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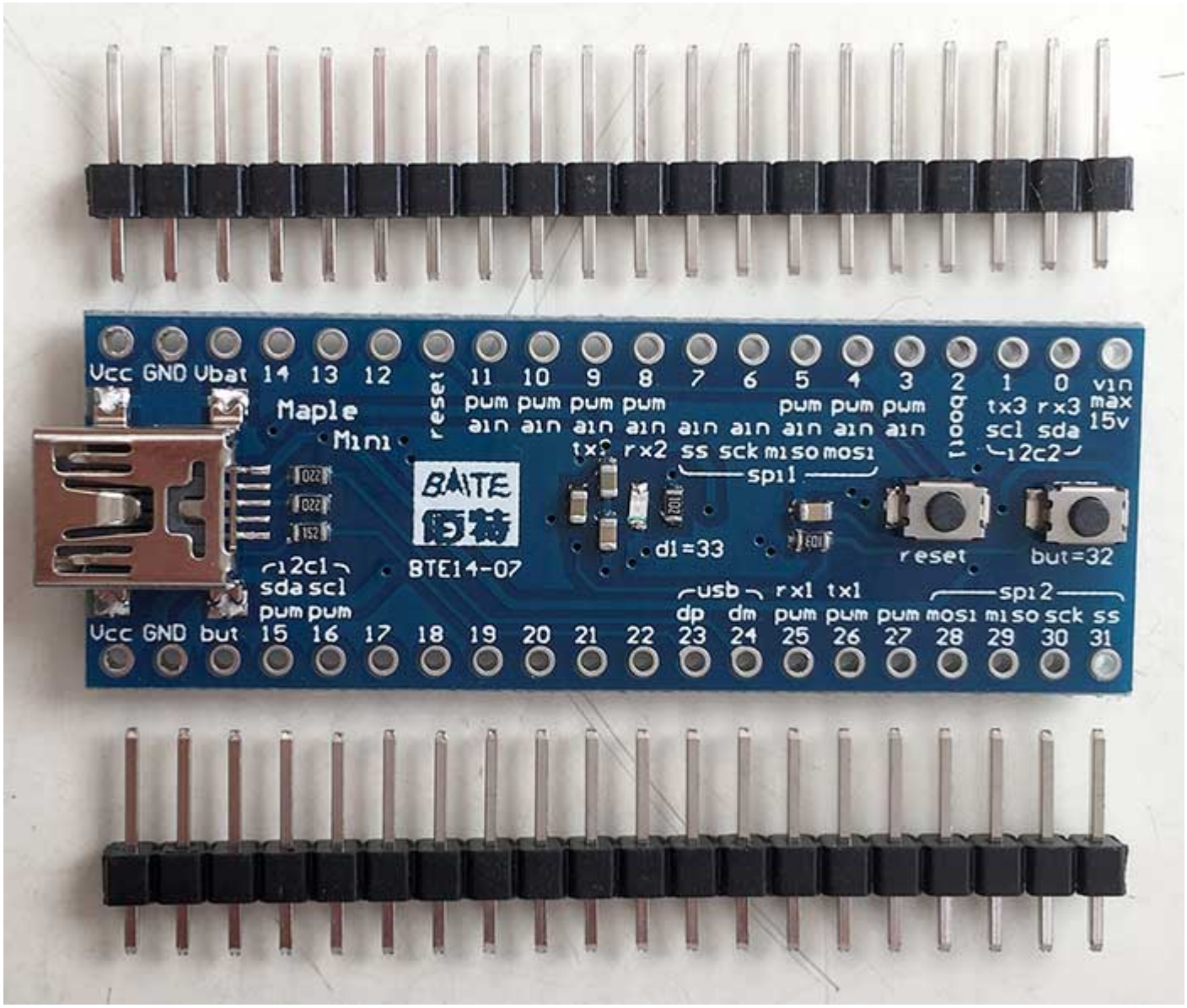
First Look: BAITE Maple Mini Clone

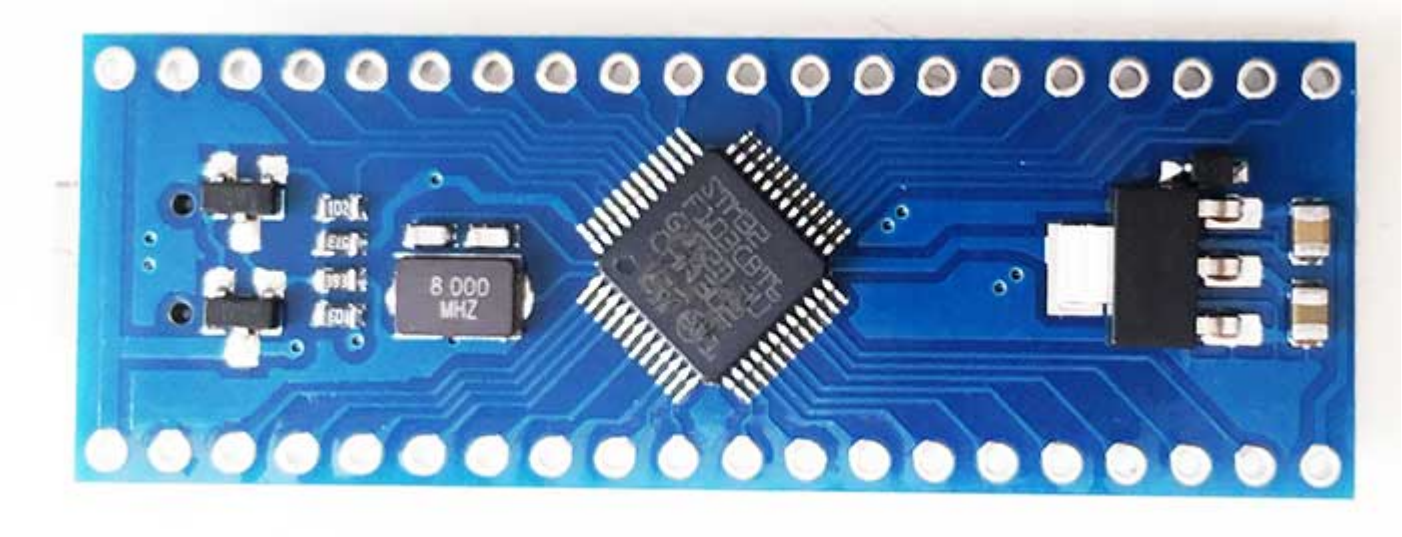
Oct 05 2015
Filed In: electronics, hacks

Recently, I've been searching around for inexpensive higher powered alternatives to AVR-based Arduinos. There are several ARM MCU's available that give a lot more bang for the buck in terms of RAM, speed, flash, and I/O. While I like PJRC's Freescale-based Teensy 3.x boards a lot, they're only available from a single source, and use a proprietary bootloader hosted on a separate MCU. FadeCandy is an OSHW board based on the same MCU as the Teensy 3.0, which is optimized for controlling LED's. Unlike the Teensy 3.x, it uses an open source bootloader which is hosted on the Freescale MCU itself.

There are a lot of STM32 boards of various types available on eBay and AliExpress. LeafLabs' Maple series of STM32 boards were pioneers in adapting Arduino for use with the STM32 platform. Unfortunately, the boards were quite expensive, and with the proliferation of cheap Chinese clones, they business was not sustainable, and they discontinued the line. Luckily, the OSS community has picked up the pieces, notably Roger Clark's Arduino_STM32 project. The current state of the project is very impressive. Not only has Arduino compatibility been greatly improved, but they have created a new bootloader, and many other STM32 families are not supported beyond the Maple's STM32F1.

I decided to dive in when I had a project that needed 10 PWM channels. The Maple Mini fit the bill. I bought a couple of BAITE BTE14-07 Maple Mini clones. They are quite cheap, under $4.50 including shipping from China. The board is packaged in an anti-static bag, and includes header pins:





While the pinouts, LED, and buttons of the BAITE BTE14-07 are identical to the original LeafLabs Maple Mini, the BAITE version is only 2-layer, instead of 4-layer. Also, instead of using two MCP1703 voltage regulators, one for the digital and one for the analog plane, the BAITE uses a single AMS1117. This means that LeafLabs version is probably more suitable for applications where ADC accuracy is required, but the BAITE version is better when more current is needed to drive attached peripherals.

I tried some sample sketches using Arduino 1.6.5 and Arduino_STM32, and the BAITE board worked perfectly. Some people on the STM32duino board consider it to be somewhat of a benchmark as far as Maple Mini clones go, so it's probably a good bet for n00bs to the platform like me.

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- *Dan* says:
  March 9, 2016 at 9:23 PM

  What Board did you pick from the Arduino IDE to use this clone?

  Reply

  - *lincomatic* says:
    March 11, 2016 at 10:03 PM

    Support isn't built into Arduino. You have to install Arduino_STM32, as noted above.
    https://github.com/rogerclarkmelbourne/Arduino_STM32

    Reply

    - *Dan* says:
      March 11, 2016 at 10:05 PM

      I am using Arduino_STM32

Reply

-  *lincomatic* says:
  March 11, 2016 at 10:20 PM

  Maple Mini

  Reply

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