

Table 9-6. Reset and Interrupt Vectors in ATmega328P (Continued)

VectorNo.	Program Address ⁽²⁾	Source	Interrupt Definition
22	0x002A	ADC	ADC Conversion Complete
23	0x002C	EE READY	EEPROM Ready
24	0x002E	ANALOG COMP	Analog Comparator
25	0x0030	TWI	2-wire Serial Interface
26	0x0032	SPM READY	Store Program Memory Ready

- Notes:
1. When the BOTRST Fuse is programmed, the device will jump to the Boot Loader address at reset, see ["Boot Loader Support – Read-While-Write Self-Programming, ATmega88P, ATmega168P and ATmega328P" on page 277](#).
 2. When the IVSEL bit in MCUCR is set, Interrupt Vectors will be moved to the start of the Boot Flash Section. The address of each Interrupt Vector will then be the address in this table added to the start address of the Boot Flash Section.

[Table 9-7 on page 66](#) shows reset and Interrupt Vectors placement for the various combinations of BOTRST 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 9-7. Reset and Interrupt Vectors Placement in ATmega328P⁽¹⁾

BOTRST	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 BOTRST Fuse "1" means unprogrammed while "0" means programmed.

The most typical and general program setup for the Reset and Interrupt Vector Addresses in ATmega328P 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_COMP_A	; Timer2 Compare A Handler
0x0010		jmp TIM2_COMP_B	; Timer2 Compare B Handler
0x0012		jmp TIM2_OVF	; Timer2 Overflow Handler
0x0014		jmp TIM1_CAPT	; Timer1 Capture Handler
0x0016		jmp TIM1_COMP_A	; Timer1 Compare A Handler
0x0018		jmp TIM1_COMP_B	; Timer1 Compare B Handler
0x001A		jmp TIM1_OVF	; Timer1 Overflow Handler