

# Re: Atmel AVR development tools

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- *From:* linnix <[me@xxxxxxxxxxxxxxxxxxxxxx](mailto:me@xxxxxxxxxxxxxxxxxxxxxx)>
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On Feb 1, 8:10 am, Vladimir Vassilevsky <[antispam\\_bo...@xxxxxxxxxxx](mailto:antispam_bo...@xxxxxxxxxxx)> wrote:

dbvanhorn wrote:

The AVR debug core is unreliable, jtag or non-jtag. SPI programming is much more reliable. Also, avoid bootloaders.

I keep hoping it's something I'm doing. That's fixable, I just need to know what to do/not do .

Interesting comment re bootloaders, why do you say that?

The AVR bootloader has to contain the subroutines for erasing and programming. Those subroutines can be activated accidentally by an electric glitch, software bug, cosmic ray, unholy spirit or something like that. Although this event is not very likely, I have observed the failure rate due to that at the order of one per 5k units per year in the harsh EMI environment.

Very often, the bootloader does not boot. I have tried serial and usb boot loaders. They just stop working suddenly. I can still erase and reflash the chip with spi. Same thing with jtag debugging. Jtag would fail to response, but spi always work.

AVR runtime core and spi programming is the only thing I trust. Otherwise, i would be looking for another uC.

The safer approach would be loading the subroutines to RAM from the outside only when you need to reflash the device. However this can't be

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done with the AVR.

Yes, the biggest weakness of the AVR is accessibility of the sram from spi.

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