chapter 28: Digital Signal Processors \(436 kB\)](#) [sitecore]

[Chapter 29: Getting Started with DSPs \(1.1 MB\)](#) [sitecore]

COMPLEX TECHNIQUES

[Chapter 30: Complex Numbers \(287 kB\)](#) [sitecore]

[Chapter 31: The Complex Fourier Transform \(400 kB\)](#) [sitecore]

[Chapter 32: The Laplace Transform \(1.5 MB\)](#) [sitecore]

[Chapter 33: The z-Transform \(223 kB\)](#) [sitecore]

[Glossary \(98 kB\)](#) [sitecore]

[Index \(35 kB\)](#) [sitecore]

[The Scientist and Engineer's Guide to Digital Signal Processing – zip file of entire book \(8 MB\)](#) [sitecore]

A Technical Tutorial on Digital Signal Synthesis, Ken Gentile and Rick Cushing, Analog Devices, 1999

This tutorial provides an excellent treatment of the theoretical and practical aspects of direct digital synthesis (DDS).

[Outline](#) (15 kB) [ftp]

[Section 1. Fundamentals of DDS technology](#) (38 kB) [ftp]

[Section 2. Understanding the Sampled Output of a DDS Output](#) (19 kB) [ftp]

[Section 3. Frequency/phase-hopping Capability of DDS](#) (12 kB) [ftp]

[Section 4. The DDS Output Spectrum](#) (164 kB) [ftp]

[Section 5. High-speed Reference Clock Considerations](#) (55 kB) [ftp]

[Section 6. Interfacing to the DDS Output](#) (104 kB) [ftp]

[Section 7. DDS as a Clock Generator](#) (83 kB) [ftp]

[Section 8. Replacing/Integrating a PLL with a DDS Solution](#) (52 kB) [ftp]

[Section 9. Digital Modulator Application of DDS](#) (181 kB) [ftp]

[Section 10. Using Aliased Images to Generate Nyquist + Frequencies from a DDS](#) (103 kB) [ftp]

[Section 11. Ancillary DDS Techniques, Features, and Functions](#) (27 kB) [ftp]

[Section 12. Techniques for Bench Evaluation of a DDS Solution](#) (42 kB) [ftp]

[Section 13. Integrating DDS-based Hardware into a System Environment](#) (10 kB) [ftp]

[Section 14. DDS Product Selection Guide](#) (8 kB) [ftp]

[Appendices. Glossary, Acronyms, Pseudo Random Generator, Jitter Reduction](#) (66 kB) [ftp]

[A Technical Tutorial on Digital Signal Syntheses – pdf file of entire tutorial](#) (935 kB) [ftp]

Practical Design Techniques for Power and Thermal Management, Edited by Walt Kester, Analog Devices, 1998, ISBN-0-916550-19-2

Theory and applications for references, low dropout linear regulators, switching regulators, switched capacitor voltage converters, battery chargers, temperature sensors, hardware monitoring, PCB layout techniques relating to power supplies.

[Outline](#) (111 kB) [sitecore]

[Section 1: Introduction](#) (159 kB) [sitecore]

[Section 2: References and Low Dropout Linear Regulators](#) (554 kB) [sitecore]

[Section 3: Switching Regulators](#) (498 kB) [sitecore]

[Section 4: Switched Capacitor Voltage Converters](#) (213 kB) [sitecore]

[Section 5: Battery Chargers](#) (261 kB) [sitecore]

[Section 6: Temperature Sensors](#) (327 kB) [sitecore]

[Section 7: Hardware Monitoring](#) (188 kB) [sitecore]

[Section 8: Hardware Design Techniques](#) (1.8 MB) [sitecore]

[Index](#) (66 kB) [sitecore]

[Power and Thermal Management – zip file of entire book](#) (3.6 MB) [ftp]

High Speed Design Techniques, Edited by Walt Kester, Analog Devices, 1996, ISBN-0-916550-17-6

The second high speed seminar from Analog Devices representing a major update of the material covered in the 1990 High Speed Design Seminar.

[Preface](#) (95 kB) [sitecore]

[Section 1: High Speed Op Amps](#) (284 kB) [sitecore]

[Section 2: High Speed Op Amp Applications](#) (558 kB) [sitecore]

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[Section 4: High Speed Sampling and High Speed ADCs](#) (336 kB) [sitecore]

[Section 5: High Speed ADC Applications](#) (399 kB) [sitecore]

[Section 6: High Speed DACs and DDS Systems](#) (254 kB) [sitecore]

[Section 7a: High Speed Hardware Design Techniques](#) (598 kB) [sitecore]

[Section 7b: Grounding in High Speed Systems](#) (656 kB) [sitecore]

[High Speed Design Techniques – zip file of entire book](#) (3.2 MB) [ftp]

Practical Analog Design Techniques, Edited by Walt Kester, Analog Devices, 1995, ISBN-0-916550-16-8

Notes from a worldwide seminar that includes solutions to practical analog problems, such as single-supply amplifiers and systems, high speed, measurement, and hardware techniques.

[Outline](#) (29 kB) [ftp]

[Section 1: Single-Supply Amplifiers](#) (301 kB) [sitecore]

[Section 2: High Speed Op Amps](#) (569 kB) [sitecore]

[Section 3: High Resolution Signal Conditioning ADCs](#) (703 kB) [sitecore]

[Section 4: High Speed Sampling ADCs](#) (851 kB) [sitecore]

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[Section 8: Distortion Measurements](#) (376 kB) [sitecore]

[Section 9: Hardware Design Techniques](#) (1.4 MB) [sitecore]

[Practical Analog Design Techniques – zip file of entire book](#) (5 MB) [ftp]

Linear Design Seminar, Edited by Walt Kester, Analog Devices, 1995, ISBN-0-916550-15-X

Notes from a general purpose linear seminar including basics of amplifiers, data converters, data acquisition, filtering, and hardware design techniques.

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[Linear Design Seminar – zip file of entire book](#) (64 MB) [ftp]

A Tutorial in AC Induction and Permanent Magnet Synchronous Motors, Vector Control with Digital Signal Processors, Fred Flett, Analog Devices, 1994

A detailed treatment of AC induction and permanent magnet synchronous motors with emphasis on vector control using digital signal processors.

[Table of Contents](#) (300 kB) [ftp]

[Part 1 Chapter 1: Overview of AC Drives](#) (204 kB) [ftp] [ftp]

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[Part 1 Chapter 3: Induction Motors](#) (842 kB) [ftp]

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[A Tutorial in AC Induction and Permanent Magnet Synchronous Motors, Vector Control with Digital Signal Processors – zip file of entire book](#) (6.7 MB) [ftp]

System Applications Guide, Edited by Walt Kester, Analog Devices, 1993, ISBN-0-916550-13-3

A worldwide seminar including a comprehensive discussion of the major parts of a system from the input amplifier to the digital outputs.

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[System Applications Guide – zip file of entire book](#) (86 MB) [ftp]

Amplifier Applications Guide, Edited by Walt Kester, Analog Devices, 1992, ISBN-0-916550-10-9

A worldwide seminar series focused primarily on amplifiers and their applications, with emphasis on single-supply and precision.

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Mixed-Signal Design Seminar, Edited by Walt Kester, Analog Devices, 1991, ISBN-0-916550-08-7

The first Analog Device's worldwide seminar to treat the fundamentals of data conversion for DSP applications, including Fast Fourier Transforms, Digital Filters, and DSP hardware.

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High Speed Design Seminar, Edited by Walt Kester, Analog Devices, 1990, ISBN- 0-916550-07-9

The first in a series of worldwide seminars on high speed circuits and applications.

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Linear Design Seminar, Analog Devices, 1987

A general purpose seminar on linear circuits.

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[Appendices](#) (1.6 MB) [ftp]

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RMS-to-DC Application Guide, Second Edition, Edited by Dan Sheingold, Analog Devices, 1986

An excellent treatment of the theory and applications of RMS-to-DC converters.

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[RMS-to-DC Application Guide – zip file of entire book](#) (10.6 MB) [ftp]

Analog-Digital Conversion Handbook, Edited by Dan Sheingold, Analog Devices/Prentice-Hall, 1986

This industry classic book stood the test of time for nearly two decades.

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[Bibliography and Index](#) (2.3 MB) [ftp]

[Analog-Digital Conversion Handbook, 1986 – zip file of entire book](#) (73 MB)

CMOS DAC Application Guide, Phil Burton, Analog Devices, Third Edition 1984

A comprehensive treatment of CMOS DAC technology of the 1980s with theory and practical applications.

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[Chapter 6: Applications](#) (4.6 MB) [ftp]

[CMOS DAC Application Guide – zip file of entire book](#) (9.1 MB) [ftp]

Transducer Interfacing Handbook, Edited by Dan Sheingold, Analog Devices, 1980

A major treatment of transducers, and transducer signal conditioning.

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[Transducer Interfacing Handbook – zip file of entire book](#) (21 MB)

Synchro and Resolver Conversion, Geoffrey Boyes, Analog Devices, 1980

An excellent treatment of synchros, resolvers, and resolver-to-digital conversion with applications. Prepared by the staff of Memory Devices, a division of Analog Devices in the UK where the products were initially manufactured during the 1970s.

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[Appendices](#) (2.4 MB) [ftp]

[Synchro and Resolver Conversion – zip file of entire book](#) (20 MB) [ftp]

Multiplier Application Guide, Edited by Dan Sheingold, Analog Devices, 1978

A detailed treatment of the theory and applications of analog multipliers.

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Analog-Digital Conversion Notes, Edited by Dan Sheingold, 1977

The popularity of the 1972 Analog-Digital Conversion Handbook led to this update that became the basis for a popular seminar series.

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[Analog-Digital Conversion Notes, 1977 – zip file of entire book](#) (32 MB) [ftp]

Nonlinear Circuits Handbook, Edited by Dan Sheingold, Analog Devices, 1976

One of the first books devoted exclusively to nonlinear circuits including multipliers, modulators, mixers, logarithmic amplifiers, rms-to-dc converters, and other translinear circuits.

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[Appendix, Bibliography, and Index](#) (1.9 MB) [ftp]

[Nonlinear Circuits Handbook – zip file of entire book](#) (40 MB) [ftp]

Analog-Digital Conversion Handbook, Edited by Dan Sheingold, Analog Devices, 1972 (

An industry first in a series of comprehensive books on analog-to-digital conversion.

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[Bibliography and Index](#) (806 kB) [ftp]

[Analog-Digital Conversion Handbook, 1972 – zip file of entire book](#) (27 MB) [ftp]

Ray Stata Op Amp Articles, 1960s

These are a collection of technical articles written by Ray Stata shortly after the founding of ADI. The material is timeless, although some of the terminology has been changed. Of particular interest is the "Speaks Out" article. This was a popular series in EEE magazine where various "experts" spoke out on topics of interest at the time. Ray discusses a number of pitfalls in applying op amps that are still troublesome to engineers today.

[Operational Amplifiers, Parts 1: Principles of operation and analysis of errors; Part 2: Inverting, non-inverting, and differential configurations, September and November 1965 issues of Electromechanical Design.](#) (2.2 MB) [ftp]

[Operational Integrators, Analog Dialogue, Vol. 1, April 1967 \(Also reprinted as AN-357\)](#) (1.3 MB) [ftp]

[Users Guide to Applying and Measuring Operational Amplifier Specifications, Analog Dialogue, Vol. 3, September 1967 \(Also reprinted as AN-356\)](#) (3.6 MB) [ftp]

[Applications Manual for Models 201, 202, 203, 210 Chopper Stabilized Operational Amplifiers, Analog Devices, 1967](#) (1.7 MB) [ftp]

[Ray Stata of Analog Devices Speaks Out on What's Wrong with Op-Amp Specs, EEE Magazine, July 1968.](#) (1.5 MB) [ftp]

[Ray Stata Op Amp Articles – zip file of entire collection](#) (10 MB) [ftp]

[Evolution from Operational Amplifier to Data Amplifier, by Robert Demrow, Analog Devices, 09/1968](#) (3.7 MB) [analog dialogue]

A classic analysis of op amps provided by an early Analog Devices' scientist, Robert Demrow.

Applications Manual for Computing Amplifiers for Modeling, Measuring, Manipulating, and Much Else, 1966

A classic publication by George A. Philbrick Researches on the basics of operational amplifiers. Includes a discussion of using op amps as computational elements in analog computers. Contributors include Dr. Peter Hansen, Bruce Seddon, Robert Malter, and Bob Pease. Edited by Dan Sheingold, 1966. Now out of print, it has been rendered online by its original editor and the staff at Analog Devices, Inc. © 2004. In 1965 early IC op amps lacked the support of suitable texts to educate, inform, and stimulate design engineers. In response, George A. Philbrick Researches, Inc. devised this Applications Manual, using Ted Gams's unique modular approach to apportioning text and graphics to individual topics. It was eagerly adopted and is fondly remembered by designers of an earlier generation; its ideas still remain fresh several generations later.

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