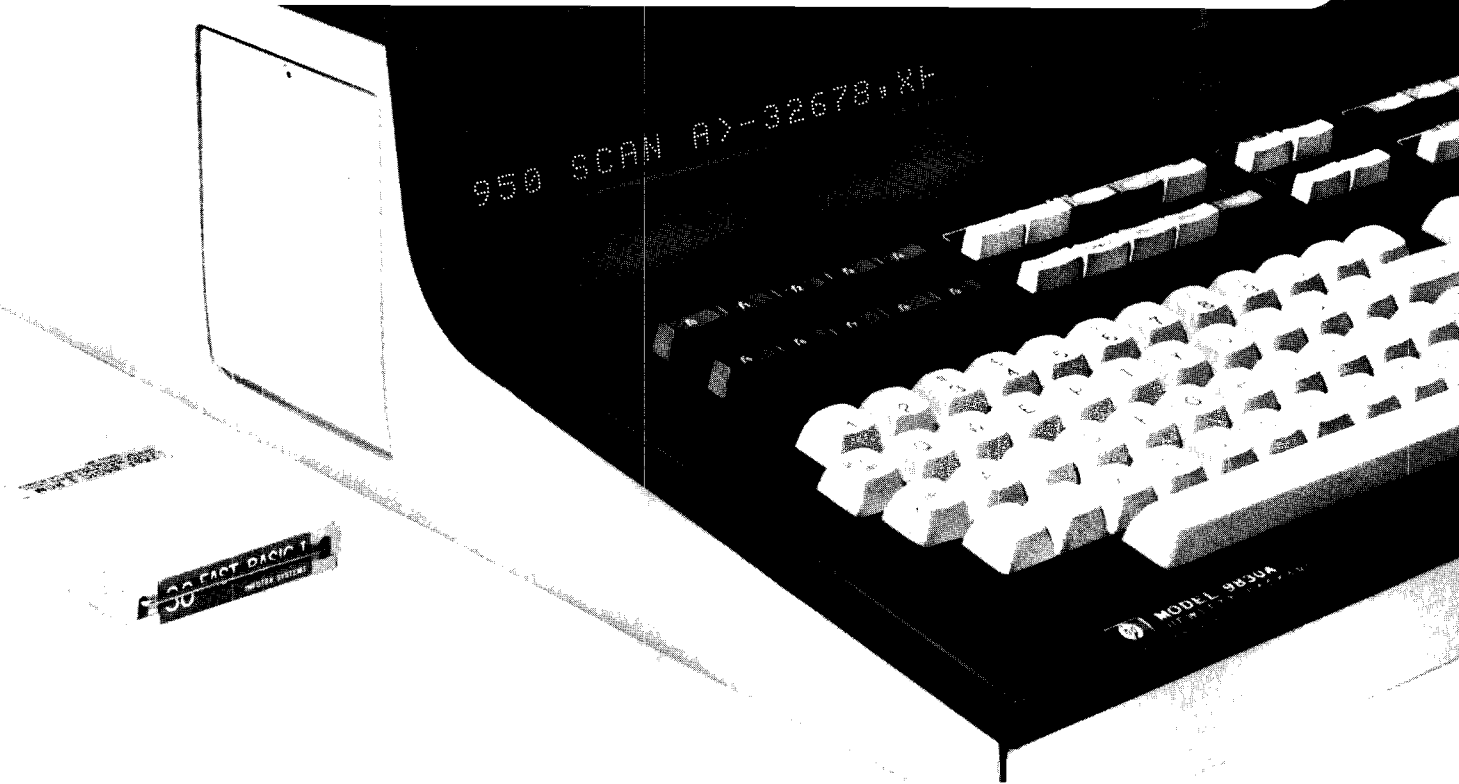




FBI

Fast Basic I ROM



#### DESCRIPTION

The Fast Basic I ROM provides a broad application language expansion for the HP 9830A/B Desktop Computer. Because Basic language interpreters, such as the 9830A/B can execute machine language (ROM) instructions much faster than BASIC statements, the machine throughput increases. The more lines of basic program that a statement replaces, the more dramatic the increase in speed. For example, to move data from one array to another, particularly when dimensions and starting locations in the two arrays are different, ordinarily would require many lines of BASIC. Typically, this entails nested for-next loops, surrounding several lines of subscript computations, tests and an element equality statement. Such routines nominally transfer less than one hundred elements per second. The **SEND** statement of Fast Basic I does the same job at 40,000 elements per second, **over 400 times faster!** And that is only one of the 27 new statements, functions and commands that Fast Basic I provides. Similar speed enhancements are available in comparing and initializing arrays, finding the largest or

smallest numbers in an array and even passing an entire array as a parameter.

In addition to array manipulations, Fast Basic I makes possible similar speed gains throughout the broad spectrum of 9830A/B applications. The 9880 Mass Memory user is also provided with several statements which greatly increase the speed of that system.

Fast Basic I is the cornerstone of the Infotek Fast Basic series which consists of Fast Basic I, Fast Basic II and Fast Basic III. The Fast Basic ROMs frequently interact with the most common HP ROMs to provide an overall expansion of 55 statements, functions and commands while occupying only two optional ROM locations. Used alone, Fast Basic I can easily double the speed of a 9830A/B in most applications. In conjunction with Fast Basic II and III, users have reported a throughput increase of over ten-fold. If you work your '30, you will find FAST BASIC the best investment you can make.



**Infotek Systems**

**HP Computer Museum**  
**[www.hpmuseum.net](http://www.hpmuseum.net)**

**For research and education purposes only.**

# INFOTEK FAST BASIC I ROM

## STATEMENTS AND COMMANDS

**SEND:** Moves the contents of an array, beginning at a specified location into an array beginning at a specified location at a speed of 40,000 elements per second.

**COMPARE:** Compares the contents of two arrays and returns the number of elements that are dissimilar. Elements are compared at 7000 pairs per second.

**SCAN:** Scans an integer precision array, based on any of four relational operators, against a matching expression and returns the location of the first element that satisfies the argument. With the SCAN statement, the MAXIMUM or MINIMUM value in a 5,000 element array can be determined in less than 2 seconds.

**ROW:** Returns the current number of rows in the specified array.

**COLUMN:** Returns the current number of columns in the specified array.

**SWAP:** Swaps the entire contents of any specified arrays, strings, or simple variables. It is the first parameter passing capability ever implemented in BASIC. ROW and COLUMN in conjunction with SWAP allows processing of dissimilar sized arrays using for-next loops that adapt to the current array size. Error 42, as well as using magnetic media or matrix equality to transfer data, are all avoided.

**ADVANCE:** Rather than reading and/or writing items to position the 9880 data pointer, ADVANCE jumps the pointer directly to the specified item. ADVANCE is 15 times faster than READ or PRINT for positioning the pointer.

**UPDATE:** Permits modification of the next data item without rewriting the entire record of a 9880 Mass Memory file.

**RECORD:** Returns the record number currently pointed to by the 9880 Mass Memory system.

**RWORD:** Returns the location of the word pointer in the currently specified record of the 9880 Mass Memory.

**SUNIT:** Allows the same files on two different units of the 9880 to be defined concurrently, thus allowing jumps from unit to unit without directory seeks. The 9880 becomes quieter and, naturally, the time saved on directory seeks is significant. Also, SUNIT returns the active unit number of the 9880 Mass Memory system.

**FSIZE:** Returns the size of the specified file in the 9880 Mass Memory system.

**DCAT#:** Provides the optional capability to output a Mass Memory catalog to a specified device code.

**FLOAT:** Permits an expression to define the number of decimal places in a floating format.

**FIXED:** Permits an expression to define the number of decimal places in a fixed format.

**UNDEFINED:** Returns a 1 if the named variable is undefined or a  $\emptyset$  if defined.

**DEC:** Converts a decimal integer to its octal equivalent.

**OCT:** Converts an octal integer to its decimal equivalent.

**EXCLUSIVE OR:** Provides the exclusive or of two expressions that reduce to integers.

**TRIG:** Returns a number defining the current trigonometric mode of the machine.

**FRAC:** Returns the fractional portion of an expression.

**MOD:** Returns the modulo of two expressions that reduce to integers.

**FILE ID:** Moves the seven items of the cassette file header into a specified integer array.

**BKSPACE:** Positions the cassette tape at the beginning of the preceding file header.

**XREF#:** Allows the XREF command of AP1 or Fast Basic II to be output to a specified select code.

**PRT-ALL:** Provides program control over the printall on/off mode.

**LIST ALL:** Permits listing a secured program and storing it as non-secured.

### SPECIFICATIONS

**Memory:** 2048 8-bit bytes (1024 16-bit words)

**Power:** Supplied by the 9830A/B computer

**Temperature:** 0° to 45°C: (32° to 113°F)

**Weight:** Internal Configuration: 77 g (2.7 oz)  
External Configuration: 111 g (3.9 oz)

**Dimensions:** Internal Configuration: 94 X 11.58 X 9.88 cm  
(.37 X 4.56 X 3.87 in.)  
External Configuration: 2.03 X 6.50 X 12.07 cm  
(.80 X 2.56 X 4.75 in.)

**Warranty:** Fully warranted for 1 year.

**Service:** Service agreements following the warranty period are available.

**Ordering Information:** Internal Configuration: FB-1  
External Configuration: FB1-2

DATA SHEET PL5M7802 PRINTED IN U.S.A.



# Infotek Systems

1400 NORTH BAXTER STREET • ANAHEIM, CALIFORNIA 92806 • (714) 956-9300 • TWX 910-591-2711