

# PROGRAM PRODUCT SPECIFICATION

**BEM: BASIC — OS/3**  
**Type Number 6509-02**

## SECTION I

The SPERRY UNIVAC BASIC System has been designed for operation on SPERRY UNIVAC Series 90 Computer Systems, which are run under the OS/3 Operating System.\*

BASIC (the Beginners' All-purpose Symbolic Instruction Code) compiler has been developed to provide instructional support and problem-solving capabilities with an easily learned language. BEM: BASIC supports advanced features of the language such as files, subprograms, string handling, chaining, user-defined functions, etc. The process of program entry is interactive; the terminal user is notified of any errors in syntax as the statements are entered.

OS/3 BASIC requires the Program Product *Basic Editor Monitor (BEM)*, type number 6509-00, for operation.

### System Features

BASIC provides the terminal user with an easily learned language, and a simple method of entering and executing a program. New programs may be created at the terminal by typing each line of the program into BASIC. A syntax check is done and if the statement is not correct, it is returned to the user for correction. The HELP facility allows a user to obtain information indicating the cause for the statement rejection and what is expected.

BASIC programs may be stored in Library files and recalled when the user wishes to use one. Execution of the program is initiated from the terminal. During execution, the program may solicit input from the

terminal and display output. Errors detected during run-time are displayed on the terminal and, as in the case of statement entry errors, a HELP facility is available.

Major features of this compiler include the following areas:

- **Matrix Support** — A series of commonly used operations have been made available in a single statement. Examples of a few of these are: inversion, transposition, determinants, matrix I/O, and dynamic redimensioning. Both one- and two-dimension arrays are supported for strings and numeric variables.
- **Intrinsic Functions** — Built-in functions are available in four areas:
  - Numeric functions: sine, cosine, tangent, cotangent, logarithm, absolute value, square root, etc.
  - File-related functions: end of file, file type, margin, etc.
  - String functions: substring, string search, length, concatenation, conversion, etc.
  - Miscellaneous functions: time, date, user-id, etc.
- **User Functions** — Users may define up to 26 numeric type functions and 26 string type functions composed in a single line or multiple lines. Global and local variables as well as passed parameter may be referenced.

- Files and I/O — Temporary and permanent files containing string or numeric type data may be referenced. Formatted output including formatted matrix output is supported. Sequential and random files may be referenced.
- Subprograms — Callable BASIC subroutines may be created and referenced. A subroutine library facility is available to locate subprograms not included with the program source. Passed parameters may be variables, expressions, arrays, function definitions, function values, and files.
- Chaining — Programs may be segmented into smaller modules by chaining. The chained segments may be located in library files or BASIC data files.
- Strings — String handling is supported for strings up to 4095 characters in length.

A simple-to-use editor is an integral part of BASIC; it allows the user to list or delete sections of the program based on line numbers or character strings within the line. Lines may also be modified by retyping them with the change. Programs saved in a Library file are stored in a method compatible with EDT, the Interactive Editor; EDT can thus be used to make major changes.

Two modes of operation are available using this compiler. The first is a mode compatible with the current Dartmouth Time Sharing System BASIC. The second provides compatibility with the ANSI Standard for Minimal BASIC, with extensions. The mode is user selectable at the terminal when the BASIC session is begun.

## Hardware and Software Requirements

Basic is designed to be run with BEM on a Series 90 computer running under the OS/3 Operating System. The following configuration requirements pertain to BASIC:

- two disk drives
- communications adaptor with at least one terminal
- extended micro-logic feature
- minimum 98K OS/3 system
  - OS/3 BEM is required for operation
  - OS/3 ICAM is required for operation

## Programming Considerations

BASIC is furnished in library format as a load module, and cannot be used without BEM, the monitor. All configuration related parameters are stated in the BEM execution job control stream furnished within the Installation memorandum.

## SECTION II

### Customer Education

Sperry Univac makes available customer education related to this Program Product. Course availability and schedules are contained in the published course catalog. Charges for courses will be at the then prevailing rates. Customers should contact their local Sperry Univac representative for enrollment procedures.

### Program Product Support

Sperry Univac will endeavor to correct any significant error in an unaltered current release of the Program Product, which the customer brings to the attention of Sperry Univac in accordance with established correction procedures. Sperry Univac does not represent or warrant that all errors will be corrected. This error correction service may result, from time-to-time, in update releases which the customer will install. Sperry Univac reserves the right to alter the classification of this Program Product to reflect changes in policy or support requirements.

### Ordering Information

This Program Product and its associated documentation may be leased from Sperry Univac at separately stated lease charges. Upon execution of a Supplemental Lease for Program Products (Form UD1-1306 or its equivalent) for this Program Product, the following will be provided:

1. OS/3 Librarian format magnetic tape containing:
  - The BASIC load module.
  - A test program for the Program Product Validation Aid.
  - Any additional BEM components the customer has selected.
2. One copy of the associated documentation:
  - *BEM : BASIC — OS/3, User Reference* UA-0140
  - *BEM : BASIC — OS/3 Instruction Summary Code Card* UA-0191
  - Installation Memorandum

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