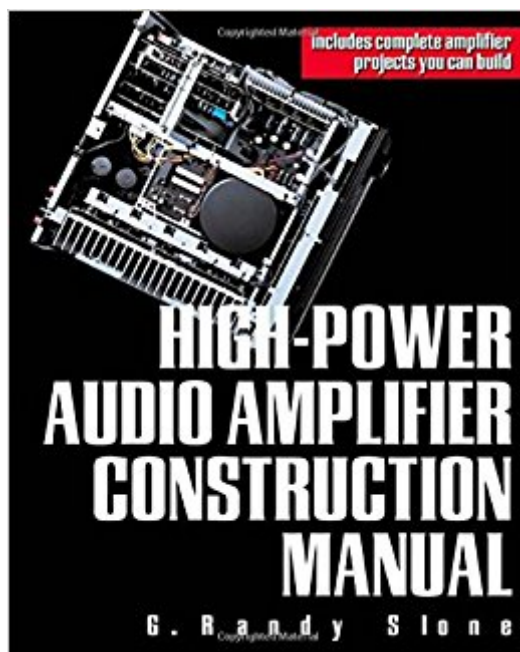


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# High-Power Audio Amplifier Construction Manual



## Synopsis

Design and build awesome audio amps. Amateur and professional audiophiles alike can now design and construct superior quality amplifiers at a fraction of comparable retail prices with step-by-step instruction from the High-Power audio Amplifier Construction Manual. Randy Slone, professional audio writer and electronics supply marketer, delivers the nuts-and-bolts know-how you need to optimize performance for any audio system--from home entertainment to musical instrument to sound stage. Build a few simple projects or delve into the physics of audio amplifier operation and design. This easy to understand guide walks you through: Building the optimum audio power supply; Audio amplifier power supplies and construction; Amplifier and loudspeaker protection methods; Stability, distortion, and performance; Audio amplifier cookbook designs; Construction techniques; Diagnostic equipment and testing procedures; Output stage configurations, classes, and device types; Crossover distortion physics; Mirror-image input stage topologies.

## Book Information

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## Customer Reviews

... Randy Slone regurgitates no one; he states in his own words, clearly and in accessible language for the non-specialist, established principles of solid state amplifier design, and places these in the context of his suggested projects. One chapter is devoted to twelve "ready-to-construct" cookbook designs, and full-size PC board artwork for several of these are provided in an appendix. In short, if you want to build and/or design your own audio power amplifiers, this is an excellent resource. Randy Slone begins with the basics of acoustics relating to audio power amplifiers and

methodically walks the reader through a variety of designs, ranging from old to new, and simple to complex. As one would expect, much of this information is founded upon well established research. There is also a significant portion devoted to new techniques and principles of amplifier physics which help to de-mystify amplifier operation and provide pathways to improved performance. Unlike many similar textbooks that focus on only one topology or design philosophy, Randy Slone examines the broad range of amplifier configurations and power capabilities, including mirror-image input stages, fully-complementary VA stages, paralleled output stages, and lateral MOSFET designs. Randy Slone may be somewhat opinionated, but his opinions appear to be logical reflections of measurable facts; and as any good scientist knows, that what cannot be measured does not exist for the world of science and engineering. He makes short shrift of tube cult; these are devices that produce measurable distortion and can never compete with the power capacity of modern solid state systems. The writing style and technical descriptions are easy to follow although a background in electronic fundamentals is helpful. No more than high school algebra is needed. Occasional humor increases the reading pleasure. Randy Slone has the somewhat eccentric habit of discussing current flow as if it traveled from negative to positive pole, while the convention is to describe it moving the other way. Once the reader becomes accustomed to this way of thinking - not too silly for electrons do indeed travel from negative to positive - it becomes easier to read. It is a complete resource for designing and constructing your own high-quality audio power amplifier systems. I am currently building myself six of Randy Slone's OPTIMOS kits after reading the book. The fact that Randy Slone also sells the kits from his web site is a highly positive feature. Imagine trying to source all those components and make the PCBs yourself. Furthermore, Randy Slone is always available to help with specific questions and suggestion on a one to one basis. He really does answer his e-mail. Highly recommended.

I can not speak highly enough of this book. If you want to build your own amps, modify an existing amp, or just learn a lot of electronics all related to audio, this book is worth its weight in gold. The author even sells kits, parts, circuit boards, transformers, capacitors, etc. in the back of the book. Although I am now an electronic engineer, I wasn't when I built my first audio amplifier kits back in the 70's. And although this is not written for someone without any knowledge of electronics, I wish I could have read it 25 years ago when I was just beginning to learn; it would have been more helpful than most classes I've taken. The author quite systematically and accurately goes through every stage of audio amplifiers, and even talks about the bizarre stuff: the "magical" capacitors, tubes, expensive wire, etc. By the time you're done with this book you can have the best sounding

amplifier in town for less money than some people spend on speaker wire, and you'll understand how it works and why. After reading the book I had a question and I e-mailed the author. He wrote me back a very detailed letter the very next day! Also, this is a big book with 476 pages with high quality print and lots of very clear schematics. Whether you're a weekend hobbyist or an electronic engineer designing audio power amplifiers, you will find immense amounts of extremely valuable information in this book. I can't recommend it high enough.

This book will take you by the hand and put you "in the know" if you are attempting to learn about or construct high power audio amplifiers. Mr Slone is very adept at explaining the necessary concepts in a way that can be easily understood. Anyone with technical ability and a reasonable amount of electronics experience should be able to take this book and build an exceptional amplifier. What I particularly like about the book is it not only tells you the details that you must know, it also tells you why and is very solidly backed up with examples. The book literally covered everything I wanted to know (and then some) about amplifiers. From power supplies to the output stages, he very thoroughly unravels the details that separate the truly great designs from mediocre ones (you may never look at your commercially manufactured amp the same way again!) Designs and artwork are included for 12 different amplifiers, each geared towards different applications- and all sporting exceptional performance numbers. Mr Slone has designed these projects around components that are readily accessible and can actually be ordered at very reasonable prices through his business, Seal Electronics. If you want to build, modify, troubleshoot, or just learn what makes an amplifier tick, then this book is the answer.

For those interested in building power amplifiers, this is an excellent place to learn. Whether you are a beginner or a veteran, this book provides a scientific approach to design and construction without any High-End foolery. While I cannot confirm the authors opinions about amplifier design criteria, he does give explanations why popular concepts are wrong or misguided (some audiophiles might become offended by his blunt statements). If you are looking for a tool to guide you through the components of amplifier design (all explained in detail with examples), then this is it. I have been building a high quality, audiophile amplifier for the past two years and didn't totally understand how to size the transformer until reading this book. A beginner course in electronics and an understanding of how transistors work would definately be beneficial, but not mandatory. The design examples and PC board artwork are a huge plus for this book. Highly recommended!

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