

## Motorola 68000 Instruction Set.

		Condition Codes						
		Assembler	Data	X	N	Z	V	C
Instruction	Description	Syntax	Size					
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ABCD	Add BCD with extend	Dx, Dy - (Ax) , - (Ay)	B--	*	U	*	U	*
ADD	ADD binary	Dn, <ea> <ea>, Dn	BWL	*	*	*	*	*
ADDA	ADD binary to An	<ea>, An	-WL	-	-	-	-	-
ADDI	ADD Immediate	#x, <ea>	BWL	*	*	*	*	*
ADDQ	ADD 3-bit immediate	#<1-8>, <ea>	BWL	*	*	*	*	*
ADDX	ADD eXtended	Dy, Dx - (Ay) , - (Ax)	BWL	*	*	*	*	*
AND	Bit-wise AND	<ea>, Dn Dn, <ea>	BWL	-	*	*	0	0
ANDI	Bit-wise AND with Immediate	#<data>, <ea>	BWL	-	*	*	0	0
ASL	Arithmetic Shift Left	#<1-8>, Dy Dx, Dy <ea>	BWL	*	*	*	*	*
ASR	Arithmetic Shift Right	...	BWL	*	*	*	*	*
Bcc	Conditional Branch	Bcc.S <label> Bcc.W <label>	BW-	-	-	-	-	-
BCHG	Test a Bit and CHanGe	Dn, <ea> #<data>, <ea>	B-L	-	-	*	-	-
BCLR	Test a Bit and CLear	...	B-L	-	-	*	-	-
BSET	Test a Bit and SET	...	B-L	-	-	*	-	-
BSR	Branch to SubRoutine	BSR.S <label> BSR.W <label>	BW-	-	-	-	-	-
BTST	Bit TeST	Dn, <ea> #<data>, <ea>	B-L	-	-	*	-	-
CHK	CHeCK Dn Against Bounds	<ea>, Dn	-W-	-	*	U	U	U
CLR	CLear	<ea>	BWL	-	0	1	0	0
CMP	CoMPare	<ea>, Dn	BWL	-	*	*	*	*
CMPA	CoMPare Address	<ea>, An	-WL	-	*	*	*	*
CMPI	CoMPare Immediate	#<data>, <ea>	BWL	-	*	*	*	*
CMPM	CoMPare Memory	(Ay)+, (Ax)+	BWL	-	*	*	*	*
DBcc	Looping Instruction	DBcc Dn, <label>	-W-	-	-	-	-	-
DIVS	DIVide Signed	<ea>, Dn	-W-	-	*	*	*	0
DIVU	DIVide Unsigned	<ea>, Dn	-W-	-	*	*	*	0
EOR	Exclusive OR	Dn, <ea>	BWL	-	*	*	0	0
EORI	Exclusive OR Immediate	#<data>, <ea>	BWL	-	*	*	0	0
EXG	Exchange any two registers	Rx, Ry	--L	-	-	-	-	-
EXT	Sign EXTend	Dn	-WL	-	*	*	0	0
ILLEGAL	ILLEGAL-Instruction Exception	ILLEGAL		-	-	-	-	-
JMP	JuMP to Affective Address	<ea>		-	-	-	-	-
JSR	Jump to SubRoutine	<ea>		-	-	-	-	-
LEA	Load Effective Address	<ea>, An	--L	-	-	-	-	-
LINK	Allocate Stack Frame	An, #<displacement>		-	-	-	-	-
LSL	Logical Shift Left	Dx, Dy #<1-8>, Dy <ea>	BWL	*	*	*	0	*
LSR	Logical Shift Right	...	BWL	*	*	*	0	*
MOVE	Between Effective Addresses	<ea>, <ea>	BWL	-	*	*	0	0
MOVE	To CCR	<ea>, CCR	-W-	I	I	I	I	I
MOVE	To SR	<ea>, SR	-W-	I	I	I	I	I
MOVE	From SR	SR, <ea>	-W-	-	-	-	-	-
MOVE	USP to/from Address Register	USP, An An, USP	--L	-	-	-	-	-

MOVEA	MOVE Address	<ea>,An	-WL	- - - - -
MOVEM	MOVE Multiple	<register list>,<ea> <ea>,<register list>	-WL	- - - - -
MOVEP	MOVE Peripheral	Dn,x (An) x (An), Dn	-WL	- - - - -
MOVEQ	MOVE 8-bit immediate	#<-128.+127>, Dn	--L	- * * 0 0
MULS	MULTiply Signed	<ea>, Dn	-W-	- * * 0 0
MULU	MULTiply Unsigned	<ea>, Dn	-W-	- * * 0 0
NBCD	Negate BCD	<ea>	B--	* U * U *
NEG	NEGate	<ea>	BWL	* * * * *
NEGX	NEGate with eXtend	<ea>	BWL	* * * * *
NOP	No OPeration	NOP		- - - - -
NOT	Form one's complement	<ea>	BWL	- * * 0 0
OR	Bit-wise OR	<ea>, Dn Dn,<ea>	BWL	- * * 0 0
ORI	Bit-wise OR with Immediate	#<data>,<ea>	BWL	- * * 0 0
PEA	Push Effective Address	<ea>	--L	- - - - -
RESET	RESET all external devices	RESET		- - - - -
ROL	ROtate Left	#<1-8>, Dy Dx, Dy <ea>	BWL	- * * 0 *
ROR	ROtate Right	...	BWL	- * * 0 *
ROXL	ROtate Left with eXtend	...	BWL	* * * 0 *
ROXR	ROtate Right with eXtend	...	BWL	* * * 0 *
RTE	ReTurn from Exception	RTE		I I I I I
RTR	ReTurn and Restore	RTR		I I I I I
RTS	ReTurn from Subroutine	RTS		- - - - -
SBCD	Subtract BCD with eXtend	Dx, Dy	B--	* U * U *