

Sonne CPU  
rev. Daffodil  
Opcode Matrix  
Mnemonic  
Chart

|      | LSB | 0000         | 0001       | 0010 | 0011 | 0100 | 0101 | 0110 | 0111 | 1000 | 1001 | 1010 | 1011 | 1100     | 1101       | 1110 | 1111 |
|------|-----|--------------|------------|------|------|------|------|------|------|------|------|------|------|----------|------------|------|------|
|      |     | <u>0</u>     | 1          | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | A    | B    | <u>C</u> | <u>D</u>   | E    | F    |
| MSB  |     | ----         | ----       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ----     | ----       | ---- | ---- |
| 0000 | 0_  | <u>NOP</u>   | <u>RET</u> | nf   | ng   | nl   | ns   | np   | nr   | nd   | nj   | ni   | ne   | nc       | <u>r0+</u> | na   | nb   |
| 0001 | 1_  | <u>SSI</u>   | <u>LID</u> | mf   | mg   | ml   | ms   | mp   | mr   | md   | mj   | mi   | me   | mc       | <u>r1+</u> | ma   | mb   |
| 0010 | 2_  | <u>SSO</u>   | fm         | CLIP | fg   | fl   | fs   | fp   | fr   | fd   | fj   | fi   | fe   | fc       | <u>r2+</u> | fa   | fb   |
| 0011 | 3_  | <u>SCL</u>   | gm         | gf   | gg   | gl   | gs   | gp   | gr   | gd   | gj   | gi   | ge   | gc       | <u>r3+</u> | ga   | gb   |
| 0100 | 4_  | <u>SCH</u>   | lm         | lf   | lg   | ll   | ls   | lp   | lr   | ld   | lj   | li   | le   | lc       | <u>r4-</u> | la   | lb   |
| 0101 | 5_  | <u>HIZ</u>   | sm         | sf   | sg   | sl   | ss   | sp   | sr   | sd   | sj   | si   | se   | sc       | <u>r3-</u> | sa   | sb   |
| 0110 | 6_  | <u>LEAVE</u> | pm         | pf   | pg   | pl   | ps   | pp   | pr   | pd   | pj   | pi   | pe   | pc       | <u>r2-</u> | pa   | pb   |
| 0111 | 7_  | <u>ENTER</u> | rm         | rf   | rg   | rl   | rs   | rp   | rr   | rd   | rj   | ri   | re   | rc       | <u>r1-</u> | ra   | rb   |
| 1000 | 8_  | *0           | *1         | *2   | *3   | *4   | *5   | *6   | *7   | *8   | *9   | *10  | *11  | *12      | *13        | *14  | *15  |
| 1001 | 9_  | *16          | *17        | *18  | *19  | *20  | *21  | *22  | *23  | *24  | *25  | *26  | *27  | *28      | *29        | *30  | *31  |
| 1010 | A_  | *32          | *33        | *34  | *35  | *36  | *37  | *38  | *39  | *40  | *41  | *42  | *43  | *44      | *45        | *46  | *47  |
| 1011 | B_  | *48          | *49        | *50  | *51  | *52  | *53  | *54  | *55  | *56  | *57  | *58  | *59  | *60      | *61        | *62  | *63  |
| 1100 | C_  | G0a          | G1a        | G2a  | G3a  | aG0  | aG1  | aG2  | aG3  | L0a  | L1a  | L2a  | L3a  | aL0      | aL1        | aL2  | aL3  |
| 1101 | D_  | G0b          | G1b        | G2b  | G3b  | bG0  | bG1  | bG2  | bG3  | L0b  | L1b  | L2b  | L3b  | bL0      | bL1        | bL2  | bL3  |
| 1110 | E_  | G0r          | G1r        | G2r  | G3r  | rG0  | rG1  | rG2  | rG3  | L0r  | L1r  | L2r  | L3r  | rL0      | rL1        | rL2  | rL3  |
| 1111 | F_  | IDA          | IDB        | OCA  | OCB  | SLA  | SLB  | SRA  | SRB  | AND  | IOR  | EOR  | ADD  | CYF      | ALB        | AEB  | AGB  |