

| Opcode Code | | Instruction | Machine code | Flags changed | Regs changed | Cycles PC | | Zero page |
|-------------|---------|-------------------|--------------|---------------|--------------|-------------------|------------------|-----------|
| 0x40 | ADD | ADD A,0xHI | 0x40HI | Z,C,N | B,A | 5 | PC=PC+2 | |
| 0x80 | ADD | ADD A,B | 0x80 | Z,C,N | A | 3 | PC=PC+1 | |
| 0x10 | ADD | ADD A,r0 | 0x10 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x90 | ADD | ADD A,r1 | 0x90 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x20 | ADD | ADD A,r2 | 0x20 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x60 | ADD | ADD A,r3 | 0x60 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x30 | ADD | ADD A,r4 | 0x30 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x70 | ADD | ADD A,r5 | 0x70 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x04 | ADDC | ADDC A,0xHI | 0x04HI | Z,C,N | B,A | 5 | PC=PC+2 | |
| 0x44 | ADDC | ADDC A,B | 0x44 | Z,C,N | A | 3 | PC=PC+1 | |
| 0x14 | ADDC | ADDC A,r0 | 0x14 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x54 | ADDC | ADDC A,r1 | 0x54 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x24 | ADDC | ADDC A,r2 | 0x24 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x64 | ADDC | ADDC A,r3 | 0x64 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x34 | ADDC | ADDC A,r4 | 0x34 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x74 | ADDC | ADDC A,r5 | 0x74 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0xbd | AND | AND A,0xHI | 0xbdHI | Z,C,N | B,A | 5 | PC=PC+2 | |
| 0xad | AND | AND A,B | 0xad | Z,C,N | A | 3 | PC=PC+1 | |
| 0xf6 | CALL | CALL 0xHIJK | 0xf6HIJK | - | T | 6 | PC=PC+2 | |
| 0xf7 | CALL_C | CALL_C 0xHIJK | 0xf7HIJK | - | T T | 6 4 6 4 3 | PC=PC+ 3 3 | |
| 0xeb | CALL_E | CALL_E 0xHIJK | 0xebHIJK | - | T | 4 4 6 4 3 | PC=PC+3 3 3 | |
| 0xee | CALL_G | CALL_G 0xHIJK | 0xeeHIJK | - | T | 6 4 4 4 3 3 3 | PC=PC+ 3 3 3 | |
| 0xef | CALL_GE | CALL_GE 0xHIJK | 0xefHIJK | - | T T | 6 4 6 4 3 | PC=PC+ 3 3 | |
| 0xf1 | CALL_L | CALL_L 0xHIJK | 0xf1HIJK | - | T | 4 6 4 4 3 3 | PC=PC+3 3 3 | |
| 0xf2 | CALL_LE | CALL_LE 0xHIJK | 0xf2HIJK | - | T T | 4 6 6 4 3 | PC=PC+3 3 | |
| 0xfa | CALL_NC | CALL_NC 0xHIJK | 0xfaHIJK | - | T T | 4 6 4 6 | PC=PC+3 3 | |
| 0xed | CALL_NE | CALL_NE 0xHIJK | 0xedHIJK | - | T T | 6 6 4 4 3 3 | PC=PC+ 3 3 | |
| 0xea | CALL_NZ | CALL_NZ 0xHIJK | 0xeaHIJK | - | T T | 6 6 4 4 3 3 | PC=PC+ 3 3 | |
| 0xe9 | CALL_Z | CALL_Z 0xHIJK | 0xe9HIJK | - | T T | 4 4 6 6 | PC=PC+3 3 | |
| 0x02 | CMP | CMP A,0xHI | 0x02HI | Z,C,N | B | 5 | PC=PC+2 | |
| 0x42 | CMP | CMP A,B | 0x42 | Z,C,N | | 3 | PC=PC+1 | |
| 0x12 | CMP | CMP A,r0 | 0x12 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x52 | CMP | CMP A,r1 | 0x52 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x22 | CMP | CMP A,r2 | 0x22 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x62 | CMP | CMP A,r3 | 0x62 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x32 | CMP | CMP A,r4 | 0x32 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x72 | CMP | CMP A,r5 | 0x72 | Z,C,N | B | 4 | PC=PC+1 | |

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|------|------|-------------|----------|-------|-----------|--------------------|------------------|----|
| 0x06 | CMPC | CMPC A,0xHI | 0x06HI | Z,C,N | B | 5 | PC=PC+2 | |
| 0x46 | CMPC | CMPC A,B | 0x46 | Z,C,N | | 3 | PC=PC+1 | |
| 0x16 | CMPC | CMPC A,r0 | 0x16 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x56 | CMPC | CMPC A,r1 | 0x56 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x26 | CMPC | CMPC A,r2 | 0x26 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x66 | CMPC | CMPC A,r3 | 0x66 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x36 | CMPC | CMPC A,r4 | 0x36 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x76 | CMPC | CMPC A,r5 | 0x76 | Z,C,N | B | 4 | PC=PC+1 | |
| 0x03 | DEC | DEC A | 0x03 | Z,C,N | A | 3 | PC=PC+1 | |
| 0x0b | DEC | DEC B | 0x0b | Z,C,N | A,B | 4 | PC=PC+1 | |
| 0x53 | DEC | DEC r0 | 0x53 | Z,C,N | A,r0 | 4 | PC=PC+1 | |
| 0x5b | DEC | DEC r1 | 0x5b | Z,C,N | A,r1 | 4 | PC=PC+1 | |
| 0xa3 | DEC | DEC r2 | 0xa3 | Z,C,N | A,r2 | 4 | PC=PC+1 | |
| 0xab | DEC | DEC r3 | 0xab | Z,C,N | A,r3 | 4 | PC=PC+1 | |
| 0xf3 | DEC | DEC r4 | 0xf3 | Z,C,N | A,r4 | 4 | PC=PC+1 | |
| 0xfb | DEC | DEC r5 | 0xfb | Z,C,N | A,r5 | 4 | PC=PC+1 | |
| 0xfe | HALT | HALT | 0xfe | - | | 3 | PC=PC+1 | |
| 0x00 | INC | INC A | 0x00 | Z,C,N | B,A | 4 | PC=PC+1 | |
| 0x08 | INC | INC B | 0x08 | Z,C,N | A,B | 4 | PC=PC+1 | |
| 0x50 | INC | INC r0 | 0x50 | Z,C,N | B,A,r0 | 5 | PC=PC+1 | |
| 0x5c | INC | INC r0r1 | 0x5c | Z,C,N | A,B,r1,r0 | 8 | PC=PC+1 | |
| 0x58 | INC | INC r1 | 0x58 | Z,C,N | B,A,r1 | 5 | PC=PC+1 | |
| 0xa0 | INC | INC r2 | 0xa0 | Z,C,N | B,A,r2 | 5 | PC=PC+1 | |
| 0xac | INC | INC r2r3 | 0xac | Z,C,N | A,B,r3,r2 | 8 | PC=PC+1 | |
| 0xa8 | INC | INC r3 | 0xa8 | Z,C,N | B,A,r3 | 5 | PC=PC+1 | |
| 0xf4 | INC | INC r4 | 0xf4 | Z,C,N | B,A,r4 | 5 | PC=PC+1 | |
| 0xfc | INC | INC r4r5 | 0xfc | Z,C,N | A,B,r5,r4 | 8 | PC=PC+1 | |
| 0xf8 | INC | INC r5 | 0xf8 | Z,C,N | B,A,r5 | 5 | PC=PC+1 | |
| 0xbf | INT | INT | 0xbf | - | T | 6 | PC=PC+1 | ZP |
| 0xe5 | JC | JC 0xHIJK | 0xe5HIJK | - | T T | 6 4 6 4 3 | PC=PC+ 3 3 | |
| 0xd6 | JE | JE 0xHIJK | 0xd6HIJK | - | T | 4 4 6 4 3 | PC=PC+3 3 3 | |
| 0xdd | JG | JG 0xHIJK | 0xddHIJK | - | T | 6 4 4 4 3 3 3 | PC=PC+ 3 3 3 | |
| 0xde | JGE | JGE 0xHIJK | 0xdeHIJK | - | T T | 6 4 6 4 3 | PC=PC+ 3 3 | |
| 0xdf | JL | JL 0xHIJK | 0xdfHIJK | - | T | 4 6 4 4 3 3 | PC=PC+3 3 3 | |
| 0xe2 | JLE | JLE 0xHIJK | 0xe2HIJK | - | T T | 4 6 6 4 3 | PC=PC+3 3 | |
| 0xe3 | JMP | JMP 0xHIJK | 0xe3HIJK | - | T | 6 | PC=PC+2 | |
| 0xe6 | JNC | JNC 0xHIJK | 0xe6HIJK | - | T T | 4 6 4 6 | PC=PC+3 3 | |
| 0xdb | JNE | JNE 0xHIJK | 0xdbHIJK | - | T T | 6 6 4 4 3 3 | PC=PC+ 3 3 | |
| 0xd5 | JNZ | JNZ 0xHIJK | 0xd5HIJK | - | T T | 6 6 4 4 3 3 | PC=PC+ 3 3 | |
| 0xd3 | JZ | JZ 0xHIJK | 0xd3HIJK | - | T T | 4 4 6 6 | PC=PC+3 3 | |
| 0x1d | MOV | MOV A,0xHI | 0x1dHI | - | A | 4 | PC=PC+2 | |

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|------|-----|--------------------|----------|---|-----|---|---------|----|
| 0x0e | MOV | MOV A,B | 0x0e | - | A | 3 | PC=PC+1 | |
| 0x9f | MOV | MOV A,F | 0x9f | - | A | 3 | PC=PC+1 | |
| 0x07 | MOV | MOV A,U | 0x07 | - | A | 3 | PC=PC+1 | |
| 0x1f | MOV | MOV A, [0xHIJK] | 0x1fHIJK | - | T,A | 7 | PC=PC+3 | |
| 0x1e | MOV | MOV A,[0xHI] | 0x1eHI | - | A | 5 | PC=PC+2 | ZP |
| 0x91 | MOV | MOV A,[r0r1] | 0x91 | - | T,A | 5 | PC=PC+1 | |
| 0x67 | MOV | MOV A,[r2r3] | 0x67 | - | T,A | 5 | PC=PC+1 | |
| 0x77 | MOV | MOV A,[r4r5] | 0x77 | - | T,A | 5 | PC=PC+1 | |
| 0x93 | MOV | MOV A,r0 | 0x93 | - | A | 3 | PC=PC+1 | |
| 0x1b | MOV | MOV A,r1 | 0x1b | - | A | 3 | PC=PC+1 | |
| 0xa1 | MOV | MOV A,r2 | 0xa1 | - | A | 3 | PC=PC+1 | |
| 0x28 | MOV | MOV A,r3 | 0x28 | - | A | 3 | PC=PC+1 | |
| 0xb1 | MOV | MOV A,r4 | 0xb1 | - | A | 3 | PC=PC+1 | |
| 0x38 | MOV | MOV A,r5 | 0x38 | - | A | 3 | PC=PC+1 | |
| 0x0d | MOV | MOV AB,0xHIJK | 0x0dHIJK | - | A,B | 6 | PC=PC+3 | |
| 0x18 | MOV | MOV AB,r0r1 | 0x18 | - | B,A | 4 | PC=PC+1 | |
| 0x19 | MOV | MOV AB,r2r3 | 0x19 | - | B,A | 4 | PC=PC+1 | |
| 0x1a | MOV | MOV AB,r4r5 | 0x1a | - | B,A | 4 | PC=PC+1 | |
| 0x2b | MOV | MOV B,0xHI | 0x2bHI | - | B | 4 | PC=PC+2 | |
| 0x0f | MOV | MOV B,A | 0x0f | - | B | 3 | PC=PC+1 | |
| 0x0c | MOV | MOV B,U | 0x0c | - | B | 3 | PC=PC+1 | |
| 0x2d | MOV | MOV B, [0xHIJK] | 0x2dHIJK | - | T,B | 7 | PC=PC+3 | |
| 0x2c | MOV | MOV B,[0xHI] | 0x2cHI | - | B | 5 | PC=PC+2 | ZP |
| 0x94 | MOV | MOV B,r0 | 0x94 | - | B | 3 | PC=PC+1 | |
| 0x1c | MOV | MOV B,r1 | 0x1c | - | B | 3 | PC=PC+1 | |
| 0xa2 | MOV | MOV B,r2 | 0xa2 | - | B | 3 | PC=PC+1 | |
| 0x29 | MOV | MOV B,r3 | 0x29 | - | B | 3 | PC=PC+1 | |
| 0xb2 | MOV | MOV B,r4 | 0xb2 | - | B | 3 | PC=PC+1 | |
| 0x39 | MOV | MOV B,r5 | 0x39 | - | B | 3 | PC=PC+1 | |
| 0x13 | MOV | MOV U,0xHI | 0x13HI | - | U | 4 | PC=PC+2 | |
| 0x09 | MOV | MOV U,A | 0x09 | - | U | 3 | PC=PC+1 | |
| 0x0a | MOV | MOV U,B | 0x0a | - | U | 3 | PC=PC+1 | |
| 0x3b | MOV | MOV [0xHIJK],A | 0x3bHIJK | - | T | 7 | PC=PC+3 | |
| 0xcf | MOV | MOV [0xHIJK],B | 0xcfHIJK | - | T | 7 | PC=PC+3 | |
| 0xd2 | MOV | MOV [0xHIJK],r0 | 0xd2HIJK | - | T | 7 | PC=PC+3 | |
| 0x9a | MOV | MOV [0xHIJK],r1 | 0x9aHIJK | - | T | 7 | PC=PC+3 | |
| 0xa7 | MOV | MOV [0xHIJK],r2 | 0xa7HIJK | - | T | 7 | PC=PC+3 | |
| 0xaa | MOV | MOV [0xHIJK],r3 | 0xaaHIJK | - | T | 7 | PC=PC+3 | |
| 0xb7 | MOV | MOV [0xHIJK],r4 | 0xb7HIJK | - | T | 7 | PC=PC+3 | |

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|------|-----|---------------------|----------|---|-------|---|---------|----|
| 0x7b | MOV | MOV [0xHIJK],r5 | 0x7bHIJK | - | T | 7 | PC=PC+3 | |
| 0x3a | MOV | MOV [0xHI],A | 0x3aHI | - | | 5 | PC=PC+2 | ZP |
| 0xce | MOV | MOV [0xHI],B | 0xceHI | - | | 5 | PC=PC+2 | ZP |
| 0x97 | MOV | MOV [0xHI],r0 | 0x97HI | - | | 5 | PC=PC+2 | ZP |
| 0x5f | MOV | MOV [0xHI],r1 | 0x5fHI | - | | 5 | PC=PC+2 | ZP |
| 0xa6 | MOV | MOV [0xHI],r2 | 0xa6HI | - | | 5 | PC=PC+2 | ZP |
| 0x6f | MOV | MOV [0xHI],r3 | 0x6fHI | - | | 5 | PC=PC+2 | ZP |
| 0xb6 | MOV | MOV [0xHI],r4 | 0xb6HI | - | | 5 | PC=PC+2 | ZP |
| 0x3f | MOV | MOV [0xHI],r5 | 0x3fHI | - | | 5 | PC=PC+2 | ZP |
| 0x17 | MOV | MOV [r0r1],0xHI | 0x17HI | - | A,T | 7 | PC=PC+2 | |
| 0x57 | MOV | MOV [r0r1],A | 0x57 | - | T | 5 | PC=PC+1 | |
| 0x23 | MOV | MOV [r2r3],0xHI | 0x23HI | - | A,T | 7 | PC=PC+2 | |
| 0x27 | MOV | MOV [r2r3],A | 0x27 | - | T | 5 | PC=PC+1 | |
| 0x33 | MOV | MOV [r4r5],0xHI | 0x33HI | - | A,T | 7 | PC=PC+2 | |
| 0x37 | MOV | MOV [r4r5],A | 0x37 | - | T | 5 | PC=PC+1 | |
| 0x4b | MOV | MOV r0,0xHI | 0x4bHI | - | r0 | 4 | PC=PC+2 | |
| 0x49 | MOV | MOV r0,A | 0x49 | - | r0 | 3 | PC=PC+1 | |
| 0x4a | MOV | MOV r0,B | 0x4a | - | r0 | 3 | PC=PC+1 | |
| 0x6b | MOV | MOV r0, [0xHIJK] | 0x6bHIJK | - | T,r0 | 7 | PC=PC+3 | |
| 0x6a | MOV | MOV r0,[0xHI] | 0x6aHI | - | r0 | 5 | PC=PC+2 | ZP |
| 0x59 | MOV | MOV r0,r1 | 0x59 | - | r0 | 3 | PC=PC+1 | |
| 0x6c | MOV | MOV r0,r2 | 0x6c | - | r0 | 3 | PC=PC+1 | |
| 0x68 | MOV | MOV r0,r3 | 0x68 | - | r0 | 3 | PC=PC+1 | |
| 0x7c | MOV | MOV r0,r4 | 0x7c | - | r0 | 3 | PC=PC+1 | |
| 0x78 | MOV | MOV r0,r5 | 0x78 | - | r0 | 3 | PC=PC+1 | |
| 0x48 | MOV | MOV r0r1,0xHIJK | 0x48HIJK | - | r0,r1 | 6 | PC=PC+3 | |
| 0x43 | MOV | MOV r0r1,AB | 0x43 | - | r1,r0 | 4 | PC=PC+1 | |
| 0x63 | MOV | MOV r0r1,r2r3 | 0x63 | - | r1,r0 | 4 | PC=PC+1 | |
| 0x73 | MOV | MOV r0r1,r4r5 | 0x73 | - | r1,r0 | 4 | PC=PC+1 | |
| 0x4d | MOV | MOV r1,0xHI | 0x4dHI | - | r1 | 4 | PC=PC+2 | |
| 0x47 | MOV | MOV r1,A | 0x47 | - | r1 | 3 | PC=PC+1 | |
| 0x4c | MOV | MOV r1,B | 0x4c | - | r1 | 3 | PC=PC+1 | |
| 0x4f | MOV | MOV r1, [0xHIJK] | 0x4fHIJK | - | T,r1 | 7 | PC=PC+3 | |
| 0x4e | MOV | MOV r1,[0xHI] | 0x4eHI | - | r1 | 5 | PC=PC+2 | ZP |
| 0x5a | MOV | MOV r1,r0 | 0x5a | - | r1 | 3 | PC=PC+1 | |
| 0x69 | MOV | MOV r1,r2 | 0x69 | - | r1 | 3 | PC=PC+1 | |
| 0x6d | MOV | MOV r1,r3 | 0x6d | - | r1 | 3 | PC=PC+1 | |
| 0x79 | MOV | MOV r1,r4 | 0x79 | - | r1 | 3 | PC=PC+1 | |
| 0x7d | MOV | MOV r1,r5 | 0x7d | - | r1 | 3 | PC=PC+1 | |
| 0x89 | MOV | MOV r2,0xHI | 0x89HI | - | r2 | 4 | PC=PC+2 | |
| 0x83 | MOV | MOV r2,A | 0x83 | - | r2 | 3 | PC=PC+1 | |
| 0x88 | MOV | MOV r2,B | 0x88 | - | r2 | 3 | PC=PC+1 | |

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|------|-----|---------------------|----------|---|-------|---|---------|----|
| 0x8b | MOV | MOV r2, [0xHIJK] | 0x8bHIJK | - | T,r2 | 7 | PC=PC+3 | |
| 0x8a | MOV | MOV r2,[0xHI] | 0x8aHI | - | r2 | 5 | PC=PC+2 | ZP |
| 0x9c | MOV | MOV r2,r0 | 0x9c | - | r2 | 3 | PC=PC+1 | |
| 0x98 | MOV | MOV r2,r1 | 0x98 | - | r2 | 3 | PC=PC+1 | |
| 0xa9 | MOV | MOV r2,r3 | 0xa9 | - | r2 | 3 | PC=PC+1 | |
| 0xb3 | MOV | MOV r2,r4 | 0xb3 | - | r2 | 3 | PC=PC+1 | |
| 0xb8 | MOV | MOV r2,r5 | 0xb8 | - | r2 | 3 | PC=PC+1 | |
| 0x82 | MOV | MOV r2r3,0xHIJK | 0x82HIJK | - | r2,r3 | 6 | PC=PC+3 | |
| 0x81 | MOV | MOV r2r3,AB | 0x81 | - | r3,r2 | 4 | PC=PC+1 | |
| 0x92 | MOV | MOV r2r3,r0r1 | 0x92 | - | r3,r2 | 4 | PC=PC+1 | |
| 0xb0 | MOV | MOV r2r3,r4r5 | 0xb0 | - | r3,r2 | 4 | PC=PC+1 | |
| 0x86 | MOV | MOV r3,0xHI | 0x86HI | - | r3 | 4 | PC=PC+2 | |
| 0x84 | MOV | MOV r3,A | 0x84 | - | r3 | 3 | PC=PC+1 | |
| 0x8c | MOV | MOV r3,B | 0x8c | - | r3 | 3 | PC=PC+1 | |
| 0x8d | MOV | MOV r3, [0xHIJK] | 0x8dHIJK | - | T,r3 | 7 | PC=PC+3 | |
| 0x87 | MOV | MOV r3,[0xHI] | 0x87HI | - | r3 | 5 | PC=PC+2 | ZP |
| 0x95 | MOV | MOV r3,r0 | 0x95 | - | r3 | 3 | PC=PC+1 | |
| 0x9d | MOV | MOV r3,r1 | 0x9d | - | r3 | 3 | PC=PC+1 | |
| 0xa4 | MOV | MOV r3,r2 | 0xa4 | - | r3 | 3 | PC=PC+1 | |
| 0xb4 | MOV | MOV r3,r4 | 0xb4 | - | r3 | 3 | PC=PC+1 | |
| 0xbc | MOV | MOV r3,r5 | 0xbc | - | r3 | 3 | PC=PC+1 | |
| 0xc3 | MOV | MOV r4,0xHI | 0xc3HI | - | r4 | 4 | PC=PC+2 | |
| 0xc2 | MOV | MOV r4,A | 0xc2 | - | r4 | 3 | PC=PC+1 | |
| 0xc8 | MOV | MOV r4,B | 0xc8 | - | r4 | 3 | PC=PC+1 | |
| 0xca | MOV | MOV r4, [0xHIJK] | 0xcaHIJK | - | T,r4 | 7 | PC=PC+3 | |
| 0xc9 | MOV | MOV r4,[0xHI] | 0xc9HI | - | r4 | 5 | PC=PC+2 | ZP |
| 0xd1 | MOV | MOV r4,r0 | 0xd1 | - | r4 | 3 | PC=PC+1 | |
| 0xd8 | MOV | MOV r4,r1 | 0xd8 | - | r4 | 3 | PC=PC+1 | |
| 0xe1 | MOV | MOV r4,r2 | 0xe1 | - | r4 | 3 | PC=PC+1 | |
| 0xe8 | MOV | MOV r4,r3 | 0xe8 | - | r4 | 3 | PC=PC+1 | |
| 0xf9 | MOV | MOV r4,r5 | 0xf9 | - | r4 | 3 | PC=PC+1 | |
| 0xc1 | MOV | MOV r4r5,0xHIJK | 0xc1HIJK | - | r4,r5 | 6 | PC=PC+3 | |
| 0xc0 | MOV | MOV r4r5,AB | 0xc0 | - | r5,r4 | 4 | PC=PC+1 | |
| 0xd0 | MOV | MOV r4r5,r0r1 | 0xd0 | - | r5,r4 | 4 | PC=PC+1 | |
| 0xe0 | MOV | MOV r4r5,r2r3 | 0xe0 | - | r5,r4 | 4 | PC=PC+1 | |
| 0xc5 | MOV | MOV r5,0xHI | 0xc5HI | - | r5 | 4 | PC=PC+2 | |
| 0xc4 | MOV | MOV r5,A | 0xc4 | - | r5 | 3 | PC=PC+1 | |
| 0xcc | MOV | MOV r5,B | 0xcc | - | r5 | 3 | PC=PC+1 | |
| 0xc7 | MOV | MOV r5, [0xHIJK] | 0xc7HIJK | - | T,r5 | 7 | PC=PC+3 | |
| 0xc6 | MOV | MOV r5,[0xHI] | 0xc6HI | - | r5 | 5 | PC=PC+2 | ZP |
| 0xd4 | MOV | MOV r5,r0 | 0xd4 | - | r5 | 3 | PC=PC+1 | |
| 0xdc | MOV | MOV r5,r1 | 0xdc | - | r5 | 3 | PC=PC+1 | |

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|------|-----------|-------------|--------|-------|-----|---|---------|
| 0xe4 | MOV | MOV r5,r2 | 0xe4 | - | r5 | 3 | PC=PC+1 |
| 0xec | MOV | MOV r5,r3 | 0xec | - | r5 | 3 | PC=PC+1 |
| 0xf5 | MOV | MOV r5,r4 | 0xf5 | - | r5 | 3 | PC=PC+1 |
| 0xda | NAND | NAND A,0xHI | 0xdaHI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0xba | NAND | NAND A,B | 0xba | Z,C,N | A | 3 | PC=PC+1 |
| 0xff | NOP | NOP | 0xff | - | | 2 | PC=PC+1 |
| 0x9e | NOR | NOR A,0xHI | 0x9eHI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0x7e | NOR | NOR A,B | 0x7e | Z,C,N | A | 3 | PC=PC+1 |
| 0xd7 | NOT | NOT A | 0xd7 | Z,C,N | A | 3 | PC=PC+1 |
| 0xbb | OR | OR A,0xHI | 0xbbHI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0x9b | OR | OR A,B | 0x9b | Z,C,N | A | 3 | PC=PC+1 |
| 0x2a | POP | POP A | 0x2a | - | A | 4 | PC=PC+1 |
| 0x2e | POP | POP B | 0x2e | - | B | 4 | PC=PC+1 |
| 0xaf | POP | POP F | 0xaf | Z,C,N | | 4 | PC=PC+1 |
| 0x3d | POP | POP T | 0x3d | - | T | 4 | PC=PC+1 |
| 0x7a | POP | POP r0 | 0x7a | - | r0 | 4 | PC=PC+1 |
| 0x5d | POP | POP r1 | 0x5d | - | r1 | 4 | PC=PC+1 |
| 0x99 | POP | POP r2 | 0x99 | - | r2 | 4 | PC=PC+1 |
| 0x8e | POP | POP r3 | 0x8e | - | r3 | 4 | PC=PC+1 |
| 0xcb | POP | POP r4 | 0xcb | - | r4 | 4 | PC=PC+1 |
| 0xcd | POP | POP r5 | 0xcd | - | r5 | 4 | PC=PC+1 |
| 0x3c | PUSH | PUSH 0xHI | 0x3cHI | - | T | 6 | PC=PC+2 |
| 0x2f | PUSH | PUSH A | 0x2f | - | | 5 | PC=PC+1 |
| 0x8f | PUSH | PUSH B | 0x8f | - | | 5 | PC=PC+1 |
| 0xae | PUSH | PUSH F | 0xae | - | | 5 | PC=PC+1 |
| 0x96 | PUSH | PUSH r0 | 0x96 | - | | 5 | PC=PC+1 |
| 0x5e | PUSH | PUSH r1 | 0x5e | - | | 5 | PC=PC+1 |
| 0xa5 | PUSH | PUSH r2 | 0xa5 | - | | 5 | PC=PC+1 |
| 0x6e | PUSH | PUSH r3 | 0x6e | - | | 5 | PC=PC+1 |
| 0xb5 | PUSH | PUSH r4 | 0xb5 | - | | 5 | PC=PC+1 |
| 0x3e | PUSH | PUSH r5 | 0x3e | - | | 5 | PC=PC+1 |
| 0xbe | PUSH_PC+1 | PUSH_PC+1 | 0xbe | - | T | 7 | PC=PC+1 |
| 0x7f | RCL | RCL A | 0x7f | Z,C,N | A | 3 | PC=PC+1 |
| 0xfd | RET | RET | 0xfd | - | | 7 | PC=PC+4 |
| 0x85 | RETI | RETI | 0x85 | - | T | 7 | PC=PC+2 |
| 0xf0 | SHL | SHL A | 0xf0 | Z,C,N | A | 3 | PC=PC+1 |
| 0xe7 | SHR | SHR A | 0xe7 | - | T,A | 5 | PC=PC+1 |
| 0x01 | SUB | SUB A,0xHI | 0x01HI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0x41 | SUB | SUB A,B | 0x41 | Z,C,N | A | 3 | PC=PC+1 |
| 0x11 | SUB | SUB A,r0 | 0x11 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x51 | SUB | SUB A,r1 | 0x51 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x21 | SUB | SUB A,r2 | 0x21 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x61 | SUB | SUB A,r3 | 0x61 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x31 | SUB | SUB A,r4 | 0x31 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x71 | SUB | SUB A,r5 | 0x71 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x05 | SUBC | SUBC A,0xHI | 0x05HI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0x45 | SUBC | SUBC A,B | 0x45 | Z,C,N | A | 3 | PC=PC+1 |

| | | | | | | | |
|------|------|------------|--------|-------|-----|---|---------|
| 0x15 | SUBC | SUBC A,r0 | 0x15 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x55 | SUBC | SUBC A,r1 | 0x55 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x25 | SUBC | SUBC A,r2 | 0x25 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x65 | SUBC | SUBC A,r3 | 0x65 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x35 | SUBC | SUBC A,r4 | 0x35 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0x75 | SUBC | SUBC A,r5 | 0x75 | Z,C,N | B,A | 4 | PC=PC+1 |
| 0xd9 | XOR | XOR A,0xHI | 0xd9HI | Z,C,N | B,A | 5 | PC=PC+2 |
| 0xb9 | XOR | XOR A,B | 0xb9 | Z,C,N | A | 3 | PC=PC+1 |