

Editorial Director

Gary Breed
gary@highfrequencyelectronics.com
Tel: 608-845-3965
Fax: 608-845-3976

Publisher

Scott Spencer
scott@highfrequencyelectronics.com
Tel: 603-472-8261
Fax: 603-471-0716

Associate Publisher

Tim Burkhard
tim@highfrequencyelectronics.com
Tel: 707-544-9977
Fax: 707-544-9375

Business office

High Frequency Electronics
7 Colby Court, Suite 4-436
Bedford, NH 03110

Editorial and Production office

High Frequency Electronics
6666 Odana Road, #508
Madison, WI 53719

Also Published Online at

www.highfrequencyelectronics.com

Subscriptions

Subscribe online at:
www.highfrequencyelectronics.com
or by mail to:
7 Colby Court, Suite 4-436,
Bedford, NH 03110

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New Technology has Changed the Meaning of “Design”

Gary Breed
Editorial Director

An engineer's job is a lot different than it was just a few years ago. I won't get into an argument whether that's good or bad—it just *is*. Among the obvious changes are increased reliance on computer simulation and less component-level design. On this latter point, maybe it's best to say that much of the component-level design has moved from the product designer's lab to the chip designer's computer.



Today's design engineers are moving between areas of expertise more often than before, following the trends in technology—designers who used to work at the printed circuit board level have moved to either chip-level design or system-level design. Some have moved from the lab to manufacturing, supporting miniature products that use fabrication techniques tightly integrated with the design process.

I have many personal friends in this business who started out in power amplifiers, oscillators, synthesizers or microwave subsystems. Some are now working at the chip level at transistor and IC companies; others have become system designers and a couple have become EDA tool specialists. There are even a few that have moved from the analog world of traditional RF and microwaves to the digital world of DSP, microprocessors and data storage technology.

Established engineers who prefer to continue using their well-earned experience still have a place. There are plenty of applications requiring “classic” discrete-component design. After all, not every application requires a custom IC. The heat generated by power amplifiers prevents anything above a few watts from being miniaturized. The high performance of many microwave communications, space, military and instrumentation systems requires optimized design that defies the “cookie cutter” mass production approach.

Watching and supporting these changes in the engineering profession is part of our job at *High Frequency Electronics*. We want to be sure that you get the information you need, whatever the application, technology or place in the engineering hierarchy—from top-level system design to lines etched on an IC substrate.

The technical curiosity that leads engineers to their profession in the first place will serve them well in all the areas of specialization. It is unfortunate that some of those specialties have been displaced in recent years, but new opportunities eventually arise to take their place. We'll do our best to keep up with the changes. Let us know how we're doing.

Are We at War?

This issue is going to press about a week before the deadline imposed by the Bush administration for an unequivocal move toward disarmament by Iraq. By the time you read this, something major should have taken place.

The pros and cons of war have been discussed at length in the United Nations, Washington, DC and in the streets of many cities around the world. Some issues are perfectly clear (Saddam Hussein is a bad guy) and others are not (what is the direct threat to the U.S.?).

Regardless of which side we're on, most of us just want the tension to end. "Not knowing" is an uncomfortable situation. It is slowing an economic recovery and dampening the mood of country. We need to get moving again.

Amateur Radio Reception at the IEEE MTT-S Symposium

High Frequency Electronics is a sponsor of an amateur radio reception to be held Sunday evening June 8 during the IEEE MTT-S International Microwave Symposium. The reception has been organized by Dr. Allen Katz, K2UYH, a well-known pioneer in amateur moonbounce and microwave communications. Come enjoy the camaraderie of a social evening with fellow engineers who enjoy our technology at the personal *and* professional level. We hope to see you there!

IMS 2003 will be held June 8-13 in Philadelphia. During the exhibition (Tuesday through Thursday, June 10-12) please drop by our booth in the exhibit hall.

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