

Re: RC Transmission Lines (Wafer-Scale)

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- *From:* Phil Hobbs <pcdh@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
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John Larkin wrote:

On Mon, 22 Oct 2007 12:59:19 -0400, Phil Hobbs
<pcdh@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote:

On the other hand, there are enough customers for the fastest machines (who know very well what they need) to keep me in beer and skittles, anyway. I like doing things that are useful and fun. Why do you do what you do?

It's ironic that most of the compute power in the world goes to gaming. The most compute-intensive thing we do, in fact the only compute-intensive thing we do, is fpga p+r. Design-rule checking the most complex pc board we make takes about 5 seconds on a standard-performance PC. The rest of what we do is dominated by our DSL rate.

Whatzisname's law: All computers wait at the same speed.

Even Spice usually runs fast. I guess em simulation could be slow, but we rarely do that, thank Goodness.

Done the simple-minded way (the way I'd like to do it if I could), one device design comes out as something like

10**9 cells x 32 bytes x 2 FLOP/byte x 200 steps/cycle x 100 cycles/run x 100 runs/design =~ 10**17 operations

per design, running in about 32 gig of memory. Could take awhile, even on a fast parallel machine. The 200 steps/cycle number is needed only when using silver--because the real part of its index of refraction is only about 0.1, so the phase velocity in silver is almost 10 times c.

Re: RC Transmission Lines (Wafer-Scale)

Intel must be running scared; some day pc's will be good enough and become as exciting as toasters, and \$5 Taiwanese cpu's will be powerful enough.

PCs are already less exciting than toasters—in both good and bad senses. My microprocessor-controlled toaster has buttons for toasting bagels and frozen bread, which usually more or less work if it starts out cold, but I never used to worry about my mechanical toaster crashing and having to