**Microsoft NASCOM 2 BASIC**

**Software Reference Manual for Z80 compatible computer systems.**

# Alphabetical keyword list:

?

ABS

ASC

ATN

BIN$

BYE

CHR$

CLEAR

CLS

CONT

COS

DATA

DEEK

DEF

DIM

DOKE

END

EXP

FN

FOR

FRE

GOTO

GOSUB

HEX$

IF

INP

INPUT

INT

LEN

LEFT$

LET

LINES

LIST

LOG

MID$

NEXT

NEW

NOT

NULL

OUT

ON

PEEK

PLAY

POINT

POKE

POS

PRINT

READ

REM

RESET

RESTORE

RETURN

RIGHT$

RND

RUN

SET

SIN

SGN

SPC

STEP

STOP

STR

SQR

TAB

TAN

TO

THEN

USR

VAL

WAIT

WIDTH

# Functional keyword list

## Command Mode

BYE

CLEAR

CONT

LIST

LOAD

NEW

RUN

SAVE

## Execution Sequence

END

FOR / TO / STEP / NEXT

GOSUB /RETURN

GOTO

## Conditional Execution

IF / THEN / ELSE

## Data Input

DATA

INPUT

PRINT

READ

RESTORE

## Hardware and memory Access

DEEK

FREE

INP

OUT

PEEK

POKE

USR

FRE

## Arithmetic Operators

+ PLUS

- MINUS

\* MULTIPLY

/ DIVIDE

AND LOGICAL AND

OR LOGICAL OR

> GREATER THAN

= EQUALS

< LESS THAN

^ POWER

## String Functions

ASC

BIN$

CHR$

HEX$

LEN

LEFT$

MID$

RIGHT$

STR

VAL

## Mathematical Functions

ABS

ATN

COS

EXP

INT

LOG

RND

SIN

SGN

SQR

TAN

## Expression Precedence

() EXPRESSIONS IN ()

^ POWER

- NEGATION

\* / MULTIPLICATION AND DIVISION

+ - ADDITION AND SUBTRACTION

= EQUALS

<> NOT EQUAL

< LESS THAN

> GREATER THAN

<= =< LESS THAN OR EQUAL TO

>= => GREATER THAN OR EQUAL TO

NOT LOGICAL, BITWISE NEGATION

AND LOGICAL, BITWISE AND

OR LOGICAL, BITWISE OR

# Mathematical Function Descriptions

## [ABS](https://www.freebasic.net/wiki/wikka.php?wakka=KeyPgAbs)

Returns the absolute value of a number

## ATN

Returns the arctangent of a number

## COS

Returns the tangent of an angle.

## EXP

Returns e raised to the power of a given number. The number must be less than 87.3365.

## INT

Returns the integer portion of a number.

## LOG

Returns the natural logarithm of a number.

## RND

Returns a random number in the range 0..1.

## SIN

Returns the sine of an angle

## SQR

Returns the square root of a number

## TAN

Returns the tangent of an angle

## Error Codes

NF NEXT without FOR

A variable in a NEXT statement does not correspond to any previously executed, unmatched FOR statement variable.

SN Syntax error

A line is encountered that contains some incorrect sequence of characters (such as  
unmatched parenthesis, misspelled command or statement, incorrect punctuation, etc.). Microsoft BASIC automatically enters edit mode at the line that caused the error.

RG RETURN without GOSUB

A RETURN statement is encountered for there is no previous, unmatched statement.

OD Out of DATA

A READ statement is executed when there are no DATA statements with unread data remaining in the program.

FC Illegal function call

A parameter that is out of range is passed to a math or string function. An FC error may also occur as the result of:

1. A negative or unreasonably large subscript.
2. A negative or zero argument with LOG.
3. A negative argument to SQR.
4. A negative mantissa with a non-integer exponent.
5. A call to a USR function for which the starting address has not yet been given.
6. An improper argument to MID$, LEFT$, RIGHT$, INP, OUT, WAIT, PEEK, POKE, TAB, SPC.

OV Overflow error

The result of a calculation is too large to be represented in Microsoft BASIC number format. If underflow occurs, the result is zero and execution continues without an error.

OM Out of memory

A program is too large, or has too many FOR loops or GOSUBs, too many variables, or expressions that are too complicated.

UL Undefined line

A nonexistent line is referenced in a GOTO, GOSUB, IF... THEN or ELSE statement.

BS Bad subscript

An array element is referenced either with a subscript that is outside the dimensions of the array or with the wrong number of subscripts.

DD Re-DIMensioned array

Two DIM statements are given for the same array; or, a DIM statement is given for an array after the default dimension of 10 has been established for that array.

/0 Division by zero

A division by zero is encountered in an expression; or, the operation of involution results in zero being raised to a negative power. Machine infinity with the sign of the numerator is supplied as the result of the division, or positive machine infinity is supplied as the result of the involution, and execution continues.

ID Illegal direct

A statement that is illegal in direct mode is entered as a direct mode command.

TM Type mismatch

A string variable name is assigned a numeric value or vice versa; a function that expects a numeric argument is given a string argument or vice versa.

OS Out of string space

String variables have caused BASIC to exceed the amount of free memory remaining. Microsoft BASIC will allocate string space dynamically, until it runs out of memory.

LS String too long

An attempt is made to create a string more than 255 characters long.

ST String formula too complex

A string expression is too long or too complex. The expression should be broken into smaller expressions.

CN Can't CONTinue

An attempt is made to continue a program that:

1. Has halted due to an error.
2. Has been modified during a break in execution.
3. Does not exist.

UF Undefined FN function

A USR function is called before the function definition (DEF statement) is given.

MO Missing operand

An expression contains an operator with no operand following it.

HX HEX error

An invalid character was encountered as part of a hexadecimal character type.

BN BIN error

An invalid character was encountered as part of a binary character type. Space, zero or 1 was expected.