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# FPGAs: Instant Access



## Synopsis

FPGAs are central to electronic design! The engineers designing these devices are in need of essential information at a moment's notice. The Instant Access Series provides all the critical content that a computer design engineer needs in his or her daily work. This book provides an introduction to FPGAs as well as succinct overviews of fundamental concepts and basic programming. FPGAs are a customizable chip flexible enough to be deployed in a wide range of products and applications. There are several basic design flows detailed including ones based in C/C++, DSP, and HDL. This book is filled with images, figures, tables, and easy to find tips and tricks for the engineer that needs material fast to complete projects to deadline.

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\*Tips and tricks feature that will help engineers get info fast and move on to the next issue\*

\*Easily searchable content complete with tabs, chapter table of contents, bulleted lists, and boxed features\*

\*Just the essentials, no need to page through material not needed for the current project

## Book Information

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## Customer Reviews

This book was very relevant to my current situation as it has been ten years since I last did an FPGA design and I once again need to look at possibly incorporating an FPGA to enhance the performance of our product range. The issues I am weighing up are: do we use a higher performance DSP, or use a dual-core DSP, or keep the existing DSP but farm out some of the computationally intensive processes to an FPGA, or replace the DSP with an FPGA which contains an embedded processor or two? To this end, I found the book a good overview of the existing state of the FPGA field. Due to the tremendous increase in FPGA size and complexity, it is no longer feasible to use schematic capture and waveform verification as a design philosophy. Incorporating HDL's helped as the designs got bigger (10K to 50K gates!) but now that embedded processors can be incorporated, the simulation environment becomes a lot more complex. Higher level languages and philosophies, like System-C, are needed. The book introduces these concepts but one would need to read further to gain a deeper understanding before choosing a specific direction. I also enjoyed the historical perspective that is interwoven through the book as it helped me identify where the field was ten years ago, and what has happened since then. This made it easier for me to relate to the new philosophies. I did not learn any practical skills from the book but it did help cement my understanding of the FPGA field in broad terms. If you are a new graduate who has to deliver your first FPGA design, I don't think this book would help you to get the job done. It would help you choose the most appropriate technology for your project, but then this is not usually a decision left to the new entrant.

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