

Extended BASIC from Processor Technology

INTERACTIVE COMPUTERS
16440 E. Van Ness Blvd.
Houston, TX 77058
(713) 465-0211

○ cassette or disk with all Sol computers



Use Extended BASIC in business, engineering, science and education.

All Sol[®] computers come with Processor Technology's Extended BASIC. Extended BASIC makes your Sol a powerful, practical tool for data processing in business, science and education. Processor Technology Extended BASIC is standard at no extra cost with every Sol computer.

Great Flexibility in cassette version.

*Extended Cassette BASIC features advanced file functions, special screen commands, cursor addressing, 8-digit precision, and matrix, logarithmic, trigonometric and exponential functions. Unique error handling capabilities and a machine level interface increase system flexibility. You can store both data and programs on cassettes. SOLOS, the resident computer operating system, provides file management.

Even more in Disk.

Extended Disk BASIC has all the features of the cassette version plus almost instant access to data and programs on floppy disks. You can create random access as well as sequential files, and update sequential files in place. File management is provided by the powerful Processor Technology Disk Operating System (PTDOS).

Disk storage is essential for most business uses. With Extended BASIC our disk system performs as well as many minicomputer systems that cost thousands of dollars more.

Outstanding features you won't find everywhere.

- Keystroke editing functions available during input of programs and data
- Access to program and data files on disk or cassette
- User control over format of numeric output
- Character and time-controlled INPUT statement
- Immediate execution mode for statements
- Trigonometric functions: SIN, COS, TAN, ATN

- Matrix operations: matrix copy, matrix add, matrix subtract, matrix multiply, scalar operations on matrices, matrix transpose, matrix invert
- Logarithmic functions: LOG, LOG10, EXP
- IF-THEN-ELSE statement
- Single- or multi-line functions definable by the user
- Error trapping and recovery
- Arithmetic, logical, and relational operators: +, -, *, /, AND, OR, NOT, =, <, >, <=, >=, <>
- Comprehensive reference manual

Write programs easily.

Extended BASIC is a straightforward language designed to permit a novice to write useful programs with a minimum of study. As a result, Extended BASIC is ideal for educational applications. The user sees practical results quickly, yet is not limited to simple programs as he is with some small computer BASIC's.

Enter programs quickly.

Extended BASIC has an interactive editor. As you type lines of the program, they appear on the screen. Then you can make corrections — either immediately or after running the program.

Interrupt a running program.

A simple command initiates execution of a program. You may interrupt the run at any point to change the program or give further commands. Later, the run may be resumed at the point of interruption or at any specified statement number.

Store programs and data conveniently.

Extended BASIC gives you ready access to the SOLOS or PTDOS file system, permitting programs and data to be stored on cassettes or disks for future use.

Programs can be stored in two forms. In text form a program is portable and easy to read. In semi-compiled form a program requires less storage space and can be loaded faster.

Extended BASIC has commands to put information into a file and retrieve information from it. Disk BASIC allows the creation of random access files, which permit rapid access to data. Because your BASIC runs in a Sol, you can use commands in PTDOS or SOLOS to manipulate BASIC serial access files.

Control the output format.

Extended BASIC has powerful graphics features. You can design and display charts, forms, illustrations, graphs and diagrams.

Unlike most other BASIC's, Processor Technology's Extended BASIC lets your program control the format of its output. The program can select column widths for tabular output, choose scientific or "Monetary" notation and prescribe a format for floating point numbers.

Using cursor control commands you can position the cursor anywhere on the screen. You can also make characters appear in normal or reverse video.

Interact with a BASIC program while it runs.

You can write a BASIC program that asks the operator for a response and continues on the basis of that response.

Unlike most other BASIC's, Extended BASIC offers character-controlled and time-controlled INPUT statements. With these statements a program can limit the number of characters in a response, or the amount of time allowed for a response.

Finally, Extended BASIC has a mode in which statements are executed immediately. In this mode your Sol computer operates like a calculator. You get immediate access to the mathematical capabilities of Extended BASIC. This mode is good for developing and debugging programs because you can spot errors quickly.

Powerful mathematical capabilities.

Extended BASIC operates on floating point numbers. Exponents can have values from -126 to +126. In addition to the standard arithmetic operators (add, subtract, multiply, divide), Extended BASIC permits the use of logical operators (AND, OR, and NOT) and relational operators (like greater than and less than).

Extended BASIC has many built-in mathematical functions, including matrix and trigonometric functions important for scientific and statistical computations. If your applications do not require these functions, you may delete them to make more room in memory for programs and data.

Some BASIC's let the user supplement available functions by defining other functions on a single line. Extended BASIC lets you define not only single-line functions, but also multi-line functions. Sometimes a function is too long to fit on a single line or too complex for easy reading. Multi-line functions can enhance the readability of a program, making that program easier to debug, as well as to maintain.

Optional precision.

In standard Extended BASIC numbers are limited to eight significant digits. In some business or scientific applications you may need more precision. Extended BASIC is available with 6, 8, 10, 12, 14, or 16 significant digits of precision. To take advantage of these options, ask your dealer about the Optional Precision Plan.

Sophisticated error-handling capabilities.

Most versions of BASIC simply stop when an error occurs during a program. Extended BASIC offers greater control over error trapping and recovery.

Extended BASIC has functions that tell you what error has occurred, so that your program can use its own specialized error recovery routines. Both Cassette and Disk BASIC have a large set of internal error recovery routines. Disk BASIC lets you take advantage of the unique error handling system used by PTDOS.

Machine level interface for more flexibility.

If you have special devices attached to your system, or if you want to access particular memory locations without leaving BASIC, Extended BASIC has anticipated your needs. There are commands to access I/O ports and memory locations, and even ways of executing assembly language routines in memory outside the area managed by BASIC.

Comprehensive user's manual.

A comprehensive user's manual helps you get the most from Extended BASIC. The manual contains a full description of all the statements in the chart on the last page.

CONTROL STATEMENTS

Unconditional:

GOTO
GOSUB
EXIT
RETURN
CALL()
STOP
END

Conditional:

ON...GOTO
ON...GOSUB
ON...EXIT
ON...ERRSET
IF...THEN...ELSE
ERRSET
FOR...NEXT

INPUT/OUTPUT STATEMENTS

Terminal I/O:

INPUT
PRINT
CURSOR
LOAD (only in disk version)
SET CP (only in disk version)
SET CM (only in disk version)
SET DS (only in disk version)

File I/O:

READ #
PRINT #
FILE #
REWIND #
CLOSE #
SET XI =
EOF()
SET OF =

Hardware Level:

INP()
OUT
WAIT
PEEK()
POKE
TUON
TUOFF

DATA

DIM
DATA
READ
TYP(0)
RESTORE X
RESTORE
ON...RESTORE

USER FUNCTIONS

DEF
FNEND
RETURN

STRING

FILL (only in disk version)
SEARCH
DIM
LET
LEN()

MATH

LET

Predefined Functions:

ABS	FREE	SGN
ASC	INP	SIN
ATN	INT	SQR
CALL	LEN	STR
CHR	LOG	TAB
COS	LOG10	TAN
EOF	PEEK	TYP
ERR	POS	VAL
EXP	RND	

COMMANDS

APPEND (only in disk version)
BYE
CAT (only in disk version)
CLEAR
CONT
DEL
EDIT
GET

KILL (only in disk version)

LIST
REN
SAVE
SCRATCH
SET
TUON
TUOFF
XEQ

ERROR RECOVERY

ERRSET
ERRCLR
ON...ERRSET
ERR(0)

MATRIX

MAT X=ZER
MAT X=CON
MAT X=IDN
MAT X=Y
MAT X=Y <operator>
<scalar expression>
MAT X=Y
<matrix operator> z
MAT X=TRN(Y)
MAT X=INV(Y)

TIMING

PAUSE
INPUT (X,Y)

Memory requirements.

Although the Extended BASIC program actually occupies only 16K of memory (minus 5K if you choose to eliminate some of the mathematical functions), you can take the fullest advantage of the power and versatility of BASIC if your system has at least 24K of memory for the cassette version or 32K of memory for the disk version.

Processor Technology

7100 Johnson Drive, Pleasanton, CA 94566
(415) 829-2600

