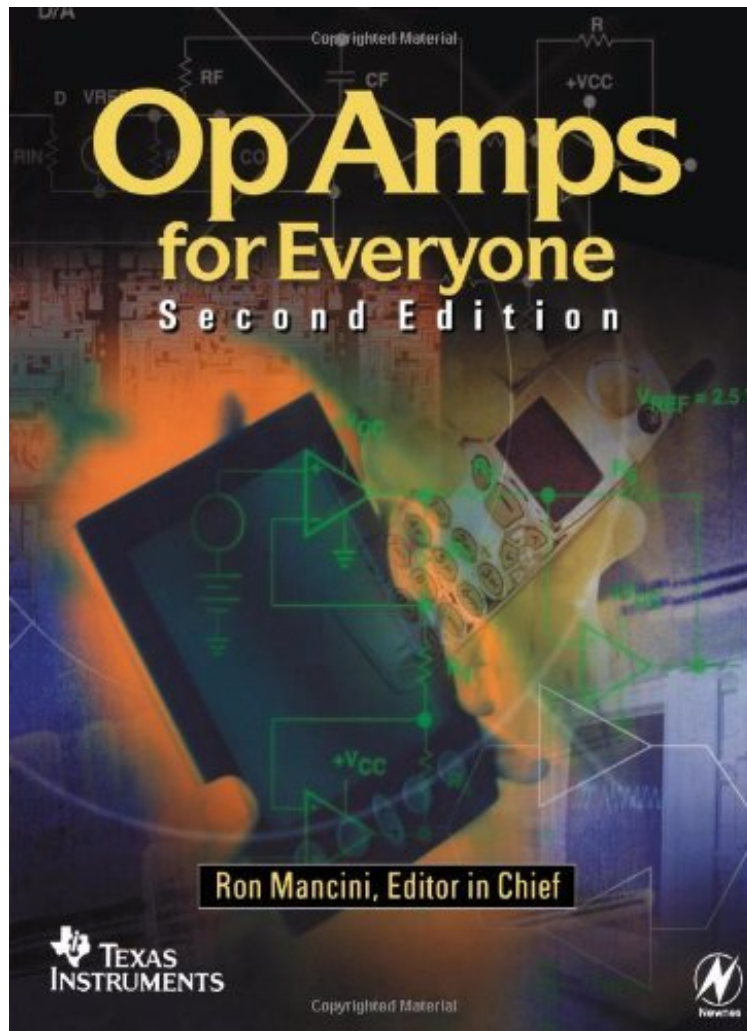


[Download pdf] Op Amps for Everyone

# Op Amps for Everyone

Bruce Carter

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**Bruce Carter : Op Amps for Everyone** before purchasing it in order to gage whether or not it would be worth my time, and all praised Op Amps for Everyone:

19 of 20 people found the following review helpful. One for the designer's bookshelf  
By John A. Faulkner  
Written by experienced, practicing engineers from Texas Instruments, this book provides the best general coverage of circuit design with op amps that I have seen. While there are some parts that provide only a basic introduction to complex areas, there is enough here for the learner to take and make a start with before attempting a deeper study of specialist areas. Theory is gently introduced and practical examples given. Especially valuable are the circuit layout techniques given. They are obviously the result of TI's hard-won experience. You could use this as an introductory text for formal learning or self education, or just have it to hand as a reference. To fully make use of this book you should have a grounding in circuit theory and solid state design equivalent to a first or second year university or TAFE student. The self-educated could make use of it, provided they have not skipped matrix algebra or complex numbers. Chapter

headings include Development of the ideal op amp equations- inverting and non-inverting, adders, differential amps, complex feedback, video amps. A comprehensive coverage of the theory. Single supply op amp design techniques- circuit analysis and simultaneous equations. You really need to go back to a good text of matrix algebra and follow up on this. Feedback and stability theory.- a good introduction, but you need to read, say, Sedra Smith after this. Instrumentation: Sensors to A/D converters- transducer types, design procedures, ADC issues. Excellent introduction. Wireless communication: signal conditioning for If sampling- restricted to GSM and W-CDMA mobile/cellular phones. Some can be applied to digital radio, but there is better elsewhere for other wireless applications. Interfacing D/A converters and loads- load characteristics, D/A converters, error budgets. Good treatment of design issues which are often hard to find information on. Sine wave oscillators- comprehensive treatment of phase shift and quadrature oscillators at baseband. Active filter design techniques.- low pass, high pass, band pass, band reject, all-pass. Comprehensive coverage, but you should then go on to Chen or other standards for more detail. Circuit board layout techniques- excellent treatment. There is a lot to be learned here! Designing low-voltage op amp circuits.- good practical hints and tips. There are also forty well-chosen practical circuits including a number of analogue computer circuits (that neglected topic) that have modern, non-computing uses. 21 of 21 people found the following review helpful. Good book on op-amps By Anton Zemlyanov This book is good for both beginners and professionals. The first chapters have introduction to circuits and op-amps analysis and introduce canonic op-amp schematics. The last chapters cover specific areas in quite good depth. The book is available for free at the [...] (reference number spold006b), so you can preview it before buying a paper version.

The operational amplifier ("op amp") is the most versatile and widely used type of analog IC, used in audio and voltage amplifiers, signal conditioners, signal converters, oscillators, and analog computing systems. Almost every electronic device uses at least one op amp. This book is Texas Instruments' complete professional-level tutorial and reference to operational amplifier theory and applications. Among the topics covered are basic op amp physics (including reviews of current and voltage division, Thevenin's theorem, and transistor models), idealized op amp operation and configuration, feedback theory and methods, single and dual supply operation, understanding op amp parameters, minimizing noise in op amp circuits, and practical applications such as instrumentation amplifiers, signal conditioning, oscillators, active filters, load and level conversions, and analog computing. There is also extensive coverage of circuit construction techniques, including circuit board design, grounding, input and output isolation, using decoupling capacitors, and frequency characteristics of passive components. The material in this book is applicable to all op amp ICs from all manufacturers, not just TI. Unlike textbook treatments of op amp theory that tend to focus on idealized op amp models and configuration, this title uses idealized models only when necessary to explain op amp theory. The bulk of this book is on real-world op amps and their applications; considerations such as thermal effects, circuit noise, circuit buffering, selection of appropriate op amps for a given application, and unexpected effects in passive components are all discussed in detail. \*Published in conjunction with Texas Instruments\* A single volume, professional-level guide to op amp theory and applications \*Covers circuit board layout techniques for manufacturing op amp circuits.

... the book takes a different approach from the traditional textbook treatment of op amp theory in that the book is based on real-world op amps and their applications. There is also extensive coverage of circuit construction techniques, including circuit board design, grounding, input and output isolation, using decoupling capacitors, and frequency characteristics of passive components. The material in this book is applicable to op amp ICs from all manufacturers. - EDACafe.com About the Author Bruce Carter holds dual degrees, Engineering Physics from Texas Tech University, and Electrical Engineering at the University of Texas. He has over 30 years of experience in analog design for military and oil field service companies. He was an applications engineer at Texas Instruments for 9 years, where he authored application notes, contributed articles, and knowledge base FAQ's.