

## Re: ATSTK525 Starter Kit

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*Source:* <http://coding.derkeiler.com/Archive/General/comp.arch.embedded/2006-12/msg00562.html>

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- *From:* "linnix" <[me@xxxxxxxxxxxxxxxxxxxxxx](mailto:me@xxxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* 11 Dec 2006 12:16:01 -0800
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David Kelly wrote:

linnix wrote:

Steve Calfee wrote:

Well, a USB boot loader would be ok. How do you debug?

I believe that you have to debug over Jtag.

Is there a GDB stub that works over this USB interface?

No, you can't debug with the boot loader.

But you can gdb over the JTAGICE interface. I have been exceptionally pleased with this \$40 JTAGICE tool. A touch slower over serial interface than the genuine Atmel JTAGICE-mkII which I also had, but the ICE-Cube drew far less power from my circuit. My target and the ICE-Cube ran off a 3.3v 50mA supply where the mkII would not:  
<http://www.ecrostech.com/AtmelAvr/AvrIceCube/index.htm>

If this is a clone of the original JTAGICE (like many others), it will only work with a few AVR's. AT90USB\* are not supported.

Is there a GNU tool chain?

Yes, except for the debugging. AVR debugging info is not available to the general public, except with an NDA.

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Gdb works with the AVR JTAGICE. See:  
<http://winavr.sourceforge.net/helpme.html>

As for NDAs, the primary WinAVR developer was hired by Atmel. Can't say I know how much he's permitted to work on WinAVR during the day but AVR Studio has gone from almost no avr-gcc support/integration to acceptable. I'm old school and prefer to define my project in a Makefile than in an IDE so I edited and compiled outside of AVR Studio, but preferred to load code and debug using AVR Studio.

WinAVR only deals with compiling, not with debugging. AVRstudio is handling the debugging and ICE.

What I was thinking about is starting an open source project doing a cross platform usb host and device stack for embedded systems. So if other people wanted to help, it would be very nice to have a cheap development board with portable tools etc. I have another platform that is not open source for the OS, so not so good for open development.

I haven't looked in the last year or so but back then USB was fairly new to AVR and getting one's hands on their USB stack/library was more than a casual hobbyist commitment.

Getting the Jtag private commands info (necessary for steps/breakpoints) would be more difficult.

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