Re: Floating point operation in 8bit uCon

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In article <411C3F81.47B03BF1@hotmail.com>,
Pooh Bear <rabbitsfriendsandrelations@hotmail.com> wrote:
[...]
>8051/2s are optimed for real time control not mathematics ! Even 16 bit
>math on them slows things down considerably.

I disagree.

The 8051 can address DATA memory with both R0 and R1. This is just about right for doing multibyte operations on an 8 bit micro. The PIC is more a case of optimized for control. It only has one indirect address but allows single operations to do some of the things that take 2 or 3 on the 8051. If you are doing a "check this bit and that byte then decide the port should go low" sort of thing, the PIC is more optimized for your task.

>Having said that, many math issues can be simplified using look−up tables
>which are very fast in comparison.

In a lot of cases, you don't have to do the math at all. Now thats fast! A classic sort of example is making a servo controller in a micro. It is often enough to do something like this:

```
   jb TooHigh,IsTooHigh ; Jump if the results are too high
   jnb WasHigh,SkipInc ; Jump if the prev. was too

   inc Control ; Add one to control twice
SkipInc: ; .. or
   inc Control ; .. once depending
   clr WasHigh ; remember what happened
   ret ; done

IsTooHigh:
   dec Control ; Subtract one from control
   setb WasHigh ; Remember
   ret ; Done
```

The result is a PI control like small signal responce and a slow slew
rate. It is often good enough.

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