

RCALL Relative Call

Syntax: [*label*] RCALL n

Operands: $-1024 \leq n \leq 1023$

Operation: $(PC) + 2 \rightarrow TOS$,
 $(PC) + 2 + 2n \rightarrow PC$

Status Affected: None

Encoding:	1101	1nnn	nnnn	nnnn
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Description: Subroutine call with a jump up to 1K from the current location. First, return address (PC+2) is pushed onto the stack. Then, add the 2's complement number '2n' to the PC. Since the PC will have incremented to fetch the next instruction, the new address will be PC+2+2n. This instruction is a two-cycle instruction.

Words: 1

Cycles: 2

Q Cycle Activity:

Q1	Q2	Q3	Q4
Decode	Read literal 'n' Push PC to stack	Process Data	Write to PC
No operation	No operation	No operation	No operation

Example: HERE RCALL Jump

Before Instruction

PC = Address (HERE)

After Instruction

PC = Address (Jump)

TOS = Address (HERE+2)

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