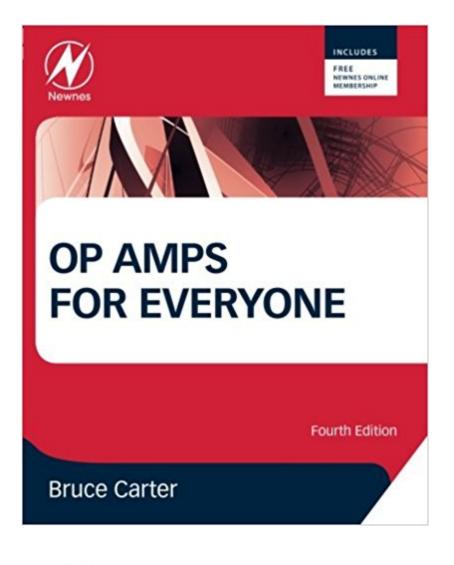
Op Amps For Everyone, Fourth Edition





Synopsis

Op Amps for Everyone is an indispensable guide and reference for designing circuits that are reliable, have low power consumption, and are as small and low-cost as possible. Operational amplifiers are essential in modern electronics design, and are used in medical devices, communications technology, optical networks, and sensor interfacing. This book is informed by the authors' years of experience, wisdom and expertise, giving engineers all the methods, techniques and tricks that they need to optimize their analog electronic designs. With this book you will learn: Single op amp designs that get the most out of every amplifier Which specifications are of most importance to your design, enabling you to narrow down the list of amplifiers to those few that are most suitable Strategies for making simple "tweaks" to the design â " changes that are often apparent once a prototype has been constructedHow to design for hostile environments â " extreme temperatures, high levels of shock, vibration, and radiation â " by knowing what circuit parameters are likely to degrade and how to counteract that degradation New to this edition: Unified design procedures for gain and offset circuits, and filter circuitsTechniques for voltage regulator designInclusion of design utilities for filter design, gain and offset, and voltage regulationAnalysis of manufacturer design aids Companion website with downloadable materialA complete, cookbook-style guide for designing and building analog circuits A multitude of workable designs that are ready to use, based on real-world component values from leading manufacturers using readily available components A treasure trove of practical wisdom: strategies to tweak a design; guidelines for developing the entire signal chain; designing for hostile environments, and more

Book Information

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Customer Reviews

I have mixed feelings about this book, from a certain perspective, the book starts wonderfully, the first chapters are filled with lots of examples, everything is great up to the filtering section which in my opinion could have added more filters besides Butterworth, but the author's approach to filter design is so simple that the chapter is worth reading it. However, after that chapter things start to go a bit downhill, the next 2 or 3 chapters are very vague and short. I would even say that those chapters are there just to make the book a bit thicker, with no design examples and merely conversational explanations. The opamps for RF chapter was a complete disappointment, it was really vague with no real design or practical examples, at least nothing worth noting. The last chapters/appendixes (which cover around half the book) are guite good, they offer a "theasaurus" of opamp terminology along with a brief explanation of each term, plus circuit building techniques, decoupling, noise theory, etc., chapter 13 regarding common mistakes was guite good. The author takes for granted several terms and concepts, most of the time they are not hard and I did understand them because im an EE, however I kept repeating to myself: "this book is NOT for everyone", I was surprised that all that "step by step" approach to explaining circuits and terms from the first chapters suddenly vanished around halfway into the book. I initially bought this book because I cant stand reading PDF's, so I wanted to get a hardcopy of the free TI's "Opamps for everyone" book by Rob Mancini, and since Bruce Carter is actually one of the authors of that book, I immediately assumed this was the same book, it is not, although they both share common content, yet the free version has more material.

The first op amp helped win world war II, because the 1940-41 "tube" design of that summer was the heart of artillery accuracy. The next 10 years were about to invert or not invert, and at that time digital math was as yet an infant, and analog computers-- including the rudiments of CAS-- were the workhorse application of op-amps.For reference, I'm an EE who reviews new circuit designs for patentability at payroy dot com, and believe it or not, in the area of op-amps, I see nearly as many "hobbyist" EE's as "pros!" So when Bruce says this is for EVERYONE, he is NOT kidding! If you deal with novel circuit designs every day, you quickly realize that the world of electronics has now seriously gone embedded. The era of the general chip, even in parallel processing, is being eclipsed by more and more specialized, and thus narrowly yet significantly patentable, designs.The

hottest areas I see are still in defense, medical devices, transportation and communication, but what goes around comes around: 555 timers and oscillators as well as op-amps have now "grown up" and are finding new niches daily in embedded applications-- this text is a MUST HAVE whether you are a hobbyist or EE in a design firm. The only real question is: can I get away with my previous, much cheaper edition?Happily and sadly, no. I know, you're going to say that, since the 80's, a buffer is a buffer is a... filter, A/D converter, oscillator, waveform generator (including quantum!), integrator/differentiator, rectifier, voltage clamp, gain/offsetter, etc. If you've owned previous editions, you already know that the PRACTICAL value of Carter's approach is in the details and tips, and especially in transition and integration-- to and from drawing board, and to and from prototypes and manufacturing.

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