

PC + 0				PC + 1				PC + 2				PC + 3				PC + 4				PC + 5				PC + 6				PC + 7			
OPCODE				OP8																											
0 0		simple operation						optional operand				optional operand				optional operand															
width	1		sarop																												
	0	1		ofd	ofs	0	x	x	x	marop				reference to destination (2 bytes)				reference to source address (2bytes)													
		0		ofd	0	1	x	x	x	marop				reference to destination (2 bytes)				immediate				1 to 4 bytes									
	marop & stack	0		psh	0	ofs	0	reference to source address (2bytes)																							
		0		0	0	1	immediate				1 to 4 bytes																				
pop		ofd	0	0	reference to destination address (2bytes)																										
0 0		WRCMD						nr				wlen				reference to wdata				rlen				reference to rdata							
width	simple operation prefix or width of arithmetic operation																		Memory address map												
simple op	00														#define ae_BIT_MAPPED	0x79															
byte	01														#define ae_BYTE_MAPPED	0x7A															
word	10														#define ae_FLOW_MEM	0x7B															
long	11														#define ae_GLOBAL_MEM	0x7C															
ofd,ofs,im	addressing mode																		#define ae_	#define ae_HEAP_MEM	0x7D										
1 --1	IMMEDIATE		source operand is 1=IMMEDIATE, 0=MEMORY																#define ae_IMMEDIATE 1	#define ae_HREG_MEM	0x7E										
2 -1-	OFFSET_SRC		offset on source memory location (offset is a byte from stack)																#define ae_OFFSET_SRC 2	#define ae_LREG_MEM	0x7F										
4 1--	OFFSET_DEST		offset on destination memory location (offset is a byte from stack)																#define ae_OFFSET_DEST 4												
type																															
8 0b00001000	POP_BIT														#define ae_POP_BIT 8																
16 0b00010000	MAROP_BIT														#define ae_MAROP_BIT 16																
32 0b00100000	SAROP_BIT														#define ae_SAROP_BIT 32																
sarop/marop	stack and memory arithmetic operator						5 bit operator (up to 16 arop1 + 16 arop2 operations)																								
arop1	arithmetic operator on one operand						first bit of the five bit operator is 0																								
arop2	arithmetic operator on two operands						first bit of the five bit operator is 1												#define ae_TWO_OPERANDS 0x10												
siop	simple operation						6 bit operator (up to 64 instructions)																								
pushpop	push / pop stack operations																		#define ae_PUSHPOP_MASK 0b00111000												