

Table 9-5 on page 63 shows reset and Interrupt Vectors placement for the various combinations of BOOTRST and IVSEL settings. If the program never enables an interrupt source, the Interrupt Vectors are not used, and regular program code can be placed at these locations. This is also the case if the Reset Vector is in the Application section while the Interrupt Vectors are in the Boot section or vice versa.

Table 9-5. Reset and Interrupt Vectors Placement in ATmega168P⁽¹⁾

BOOTRST	IVSEL	Reset Address	Interrupt Vectors Start Address
1	0	0x000	0x002
1	1	0x000	Boot Reset Address + 0x0002
0	0	Boot Reset Address	0x002
0	1	Boot Reset Address	Boot Reset Address + 0x0002

Note: 1. The Boot Reset Address is shown in Table 24-7 on page 289. For the BOOTRST Fuse “1” means unprogrammed while “0” means programmed.

The most typical and general program setup for the Reset and Interrupt Vector Addresses in ATmega168P is:

Address	Labels	Code	Comments
0x0000		jmp RESET	; Reset Handler
0x0002		jmp EXT_INT0	; IRQ0 Handler
0x0004		jmp EXT_INT1	; IRQ1 Handler
0x0006		jmp PCINT0	; PCINT0 Handler
0x0008		jmp PCINT1	; PCINT1 Handler
0x000A		jmp PCINT2	; PCINT2 Handler
0x000C		jmp WDT	; Watchdog Timer Handler
0x000E		jmp TIM2_COMPA	; Timer2 Compare A Handler
0x0010		jmp TIM2_COMPB	; Timer2 Compare B Handler
0x0012		jmp TIM2_OVF	; Timer2 Overflow Handler
0x0014		jmp TIM1_CAPT	; Timer1 Capture Handler
0x0016		jmp TIM1_COMPA	; Timer1 Compare A Handler
0x0018		jmp TIM1_COMPB	; Timer1 Compare B Handler
0x001A		jmp TIM1_OVF	; Timer1 Overflow Handler
0x001C		jmp TIM0_COMPA	; Timer0 Compare A Handler
0x001E		jmp TIM0_COMPB	; Timer0 Compare B Handler
0x0020		jmp TIM0_OVF	; Timer0 Overflow Handler
0x0022		jmp SPI_STC	; SPI Transfer Complete Handler
0x0024		jmp USART_RXC	; USART, RX Complete Handler
0x0026		jmp USART_UDRE	; USART, UDR Empty Handler
0x0028		jmp USART_TXC	; USART, TX Complete Handler
0x002A		jmp ADC	; ADC Conversion Complete Handler
0x002C		jmp EE_RDY	; EEPROM Ready Handler
0x002E		jmp ANA_COMP	; Analog Comparator Handler
0x0030		jmp TWI	; 2-wire Serial Interface Handler
0x0032		jmp SPM_RDY	; Store Program Memory Ready Handler
			;
0x0033	RESET:	ldi r16, high(RAMEND);	Main program start