# A roundup

M. Simon

Gabtronicis [1] has updated their micro e-scopes. You may recall I did an article on them [2] a while back. They also have a Kickstarter [3] project to raise money to do more interesting things. Gabriel (the "Gab" of Gabtronics) likes Atmel XMEGA microcontrollers [4]. [5]

Daishinku Corporation (KDS) [5] has been very helpful to me with some projects I'm working on that require TCVCXOs. I especially like the fact that some of their oscillators provide CMOS output levels (pick a voltage) besides the usual clipped sine wave. Very handy.

NXP (the inventors of the I2C bus when they were Philips) is doing some very interesting things [6] with the I2C bus. The I2C bus has been a long time interest of mine ever since I bit banged access to an LM75 temperature sensor on the parallel port of a '486 PC. What caught my eye is that they are now making an upgraded version of the LM75 temperature sensor [7]. And just to date myself further, the LM75 was made by National Semiconductor before they were bought out by TI.

Speaking of TI, they have a very nice microprocessor, the MSP430FR5739 [8], that doesn't have any flash memory for program storage. Instead it has a unified FRAM memory. FRAM reads and writes very quickly so you don't have to interrupt your controller's operation to write bytes. Writing is also a very low power operation compared to flash. And for all practical purposes the write endurance of a FRAM cell is unlimited (1E15 writes before wear out). Currently their chips operate at 8MHz although they can do bursts at up to 24 MHz. If you want to learn more about controllers with FRAM memory TI has a video [9] that explains FRAM's good and bad points and also outlines their road map for future development.

If you need just a small bit of slow access FRAM for your system Ramtron has a nice selection of I2C Bus FRAMs [10].

I have been ordering quite a few boards from OSH Park [11]. They do a really good job on prototype boards in small to medium quantities. Their minimum order is 3 boards (a stack in printed circuit parlance) of any size down to as small as a quarter

of an inch on a side. I wrote about them [12] when they were Dorkbot. Since then they have made their service even easier to use and the quality is still tops. They can do 6 and 6 (line width and spacing in thousandths) as a regular part of their service. From ordering to delivery at your door takes about 3 weeks. If you have a board ready to go (Gerbers) just load it into their system to get an instant online quote. They do not promise gold plating (it depends on what other customers want in a run) but all my boards have been gold plated so far. Works of art.

M. Simon's e-mail can be found on the sidebar at Space-Time Productions [13].

*Engineering is the art of making what you want from what you can get at a profit*.

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