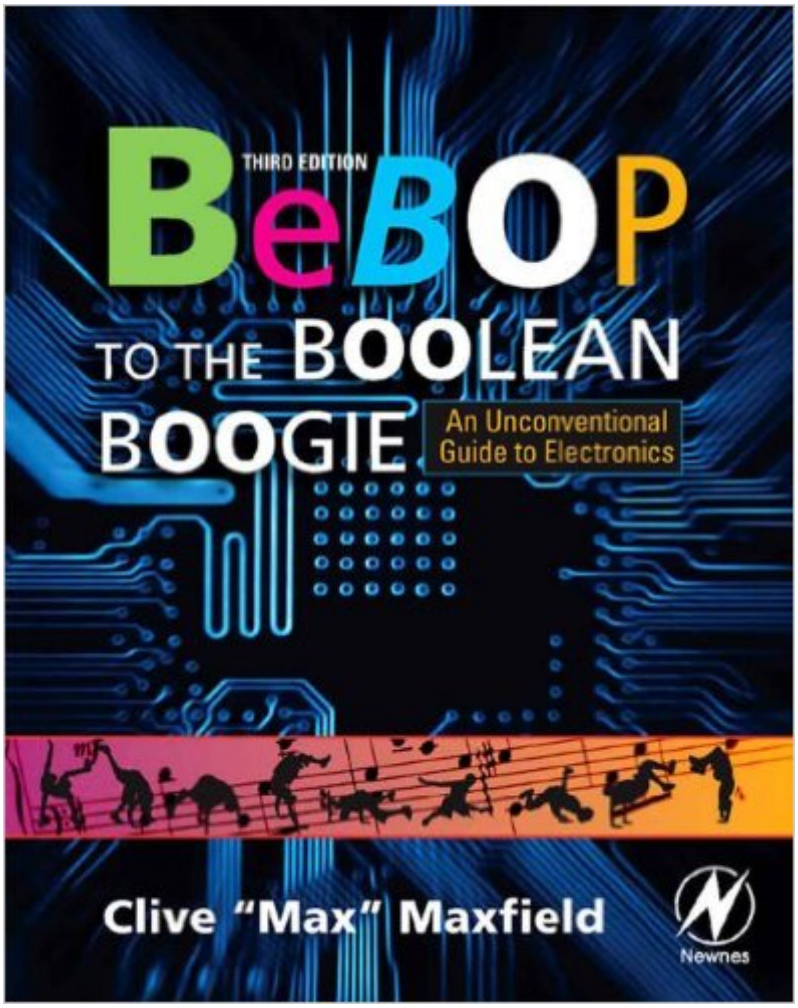
Bebop To The Boolean Boogie: An Unconventional Guide To Electronics



Synopsis

This entertaining and readable book provides a solid, comprehensive introduction to contemporary electronics. It’s not a "how-to-do" electronics book, but rather an in-depth explanation of how today’s integrated circuits work, how they are designed and manufactured, and how they are put together into powerful and sophisticated electronic systems. In addition to the technical details, it’s packed with practical information of interest and use to engineers and support personnel in the electronics industry. It even tells how to pronounce the alphabet soup of acronyms that runs rampant in the industry.CONTENTS:Section 1: FundamentalsChapter 1 Analog versus DigitalChapter 2 Atoms, Molecules, and CrystalsChapter 3 Conductors, Insulators, and Other StuffChapter 4 Semiconductors (Diodes and Transistors)Chapter 5 Primitive Logic FunctionsChapter 6 Using Transistors to Build Logic GatesChapter 7 Alternative Numbering SystemsChapter 8 Binary ArithmeticChapter 9 Boolean AlgebraChapter 10 Karnaugh MapsChapter 11 Slightly More Complex FunctionsChapter 12 State MachinesChapter 13 Analog-to-Digital and Vice VersaSection 2: Components and ProcessesChapter 14 Integrated Circuits (ICs)Chapter 15 Memory ICsChapter 16 Programmable ICsChapter 17 Application-Specific Integrated Circuits (ASICs)Chapter 18 Circuit BoardsChapter 19 HybridsChapter 20 System-in-Package (Sip) and FriendsChapter 21 Alternative and Future Technologies Section 3: Design Tools and StuffChapter 22 General Concepts Chapter 23 Design and Verification Tools Appendix A Assertion-Level LogicAppendix B Positive Logic versus Negative LogicAppendix C Reed-MÃ ller LogicAppendix D Gray CodesAppendix E Linear Feedback Shift Registers (LFSRs)Appendix F Pass-Transistor LogicAppendix G More on SemiconductorsAppendix H Rounding Algorithms 101Appendix I Pass-Transistor LogicAppendix J An Interesting ConundrumAbbreviations and AcronymsGlossaryIndex*Written in conversational, fun style that has generated a strong following for the author and sales of over 14,000 copies for the first two editions *The Third Edition is even bigger and better, with lots of new material, illustrations, and an expanded glossary *Ideal for training incoming engineers and technicians, and for people in marketing or other related fields or anyone else who needs to familiarize themselves with electronics terms and technology

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Customer Reviews

My first reaction on reading Clive Maxfield’s "Bebop to the Boolean Boogie" was regret that it was not available when I was in college (or before). I’m happy it is available now nonetheless, as it has served to reacquaint me with topics long since forgotten and breathed life into those that have become routine.Previous editions of the book have a reputation for providing clear, concise explanations infused with what has become the characteristic Maxfield wit. (I’ve heard people call him the Douglas Adams of engineering.) The third edition is profusely illustrated in color and maintains Maxfield’s practice of including historical background and the occasional humorous anecdote throughout.These, however, are only surface observations. Max (as he is known) begins with an accessible explanation of the physics behind electronics at the subatomic level and proceeds logically through passive components, fundamentals of digital logic and integrated circuits to state machines and programmable logic, printed circuit board design and a discussion of design tools and developing technologies. These are the discussions I can immediately recall. There is much more here.Because of its breadth of coverage people may think of this as an introductory text, but a closer examination of some of the material (particularly, in my case, those sections covering FPGA architectures, design flow and verification) will reveal that this book will be equally useful to the student who needs some "rhyme and reason" for the volumes of frequently disjointed material (s)he may be forced to parrot in academia, and to the practicing engineer who is looking for a good

deskside companion covering topics that may have slipped his mind with the passage of time.

Who says that British are stuffy? Look how happy and comical they are: Monty Python, Benny Hill, Douglas Adams and best of all Clive Maxfield (AKA Max the Magnificent). So grab a copy of this book, set your infinite improbability drive on maximum and enjoy reading about electronics and other interesting facts. Honestly, I didn't know that Greenland Eskimos had a base 20 counting system, using their toes in addition to their fingers. I would have thought they would be more likely to have a base 4 system being all bundled up in mittens to stay warm.Max writes with a British accent but he still spells everything correctly (color instead of their colour etc.). That's part of the charm, you can learn whilst being entertained (did you see how I slipped that in there?).So why do you want this book? Well, I wish I could have gotten it when I was in college instead of spending hundreds of dollars each semester on books. This one book could easily replace most of my EE texts since the coverage is so broad, in fact there are many useful subjects that were never covered in my courses like board layout and future technologies. It contains everything you NEED in an easy to understand format instead of superfluous Ph.D. technobabble. It even contains the kitchen sink, well, almost; one of the many Appendixes has his recipe for a spicy Seafood Gumbo. There is also a detailed Glossary.You say you're done with college and you know all this material. Maybe, but a refresher is always good and I'm sure everyone will learn something from this volume. For instance, although the color gray can also be spelled grey and be correct, counters are definitively Gray after the inventor.

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