

Re: 22.6us and ~10mips to create pink noise real time

Source: <http://sci.tech-archive.net/Archive/sci.electronics.design/2006-05/msg03758.html>

- *From:* Dirk Bruere <dirk.bruere@xxxxxxxxx>
 - *Date:* Sun, 21 May 2006 20:01:12 +0100
-

Ancient_Hacker wrote:

acannell@xxxxxxx wrote:

Okay I've got an Atmel AVR ATTiny13V. Runs off 3V, 100ns instruction time. I am trying to generate 8 bit pink noise real time, cd quality, so I have $1/44100 = 22.6\mu\text{s}$ to generate each sample. I can write it in assembler, or C, but I only have 1k of program memory so assembler is probably the way to go here. Where should I start? Is it possible to make a -3db/octave digital filter in assembler which takes random 8 bit numbers and spits out pink noise?

Jeepers, in the old days we used these things called "analog" parts. One zener diode, one resistor, one capacitor, one LM714, viola, noise source. Nt a lick of programming and no problem looping the noise, as it's all freshly made every microsecond.

Generate white noise in s/w using pseudorandom numbers and filter it using analogue? In which case er... why not use all analogue.

Dirk

.