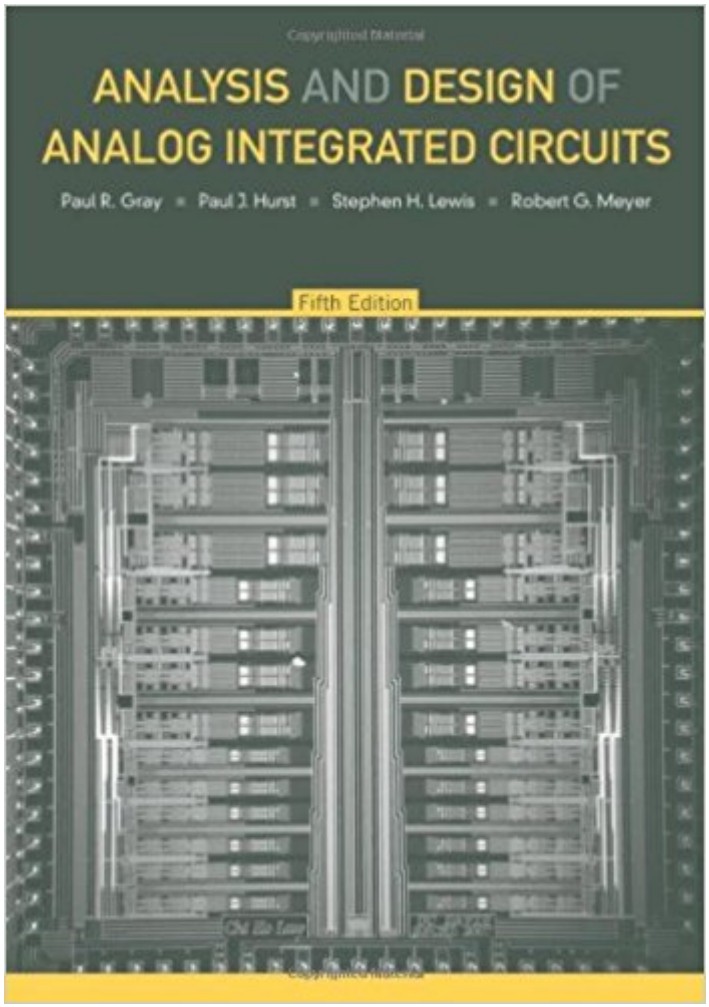
# Analysis And Design Of Analog Integrated Circuits, 5th Edition



## Synopsis

This is the only comprehensive book in the market for engineers that covers the design of CMOS and bipolar analog integrated circuits. The fifth edition retains its completeness and updates the coverage of bipolar and CMOS circuits.  A thorough analysis of a new low-voltage bipolar operational amplifier has been added to Chapters 6, 7, 9, and 11.  Chapter 12 has been updated to include a fully differential folded cascode operational amplifier example. With its streamlined and up-to-date coverage, more engineers will turn to this resource to explore key concepts in the field.

## Book Information

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## Customer Reviews

"Intended both for students and as a reference for working engineers, the fifth edition of this popular engineering textbook is updated to include discussions of newly available integrated circuits as well as general advances in the field. Drawn from material taught to high level seniors and graduate students at the University of California’s Berkeley and Davis engineering departments, the work covers such topics as the physics of bipolar and MOS transistors, the technology of integrated circuit (IC) fabrication and the design and uses of operational amplifiers as well as many advanced topics in IC principles and design." (Reference and Research Book News, February 2011)

This is an outstanding textbook and is the best overall book I have found on analog design. Anyone contemplating writing a technical textbook should read this book to see how it is done.The text begins with the obligatory review of device physics and the development of active device models.

MOS and bipolar devices are introduced together and the book switches back and forth between the two technologies with ease. Many analog texts will overdo bipolar design and skimp on MOS--while the vast majority of contemporary design is MOS-centric.Derivations are methodical and beautiful. The authors are masterful at mathematical derivations. I particularly appreciate the way the authors will introduce a topic for bipolar design and then repeat for MOS design without skimping on the details. The repeative analysis may be slightly redundant to the experienced professional--but should be a delight to the student diving into analog design for the first time.On the negative side, the book is a classic and has been in print for over a quarter of a century. The fundamentals are covered in great detail--and the basics are still the basics. Nevertheless, a few things have changed. For instance, integrated inductors (a mainstay of CMOS RF ICs) are casually dismissed as impractical.But all in all, a very fine text. Well worth reading for anyone serious about analog design.

This book goes into a lot of depth in the analysis and design of modern devices in Analog IC's. It does not assume anything and gives the reader insight on how all the models are derived (SPICE, HYBRID-PI etc). It goes into excellent detail for dealing with hand calculations which will give you a first order analysis of the circuit in question (with reasonable accuracy).I got my original recommendation from other  reviews (5-Star rating) and I whole-heartedly agree with them. If you are serious about Analog IC design, then this book is a MUST for you. It will not remain on your shelf, I promise!

Very thorough review of solid state design concepts. It could have used a little more references at the end of chapters, however. As a book that has a superficial nature should provide more sources for further study of specific topics.

This is a really good, fundamentals based text on analog circuit design. Its pretty much mandatory "second level" (after _Art Of Electronics_) reading. The book is useful for anyone doing analog circuit design, even if you aren't designing custom ICs. (Most of the topics it discusses are useful for integrated or discrete design) It develops analog design from the fundamental working principals of transistors, discussing the fundamental building blocks used in most analog circuits.The book is very math heavy but doesn't require a deep understanding of physics. It doesn't have as many fully worked circuit examples as I would like to see. I would highly recommend this book for anyone studying or learning analog electronics.

It is a bible textbook of AIC design. It is suggested students and engineers involved in AIC design should overall read this book.

Required reading, I would think, for anyone in the business, or studying to get into the business, of design & development of analog IC's. If you haven't already been introduced to this book, better make it a part of your library.You'll find good stuff on: Large & small signal BJ & MOS transistor models, An informative chap. on IC technology & construction, Good chap. on current mirrors & active loads, Several chaps. on amps. including a detailed analysis of 741, Good info. on frequency response & analysis of IC opamps., Chaps. on feedback & stability of IC opamps, A lot of attention to MOS technology throughout, Loads of transistor equations & useful approximations.Also there's other material which should interest anyone in analog circuit design, including discrete design. There's even an interesting chap. on circuit noise, which for me had been a subject with about as much sex appeal as Thermodynamics.Be forwarned, this isn't for the novice circuit designer. It's a rather rough trudge to make your way through the book. But as far as I'm capable of critically reviewing, this is a very well written book with very few errors (4th edition). There're a few quirks here & there. For example they introduce their own symbols for MOS transistors (as if we don't have enough), over play SPICE as "an integral part of many examples", & make stability analysis witht Bode plots (Bode not credited) more complicated than need be. However, these are trivial when compared to the overall work.I would therefore give the authors a resounding 5 stars. However, I can't do so for the version of the book which I received. I bought the book for self-study purposes. I was very disappointed to find 20 to 40 problems @ the end of each chap., but with NO answers! I assume this is the decision of the publisher. It's one thing not to include problems in a book (as in a thesis or paperback), but quite another to include problems (as in a "textbook") without any answers to those problems.So, look elsewhere first, if you're looking for a self-study aid on the subject.

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poorly printed



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