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bcc

Subject Osc working at 31.9998 MHz (well that's what the scope says)

The oscillator module is working at 32 MHz. I'll send some 32 MHz crystal oscillators over in the intercampus mail.

- To get the PIC programmed I had to program it without attaching the oscillator first. I stayed late Monday and got totally frustrated with this. Today I thought I would have another look during my lunch hour. Amazing what a day or two of ignoring a problem can accomplish.
- Since the oscillator itself is self contained it does work on a bread board. This is good. We could use these in labs too if you want.
- The frequency looks rock solid which is what we are wanting in a timer.

I used a variation of the flash program to toggle D0 a bunch of times and then sit for a 0.5 second delay (makes triggering the digital scope easy).

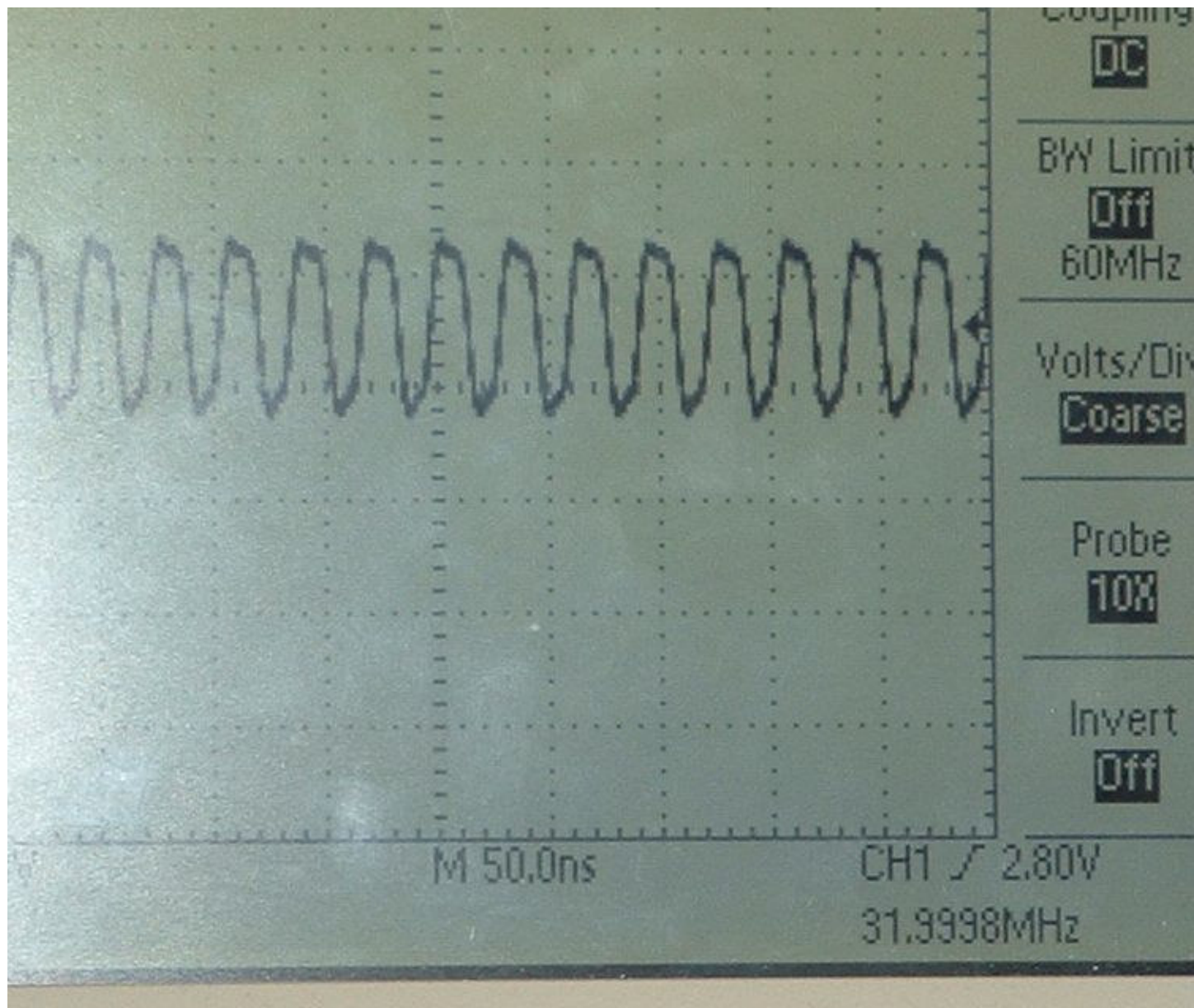
Now that I have a chip programmed correctly I could try putting it in the timer box but I am tied up with other stuff (computers) today.

If we were going to mass produce this it would be more cost effective to go with a crystal but as it is I think the crystal oscillator (in a package) is going to save us a lot of trouble so it is worth the extra cost to us. \$2 to \$3 each rather than \$0.60 each.

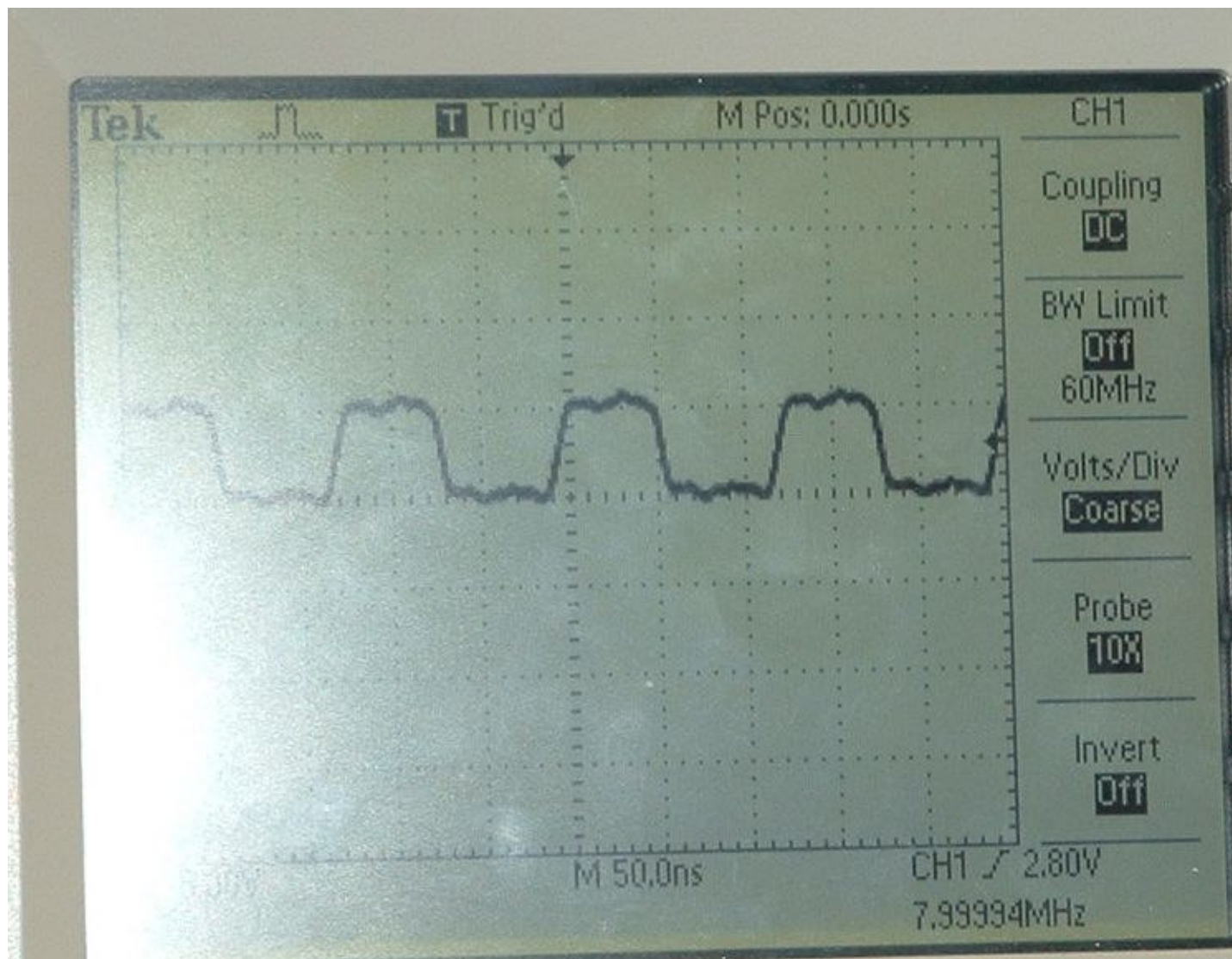
The circuit is
+5 to pin 1 and pin 8
gnd to pin 4
output from crystal osc on pin 5 (goes to pin 13 of PIC).

Used Osc = EC // (external clock).

The osc freq can be seen in the lower right as 31.9998 MHz



The OSC/4 frequency is 7.99994 MHz measured



look at the delta time between the cursors the instruction rate is 125.0 ns measured

Tek



● Stop

M Pos: 71.00ns

CURSOR

Type
Time

Source
CH1

Delta
125.0ns
8.000MHz

Cursor 1
-3.000ns

Cursor 2
122.0ns



CH1 5.00V

M 25.0ns

CH1 / 2.80V

<10Hz