

## Re: Precision problem

**Source:** <http://www.tech-archive.net/Archive/VC/microsoft.public.vc.language/2004-05/0654.html>

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**From:** Carl Daniel [VC++ MVP] ([cpdaniel\\_remove\\_this\\_and\\_nospam\\_at\\_mvps.org.nospam](mailto:cpdaniel_remove_this_and_nospam_at_mvps.org.nospam))

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Raghuram wrote:

- > *Hi Ng,*
- > *I am developing engineering software which is using floating point*
- > *arithmetic widely. I am showing some of the calculated results in*
- > *some spread sheet. The spread sheet only accepts the string entries*
- > *so that i am converting it to string using gcvt() and sprintf() etc.*
- > *After this some precision loss is happening. In VC debugger it shows*
- > *the exact values but my converted string shows different though it is*
- > *minute but undesirable. How the VC debugger shows it correctly? How*
- > *can I get the exact value as VC++ debugger?*
- > *I would appreciate any kind of help*

More likely, the VC debugger is rounding the result to a value that happens to correspond to your expectations, while sprintf is converting the value with higher precision, thus yielding a slightly different value that doesn't meet your expectations.

See [http://docs.sun.com/source/806-3568/ncg\\_goldberg.html](http://docs.sun.com/source/806-3568/ncg_goldberg.html) for lots of details. The bottom line is that you probably need to determine the precision that you need and ensure that your results are computed to that level of precision and rounded appropriately when converted to a string representation.

If you can show some code, or determine the exact binary representation of a floating point value that's turning out different from your expectations, someone can probably make a more concrete recommendation.

-cd