

Book Reviews:

A Collage of EE-Interest Books.

This time around we take a look at a variety of EE-interest books, both of an analog design as well as computer-related nature. This book listing doesn't follow the classical form of book review, which looks at recent titles in high detail. Instead, it is more of an overview of still-current or fairly recent works that have continuing interest.

Analog design books: *The Art and Science of Analog Circuit Design*, edited by Jim Williams; ISBN: 0-7506-9505-6, \$49.95, 398 pages with index, is a book available from Butterworth-Heinemann, (800) 366-2665. This one, like its predecessor volume of a similar size, *Analog Circuit Design: Art, Science, and Personalities*, (\$31.95 in paperback from the same publisher) is a collection of analog design perspective essays by various expert designers. In both of these books Williams has assembled some unusual writings, doing so in a style and format simply not found at all in conventional engineering handbooks with diverse author sources.

Jim Williams is well known for his many articles in *Electronic Design* and other electronic industry design publications, and has an analog career that includes experience at MIT, National Semiconductor, and Linear Technology Corporation, where he is currently a staff scientist. I got to know Jim while I was with Linear Technology a few years back, and he is always colorful in terms of personality as well as his writings. His writing style invariably reflects unusual insight into a wide array of analog designs. But, in defining and editing these books, he also has shown a quality of vision and selection of what makes good, analog-oriented reading from a multitude of individual authors. Since we all know that analog designers by nature tend to be mavericks, this last accomplishment by itself is no mean feat.

Some insight of what these books are about can be gleaned from the preface: "...What we concluded went something like this: everyone would go

off and write about anything that could remotely be construed as relevant to analog design. Additionally, no author would tell any other author what they were writing about. The hope was that the reader would see many different styles and approaches to analog design, along with some commonalities..."

Although to some this might sound like a recipe for disaster, in the end, the results for both books speak for themselves. It works, and it's fun! In "Art and Science," 16 contributors offer 20 separate chapters on various analog-related topics, not all purely design-related—sections on marketing and careers also are included. A sampling of just some of the more interesting chapters includes the following:

Editor/author Williams contributes three chapters: "The Importance of Fixing," focusing on the educational and self-growth aspects of same; "Tripping The Light Fantastic," a fascinating treatise on Royer and other high-voltage display converters; and "There's No Place Like Home," on setting up your own home lab.

James Bryant has a chapter on "Analog Breadboarding," which discusses the physical and mechanical issues of proving your electronic design in hardware. Sprinkled with a multitude of analog design rule capsules, this section should be required reading for those accustomed to designing solely with simulators.

Steve Roach has an engaging chapter, "Signal Conditioning in Oscilloscopes and the Spirit of Invention." This chapter explores scope front-end design, including compensated switched attenuators, and active buffer stages, useful up through 500 MHz.

Carl Battjes contributes a noteworthy chapter, "Who Wakes the Bugler?" which describes the design and use of "T-coils" in oscilloscope amplifiers, including a historical sidebar on distributed amplifier technology.

Finally, a perfect example of the book's freeform style is the chapter "Analog Circuit Design" by John Willison, written up simply as a list of 57 important analog rules. Take # 8 as a for-instance: "The impedance looking into the emitter of a transistor at room temperature is 26 (divided by the emitter current in mA)." After listing 37 such useful gems, Willison invites readers to find the other 20!

TIP: All-in-all, this book and its predecessor are recommended to anyone seriously interested in analog design. They are not handbooks, nor are they design manuals per se. Nevertheless, they do give the reader a broad perspective on various design practices, and some useful insights of keen analog minds. The two books do accomplish the editor's goals, and taken together, should serve you well for some time.

Computer-related books: It seems that the quality of computer books can (sometimes) take on the characteristics of an epiphany, or (more often) a dirge. Quite simply, there are just way too many from which to choose, with many in the mediocre category. However, with careful selection, some pearls can be harvested from this sea of information sources. My recommendation: spend some time browsing the computer section shelves of your

bookstore, and compare multiple samples of a given genre. That found me two of the books listed here.

The Complete Idiot's Guide to the Internet, Third Edition, by Peter Kent; ISBN: 0-7897-0862-0, \$24.99, 394 pages with index, is available from QUE, a division of Macmillan Computer Publishing, (800) 428-5331. This book provides a breezy and comfortable, yet broad-ranging view of what the Internet is all about. In the revised edition there is expanded coverage of the World Wide Web and limited information on on-line services, such as AOL, CompuServe, and MSN.

In my opinion, the real strength of this book lies in the variety of Internet topics that it does cover in some degree of detail, but yet without becoming overly technical. These headings include e-mail, web browsers, web pages, newsgroups, mailing lists,



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chat, telnet, search engines, FAQ and other info sources, and finally, some basics of selecting an ISP. The book also comes with a CD, which includes Internet access software good for up to 60 days. If you are looking for a single book which gets you going on the 'Net with minimum hassle, this could well be a candidate.

Internet Starter Kit for Windows 95, by Adam C. Engst, Corwin S. Low, and Stanley K. Orchard; ISBN: 1-56830-260-6, \$35.00, 514 pages with index, is available from Hayden Books, a division of Macmillan Computer Publishing, (800) 428-5331. This book could ostensibly be seen to duplicate the "Idiot's Guide" above, yet it really doesn't, for good reasons. While overlap is inevitable, "Starter Kit" is purely for Windows 95 hardware, and emphasizes this with a CD full of software expressly for Windows 95. It also is more detailed and on a higher technical level than "Idiot's Guide," and thus will serve to answer many questions not addressed therein.

While the topical coverage of this book generally parallels "Idiot's Guide," the main differences lie in details and degrees. For example, "Starter Kit" covers choosing an ISP in quite some detail, covering both business and technical issues. Details of your network connection also are covered in some detail, allied to the Windows 95 dial-up networking function. The CD supplied with the book offers basic Internet software such as browser, e-mail, FTP, newsreader, and a webpage editor.

Given the rapidly changing nature of the Internet, some aspects of these two books will inevitably be obsolete very quickly. Nevertheless, the key fundamental points are well covered, so look for future editions of these two books to track 'Net updates.

Using Windows 95 Platinum Edition, by Ron Person, et al; ISBN: 0-7897-0797-7, \$60.00, 1360 pages with index, is available from QUE, a division of Macmillan Computer Publishing, (800) 428-5331.

This one is the sort of book that you buy strictly for reference uses, as opposed to the fun aspects of using a book like "Idiot's Guide." And, since Windows 95 doesn't come with documentation, there is an inherent (and pressing) need for just this type of

book. In fact, everyone who uses Windows 95 can potentially use a book such as this. Putting "Using Windows 95" to work a few times will likely make its relatively high price (for a paperback) seem worthwhile.

The book includes 41 chapters and 5 appendices, plus two CDs of software. Some of the major subheadings and chapters of the book could actually be smaller books in and of themselves. There are, for example, 13 chapters and 370-odd pages covered just in the "Networking" and "Internet/On-line Services" series of chapters. Other major headings are configuring and optimizing (Windows 95), customizing, working with applications, sharing data, disk drives and backups, and multimedia.

Since first buying this book at the time of a Windows 95 upgrade, I have used it on several occasions. I actually found it indispensable as a resource, leading me through the vagaries of dial-up networking a few times, and later on in adding CompuServe mail access to Microsoft Exchange.

Looking at the bigger picture, it seems truly incomprehensible to me that an operating system as varied and powerful as Windows 95 lacks documentation, but yet this is so. This absurdity serves no one at all, and in the final analysis, goes right back to the theme of support. With that comes the questions of who does it, who helps, who pays for it, and so on, ad infinitum. Stay tuned for more on this timeless topic in a not-to-distant future column.

TIP: Books like "Using Windows 95" obviously fulfill a real user need. I can recommend this book, the only caveat being that Windows 98 may soon be with us. Assuming the current '95 version is updated along the same lines into "Using Windows 98," that should also be a very useful work.

So that is it for this set of book reviews. Some upcoming reviews will focus on more analog topics. My thanks to all of those who have taken time to write in. Keep those cards and letters coming!

Walt Jung is a corporate staff applications engineer for Analog Devices, Norwood, Mass. A longtime contributor to *Electronic Design*, he can be reached via e-mail at Walter.Jung@Analog.com.