



The Design of Active Crossovers

Douglas Self

Download now

[Click here](#) if your download doesn't start automatically

The Design of Active Crossovers

Douglas Self

The Design of Active Crossovers Douglas Self

The Design of Active Crossovers is a unique guide to the design of high-quality circuitry for splitting audio frequencies into separate bands and directing them to different loudspeaker drive units specifically designed for handling their own range of frequencies. Traditionally this has been done by using passive crossover units built into the loudspeaker boxes; this is the simplest solution, but it is also a bundle of compromises. The high cost of passive crossover components, and the power losses in them, means that passive crossovers have to use relatively few parts. This limits how well the crossover can do its basic job.

Active crossovers, sometimes called electronic crossovers, tackle the problem in a much more sophisticated manner. The division of the audio into bands is performed at low signal levels, before the power amplifiers, where it can be done with much greater precision. Very sophisticated filtering and response-shaping networks can be built at comparatively low cost. Time-delay networks that compensate for physical misalignments in speaker construction can be implemented easily; the equivalent in a passive crossover is impractical because of the large cost and the heavy signal losses. Active crossover technology is also directly applicable to other band-splitting signal-processing devices such as multi-band compressors.

The use of active crossovers is increasing. They are used by almost every sound reinforcement system, by almost every recording studio monitoring set-up, and to a small but growing extent in domestic hifi. There is a growing acceptance in the hifi industry that multi-amplification using active crossovers is the obvious next step (and possibly the last big one) to getting the best possible sound. There is also a large usage of active crossovers in car audio, with the emphasis on routing the bass to enormous low-frequency loudspeakers.

One of the very few drawbacks to using the active crossover approach is that it requires more power amplifiers; these have often been built into the loudspeaker, along with the crossover, and this deprives the customer of the chance to choose their own amplifier, leading to resistance to the whole active crossover philosophy. A comprehensive proposal for solving this problem is an important part of this book.

The design of active crossovers is closely linked with that of the loudspeakers they drive. A chapter gives a concise but complete account of all the loudspeaker design issues that affect the associated active crossover.

This book is packed full of valuable information, with virtually every page revealing nuggets of specialized knowledge never before published. Essential points of theory bearing on practical performance are lucidly and thoroughly explained, with the mathematics kept to an essential minimum. Douglas' background in design for manufacture ensures he keeps a wary eye on the cost of things.

Features:

Crossover basics and requirements

The many different crossover types and how they work

Design almost any kind of active filter with minimal mathematics

Make crossover filters with very low noise and distortion

Make high-performance time-delay filters that give a constant delay over a wide range of frequency

Make a wide variety of audio equaliser stages: shelving, peaking and notch characteristics

All about active crossover system design for optimal noise and dynamic range

There is a large amount of new material that has never been published before. A few examples: using capacitance multipliers in biquad equalisers, opamp output biasing to reduce distortion, the design of NTMTM notch crossovers, the design of special filters for filler-driver crossovers, the use of mixed capacitors to reduce filter distortion, differentially elevated internal levels to reduce noise, and so on.

Douglas wears his learning lightly, and this book features the engaging prose style familiar from his other books *The Audio Power Amplifier Design...*

 [Download The Design of Active Crossovers ...pdf](#)

 [Read Online The Design of Active Crossovers ...pdf](#)

Download and Read Free Online The Design of Active Crossovers Douglas Self

From reader reviews:

Gale Kizer:

The publication with title The Design of Active Crossovers has a lot of information that you can find out it. You can get a lot of benefit after read this book. This particular book exist new expertise the information that exist in this e-book represented the condition of the world now. That is important to yo7u to find out how the improvement of the world. This specific book will bring you with new era of the the positive effect. You can read the e-book in your smart phone, so you can read that anywhere you want.

Julia Hale:

Reading can called imagination hangout, why? Because if you find yourself reading a book specifically book entitled The Design of Active Crossovers your head will drift away trough every dimension, wandering in most aspect that maybe unfamiliar for but surely will become your mind friends. Imaging each word written in a guide then become one application form conclusion and explanation in which maybe you never get just before. The The Design of Active Crossovers giving you one more experience more than blown away the mind but also giving you useful data for your better life within this era. So now let us explain to you the relaxing pattern is your body and mind will be pleased when you are finished reading it, like winning a casino game. Do you want to try this extraordinary investing spare time activity?

Robert Cobb:

Would you one of the book lovers? If yes, do you ever feeling doubt if you are in the book store? Try to pick one book that you find out the inside because don't assess book by its cover may doesn't work this is difficult job because you are scared that the inside maybe not seeing that fantastic as in the outside look likes. Maybe you answer can be The Design of Active Crossovers why because the excellent cover that make you consider in regards to the content will not disappoint anyone. The inside or content is fantastic as the outside or even cover. Your reading sixth sense will directly assist you to pick up this book.

Sharon Hite:

In this period of time globalization it is important to someone to obtain information. The information will make professionals understand the condition of the world. The condition of the world makes the information better to share. You can find a lot of references to get information example: internet, newspapers, book, and soon. You will observe that now, a lot of publisher that print many kinds of book. Typically the book that recommended to your account is The Design of Active Crossovers this guide consist a lot of the information on the condition of this world now. This particular book was represented how does the world has grown up. The dialect styles that writer use for explain it is easy to understand. The particular writer made some investigation when he makes this book. This is why this book suited all of you.

**Download and Read Online The Design of Active Crossovers
Douglas Self #EKVYJWDCU1Z**

Read The Design of Active Crossovers by Douglas Self for online ebook

The Design of Active Crossovers by Douglas Self Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read The Design of Active Crossovers by Douglas Self books to read online.

Online The Design of Active Crossovers by Douglas Self ebook PDF download

The Design of Active Crossovers by Douglas Self Doc

The Design of Active Crossovers by Douglas Self Mobipocket

The Design of Active Crossovers by Douglas Self EPub