SGPC Programmer's Manual

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Register Set

This chapter describes the registers. The registers are seperated in four groups based on accessability.

2.1 Foreground Registers

The foreground registers are the registers all regular instructions can read from and write to. There are eight 8-bit and eight 16-bit foreground registers. These registers are preserved in interrupts.

General-Purpose Registers (GPRs)

These instruction

Table 2.1: List of Foreground Registers

ID	Mnonic	Descriptive Name	Length in bits
0x0	al	The lower byte of ax	8
0x1	ah	The higher byte of ax	8
0x2	bl	The lower byte of bx	8
0x3	bh	The higher byte of bx	8
0x4	cl	The lower byte of cx	8
0x5	ch	The higher byte of cx	8
0x6	dl	The lower byte of dx	8
0x7	dh	The higher byte of dx	8
0x8	ax	The first GPR	16
0x9	bx	The second GPR	16
0xA	cx	The third GPR	16
0xB	dx	The fourth GPR	16
0xC	ex	The fifth GPR	16
0xD	tm	Temporary data	16
0xE	sp	Stack pointer	16
0xF	pc	Program counter	16

Stack Pointer Register (SP)

Program Counter Register (PC)

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0x01: MOVNZ

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Appendix A

Instruction Set Listings

Table A.1: List of instructions sorted by opcode

Opcode			Memnonic	Operand A	Operand B
Decimal	**Hex**	**Binary**			
0	0x00	000000	MOV	R&W	R
1	0x01	000001	MOV	R&W	R
2	0x02	000010	MOV	R&W	R
3	0x03	000011	MOV	R&W	R
4	0x04	000100	MOV	R&W	R
5	0x05	000101	MOV	R&W	R
6	0x06	000110	MOV	R&W	R
7	0x07	000111	MOV	R&W	R
8	0x08	001000	MOV	R&W	R
9	0x09	001001	MOV	R&W	R
10	0x0A	001010	MOV	R&W	R
11	0x0B	001011	MOV	R&W	R
12	0x0C	001100	MOV	R&W	R
13	0x0D	001101	MOV	R&W	R
14	0x0E	001110	MOV	R&W	R
15	0x0F	001111	MOV	R&W	R
16	0x10	010000	MOV	R&W	R
17	0x11	010001	MOV	R&W	R
18	0x12	010010	MOV	R&W	R
19	0x13	010011	MOV	R&W	R
20	0x14	010100	MOV	R&W	R
21	0x15	010101	MOV	R&W	R
22	0x16	010110	MOV	R&W	R
23	0x17	010111	MOV	R&W	R
24	0x18	011000	MOV	R&W	R
25	0x19	011001	MOV	R&W	R
26	0x1A	011010	MOV	R&W	R
27	0x1B	011011	MOV	R&W	R
28	0x1C	011100	MOV	R&W	R
29	0x1D	011101	MOV	R&W	R
30	0x1E	011110	MOV	R&W	R

Table A.1: List of instructions sorted by opcode

Opcode			Memnonic	Operand A	Operand B
Decimal	**Hex**	**Binary**			
31	0x1F	011111	MOV	R&W	R
32	0x20	100000	MOV	R&W	R
33	0x21	100001	MOV	R&W	R
34	0x22	100010	MOV	R&W	R
35	0x23	100011	MOV	R&W	R
36	0x24	100100	MOV	R&W	R
37	0x25	100101	MOV	R&W	R
38	0x26	100110	MOV	R&W	R
39	0x27	100111	MOV	R&W	R
40	0x28	101000	MOV	R&W	R
41	0x29	101001	MOV	R&W	R
42	0x2A	101010	MOV	R&W	R
43	0x2B	101011	MOV	R&W	R
44	0x2C	101100	MOV	R&W	R
45	0x2D	101101	MOV	R&W	R
46	0x2E	101110	MOV	R&W	R
47	0x2F	101111	MOV	R&W	R
48	0x30	110000	MOV	R&W	R
49	0x31	110001	MOV	R&W	R
50	0x32	110010	MOV	R&W	R
51	0x33	110011	MOV	R&W	R
52	0x34	110100	MOV	R&W	R
53	0x35	110101	MOV	R&W	R
54	0x36	110110	MOV	R&W	R
55	0x37	110111	MOV	R&W	R
56	0x38	111000	MOV	R&W	R
57	0x39	111001	MOV	R&W	R
58	0x3A	111010	MOV	R&W	R
59	0x3B	111011	MOV	R&W	R
60	0x3C	111100	MOV	R&W	R
61	0x3D	111101	MOV	R&W	R
62	0x3E	111110	MOV	R&W	R
63	0x3F	111111	MOV	R&W	R

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