Abacus 2 Instruction Set

DATA INSTRUCTIONS

MOV	*Move*	POP	*Pop from Stack*
LDRF	*Load Flags*	POPF	*Pop Stack to Flags*
STRF	*Save Flags*	IN	*Input from Port*
XCHG	*Exchange*	OUT	*Output to Port*
PUSH	*Push to Stack*	LEA	*Load Effective Address*
PUSHF	*Push Flags to Stack*	CBW	*Convert Byte to Word*

ARITHMETIC INSTRUCTIONS

ADD	*Add*	INC	*Increment*
ADC	*Add with Carry*	DEC	*Decrement*
SUB	*Subtract*	NEG	*Negate*
SBB	*Subtract with Borrow*	CMP	*Compare (Subtract)*

LOGIC INSTRUCTIONS

AND	*And*	NOT	*Not*
OR	*Or*	TEST	*Test (And)*
XOR	*Exclusive Or*		

SHIFT INSTRUCTIONS

SHL	*Shift Left*

BRANCHING INSTRUCTIONS

JMP	*Jump Unconditionally*	JNZ	*Jump if not Zero*
JO	*Jump if Overflow*	JC	*Jump if Carry*
JS	*Jump if Sign*	JNC	*Jump if not Carry*
JZ	*Jump if Zero*	JP	*Jump Parity*

FUNCTION INSTRUCTIONS

CALL	*Call Function*	IRET	*Return Interrupt*
RET	*Return Function*	BRK	*Call Breakpoint*
INT	*Call Interrupt*		

SPECIAL INSTRUCTIONS

CPUID	*Processor Identification*	CLF	*Clear Flag*
NOP	*No Operation*	STF	*Set Flag*
HLT	*Halt Processor*	CMF	*Complement Flag*
WAIT	*Wait for Interrupt*		

FPU INSTRUCTIONS

FNOP	*No Operation*
FIXS	*Convert Floating Point to Fixed Single*
FIXD	*Convert Floating Point to Fixed Double*
FLTS	*Convert Fixed Single to Floating Point*
FLTD	*Convert Fixed Double to Floating Point*
CHSS	*Change Sign Fixed Single*
CHSD	*Change Sign Fixed Double*
CHSF	*Change Sign Floating Point*
XCHS	*Exchange TOS/NOS Fixed Single*
XCHD	*Exchange TOS/NOS Fixed Double*
XCHF	*Exchange TOS/NOS Floating Point*
POPS	*Pop Fixed Single from Stack*
POPD	*Pop Fixed Double from Stack*
POPF	*Pop Floating Point from Stack*
PTOS	*Push Fixed Single to Stack*
PTOD	*Push Fixed Double to Stack*
PTOF	*Push Floating Point to Stack*
PUPI	*Push Pi to Stack*
SADD	*Add Fixed Single*
SSUB	*Subtract Fixed Single*
SMUL	*Multiply Fixed Single (Lower)*
SMUU	*Multiply Fixed Single (Upper)*
SDIV	*Divide Fixed Single*
DADD	*Add Fixed Double*
DSUB	*Subtract Fixed Double*
DMUL	*Multiply Fixed Double (Lower)*
DMUU	*Multiply Fixed Double (Upper)*
DDIV	*Divide Fixed Double*
FADD	*Add Floating Point*
FSUB	*Subtract Floating Point*
FMUL	*Multiply Floating Point*
FDIV	*Divide Floating Point*
SIN	*Sine*
COS	*Cosine*
TAN	*Tangent*
ASIN	*Inverse Sine*
ACOS	*Inverse Cosine*
ATAN	*Inverse Tangent*
SQRT	*Square Root*
LOG	*Common Logarithm*
LN	*Natural Logarithm*
EXP	*Exponent (Euler)*
PWR	*Exponent (X^Y)*