



## The Design Warrior's Guide to FPGAs: **Devices, Tools and Flows (Edn Series for Design Engineers)**

By Clive Maxfield





The Design Warrior's Guide to FPGAs: Devices, Tools and Flows (Edn Series for Design Engineers) By Clive Maxfield

Field Programmable Gate Arrays (FPGAs) are devices that provide a fast, lowcost way for embedded system designers to customize products and deliver new versions with upgraded features, because they can handle very complicated functions, and be reconfigured an infinite number of times. In addition to introducing the various architectural features available in the latest generation of FPGAs, The Design Warrior's Guide to FPGAs also covers different design tools and flows.

This book covers information ranging from schematic-driven entry, through traditional HDL/RTL-based simulation and logic synthesis, all the way up to the current state-of-the-art in pure C/C++ design capture and synthesis technology. Also discussed are specialist areas such as mixed hardward/software and DSPbased design flows, along with innovative new devices such as field programmable node arrays (FPNAs).

Clive "Max" Maxfield is a bestselling author and engineer with a large following in the electronic design automation (EDA) and embedded systems industry. In this comprehensive book, he covers all the issues of interest to designers working with, or contemplating a move to, FPGAs in their product designs. While other books cover fragments of FPGA technology or applications this is the first to focus exclusively and comprehensively on FPGA use for embedded systems.

- First book to focus exclusively and comprehensively on FPGA use in embedded designs
- World-renowned best-selling author
- Will help engineers get familiar and succeed with this new technology by providing much-needed advice on choosing the right FPGA for any design project



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#### **Editorial Review**

#### Review

The Design Warrior's Guide to FPGAs describes not only everything you need to know to start designing FPGAs, but also how the art came to be in its current state...Unlike many in the EDA industry, Maxfield doesn't forget that chips go on boards: One chapter looks at PCB considerations of FPGA Design...I must admit that when I first saw the book, I imagined reading it would be something of a slog as so many technical books are. Upon opening the book, I was delighted to discover that Maxfield's writing style actually makes reading the book more of a romp in the part. There are portions of the book that I intended to just scan but found myself sucked into reading in full...The Design Warrior's Guide to FPGAs will be a great source of knowledge to the FPGA newcomer. It will also provide new insights and broaden the veteran designer's knowledge of the field. But most of all it is a fun and engaging read for anyone for whom electronics design is more than a 9-to-5 job. It is a good buy at the \$49.95 list price - PRINTED CIRCUIT DESIGN & MANUFACTURE JULY 2004

If you've never read any books written by Clive "Max" Maxfield, then you're in for a treat. True to form, his latest book on FPGAs is enjoyable to read. Yet it's also rich in the technical details that any modern designer would need...He covers all of the issues that anyone working with FPGAs or thinking about moving to them would need to know...As with most of Max's work, this book's appendix is a treasure trove of background tutorials...While this book is well suited for young engineers - anyone with less than the prerequisite five years in FPGA or ASIC design - it also offers many topics that will interest the experienced designer - Wireless Systems Design, August 2004

...a must-read book for those designers who either want an introduction to designing with FPGAs or need to broaden their understanding of the EDA tools available for such applications. Maxfield writes in a easy-to-read style, and provides insightful and diverse information for designers and curious readers alike. The author has never forgotten his designer roots, and the book is full of examples and chapters dedicated to such applications as gigabit transceivers, linear-feedback-shift registers, and integration of third-party cores. -- EDN, 5/21/2004

#### About the Author

Clive "Max" Maxfield received a BS in Control Engineering from Sheffield Polytechnic, England in 1980. He began his career as a mainframe CPU designer for International Computers Limited (ICL) in Manchester, England. Max now finds himself a member of the technical staff (MTS) at Intergraph Electronics, Huntsville, Alabama. Max is the author of dozens of articles and papers appearing in magazines and at technical conferences around the world. Max's main area of interest are currently focused in the analog, digital, and mixed-signal simulation of integrated circuits and multichip modules.

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Answers all the engineer's pivotal questions about this exciting new technology- why are they better, what will they cost, and how do I use them?

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