

KIMMEL GERKE



Bullets

Spring, 1999

Welcome to KGB...

And to this issue of our "personal communications" to our friends, clients, and colleagues about EMI issues, problems and solutions.

This issue discusses signal integrity and EMC.

While both often use similar techniques, there are important differences in the two disciplines. We'll compare and contrast these differences, and offer some suggestions.

One key difference is amplitude. Signal integrity is usually dealing with millivolts and milliamps, while EMI issues may be dealing with vastly different amplitudes (microvolts and microamps for emissions, and volts or amps for immunity.) Thus, standard signal integrity techniques may not be sufficient for EMI issues.

Another difference is scope. Signal integrity usually deals with circuit boards, while EMI may deal with boards, cables, connectors, grounding, filtering, and more. Nevertheless, good signal integrity design is a critical element of good EMI design, particularly for high speed systems.

As always, give us a call if we can help you with any of your EMI problems - from circuit boards to full systems and facilities. (Or as a paper we presented many years ago said, "*EMI - from Microchips to Megamalls...*")

Best Regards,
Bill Kimmel, PE, and Daryl Gerke, PE

Shows and Conferences...

Here are some shows and meetings we are involved with that may be of interest. Call us if you'd like more details.

Arizona EMC '99... May 3, 1999, at the Doubletree La Posada in Scottsdale, AZ. This one day colloquium is sponsored by the IEEE EMC Society, and features several well known EMC speakers. The keynote speaker is Henry Ott, author of "Noise

Reduction Techniques in Electronic Systems." Both Daryl and Bill will also be speaking.

IEEE International EMC Symposium... August 2-6, 1999, at the Washington State Trade & Convention Center in Seattle, WA. We'll both be there, of course. Daryl will be presenting "Diagnosing & Troubleshooting EMI Problems - Tips & Techniques" during the Monday tutorial workshops. Be sure to stop by at our booth (#204).

Fourteenth Annual Minnesota EMC Event... Moved back to the fall for 1999. Combined day of training and exhibitions. Hard to believe we've been involved with this show for 14 years.

Area Code Changes... Thanks to the "wireless explosion", both Bill and Daryl have new area codes. Here are our new direct numbers:

—Bill Kimmel - 651-457-3715 (Was 612)

—Daryl Gerke - 480-755-0080 (Was 602)

Of course, you can always reach us through our **Toll Free "888" number - 1-888-EMI-GURU**. This reaches our answering service in Minnesota, so please leave a message and we'll get back to you. For calls from outside the US, please use 612-330-3728.

You can also contact us at the following: **E-Mail..**A preferred way of reaching us if you don't need a "real-time" answer. We both check our mail boxes regularly, and it works out well.

Addresses are: Bill Kimmel - bkimmel@emiguru.com
Daryl Gerke - dgerke@emiguru.com

World Wide Web —

Visit our "home page" at <http://www.emiguru.com>. You'll find back issues of the KGB (Kimmel Gerke Bullets), plus other information.

Reprints... EDN Magazine's *Designer's Guide to Electromagnetic Compatibility...*

This popular EMC design guide (written entirely by us) is still available. For your copy, call Cahners Reprint Services at 1-800-523-9654. Only \$19.95+ shipping.