flyer

NUMBER 8A

digital group

Maxi-BASIC

VERSION 1.0

The Digital Group is delighted to announce the availability of the first version of Digital Group Maxi-Basic for Z80 and 8080 based Digital Group systems. This BASIC is a powerful extended BASIC with many features not contained in standard BASICs.

MAJOR FEATURES:
    Fast BCD Floating Point Arithmetic
    Formatted Output
    Multiple Statements per line
    Multiple Line Functions - User Defined
        with multiple variables
    Available Memory Size Detrmined
        Automatically
    Statement Renumbering
    String Manipulation
    N-Dimensioned Arrays
    Most Source Statements are stored as
        single bytes

Due to the high interest in this product, we've decided to include as much information as possible on the statements and commands. While this approach will probably be a little dryer than normal, it should help provide many of the answers to your questions about Maxi-BASIC's capabilities.

First, some notes on abbreviations:
    1. ( )   = optional
    2. LN   = line number
    3. exp   = expression

General
    Line number range = 0 through 65,535.
    Multiple statement per line
        separator = colon
    Blanks are ignored anywhere in statements
    Control-C = Halts execution whenever
        entered

Commands
    RUN (LN)
    LIST (LN),(LN)
    SCR   = Scratch program
    REN (beg LN)(increment)   = Renumber
    CLEAR   = Clear all var.
    CONT   = Continue

Constant Range   .1E-63 through .99999999 E+63

Operators: +,-,/,*,↑

Relational: =, <, >, <>, >=, =>, <=, =<

Boolean: AND, OR, NOT

Statements:	Comments
LET (optional)	
IF ... THEN ... ELSE ...	
FOR ... STEP	multiply nested
NEXT	
GOTO	
ON ... GOTO	
EXIT	same as GOTO, but terminates active FOR loops
STOP	
END	
REM	
READ	
DATA	
RESTORE (LN)	LN specifies the line the READ pointer is to be restored to.
INPUT ("literal prompt")	
INPUT1	Same as INPUT but inhibits Carriage Return at end of user input
GOSUB	
RETURN	
PRINT	
FILL	Fill a byte in memory with an expression value
OUT	Executes a Z80/8080 OUT instruction. Ex: OUT 5,3 will perform an OUT 5 instruction with 3 in the Accumulator

Arrays:
    Any number of dimensions
    Any size, to the limits of memory

Strings:
    A string of 8-bit characters may be
    dimensioned to any size, limited only
    by available memory. Exs:
        100 DIM z$(1), Z1$(10000)

    Substrings A$(N,M) = substring of
        characters N through M

    Concatenation: The string concate-
        nation character is a plus sign

User Defined Functions
    Either String or Numeric type
    Single line
    Multiple line
    Any number of numeric arguments

Functions:

```
FREE(0)         Number of bytes remaining in free storage
ABS(exp)        Absolute value of expression
SGN(exp)        Determines the sign of expression
INT(exp)        Interger value of the expression
LEN(str name)   Returns the length of the string
CHR$(expr)      Returns a string with the specific character
VAL(str exp)    Returns the numeric value of the string
STR$(exp)       Returns a string with the specified numeric value
ASC(str name)   Returns ASCII code of first character in string
SIN(exp)        SINE of expression
COS(exp)        COSINE of expression
RND(exp)        Returns a random number between 0 and 1.
LOG(exp)        Returns natural log of expression
EXP(exp)        Returns the value of e raised to the specified power
SQRT(exp)       Returns the positive square root of expression
CALL(exp,opt. exp) See Machine Language Interfacing
EXAM(exp)       Returns the contents of addressed memory byte
```

Machine Language Subroutine Interfacing:

CALL (expl, optional exp2)
     expl = address of machine language subroutine
     exp2 = value passed to machine language subroutine

Formatted Output:

PRINT %$10F3,J

Digital Group Maxi-BASIC uses Format Strings anywhere in the PRINT statement.
A Format String consists of optional format characters followed optionally by
a format specification.
     The Format characters are:
          C = place commas to the left of decimal point as needed
          $ = place a dollar sign to the left of value
          Z = suppress trailing zeroes
          # = make this format string the default specification

     Format Specifications (similar to FORTRAN) are:
          nFm = Value printed in n-char field, rt justified, m digits to rt of dec.
          nI = Value printed in n-char field, rt justified.
          nEm = Value printed in scientific notation.
All printed values are rounded if necessary.

TAB (N) = Advances printer to a specified output position

Storage Requirements:
Maxi-BASIC V.1.0 requires 8K and loads from 4K through 12K. The minimum
Digital Group recommended configuration is 18K.

Distribution Package Includes:

    User Documentation - Knowledge of BASIC in general is presumed
    Object code on Suding audio cassette (1100 baud)

You will probably notice that there is an option on the Order Form for
a special deal on Z80 Maxi-BASIC. For an additional $5.00 we will send
you the Version 2.0 update to Z80 Maxi-BASIC. We are working hard on this
also but no information is yet available as to capabilities or availability.

ORDER FORM

Qty	Program	Price Each	Amount Extended
___	Z80 Maxi-BASIC w/version 2.0 update	$20.00	_____
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Amount Enclosed . . . . _____

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