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Re: Pure AVR equivalent of attachInterrupt() ? (<http://forum.arduino.cc/index.php?PHPSESSID=47gdirkrsvmqg97pr5llbgg4q0&topic=107765.msg80918>)

 Southern California
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God Member

Karma: 5
Posts: 532
I like blinky lights


PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809187#msg809187) « Reply #2 on: May 29, 2012, 01:21:34 am »

I apologize. I'm using a Uno with a 328P and would like the trigger to be on RISING.

Thanks!

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(<http://forum.arduino.cc/index.php?PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809187#msg809187>)
(<http://bubbletronics.com>)

(<http://en.wiktionary.org/wiki/magagna>) (<http://en.wiktionary.org/wiki/magagna>) <-- My last name. Pretty apt.

Coding Badly

(<http://forum.arduino.cc/index.php?PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809191#msg809191>)
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Re: Pure AVR equivalent of attachInterrupt() ? (<http://forum.arduino.cc/index.php?PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809191#msg809191>)

PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809191#msg809191) « Reply #3 on: May 29, 2012, 01:30:32 am »

For INT0 on the 328 processor, we end up at the interrupt service routine on line #276...

<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/WInterrupts.c#L276>

(<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/WInterrupts.c#L276>)

We'll use the modern macro instead of the deprecated SIGNAL macro...

Code:
ISR(INT0_vect)
{
 // Your stuff goes here
}

The EICRB register does not exist so we end up with this initialization code on line #95...

<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/WInterrupts.c#L95>

(<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/WInterrupts.c#L95>)

Code:
 EICRA = (EICRA & ~((1 << ISC00) | (1 << ISC01))) | (mode << ISC00);
 EIMSK |= (1 << INT0);

RISING is defined as 3...

<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/Arduino.h#L40>

(<https://github.com/arduino/Arduino/blob/master/hardware/arduino/cores/arduino/Arduino.h#L40>)

...so the initialization code becomes this...

Code:
 EICRA = (EICRA & ~((1 << ISC00) | (1 << ISC01))) | (3 << ISC00);
 EIMSK |= (1 << INT0);

And, we're done.

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magagna
(<http://forum.arduino.cc/index.php?PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809193#msg809193>)
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PHPSESSID=47gdirkrsvmqg97pr5llbegg4q0&topic=107765.msg809193#msg809193) « Reply #4 on: May 29, 2012, 01:33:42 am »

That's great, thanks! I won't be able to test it out until tomorrow evening but I'll let you know how it goes.

Thanks again.

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