digital
Software Product Description

PRODUCT NAME: FORTRAN IV/IAS-RSX, Version 2.5   **SPD 14.63.8**

DESCRIPTION:

FORTRAN IV is an extended implementation of the FORTRAN language based on the ANSI FORTRAN, X3.9-1966 standard. It operates under the RSX-11M, RSX-11M-PLUS, and IAS Operating Systems. The PDP-11 FORTRAN IV language includes the following extensions of the ANSI standard:

- General expressions allowed in all meaningful contexts
- Mixed-mode arithmetic
- BYTE data type for character manipulation
- ENCODE, DECODE statements
- PRINT, TYPE, ACCEPT input/output statements
- Direct-access unformatted input/output, DEFINE FILE statement
- Comments allowed at the end of each source line
- PROGRAM statement
- OPEN and CLOSE file access control statements
- List-directed input/output

Additionally, virtual arrays are supported on systems with memory management directives. Virtual arrays are memory-resident and require enough main memory to contain all elements of all arrays.

The PDP-11 FORTRAN IV compiler is a fast, one-pass compiler. Compiler options allow program size versus execution speed (threaded code vs. in-line code) tradeoffs. FORTRAN IV compiler optimizations include:

- Common subexpression elimination
- Local code tailoring
- Array vectoring
- Optional in-line code generation for integer and logical operations

MACRO-11 assembly language subroutines can be called from FORTRAN IV programs.

Object Time System

FORTRAN IV includes a set of object modules, called the Object Time System (OTS) that is selectively linked with compiler-produced object modules to produce an executable program.

MINIMUM HARDWARE REQUIRED:

Any valid RSX-11M, RSX-11M-PLUS, or IAS Operating System configuration with at least 16K bytes of memory available to the FORTRAN compiler.

The 16K byte compiler under IAS requires the standard operating system shared library SYSRES. Storage for SYSRES is in addition to the 16K bytes required for FORTRAN IV. The 16K byte compiler under RSX-11M and RSX-11M-PLUS requires no additional resident library.

EIS hardware is required for virtual arrays.

OPTIONAL HARDWARE:

FORTRAN IV supports all devices supported by the operating systems.

FORTRAN IV generated code can be selected to support the following arithmetic hardware options:

- KE11-A Extended Arithmetic Element
- KE11-B Extended Arithmetic Element
- KE11-E Extended Instruction Set
- KE11-F Floating Instruction Set
- KEV11 Extended Arithmetic Chip

The FORTRAN IV OTS additionally supports the FP11 floating point processor.

PREREQUISITE SOFTWARE:

One of the following operating systems:

- IAS, Version 3.0
- RSX-11M, Version 3.2
- RSX-11M-PLUS, Version 1.0

OPTIONAL SOFTWARE:

None

TRAINING CREDITS:

None

SUPPORT CATEGORY:

DIGITAL SUPPORTED

FORTRAN IV/IAS-RSX is a DIGITAL Supported Software Product.

SOFTWARE INSTALLATION:

CUSTOMER INSTALLED

FORTRAN IV/IAS-RSX is a software product engineered to be installed by the customer and includes other Software Product services listed below.

SOFTWARE PRODUCT SUPPORT:

FORTRAN IV/IAS-RSX includes standard warranty services as defined in the Software Support Categories Addendum of this SPD.

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The following key (D, E, H, M, Q, R, T, V, Z) represents the distribution media for the product and must be specified at the end of the order number, e.g., QP230-AD = binaries on 9-track 800 BPI Magtape (NRZI).

D = 9-track 800 BPI Magtape (NRZI)
E = RK05 Disk Cartridge
H = RL02 Disk Cartridge
M = 9-track 1600 BPI Magtape (PE)
Q = RL01 Disk Cartridge
R = Microfiche
T = RK06 Disk Cartridge
V = RK07 Disk Cartridge
Z = No hardware dependency

QP230 -A— Single-use license, binaries, documentation, support services (media: D, E, H, M, Q, T, V)

QP230 -C— Single-use license, binaries, documentation, no support services (media: D, E, H, M, Q, T, V)

QP230 -D— Single-use license only, no binaries, no documentation, no support services (media: Z)

Sources/Listings Options

QP230 -E— Sources (media: D, E, H, M, Q, T, V)

QP230 -F— Sources Listings (media: R)

Update Options

Users of FORTRAN IV whose specified Support Category warranty has expired may order under license the following software update at the then current charge for such update. The update is distributed in binary form on the appropriate medium and includes no installation or other services unless specifically stated.

QP230 -H— Binaries, documentation (media: D, E, H, M, Q, T, V)

QP230 -H— Right to copy for single-use (under existing license), no binaries, no documentation, no support services (media: Z)

Sources/Listings Update Options

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QP230 -N— Sources update (media: D, E, H, M, Q, T, V)

Miscellaneous Options

QP230 -G— Documentation only kit (media: Z)

ADDITIONAL SERVICES:

None