

```
.org 0x3C00
0x3C00 RESET: ldi    r16,high(RAMEND); Main program start
0x3C01          out    SPH,r16          ; Set Stack Pointer to top of RAM
0x3C02          ldi    r16,low(RAMEND)
0x3C03          out    SPL,r16
0x3C04          sei                      ; Enable interrupts
0x3C05          <instr> xxx
```

When the BOOTRST Fuse is programmed, the Boot section size set to 2K bytes and the IVSEL bit in the MCUCR Register is set before any interrupts are enabled, the most typical and general program setup for the Reset and Interrupt Vector Addresses in ATmega328P is:

Address	Labels	Code	Comments
;			
.org 0x3C00			
0x3C00		jmp RESET	; Reset handler
0x3C02		jmp EXT_INT0	; IRQ0 Handler
0x3C04		jmp EXT_INT1	; IRQ1 Handler
...	;
0x3C32		jmp SPM_RDY	; Store Program Memory Ready Handler
;			
0x3C33	RESET:	ldi r16,high(RAMEND);	Main program start
0x3C34		out SPH,r16	; Set Stack Pointer to top of RAM
0x3C35		ldi r16,low(RAMEND)	
0x3C36		out SPL,r16	
0x3C37		sei	; Enable interrupts
0x3C38		<instr> xxx	

9.5 Register Description

9.5.1 Moving Interrupts Between Application and Boot Space, ATmega88P, ATmega168P and ATmega328P

The MCU Control Register controls the placement of the Interrupt Vector table.

9.5.2 MCUCR – MCU Control Register

Bit	7	6	5	4	3	2	1	0	
0x35 (0x55)	–	BODS	BODSE	PUD	–	–	IVSEL	IVCE	MCUCR
Read/Write	R	R	R	R/W	R	R	R/W	R/W	
Initial Value	0	0	0	0	0	0	0	0	

- **Bit 1 – IVSEL: Interrupt Vector Select**

When the IVSEL bit is cleared (zero), the Interrupt Vectors are placed at the start of the Flash memory. When this bit is set (one), the Interrupt Vectors are moved to the beginning of the Boot Loader section of the Flash. The actual address of the start of the Boot Flash Section is determined by the BOOTSZ Fuses. Refer to the section ["Boot Loader Support – Read-While-Write Self-Programming, ATmega88P, ATmega168P and ATmega328P" on page 277](#) for details. To avoid unintentional changes of Interrupt Vector tables, a special write procedure must be followed to change the IVSEL bit: