Real-Time Interrupt (RTI)

- RTI triggers interrupt periodically. The periodic rate of generating interrupts is programmable.
- Has its own vector in the vector table (check the interrupt vector and pseudo-vector mapping table)
- Enabled by RTIE bit, flag RTIF set at interval specified, and RTIF reset by writing ‘1’
- RTI rate generated dividing E-clock by $2^{13} = 8192$ or more via 3 RTI prescalar bits (RTR2:RTR0), where 000 = off, 001 = $\div 2^{13}$, 010 = $\div 2^{14}$, ..., 111 = $\div 2^{19}$ (See HC12 Data Sheet 10.7.2 and 10.7.3 page 118 and 119)
Real-Time Interrupt (RTI)

- ECLK = 2MHz ⇒ intervals of $500\text{ns} \times 2^{13} = 4.096\text{ms}$ \((001)\) up to $125\text{ns} \times 2^{19} = 262.144\text{ms}$. 

- ECLK = 4MHz ⇒ intervals of $250\text{ns} \times 2^{13} = 2.048\text{ms}$ \((001)\) up to $250\text{ns} \times 2^{19} = 131.072\text{ms}$. 

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