

24.8.15 ATmega168P Boot Loader Parameters

In [Table 24-10](#) through [Table 24-12](#), the parameters used in the description of the self programming are given.

Table 24-10. Boot Size Configuration, ATmega168P

BOOTSZ1	BOOTSZ0	Boot Size	Pages	Application Flash Section	Boot Loader Flash Section	End Application Section	Boot Reset Address (Start Boot Loader Section)
1	1	128 words	2	0x0000 - 0x1F7F	0x1F80 - 0x1FFF	0x1F7F	0x1F80
1	0	256 words	4	0x0000 - 0x1EFF	0x1F00 - 0x1FFF	0x1EFF	0x1F00
0	1	512 words	8	0x0000 - 0x1DFF	0x1E00 - 0x1FFF	0x1DFF	0x1E00
0	0	1024 words	16	0x0000 - 0x1BFF	0x1C00 - 0x1FFF	0x1BFF	0x1C00

Note: The different BOOTSZ Fuse configurations are shown in [Figure 24-2 on page 280](#).

Table 24-11. Read-While-Write Limit, ATmega168P

Section	Pages	Address
Read-While-Write section (RWW)	112	0x0000 - 0x1BFF
No Read-While-Write section (NRWW)	16	0x1C00 - 0x1FFF

For details about these two section, see ["NRWW – No Read-While-Write Section" on page 278](#) and ["RWW – Read-While-Write Section" on page 278](#)

Table 24-12. Explanation of Different Variables used in [Figure 24-3](#) and the Mapping to the Z-pointer, ATmega168P

Variable		Corresponding Z-value ⁽¹⁾	Description
PCMSB	12		Most significant bit in the Program Counter. (The Program Counter is 13 bits PC[12:0])
PAGEMSB	5		Most significant bit which is used to address the words within one page (64 words in a page requires 6 bits PC [5:0])
ZPCMSB		Z13	Bit in Z-register that is mapped to PCMSB. Because Z0 is not used, the ZPCMSB equals PCMSB + 1.
ZPAGEMSB		Z6	Bit in Z-register that is mapped to PAGEMSB. Because Z0 is not used, the ZPAGEMSB equals PAGEMSB + 1.
PCPAGE	PC[12:6]	Z13:Z7	Program counter page address: Page select, for page erase and page write
PCWORD	PC[5:0]	Z6:Z1	Program counter word address: Word select, for filling temporary buffer (must be zero during page write operation)

Note: 1. Z15:Z14: always ignored

Z0: should be zero for all SPM commands, byte select for the LPM instruction.

See ["Addressing the Flash During Self-Programming" on page 282](#) for details about the use of Z-pointer during Self-Programming.