A P P E N D I X   D

MASM Reserved Words

This appendix lists the reserved words recognized by MASM. They are divided primarily by their use in the language. The primary categories are:

- Operands and symbols
- Registers
- Operators and directives
- Processor instructions
- Coprocessor instructions

Reserved words in MASM 6.1 are reserved under all CPU modes. Words enabled in **.8086** mode, the default, can be used in all higher CPU modes. To use words from subcategories such as "Special Operands for the 80386" (later in this appendix) requires **.386** mode or higher.

You can disable the recognition of any reserved word specified in this appendix by setting the **NOKEYWORD** option for the **OPTION** directive. Once disabled, the word can be used in any way as a user-defined symbol (provided the word is a valid identifier). If you want to remove the **STR** instruction, the **MASK** operator, and the **NAME** directive, for instance, from the set of words MASM recognizes as reserved, add this statement to your program:

`OPTION NOKEYWORD: <STR MASK NAME>`

Words in this appendix identified with an asterisk (*) are new since MASM 5.1.

Operands and Symbols

The words on the two lists in this section are the operands to certain directives. They have special meaning to the assembler. The words on the first list are not reserved words. They can be used in every way as normal identifiers, without affecting their use as operands to directives. The assembler interprets their use from context.

Even though the words on the first list are not reserved, they should not be defined to be text macros or text macro functions. If they are, they will not be recognized in their special contexts. The assembler does not give a warning if such a redefinition occurs.

ABS	LARGE	NOTHING
ALL	LISTING*	NOTPUBLIC*
ASSUMES	LJMP*	OLDMACROS*
AT	LOADDS*	OLDSTRUCTS*
CASEMAP*	M510*	OS_DOS*
COMMON	MEDIUM	PARA
COMPACT	MEMORY	PRIVATE*
CPU*	NEARSTACK*	PROLOGUE*
DOTNAME*	NODOTNAME*	RADIX*
EMULATOR*	NOEMULATOR*	READONLY*
EPILOGUE*	NOKEYWORD*	REQ*
ERROR*	NOLJMP*	SCOPED*
EXPORT*	NOM510*	SETIF2*
EXPR16*	NONE	SMALL
EXPR32*	NONUNIQUE*	STACK
FARSTACK*	NOOLDMACROS*	TINY
FLAT	NOOLDSTRUCTS*	USE16
FORCEFRAME	NOREADONLY*	USE32
HUGE	NOSCOPED*	USES
LANGUAGE*	NOSIGNEXTEND*	

These operands are reserved words. Reserved words are not case sensitive.

$	DWORD	PASCAL
?	FAR	QWORD
@B	FAR16*	REAL4*
@F	FORTRAN	REAL8*
ADDR*	FWORD	REAL10*
BASIC	NEAR	SBYTE*
BYTE	NEAR16*	SDWORD*
C	OVERFLOW?*	SIGN?*
CARRY?*	PARITY?*	STDCALL*

SWORD*	**TBYTE**	**WORD**
SYSCALL*	**VARARG***	**ZERO?***

Special Operands for the 80386/486

FLAT*	**NEAR32***	**FAR32***

Predefined Symbols

Unlike most MASM reserved words, predefined symbols are case sensitive.

@CatStr*	**@Environ***	**@Model***
@code	**@fardata**	**@SizeStr***
@CodeSize	**@fardata?**	**@stack***
@Cpu	**@FileCur***	**@SubStr***
@CurSeg	**@FileName**	**@Time***
@data	**@InStr***	**@Version**
@DataSize	**@Interface***	**@WordSize**
@Date*	**@Line***	

Registers

AH	**CS**	**DX**	**SI**
AL	**CX**	**EAX**	**SP**
AX	**DH**	**EBP**	**SS**
BH	**DI**	**EBX**	**ST**
BL	**DL**	**ECX**	**TR3***
BP	**DR0**	**EDI**	**TR4***
BX	**DR1**	**EDX**	**TR5***
CH	**DR2**	**ES**	**TR6**
CL	**DR3**	**ESI**	**TR7**
CR0	**DR6**	**ESP**	
CR2	**DR7**	**FS**	
CR3	**DS**	**GS**	

Operators and Directives

.186	.ERRDIFI	.TYPE
.286	.ERRE	.UNTIL*
.286C	.ERRIDN	.UNTILCXZ*
.286P	.ERRIDNI	.WHILE*
.287	.ERRNB	.XALL
.386	.ERRNDEF	.XCREF
.386C	.ERRNZ	.XLIST
.386P	.EXIT*	ALIAS*
.387	.FARDATA	ALIGN
.486*	.FARDATA?	ASSUME
.486P*	.IF*	CATSTR
.8086	.LALL	COMM
.8087	.LFCOND	COMMENT
.ALPHA	.LIST	DB
.BREAK*	.LISTALL*	DD
.CODE	.LISTIF*	DF
.CONST	.LISTMACRO*	DOSSEG
.CONTINUE*	.LISTMACROALL*	DQ
.CREF	.MODEL	DT
.DATA	.NO87*	DUP
.DATA?	.NOCREF*	DW
.DOSSEG*	.NOLIST*	ECHO*
.ELSE*	.NOLISTIF*	ELSE
.ELSEIF*	.NOLISTMACRO*	ELSEIF
.ENDIF*	.RADIX	ELSEIF1
.ENDW*	.REPEAT*	ELSEIF2
.ERR	.SALL	ELSEIFB
.ERR1	.SEQ	ELSEIFDEF
.ERR2	.SFCOND	ELSEIFDIF
.ERRB	.STACK	ELSEIFDIFI
.ERRDEF	.STARTUP*	ELSEIFE
.ERRDIF	.TFCOND	ELSEIFIDN

ELSEIFIDNI	IFIDN	POPCONTEXT*
ELSEIFNB	IFIDNI	PROC
ELSEIFNDEF	IFNB	PROTO*
END	IFNDEF	PTR
ENDIF	INCLUDE	PUBLIC
ENDM	INCLUDELIB	PURGE
ENDP	INSTR	PUSHCONTEXT*
ENDS	INVOKE*	RECORD
EQ	IRP	REPEAT*
EQU	IRPC	REPT
EVEN	LABEL	SEG
EXITM	LE	SEGMENT
EXTERN*	LENGTH	SHORT
EXTERNDEF*	LENGTHOF*	SIZE
EXTRN	LOCAL	SIZEOF*
FOR*	LOW	SIZESTR
FORC*	LOWWORD*	STRUC
GE	LROFFSET*	STRUCT*
GOTO*	LT	SUBSTR
GROUP	MACRO	SUBTITLE*
GT	MASK	SUBTTL
HIGH	MOD	TEXTEQU*
HIGHWORD*	.MSFLOAT	THIS
IF	NAME	TITLE
IF1	NE	TYPE
IF2	OFFSET	TYPEDEF*
IFB	OPATTR*	UNION*
IFDEF	OPTION*	WHILE*
IFDIF	ORG	WIDTH
IFDIFI	%OUT	
IFE	PAGE	

Processor Instructions

Processor instructions are not case sensitive.

8086/8088 Processor Instructions

AAA	JAE	LDS
AAD	JB	LEA
AAM	JBE	LES
AAS	JC	LODS
ADC	JCXZ	LODSB
ADD	JE	LODSW
AND	JG	LOOP
CALL	JGE	LOOPE
CBW	JL	LOOPEW*
CLC	JLE	LOOPNE
CLD	JMP	LOOPNEW*
CLI	JNA	LOOPNZ
CMC	JNAE	LOOPNZW*
CMP	JNB	LOOPW*
CMPS	JNBE	LOOPZ
CMPSB	JNC	LOOPZW*
CMPSW	JNE	MOV
CWD	JNG	MOVS
DAA	JNGE	MOVSB
DAS	JNL	MOVSW
DEC	JNLE	MUL
DIV	JNO	NEG
ESC	JNP	NOP
HLT	JNS	NOT
IDIV	JNZ	OR
IMUL	JO	OUT
IN	JP	POP
INC	JPE	POPF
INT	JPO	PUSH
INTO	JS	PUSHF
IRET	JZ	RCL
JA	LAHF	RCR

RET	**SCAS**	**STOSB**
RETF	**SCASB**	**STOSW**
RETN	**SCASW**	**SUB**
ROL	**SHL**	**TEST**
ROR	**SHR**	**WAIT**
SAHF	**STC**	**XCHG**
SAL	**STD**	**XLAT**
SAR	**STI**	**XLATB**
SBB	**STOS**	**XOR**

80186 Processor Instructions

BOUND	**INSW**	**OUTSW**
ENTER	**LEAVE**	**POPA**
INS	**OUTS**	**PUSHA**
INSB	**OUTSB**	**PUSHW***

80286 Processor Instructions

ARPL	**SIDT**	**VERR**
LAR	**SLDT**	**VERW**
LSL	**SMSW**	
SGDT	**STR**	

80286 and 80386 Privileged-Mode Instructions

CLTS	**LIDT**	**LMSW**
LGDT	**LLDT**	**LTR**

80386 Processor Instructions

BSF	**CDQ**	**IRETF***
BSR	**CMPSD**	**JECXZ**
BT	**CWDE**	**LFS**
BTC	**INSD**	**LGS**
BTR	**IRETD**	**LODSD**
BTS	**IRETDF***	**LOOPD***

LOOPED*	SETAE	SETNGE
LOOPNED*	SETB	SETNL
LOOPNZD*	SETBE	SETNLE
LOOPZD*	SETC	SETNO
LSS	SETE	SETNP
MOVSD	SETG	SETNS
MOVSX	SETGE	SETNZ
MOVZX	SETL	SETO
OUTSD	SETLE	SETP
POPAD	SETNA	SETPE
POPFD	SETNAE	SETPO
PUSHAD	SETNB	SETS
PUSHD*	SETNBE	SETZ
PUSHFD	SETNC	SHLD
SCASD	SETNE	SHRD
SETA	SETNG	STOSD

80486 Processor Instructions

BSWAP*	INVD*	WBINVD*
CMPXCHG*	INVLPG*	XADD*

Instruction Prefixes

LOCK	REPE	REPNZ
REP	REPNE	REPZ

Coprocessor Instructions

Coprocessor instructions are not case sensitive.

8087 Coprocessor Instructions

F2XM1	FADDP	FCHS
FABS	FBLD	FCLEX
FADD	FBSTP	FCOM

FCOMP	FLDCW	FRNDINT
FCOMPP	FLDENV	FRSTOR
FDECSTP	FLDENVW*	FRSTORW*
FDISI	FLDL2E	FSAVE
FDIV	FLDL2T	FSAVEW*
FDIVP	FLDLG2	FSCALE
FDIVR	FLDLN2	FSQRT
FDIVRP	FLDPI	FST
FENI	FLDZ	FSTCW
FFREE	FMUL	FSTENV
FIADD	FMULP	FSTENVW*
FICOM	FNCLEX	FSTP
FICOMP	FNDISI	FSTSW
FIDIV	FNENI	FSUB
FIDIVR	FNINIT	FSUBP
FILD	FNOP	FSUBR
FIMUL	FNSAVE	FSUBRP
FINCSTP	FNSAVEW*	FTST
FINIT	FNSTCW	FWAIT
FIST	FNSTENV	FXAM
FISTP	FNSTENVW*	FXCH
FISUB	FNSTSW	FXTRACT
FISUBR	FPATAN	FYL2X
FLD	FPREM	FYL2XP1
FLD1	FPTAN	

80287 Privileged-Mode Instruction

FSETPM

80387 Instructions

FCOS	FPREM1	FSINCOS
FLDENVD*	FRSTORD*	FSTENVD*
FNSAVED*	FSAVED*	FUCOM
FNSTENVD*	FSIN	FUCOMP

FUCOMPP