PROGRAM
PRODUCT
SPECIFICATION

SECTION 1

The FORTRAN IV system is a compiler and runtime system that implements the ANS FORTRAN X3.9-1966 language. In addition, FORTRAN IV contains many extensions to the standard that provide compatibility with IBM DOS FORTRAN IV and Sperry Univac Series 70 FORTRAN.

PRODUCT FEATURES

FORTRAN IV offers quick compilation and efficient execution of the object program. The entire OS/3 file system is available through the normal sequential I/O statements. Direct access files and Formatted Screen Services are available.

Debugging and diagnostic features allow early detection and correction of programming errors.

Program test units compiled by FORTRAN IV may be combined with modules from other language processors. All external interfaces conform to the standard linkage conventions.

FORTRAN IV provides the following extensions to the ANS FORTRAN X3.9-1966 standard:

- Subscript expressions may be integer or real arithmetic expressions.

- Arithmetic assignment statements can be used to assign complex values to integer and real variables, or integer and real values to complex variables.

- A literal message is permitted with the STOP and PAUSE statements.

- An executable END statement is provided.

- The inclusion of statement labels (preceded by the & character) in the list of actual arguments in a subroutine call to be referenced by a RETURN statement is permitted. Thus, the subroutine can transfer control back to designated statements in the calling program.

- The ENTRY statement permits entry into a function or subroutine subprogram at points other than the beginning of the subprograms.

- Standard library routines are available: OVERFL, DVCHK, ERROR, ERROR1, SLITE, SLITET, SSWTCH, LOAD, FETCH, DUMP, PDUMP, and OPSYS.

- Arrays may have a maximum of seven dimensions.

- Dimension declarator subscripts are permitted in common statement.

- Optional length specifications for logical, integer, complex, and real variables and arrays can be declared.

- An IMPLICIT statement is provided for user-defined implicit typing of symbolic names in a program unit.

- End of file and error recovery are provided in READ statements.

- The applicability of the G field descriptor has been extended to cover integer and logical data.

- Z and T format codes are provided.

- Special I/O formats and statements are provided for direct access storage devices.

- The specification of hexadecimal constants in DATA statements is permitted.

- Embedded comments.

- Extended exponentiation.

- Optional statement labels on arithmetic IF statements.

- Logical IF, PAUSE, and STOP statements can be terminal statements of DO loops.

- An ABNORMAL statement is provided for optimal code generation.

- The mathematical library may be referenced by generic names.

- The ability of initilize variables and arrays in type statements.

- The ability to use the IMPLICIT statementfs anywhere in the specification statement group.

- The elimination of the restriction that all named common blocks be the same size.

- A PROGRAM statement is provided to optionally name a main program.

- Two classes of list-directed I/O statements are provided.

- DO-implied loops in DATA statements.

- The BLOCK DATA statement contains an optional name for the subprogram.

- Extended error recovery procedures are provided for the mathematical library.

- Trace On/Off Statements are supported.

SOFTWARE REQUIREMENTS

FORTRAN IV requires the following OS/3 software products for operation:

- SCS – OS/3 System Control Software

- Assembler (if UNIT definitions are required)

- ESS – OS/3 Extended System Software (if Screen Format Services are utilitized)

HARDWARE REQUIREMENTS

FORTRAN IV will operate on any System 80 model and configuration that meets the minimal hardware configuration requirement for that specific model and satisfies the main storage requirements specified in the software release documentation accompanying each release.

Additional main storage and/or peripheral devices may be required, depending on the user's selection of the system's supported features and the size of the user's programs, files and data bases.

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 enrollemnt 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 classfication 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 Supplement for Program Products (Form UD1-1306) or its equivalent for this Program Product, the following will be provided:

1. A magnetic tape, diskette(s) or removable disk media in OS/3 Operating System format containing:

    -   FORTRAN IV
    -   Installation Verification Program

2. One copy of the associated documentation:

    -   Software Release Documentation
    -   FORTRAN IV Programmer Reference, UP-8814
    -   FORTRAN IV Summary, UP-8815
    -   Introduction to FORTRAN IV, UP-8813