

# Appendix A

## An Alphabetical List of Assembler Mnemonics

AN ALPHABETICAL LIST OF MNEMONICS WITH THEIR VALID ADDRESSING MODES

Mnemonic	Valid Sizes	Flags X N Z V C	Page References Disass.Assem. Table
ABCD	<0>, <0>	B S U P U S	84 118 80
ABCD	<4>, <4>	B S U P U S	84 118 80
ADD	<0,7:3>, <0>	B W L S S S S S	75 118 77
ADD	<0>, <2:7:1>	B W L S S S S S	76 118 77
ADD	<0,7:4>, <1>	W L - - - -	75 118 77
ADD	<7:4>, <0,2:7:1>	B W L S S S S S	35 118 34
ADDQ	#q, <0,2:7:1>	B W L S S S S S	67 118 68
ADDQ	#q, <1>	W L - - - -	67 118 68
ADDX	<0>, <0>	B W L S S P S S	76 118 77
ADDX	<4>, <4>	B W L S S P S S	76 118 77
AND	<0,2:7:3>, <0>	B W L - S S 0 0	84 118 84
AND	<0>, <2:7:1>	B W L - S S 0 0	85 118 84
AND	<7:4>, <0,2:7:1>	B W L - S S 0 0	34 118 34
AND	<7:4>, <7:4>	B W D D D D D	34 118 34
ASL/R	<0>, <0>	B W L S S S S S	88 118 88
ASL/R	#q, <0>	B W L S S S S S	88 118 88
ASL/R	<2:7:1>	W S S S S S	88 118 88
Bcond	label	S - - - - -	71 130 71
Bitop	<0>, <0>	L - - S - -	37 130 38
Bitop	<0>, <2:7:1>	B - - S - -	37 130 38
Bitop	<7:4>, <0>	L - - S - -	37 130 38
Bitop	<7:4>, <2:7:1>	B - - S - -	37 130 38
BRA	label	S - - - - -	70 130 71
BSR	label	S - - - - -	70 130 71

Mnemonic	Valid Sizes	Flags	Page References
	X N Z V C	Disass. Assem. Table	
CHK	W	U U U U	41 132 43
CLR	B W L	0 1 0 0	44 132 43
CMP	B W L	S S S S	82 133 80
CMP	W L	S S S S	82 133 80
CMP	B W L	S S S S	35 133 84
CMPM	B W L	S S S S	83 133 80
DBcond	W		69 134 68
DBRA	W		70 134 68
DIVS	W	S S S 0	81 134 80
DIVU	W	S S S 0	79 134 80
EOR	B W L	S S 0 0	83 137 84
EOR	B W L	S S 0 0	35 137 34
EOR	B W	D D D D	35 137 34
EXG	L		85 137 80
EXT	W L	S S 0 0	47 137 47
JMP			61 138 62
JSR			61 138 62
LEA	L		42 138 43
LINK	W		61 138 62
LSLR	B W L	S S S 0 S	89 138 88
LSLR	B W L	S S S 0 S	89 138 88
LSLR	W	S S S 0 S	89 138 88
MOVE	B W L	S S 0 0	23 138 24
MOVE	W L		25 138 24
MOVE	W	D D D D D	44 138 43
MOVE	W	D D D D D	45 138 43
MOVE	W	D D D D D	44 138 43
MOVE	L		63 138 62
MOVE	L		63 138 62
MOVE	W L		47 138 48
MOVE	W L		50 138 48
MOVE	W L		36 138 36
MOVE	W L		36 138 36

Mnemonic	Valid Sizes	Flags	Page References
	X N Z V C	Disass. Assem. Table	
MOVEQ	L	S S 0 0	67 138 68
MULS	W	S S 0 0	85 138 80
MULLU	W	S S 0 0	83 138 80
NBCD	B	S U P U S	46 143 47
NEG	B W L	S S S S S	45 143 43
NEGX	B W L	S S P S S	42 143 43
NOP			63 143 64
NOT	B W L	S S 0 0	45 143 43
OR	B W L	S S 0 0	81 143 84
OR	B W L	S S 0 0	82 143 84
OR	B W L	S S 0 0	33 143 34
OR	B W	D D D D D	33 143 34
PEA	L		46 143 47
RESET			63 144 64
ROL/R	B W L	S S 0 S	89 143 88
ROL/R	B W L	S S 0 S	89 143 88
ROL/R	W	S S 0 S	89 143 88
ROXL/R	B W L	S S S 0 S	89 143 88
ROXL/R	B W L	S S S 0 S	89 143 88
ROXL/R	W	S S S 0 S	89 143 88
RTE			64 144 64
RTR	D D D D D		65 144 64
RTS			64 144 64
Scond	B		69 144 68
SBCD	B	S U P U S	81 144 80
SBCD	B	S U P U S	81 144 80
STOP	W	D D D D D	63 144 64
SUB	B W L	S S S S S	75 144 77
SUB	B W L	S S S S S	76 144 77
SUB	W L		75 144 77
SUB	B W L	S S S S S	35 144 34
SUBQ	B W L	S S S S S	67 144 68
SUBQ	W L		67 144 68

Mnemonic	Valid Sizes	Flags				Page References						
		X	N	Z	V		C	Disass. Assem. Table				
SUBX	<0>, <0>	B	W	L	S	S	P	S	S	76	144	77
SUBX	<4>, <4>	B	W	L	S	S	P	S	S	76	144	77
SWAP	<0>	W			S	S	0	0		46	144	47
TAS	<0,2-7:1>	B			S	S	0	0		49	144	47
TRAP	#d <sub>4</sub>									61	144	62
TRAPV										64	144	64
TST	<0,2-7:1>	B	W	L		S	S	0	0	49	145	47
UNLK	<1>									62	145	62

FLAG SETTING ABBREVIATIONS	
-	Unaffected
0	Cleared to Zero
1	Set to One
D	Directly affected by an Operation on CCR
P	Cleared if the result is Non-Zero, Unaffected Otherwise
S	Set according to the Value of the Result
U	Undefined/Unpredictable

ADDRESSING MODES	
0	Dn Data Register Direct
1	An Address Register Direct
2	(An) Address Register Indirect
3	(An)+ Postincrement Indirect
4	-(An) Predecrement Indirect
5	d <sub>16</sub> (An) Address Register Relative
6	d <sub>8</sub> (An,Rx.s) Address Register Indexed
7:0	d <sub>16</sub> Absolute Short
7:1	d <sub>32</sub> Absolute Long
7:2	d <sub>16</sub> (PC) Program Counter Relative
7:3	d <sub>8</sub> (PC,Rx.s) Program Counter Indexed
7:4	#data Immediate Data Source
	SR/CCR Or Status Register Destination

A Range of Valid Addressing Modes might be shown as:  
 <0> Meaning Data Register Direct Only  
 <0-7:1> Meaning All Modes from 0 to 7:1 Inclusive  
 <0,2-7:1> As above but excluding Address Register Direct

## Appendix B Early QL ROM Version Names

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To find out which version of the QL ROM you have, **PRINT VER\$**.

Name	Comments
"FB"	The first publicly issued version (AT takes parameters in the opposite order to other versions)
"EL"	The first version to automatically invoke the line editor if a bad line is typed in
"JP"	Each version removes a number of minor bugs present in earlier versions
"PM"	" "
"KB"	Not issued
"AH"	The first version to be available in an internalised form — odd interpretation of <break> sometimes causes problems
"JM"	More minor bugs removed

# Appendix III

## Index of function and procedure names

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adr\$	26				
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con\$	72				
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dis3\$	26				
dis4\$	41				
dis4E\$	61				
dis5\$	67				
dis6\$	70				
dis7\$	67				
dis8\$	79				
dis9\$	75				
dis9orD\$	75				
disassemble	18				
disB\$	82				
disC\$	83				
disD\$	75				
disE\$	87				
display	11				
hex\$	17				
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hexcon\$	17				
imm\$	39				
index\$	32				
infin	12				
inmode	11				
instart	12				
juggle	52				
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number	16				
b) Assembler					
regmaskposting\$	51				
regmaskpredec\$	51				
shift\$	88				
addorsub	127				
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