

"There is always one more bug. "

Lubarsky's Law of Cybernetic Entomology

Errata for: D. Prutchi and M. Norris, Design and Development of Medical Electronic Instrumentation - A Practical Perspective of the Design, Construction and Test of Medical Devices, ISBN: 0-471-67623-3, 450 pages, John Wiley & Sons, Inc., Hoboken, NJ, November 2004.

Pages 86, 87:

October 18, 2005 - Bob Higgins brought the following to my attention:

“...On page 86, the slew rate limit bridge values appear to limit SR to 333V/S. The largest gain before the bridge is 500, so the limit appears to be 0.66V/S applied to the ECG signal, but earlier in the book, 0.33V/S is the recommended limit to block pacemaker pulses...”

He is right. There are 3 mistakes related to this issue:

1. The capacitor mentioned in the text of page 87 as determining the time constant of the slew-rate limiter in conjunction with R11 and R12 should be C11 and not C10.
2. The gain of the instrumentation amplifier (IC3) should have been defined.
3. At an IA gain of 500, C11 should have a value of $\sim 1.95\mu\text{F}$ to yield a slew-rate limiting of $\sim 0.33\text{V/s}$ related to the ECG.

In a practical system, placing two $1\mu\text{F}$ capacitors in parallel, the slew rate limit would be $\sim 0.3\text{V/s}$ for an IA gain of 500.

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