IAS/RSX-11
FORTRAN IV
Installation Guide

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PREFACE

The IAS/RSX-11 FORTRAN IV Installation Guide contains the procedures for installing the FORTRAN IV system. These procedures apply to the RSX-11M, VØ3, both mapped and unmapped, RSX-11D V6 and IAS VØ1 operating systems. The distribution kit used for these procedures is an RKØ5 or RKØ6 disk cartridge, or a 7-track or 9-track magtape, or DECtape. The build procedures for each system on each distribution medium are described. The manual also contains system requirements, distribution files, installation options, system build verification, and release notes. The appendices contain listings of the build files and verification tests for each system.

IT IS RECOMMENDED THAT THIS MANUAL BE READ COMPLETELY BEFORE ATTEMPTING TO INSTALL THE SYSTEM.

ASSOCIATED DOCUMENTS

For information on using the system, consult the IAS/RSX-11 FORTRAN IV User's Guide. For details on the FORTRAN language as implemented in FORTRAN IV, consult the PDP-11 FORTRAN Language Reference Manual.

DOCUMENTATION CONVENTIONS

The following documentation conventions are used throughout this manual.

Ⓢ	ALTMODE	The symbol Ⓢ represents the non-printing ALTMODE key. When specified, this key is pressed in place of the RETURN key. Except where ALTMODE is specified, all commands terminate with a carriage return.
↑Z	CNTRL Z	The notation ↑Z (where Z is an alphabetic character) results from pressing the CNTRL key and the appropriate letter simultaneously.
MCR>	underline	Underlined text in examples indicates information printed by the system. All other information is typed by the user.

CHAPTER 1

INTRODUCTION

This chapter provides information on system requirements prior to build, the files contained on distribution media, and the several installation options available to the user.

1.1 INSTALLATION OVERVIEW

FORTRAN IV installation comprises several general steps, as described below.

1. Selecting installation options. Certain parameters of the compiler and Object-Time System installation may be modified to tailor the system to site requirements. (Section 1.4)

2. Preparation for installation. Installation must be done under a privileged account. File directories required for installation must be created. (Section 2.1)

3. Copying files from distribution media. The files required for system build are transferred from the distribution kit to the system device. (Section 2.2)

4. Selecting compiler defaults. (Section 2.3)

5. Building the compiler task. (Section 2.4)

6. Building the Object-Time System library (OTS). (Section 2.5)

7. System build verification. A FORTRAN test program is compiled and executed to verify the correctness of system installation. (Chapter 3)

1.2 SYSTEM REQUIREMENTS

The software included in this distribution requires the following system components for normal use:

RSX-11M V03, RSX-11D V6, or IAS V01 Operating System,

Minimum 8K word partition for compilation,

Minimum of 125 blocks of contiguous on-line disk storage for the compiler task,

Minimum of 140 blocks of on-line disk storage for the Object-Time System library.

1.3 DISTRIBUTION FILES

The FORTRAN IV software is supplied on one RKØ5 or RKØ6 disk cartridge, one 7-track or 9-track magtape, or one DECtape. These kits contain all the files required to build a FORTRAN IV system for RSX-11M, RSX-11D, or IAS.

The distribution media contain the following files:

FOR.OLB	Compiler object module library
FORBLD.ODL	Compiler overlay description file
FOR11U.CMD	Compiler build file for unmapped RSX-11M systems
FOR11M.CMD	Compiler build file for mapped RSX-11M systems
FOR11D.CMD	Compiler build file for RSX-11D systems
FORIAS.CMD	Compiler build file for IAS systems
FOROTS.OBJ	Object-Time System concatenated object modules
FORNHD.OBJ	Object-Time System concatenated object modules specific to the no-optional-hardware version
FOREAE.OBJ	Object-Time System concatenated object modules specific to the EAE version
FOREIS.OBJ	Object-Time System concatenated object modules specific to the EIS version
FORFIS.OBJ	Object-Time System concatenated object modules specific to the FIS version
FORFPU.OBJ	Object-Time System concatenated object modules specific to the FPU version
SHORT.OBJ	Object-Time System short error text module
FORTST.FTN	FORTRAN test program for verification purposes

1.4 INSTALLATION OPTIONS

Various options are available for tailoring the FORTRAN IV system to the needs of a particular installation. These options are described throughout this manual. This section details some of the decisions that must be made prior to system installation.

1.4.1 Selecting The Default FORTRAN

Some installations may desire to run FORTRAN IV and FORTRAN IV-PLUS (F4P) on the same system. If so, either FORTRAN IV or FORTRAN IV-PLUS must be selected as the default FORTRAN. This decision must be made for two reasons:

1. When building a task, object modules produced by the FORTRAN IV compiler or from the FORTRAN IV OTS must not be mixed with object modules produced by the FORTRAN IV-PLUS compiler or from the FORTRAN IV-PLUS OTS.

2. The FORTRAN IV and FORTRAN IV-PLUS Object-Time Systems cannot reside in the same object module library.

The default FORTRAN OTS is made part of the system object module library, [1,1]SYSLIB.OLB. The Task Builder searches this library automatically when linking a task. Either the FORTRAN IV OTS or the FORTRAN IV-PLUS OTS can be in this library.

If both FORTRAN systems are to be used at the same installation, a separate library must be built to contain one of the Object-Time Systems. This library must be specified by name in the Task Builder command line whenever it is to be used. The Task Builder searches the library specified in the command line before searching SYSLIB.

In making this choice for a given environment, consider which FORTRAN will be used most often. The system whose OTS is in SYSLIB will not require an explicit OTS library reference at task build time.

1.4.1.1 Selecting FORTRAN IV as the Default FORTRAN - If FORTRAN IV is selected as the default FORTRAN, use of a previously installed FORTRAN IV-PLUS system can be continued in one of two ways. Build a separate library containing only FORTRAN IV-PLUS OTS modules (usually [1,1]F4POTS.OLB), or rename the current SYSLIB. If FORTRAN IV-PLUS has not been installed, refer to the FORTRAN IV-PLUS Installation Guide for procedures to include its OTS in a separate OTS Library.

1.4.1.2 Selecting FORTRAN IV-PLUS as the Default FORTRAN - If FORTRAN IV-PLUS is to be the default FORTRAN, follow the F4P installation procedures for including its OTS in SYSLIB. Then carry out the instructions, described in Section 2.5 of this manual, to build a separate FORTRAN IV OTS library.

1.4.2 Selecting FORTRAN IV Compiler Options

A number of options are available when building the FORTRAN IV compiler, most notably:

1. Specification of listing device lines-per-page for installations using non-U.S.-Standard paper stock.

2. Specification of the default settings for compiler command string switches (different from supplied default values).

3. Determination of the default amount of memory used for compilation in a system-controlled partition, to accommodate the compilation of large program units.

The compiler build file can be edited to modify any of the above defaults. Documentation within the file describes the options available and any limitations on choices (see Appendix A for listings).

1.4.3 Selecting OTS Arithmetic Hardware Options

The FORTRAN IV system, as supplied, contains components for support of all PDP-11 arithmetic hardware options. The Object-Time System must be generated to conform with the options present on the target system. Later sections of this manual will refer to the hardware-dependent file as "FOR???.OBJ"; the appropriate file should be chosen from the list below. Use the first file in the list that is appropriate to the hardware options installed on the target system. If new hardware options are added to the system at a later date, the OTS library can be rebuilt to conform to the change.

1. If the target system is a PDP-11/70, PDP-11/55, PDP-11/50, PDP-11/45 or PDP-11/34, with the FP11-A, FP11-B, FP11-C floating-point processor option, use the file "FORFPU.OBJ" when "FOR???.OBJ" is requested in the later dialogue.

2. If the target system is a PDP-11/40 or PDP-11/35 with the KE11-F Floating Instruction Set option, or an LSI-11 with the KEV11 Extended Arithmetic Chip, use "FORFIS.OBJ" in place of "FOR???.OBJ" as requested.

3. If the target system is a PDP-11/70, PDP-11/50, PDP-11/45, or PDP-11/34 with no floating-point hardware, or a PDP-11/40 or PDP-11/35 with the KE11-E Extended Instruction Set option, the file "FOREIS.OBJ" should be used in place of "FOR???.OBJ" as requested.

4. If the target system has the KE11-A or KE11-B Extended Arithmetic Element, use the file "FOREAE.OBJ" when "FOR???.OBJ" is called for in the later sections.

5. If the target system has no optional arithmetic hardware, use the file "FORNHD.OBJ" in place of "FOR???.OBJ" as requested.

CHAPTER 2

INSTALLATION PROCEDURES

2.1 PREPARATION FOR INSTALLATION

Certain preparatory steps must be taken before the installation can take place. The process for each operating system is detailed below.

2.1.1 RSX-11M Preparations

Use a privileged terminal for all operations when building the FORTRAN IV system.

Various RSX-11M utility programs are used in the installation process. All examples in this manual assume that the utilities are not installed; the RUN $xxx command is shown, e.g.:

```
>RUN $PIP
```

The following file directories are required for the build process on RSX-11M:

```
[1,20], [1,30], [1,50]      for unmapped systems
[1,24], [1,34], [1,54]      for mapped systems
```

If any of the above directories do not exist on the system volume, they must be created by means of the MCR UFD command.

2.1.2 RSX-11D Preparations

The FORTRAN IV system must be built from a privileged terminal. Log in under UIC [1,1] by typing:

```
MCR>HELLO [1,1]
```

and the required password.

The following file directories are required for FORTRAN IV installation:

```
[11,1], [11,41], [111,41]
```

If any of the above directories do not exist on the system volume, they must be created by means of the MCR UFD command.

2.1.3 IAS Preparations

Installation of the FORTRAN IV system is performed under IAS timesharing. The installation must be controlled from a terminal logged in under UIC [1,1]. This may be accomplished by typing:

```
PDS> LOGIN SYSTEM
```

and the appropriate password.

The following file directories are required for FORTRAN IV installation:

```
[11,1], [11,41], [111,41]
```

If any of the above directories do not exist on the system volume, they must be created by means of the privileged PDS command "CREATE/DIRECTORY", e.g.:

```
PDS> CREATE/DIRECTORY [11,41]
```

2.2 COPYING FILES FROM THE DISTRIBUTION MEDIUM

Prior to the actual FORTRAN IV system build, all required files are copied from the distribution medium onto the system disk. In the following sections, the filename "FOR???.OBJ" should be replaced by the file appropriate to the system hardware configuration (see Table 2-1).

Table 2-1
Hardware Files

FILE	HARDWARE OPTION
FORFPU.OBJ	PDP-11/70, 11/55, 11/50, 11/45, or 11/34 with FP11-A, FP11-B or FP11-C floating-point processor
FORFIS.OBJ	PDP-11/40, or 11/35 with KE11-F Floating Instruction set; or LSI-11 with KEV11 Extended Arithmetic Chip
FOREIS.OBJ	PDP-11/70, 11/50, 11/45, or 11/34 with no floating-point hardware; or PDP-11/40 or 11/35 with KE11-E Extended Instruction set
FOREAE.OBJ	KE11-A or KE11-B Extended Arithmetic element
FORNHD.OBJ	No Arithmetic Hardware option

2.2.1 Magtape Procedures

Note that if the system is equipped with TU16 magtape drives, the device name MM: should be substituted for MT: in the following sections.

2.2.1.1 RSX-11M Unmapped Systems - Mount the distribution magtape on unit Ø, and position the tape at load point. If the magtape handler is not loaded, make it available by typing the following command:

```
>LOAD MT:
```

Type the following commands to transfer the required files:

```
>SET /UIC=[1,2Ø]
>RUN $FLX
FLX>=MTØ:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11U.CMD
FLX>↑Z
>SET /UIC=[1,1]
>RUN $FLX
FLX>=MTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ,SHORT.OBJ,FORTST.FTN
FLX>↑Z
```

Dismount the distribution magtape and save it for possible future use. Proceed to Section 2.3 to continue with system installation.

2.2.1.2 RSX-11M Mapped Systems - Mount the distribution magtape on unit Ø, and position the tape at load point. If the magtape handler is not loaded, make it available by typing the following command:

```
>LOAD MT:
```

Type the following commands to transfer the required files:

```
>SET /UIC=[1,24]
>RUN $FLX
FLX>=MTØ:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11M.CMD
FLX>↑Z
>SET /UIC=[1,1]
>RUN $FLX
FLX>=MTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ,SHORT.OBJ,FORTST.FTN
FLX>↑Z
```

Dismount the magtape and save it for possible future use. Proceed to Section 2.3 to continue with system installation.

2.2.1.3 RSX-11D Systems - Mount the distribution magtape on unit Ø, and position it at load point. If the magtape handler is not loaded, make it available by means of the following command.

```
MCR>LOAD MT:
```

Type the following commands to transfer the required files:

```
MCR>MOU MTØ:/CHA=[FOR]
MCR>SET /UIC=[11,41]
MCR>FLX =MT:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11D.CMD
MCR>SET /UIC=[1,1]
MCR>FLX =MTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ
MCR>FLX =MTØ:[2ØØ,2ØØ]SHORT.OBJ,FORTST.FTN
MCR>PIP =[11,41]FOR.OLB
MCR>DMO MT:
```

Dismount the distribution magtape and save it for possible future use. The magtape handler task may also be unloaded if desired. Proceed to Section 2.3 to continue with system installation.

2.2.1.4 IAS Systems - Mount the distribution magtape on unit Ø, and position the tape at load point. Type the following commands (and the SCI responses required at the console) to transfer the required files:

```
PDS> MOUNT/FOREIGN MT0: FORTRAN
PDS> COPY MTØ:[200,200]*.*/DOS  *.*
PDS> COPY FOR.OLB  [11,41]*.*
PDS> COPY FORBLD.ODL  [11,41]*.*
PDS> COPY FORIAS.CMD  [11,41]*.*
PDS> DEL FORBLD.ODL;*,FORIAS.CMD;*
PDS> DEL FOR11U.CMD;*,FOR11M.CMD;*,FOR11D.CMD;*
PDS> DISMOUNT MT0:
```

Dismount the distribution magtape and save it for possible future use. Proceed to Section 2.3 to continue with system installation.

2.2.2 Disk Cartridge Procedures

When the system is equipped with RK06 disk cartridge drives, substitute the device name DM: for DK: in the following sections.

2.2.2.1 RSX-11M Unmapped Systems - Place the distribution DECpack in drive Ø, write-locked. Load the disk handler, if it is not present, by typing the following command:

```
>LOAD DK:
```

Type the following commands to transfer the required files.

```
>MOU DKØ:FOR
>SET /UIC=[1,20]
>RUN $PIP
PIP>=DKØ:[11,41]FOR.OLB,FORBLD.ODL,FOR11U.CMD
PIP>↑Z
>SET /UIC=[1,1]
>RUN $PIP
PIP>=DKØ:[11,42]FOROTS.OBJ,FOR???,SHORT,FORTST.FTN
PIP>↑Z
>DMO DKØ:
```

Dismount the distribution pack and save it for possible future use. Proceed to Section 2.3 to continue with system installation.

2.2.2.2 RSX-11M Mapped Systems - Place the distribution DECpack in drive Ø, write-locked. Load the disk handler, if it is not present, by typing the following command:

```
>LOAD DK:
```

Type the following commands to transfer the required files:

```
>MOU DKØ:FOR
>SET /UIC=[1,24]
>RUN $PIP
PIP>=DKØ:[11,41]FOR.OLB,FORBLD.ODL,FOR11M.CMD
PIP>↑Z
>SET /UIC=[1,1]
>RUN $PIP
PIP>=DKØ:[11,42]FOROTS.OBJ,FOR???,SHORT,FORTST.FTN
PIP>↑Z
>DMO DKØ:
```

Dismount the distribution pack and save it for possible future use. Proceed to Section 2.3 to continue with the system installation.

2.2.2.3 RSX-11D Systems - Place the distribution DECpack in drive Ø, write-locked. Load the disk handler task, if it is not already resident, by means of the following command:

```
MCR>LOAD DK:
```

Type the following commands to transfer the required files:

```
MCR>MOU DKØ:FOR
MCR>SET /UIC=[11,41]
MCR>PIP =DKØ:FOR.OLB,FORBLD.ODL,FOR11D.CMD
MCR>SET /UIC=[1,1]
MCR>PIP =DKØ:[11,42]FOROTS.OBJ,FOR???,SHORT,FORTST.FTN
MCR>PIP =[11,41]FOR.OLB
MCR>DMO DKØ:
```

Dismount the distribution pack and save it for possible future use. The disk handler task may be unloaded if desired. Proceed to Section 2.3 to continue with system installation.

2.2.2.4 IAS Systems - Place the distribution DECpack in drive Ø, write-locked. Type the following commands to transfer the required files:

```
PDS> MOUNT DKØ:  FOR
PDS> COPY DKØ:[11,41]*.*  [11,41]*.*
PDS> DEL [11,41]FOR11U.CMD;*
PDS> DEL [11,41]FOR11M.CMD;*
PDS> DEL [11,41]FOR11D.CMD;*
PDS> COPY DKØ:[11,42]*.*  *.*
PDS> COPY [11,41]FOR.OLB  FOR.OLB
PDS> DISMOUNT DKØ:
```

Dismount the distribution pack and save it for possible future use. Proceed to Section 2.3 to continue with system installation.

2.2.3 DECtape Procedures

2.2.3.1 RSX-11M Unmapped Systems - Mount the distribution DECtape on unit Ø, write-locked, with the REMOTE/LOCAL switch set to REMOTE. If the DECtape handler is not in memory, make it available by typing the following command:

```
>LOAD DT:
```

Type the following commands to transfer the required files:

```
>SET /UIC=[1,20]
>RUN $FLX
FLX>=DTØ:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11U.CMD
FLX>↑Z
>SET /UIC=[1,1]
>RUN $FLX
FLX>=DTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ,SHORT.OBJ,FORTST.FTN
FLX>↑Z
```

Dismount the distribution tape and save it for possible future use. Proceed to Section 2.3 to continue with the system installation.

2.2.3.2 RSX-11M Mapped Systems - Mount the distribution DECtape on unit Ø, write-locked, with the REMOTE/LOCAL switch set to the REMOTE position. If the DECtape handler is not in memory, make it available by typing the following command:

```
>LOAD DT:
```

Type the following commands to transfer the required files:

```
>SET /UIC=[1,24]
>RUN $FLX
FLX>=DTØ:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11M.CMD
FLX>↑Z
>SET /UIC=[1,1]
>RUN $FLX
FLX>=DTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ,SHORT.OBJ,FORTST.FTN
FLX>↑Z
```

Dismount the distribution tape and save it for possible future use. Proceed to Section 2.3 to continue with the system installation.

2.2.3.3 RSX-11D Systems - Mount the distribution DECtape on unit Ø, write-locked, with the REMOTE/LOCAL switch in the REMOTE position. If the DT handler is not already in memory, make it resident by typing the following command:

```
MCR>LOAD DT:
```

Type the following commands to transfer the required files:

```
MCR>MOU DTØ:/CHA=[FOR]
MCR>SET /UIC=[11,41]
MCR>FLX =DTØ:[2ØØ,2ØØ]FOR.OLB,FORBLD.ODL,FOR11D.CMD
MCR>SET /UIC=[1,1]
MCR>FLX =DTØ:[2ØØ,2ØØ]FOROTS.OBJ,FOR???.OBJ
MCR>FLX =DTØ:[2ØØ,2ØØ]SHORT.OBJ,FORTST.FTN
MCR>PIP =[11,41]FOR.OLB
MCR>DMO DTØ:
```

Dismount the distribution tape and save it for possible future use. The DT handler task may now be unloaded if desired. Proceed to Section 2.3 to continue with the system installation.

2.2.3.4 IAS Systems - Place the distribution DECtape on unit Ø, write-locked, with the REMOTE/LOCAL switch in the REMOTE position. Type the following commands (and appropriate SCI responses at the console terminal) to transfer the required files:

```
PDS> MOUNT/FOREIGN DTØ:  FOR
PDS> COPY DTØ:[200,200]*.*/DOS  *.*
PDS> COPY FOR.OLB  [11,41]*.*
PDS> COPY FORBLD.ODL  [11,41]*.*
PDS> COPY FORIAS.CMD  [11,41]*.*
PDS> DEL FORBLD.ODL;*,FORIAS.CMD;*
PDS> DEL FOR11U.CMD;*,FOR11M.CMD;*,FOR11D.CMD;*
PDS> DISMOUNT DTØ:
```

Dismount the distribution tape and save it for possible future use. Proceed to Section 2.3 to continue with the system installation.

2.3 SELECTION OF COMPILER OPTIONS

You must edit the compiler task build file if the installation has any of the following requirements:

1. If the primary listing device (line printer) requires a non-standard page length (i.e., the default of 57 lines per page is not acceptable).

2. If the installation prefers compiler command string switch defaults that are different from those supplied. For example, it may be desirable to have a default of /LI:1 (list source program only) rather than the standard /LI:3 (list source program and storage map).

3. If the typical program unit (main program, FUNCTION, or SUBROUTINE subprogram) size is quite large, and the compiler will be operating in a system-controlled partition. In this case, it may be advantageous to build the compiler for a default size of greater than 8K words. Note that this parameter can also be modified after the compiler has been built through options at INSTALL time. The FORTRAN IV compiler will make use of all space made available to it (whether by EXTTSK at build time, or through the increment facility in install) to allow larger and more complex program segments to be compiled.

If the defaults are not satisfactory, the appropriate file from the following list should be edited by means of a system editor utility:

```
[1,20]FOR11U.CMD    RSX-11M Unmapped Systems
[1,24]FOR11M.CMD    RSX-11M Mapped Systems
[11,41]FOR11D.CMD   RSX-11D Systems
[11,41]FORIAS.CMD   IAS Systems
```

Refer to Appendix A for listings of these files.

2.4 BUILDING THE COMPILER TASK

If a previous version of FORTRAN IV (or any other Task named ...FOR) is currently installed in the system, it must be removed at this time with the appropriate system commands.

Type the commands indicated in the section appropriate to the target system to build and install the compiler task:

2.4.1 RSX-11M Unmapped Systems

```
>SET /UIC=[1,20]
>RUN $TKB
TKB>@FOR11U
TKB>^Z
>INS [1,50]FOR
```

2.4.2 RSX-11M Mapped Systems

```
>SET /UIC=[1,24]
>RUN $TKB
TKB>@FOR11M
TKB>^Z
>INS [1,54]FOR
```

2.4.3 RSX-11D Systems

```
MCR>SET /UIC=[1,1]
MCR>TKB @[11,41]FOR11D
MCR>INS [11,1]FOR
```

2.4.4 IAS Systems

NOTE

FORTRAN IV must be installed as task "...FOR" on IAS. If FORTRAN IV-PLUS is already installed under that name, remove it and reinstall it as task "...F4P" before proceeding.

```
PDS> @[11,41]FORIAS
PDS> INSTALL [11,1]FOR
```

2.5 BUILDING THE OTS LIBRARY

The following sections detail the procedure for creating the Object-Time System (OTS) library. The filename "FOR???" should be replaced by the file selected according to hardware options (see Section 1.4.3). Refer to Section 1.4.1 if a decision regarding the default FORTRAN has not been made.

2.5.1 RSX-11M Systems

If FORTRAN IV is to be the default FORTRAN, or if FORTRAN IV-PLUS is not present on the target system, type the following commands to build the FORTRAN IV OTS into the system library:

```
>SET /UIC=[1,1]
>RUN $LBR
LBR>SYSLIB/RP=SHORT
LBR>SYSLIB/DG:$ERTXT/RP=FOROTS,FOR???
ENTRY POINTS DELETED:
$ERTXT

LBR> ↑Z
```

If FORTRAN IV-PLUS has been selected as the default FORTRAN (i.e., the FORTRAN IV-PLUS OTS is in SYSLIB), type the following commands to build a separate FORTRAN IV OTS library:

```
>SET /UIC=[1,1]
>RUN $LBR
LBR>FOROTS/CR::768.=SHORT
LBR>FOROTS/DG:$ERTXT=FOROTS,FOR???
ENTRY POINTS DELETED:
$ERTXT

LBR> ↑Z
```

2.5.2 RSX-11D Systems

If FORTRAN IV has been selected as the default FORTRAN, or if FORTRAN IV-PLUS is not present on the target system, type the following commands to build the FORTRAN IV OTS into the system library:

```
MCR>SET /UIC=[1,1]
MCR>LBR SYSLIB/RP=SHORT
MCR>LBR SYSLIB/DG:$ERTXT/RP=FOROTS,FOR???
ENTRY POINTS DELETED:
$ERTXT
```

If FORTRAN IV-PLUS has been selected as the default FORTRAN, type the following commands to build a separate FORTRAN IV OTS library:

```
MCR>SET /UIC=[1,1]
MCR>LBR FOROTS/CR::768=SHORT
MCR>LBR FOROTS/DG:$ERTXT=FOROTS,FOR???
ENTRY POINTS DELETED:
$ERTXT
```

2.5.3 IAS Systems

If FORTRAN IV has been selected as the default FORTRAN, or if FORTRAN IV-PLUS is not present on the target system, type the following commands to build the FORTRAN IV OTS into the system library:

```
PDS> LIB INSERT SYSLIB SHORT
PDS> LIB DELETE/GLOBAL SYSLIB $ERTXT
PDS> LIB INSERT SYSLIB FOROTS FOR???
```

If FORTRAN IV-PLUS has been selected as the default FORTRAN, type the following commands to build a separate FORTRAN IV OTS library:

```
PDS> LIB CREATE/EPT:768   FOROTS SHORT
PDS> LIB DELETE/GLOBAL FOROTS $ERTXT
PDS> LIB INSERT FOROTS FOROTS FOR???
```

CHAPTER 3

SYSTEM BUILD VERIFICATION

A test program is supplied in the FORTRAN IV kit to verify proper operation of the installed system. This program, when executed, causes two floating-point exception conditions to assure that they are correctly reported. The execution of the program is self-explanatory. Refer to Appendix B for sample console printout produced by the verification procedures.

3.1 RSX-11M SYSTEMS

If FORTRAN IV is selected as the default FORTRAN, type the following commands:

```
>SET /UIC=[1,1]
>FOR FORTST=FORTST
>RUN $TKB
TKB>FORTST=FORTST
TKB>//
>RUN FORTST
```

If the EAE version is used with FORTRAN IV as the default, replace the command TKB>FORTST=FORTST with the command TKB>FORTST/EA=FORTST.

If the FPP version is used with FORTRAN IV as the default, replace the command TKB>FORTST=FORTST with the command TKB>FORTST/FP=FORTST.

If FORTRAN IV-PLUS is selected as the default FORTRAN, type the following commands:

```
>SET /UIC=[1,1]
>FOR FORTST=FORTST
>RUN $TKB
TKB>FORTST=FORTST,FOROTS/LB
TKB>//
>RUN FORTST
```

If the EAE version is used with FORTRAN IV-PLUS as the default, replace the command TKB>FORTST=FORTST,FOROTS/LB with the command TKB>FORTST/EA=FORTST,FOROTS/LB.

If the FPP version is used with FORTRAN IV-PLUS as the default, replace the command TKB>FORTST=FORTST,FOROTS/LB with the command TKB>FORTST/FP=FORTST,FOROTS/LB.

If the test does not execute successfully, check for an error in the installation. Correct the error by rebuilding the compiler or OTS as necessary.

When the verification test has successfully executed, the installation is complete. The system must be saved with the compiler installed. Dismount the system disk and save the system as follows (note that all other devices must be dismounted prior to these commands):

```
>DMO SY:
>SAV
```

The system will automatically reboot. Retain the distribution medium, because it may be required for FORTRAN IV maintenance at a future date.

3.2 RSX-11D SYSTEMS

If FORTRAN IV is selected as the default FORTRAN, type the following commands to run the verification test (Ⓢ represents the altmode or escape key):

```
MCR>SET /UIC=[1,1]
MCR>FOR FORTST=FORTST
MCR>TKB FORTST=FORTST
MCR>RUN FORTST Ⓢ
```

If FORTRAN IV-PLUS is selected as the default FORTRAN, type the following commands to perform the verification:

```
MCR>SET /UIC=[1,1]
MCR>FOR FORTST=FORTST
MCR>TKB FORTST=FORTST,FOROTS/LB
MCR>RUN FORTST Ⓢ
```

If the test does not compile and execute correctly, check for a possible installation error. Correct the problem by rebuilding the compiler or OTS as necessary.

When the test has executed correctly, the installation is complete. You must save the system with the compiler installed. Dismount the system disk and save the system as follows (note that all other devices must be dismounted prior to these commands):

```
MCR>DMO SY:
MCR>SAV
```

The system will automatically reboot. Retain the distribution medium, because it may be required for FORTRAN IV system maintenance at a later date.

3.3 IAS SYSTEMS

If FORTRAN IV is selected as the default FORTRAN, type the following commands to run the verification test:

```
PDS> FORTRAN/FOR/NOLIST FORTST
PDS> LINK FORTST
PDS> RUN FORTST
```

If FORTRAN IV-PLUS is selected as the default FORTRAN, type the following commands to perform the verification:

```
PDS> FORTRAN/FOR/NOLIST FORTST
PDS> LINK FORTST FOROTS/LIB
PDS> RUN FORTST
```

If the test does not successfully execute, check for an installation error. Correct the error by rebuilding the compiler or OTS as required.

When the verification test has successfully executed, the installation is complete. You must save the system with the compiler installed. This should be performed as described in the System Generation Guide. Retain the distribution medium, as the files may be required for FORTRAN IV maintenance at a future date.

CHAPTER 4

RELEASE NOTES

4.1 DIFFERENCES BETWEEN FORTRAN IV V01C AND V01B

The following language extensions have been incorporated into Version 01C of FORTRAN IV. These extensions are documented in the PDP-11 FORTRAN Language Reference Manual and the IAS/RSX-11 FORTRAN IV User's Guide.

1. All FORTRAN programs must be recompiled to run with the FORTRAN IV V01C Object-Time System (OTS).

2. The colon FORMAT descriptor has been added, allowing a conditional exit from FORMAT processing if no I/O list elements remain to be transferred.

3. The syntax of the Assigned GOTO statement, the DO statement, the COMMON statement, and the DATA statement has been extended to allow optional commas for readability. The new syntax is a superset of what was previously permitted. The new syntax is:

```
GOTO ivar[[,](slist)]

DO s[,] ivar=e1,e2[,e3]

COMMON [/[cb]/] nlist[[,]/[cb]/nlist] ...

DATA nlist /clist/[[,] nlist /clist/] ...
```

4. The PROGRAM statement has been added to allow the main program object module name to be specified.

5. The BLOCK DATA statement now allows an optional name to be specified (used as the resultant object module name).

6. The syntax of the ENCODE and DECODE statements has been extended to allow the specification of an array, array element, or simple variable as the third argument inside parentheses. Also, the ERR= specification may now be given to trap certain formatting errors.

7. Default FORMAT width and precision specifications are now provided by FORTRAN IV.

8. The format for positive exponents as produced by E or D FORMAT output conversions now uses a plus sign rather than a space preceding positive exponents. This is compatible with the new ANSI standard for FORTRAN currently in preparation.

APPENDIX A

COMPILER BUILD FILE LISTINGS

This appendix contains sample listings of the compiler build files. These files pertain to the RSX-11M, mapped and unmapped, RSX-11D, and IAS systems. They are useful for the selection of compiler options and for editing purposes. (See Section 2.3.)

A.1 RSX-11M SYSTEM - UNMAPPED

```
[1,50]FOR/-CP/-MM,[1,30]FOR/-SP=[1,20]FORBLD/MP
!
! FORTRAN IV COMPILER TASK BUILD FILE
!
! FOR V01C-03, RSX-11M UNMAPPED SYSTEMS
!
!
! TASK NAME
!
TASK=...FOR
!
! BUILD FOR PARTITION GEN, WHICH MUST BE AT LEAST 8K
!
PAR=GEN:40000:40000
!
! SP STACK SIZE
! STACK MUST BE AT LEAST 150 WORDS
!
STACK=150
!
! COMPILER LOGICAL UNIT ASSIGNMENTS
!
!       1 = COMMAND INPUT
!       2 = COMMAND OUTPUT
!       3 = ,OBJ OUTPUT
!       4 = ,LST OUTPUT
!       5 = .FTN INPUT
!
UNITS=5
ASG=TI:1:2
!
! TASK SIZE FOR SYSTEM CONTROLLED PARTITIONS
!
! THE FOLLOWING EXTTSK SETS THE COMPILER DEFAULT SIZE TO 8K WORDS.
! IF A LARGER COMPILER IS REQUIRED, THE EXTTSK MAY BE INCREASED,
! OR THE COMPILER MAY BE INSTALLED WITH THE /INC SWITCH.
!
EXTTSK=1298
!
! THE FOLLOWING EXTSCT SETS THE GLOBAL SYMBOL "HIGH" (DEFINED IN
! PHASE F13) TO THE HIGHEST ADDRESS IN PHASES F1, F2, ..., F17.
```

```
! THIS VALUE WOULD REQUIRE CHANGE IF AND ONLY IF FCS CHANGES IN
! SIZE.  THE VALUE SUPPLIED IS VALID FOR BOTH RELEASED VERSIONS OF
! FCS (WITH OR WITHOUT ANSI SUPPORT).
!
EXTSCT=PAT%13:374
!
! NUMBER OF LINES PER LISTING PAGE
!
! THE FOLLOWING GBLPAT CONTROLS THE NUMBER OF LINES PER LISTING PAGE.
! THE VALUE SPECIFIED FOR THE PATCH IS THE NUMBER OF LINES
! PER PAGE DESIRED, MINUS 1.
! DEFAULT VALUE IS 000070(8) = 56. = 57. LINES PER PAGE.
!
GBLPAT=FOR:SLNMAX:000070
!
! DEFAULT SWITCH SETTINGS
!
! THE GLBPAT WHICH FOLLOWS ALLOWS THE DEFAULT SWITCH SETTINGS FOR
! THE COMPILER TO BE SET.  THE VALUE SPECIFIED FOR THE PATCH IS
! THE LOGICAL OR OF THE INDIVIDUAL SWITCH SETTINGS DESIRED.
!
! SWITCH        SWITCH
!  NAME         SETTING          VALUE TO "OR" INTO PATCH
! ------        -------          ------------------------
!
!    LI         /LI:SRC (/LI:1) 000001  LISTING OF SOURCE PROGRAM
!               /LI:MAP (/LI:2) 000002  LISTING OF STORAGE MAP
!               /LI:COD (/LI:4) 000004  LISTING OF GENERATED CODE
!               /LI:ALL (/LI:7) 000007
!               /-LI            000000
!
!    OP         /OP             000000  CROSS-STATEMENT OPTIMIZATION
!               /-OP            000020
!
!    SN         /SN             000000  STATEMENT TRACE ON ERRORS
!               /-SN            000200
!
!    EX         /EX             000400  ACCEPT 80 COLS. OF INPUT
!               /-EX            000000   (RATHER THAN 72 + SEQ FIELD)
!
!    SP         /SP             001000  SPOOL LISTING OUTPUT
!               /-SP            000000
!
!    I4         /I4             004000  ALLOCATE 2 WORDS TO INTEGER
!               /-I4            000000   VARS BY DEFAULT
!
!    DE         /DE             020000  COMPILE DEBUG LINES
!               /-DE            000000
!
!    VA         /VA             000000  VECTOR ARRAYS
!               /-VA            040000
!
!    WR         /WR             000000  PRINT WARNING DIAGNOSTICS
!               /-WR            100000
!
! THE VALUE CALCULATED FOR THE OPTIONS DESIRED MUST BE "OR"ED WITH
! 000040(8) TO YIELD THE VALUE FOR THE PATCH (I.E., THE 40(8) BIT
! MUST BE SET IN THE SSWDEF WORD).
!
! THE DEFAULT VALUE, 001043(8), IS THE EQUIVALENT OF:
!       /LI:3/OP/SN/-EX/SP/-I4/-DE/VA/WR
!
GBLPAT=FOR:SSWDEF:001043
/
```

A.2 RSX-11M SYSTEM - MAPPED

```
[1,54]FOR/-CP/MM,[1,34]FOR/-SP=[1,24]FORBLD/MP
;
; FORTRAN IV COMPILER TASK BUILD FILE
;
; FOR V01C-03, RSX-11M MAPPED SYSTEMS
;
;
; TASK NAME
;
TASK=...FOR
;
; BUILD FOR PARTITION GEN, WHICH MUST BE AT LEAST 8K
;
PAR=GEN
;
; SP STACK SIZE
; STACK MUST BE AT LEAST 150 WORDS
;
STACK=150
;
; COMPILER LOGICAL UNIT ASSIGNMENTS
;
;       1 = COMMAND INPUT
;       2 = COMMAND OUTPUT
;       3 = .OBJ OUTPUT
;       4 = .LST OUTPUT
;       5 = .FTN INPUT
;
UNITS=5
ASG=TI:1:2
;
; TASK SIZE FOR SYSTEM CONTROLLED PARTITIONS
;
; THE FOLLOWING EXTTSK SETS THE COMPILER DEFAULT SIZE TO 8K WORDS.
; IF A LARGER COMPILER IS REQUIRED, THE EXTTSK MAY BE INCREASED,
; OR THE COMPILER MAY BE INSTALLED WITH THE /INC SWITCH.
;
EXTTSK=1298
;
; THE FOLLOWING EXTSCT SETS THE GLOBAL SYMBOL "HIGH" (DEFINED IN
; PHASE F13) TO THE HIGHEST ADDRESS IN PHASES F1, F2, ..., F17.
; THIS VALUE WOULD REQUIRE CHANGE IF AND ONLY IF FCS CHANGES IN
; SIZE,  THE VALUE SUPPLIED IS VALID FOR BOTH RELEASED VERSIONS OF
; FCS (WITH OR WITHOUT ANSI SUPPORT).
;
EXTSCT=PAT013:374
;
; NUMBER OF LINES PER LISTING PAGE
;
; THE FOLLOWING GBLPAT CONTROLS THE NUMBER OF LINES PER LISTING PAGE.
; THE VALUE SPECIFIED FOR THE PATCH IS THE NUMBER OF LINES
; PER PAGE DESIRED, MINUS 1.
; DEFAULT VALUE IS 000070(8) = 56. = 57. LINES PER PAGE.
;
GBLPAT=FOR:SLNMAX:000070
;
; DEFAULT SWITCH SETTINGS
;
; THE GLBPAT WHICH FOLLOWS ALLOWS THE DEFAULT SWITCH SETTINGS FOR
; THE COMPILER TO BE SET.  THE VALUE SPECIFIED FOR THE PATCH IS
; THE LOGICAL OR OF THE INDIVIDUAL SWITCH SETTINGS DESIRED.
;
```

```
! SWITCH          SWITCH
!  NAME          SETTING          VALUE TO "OR" INTO PATCH
! ------         -------          ------------------------
!
!    LI          /LI:SRC (/LI:1)  000001  LISTING OF SOURCE PROGRAM
!                /LI:MAP (/LI:2)  000002  LISTING OF STORAGE MAP
!                /LI:COD (/LI:4)  000004  LISTING OF GENERATED CODE
!                /LI:ALL (/LI:7)  000007
!                /-LI             000000
!
!    OP          /OP              000000  CROSS-STATEMENT OPTIMIZATION
!                /-OP             000020
!
!    SN          /SN              000000  STATEMENT TRACE ON ERRORS
!                /-SN             000200
!
!    EX          /EX              000400  ACCEPT 80 COLS. OF INPUT
!                /-EX             000000   (RATHER THAN 72 + SEQ FIELD)
!
!    SP          /SP              001000  SPOOL LISTING OUTPUT
!                /-SP             000000
!
!    I4          /I4              004000  ALLOCATE 2 WORDS TO INTEGER
!                /-I4             000000   VARS BY DEFAULT
!
!    DE          /DE              020000  COMPILE DEBUG LINES
!                /-DE             000000
!
!    VA          /VA              000000  VECTOR ARRAYS
!                /-VA             040000
!
!    WR          /WR              000000  PRINT WARNING DIAGNOSTICS
!                /-WR             100000
!
! THE VALUE CALCULATED FOR THE OPTIONS DESIRED MUST BE "OR"ED WITH
! 000040(8) TO YIELD THE VALUE FOR THE PATCH (I.E., THE 40(8) BIT
! MUST BE SET IN THE $SWDEF WORD).
!
! THE DEFAULT VALUE, 001043(8), IS THE EQUIVALENT OF:
!       /LI:3/OP/SN/-EX/SP/-I4/-DE/VA/WR
!
GBLPAT=FOR:$SWDEF:001043
/
```

A.3 RSX-11D SYSTEM

```
[11,1]FOR/-CP,[111,41]FOR/-SP=[11,41]FORBLD/MP
!
! FORTRAN IV COMPILER TASK BUILD FILE
!
! FOR V01C-03, RSX-11D SYSTEMS
!
!
! TASK NAME
!
TASK=...FOR
!
! LINK TO SYSTEM RESIDENT LIBRARY
!
LIBR=SYSRES:RO
!
! BUILD FOR PARTITION GEN, WHICH MUST BE AT LEAST 8K
!
PAR=GEN
!
! SP STACK SIZE
! STACK MUST BE AT LEAST 150 WORDS
!
STACK=150
!
! COMPILER LOGICAL UNIT ASSIGNMENTS
!
!       1 - COMMAND INPUT
!       2 - COMMAND OUTPUT
!       3 - .OBJ OUTPUT
!       4 - .LST OUTPUT
!       5 - .FTN INPUT
!
UNITS=5
ASG=TI:1:2
!
! TASK SIZE FOR SYSTEM CONTROLLED PARTITIONS
!
! THE FOLLOWING EXTTSK SETS THE COMPILER DEFAULT SIZE TO 8K WORDS.
! IF A LARGER COMPILER IS REQUIRED, THE EXTTSK MAY BE INCREASED,
! OR THE COMPILER MAY BE INSTALLED WITH THE /INC SWITCH.
!
EXTTSK=4449
!
! NUMBER OF LINES PER LISTING PAGE
!
! THE FOLLOWING GBLPAT CONTROLS THE NUMBER OF LINES PER LISTING PAGE.
! THE VALUE SPECIFIED FOR THE PATCH IS THE NUMBER OF LINES
! PER PAGE DESIRED, MINUS 1.
! DEFAULT VALUE IS 000070(8) = 56. = 57. LINES PER PAGE.
!
GBLPAT=FOR:$LNMAX:000070
!
! DEFAULT SWITCH SETTINGS
!
! THE GLBPAT WHICH FOLLOWS ALLOWS THE DEFAULT SWITCH SETTINGS FOR
! THE COMPILER TO BE SET.  THE VALUE SPECIFIED FOR THE PATCH IS
! THE LOGICAL OR OF THE INDIVIDUAL SWITCH SETTINGS DESIRED.
!
```

```
! SWITCH        SWITCH
!  NAME         SETTING          VALUE TO "OR" INTO PATCH
! ------        -------          ------------------------
!
!   LI          /LI:SRC (/LI:1) 000001  LISTING OF SOURCE PROGRAM
!               /LI:MAP (/LI:2) 000002  LISTING OF STORAGE MAP
!               /LI:COD (/LI:4) 000004  LISTING OF GENERATED CODE
!               /LI:ALL (/LI:7) 000007
!               /-LI            000000
!
!   OP          /OP             000000  CROSS-STATEMENT OPTIMIZATION
!               /-OP            000020
!
!   SN          /SN             000000  STATEMENT TRACE ON ERRORS
!               /-SN            000200
!
!   EX          /EX             000400  ACCEPT 80 COLS. OF INPUT
!               /-EX            000000   (RATHER THAN 72 + SEQ FIELD)
!
!   SP          /SP             001000  SPOOL LISTING OUTPUT
!               /-SP            000000
!
!   I4          /I4             004000  ALLOCATE 2 WORDS TO INTEGER
!               /-I4            000000   VARS BY DEFAULT
!
!   DE          /DE             020000  COMPILE DEBUG LINES
!               /-DE            000000
!
!   VA          /VA             000000  VECTOR ARRAYS
!               /-VA            040000
!
!   WR          /WR             000000  PRINT WARNING DIAGNOSTICS
!               /-WR            100000
!
! THE VALUE CALCULATED FOR THE OPTIONS DESIRED MUST BE "OR"ED WITH
! 000040(8) TO YIELD THE VALUE FOR THE PATCH (I.E., THE 40(8) BIT
! MUST BE SET IN THE $SWDEF WORD).
!
! THE DEFAULT VALUE, 001043(8), IS THE EQUIVALENT OF:
!       /LI:3/OP/SN/-EX/SP/-I4/-DE/VA/WR
!
GBLPAT=FOR:$SWDEF:001043
/
```

A.4 IAS SYSTEM

```
LINK/OVE:[11,41]FORBLD/OPT/TASK:[11,1]FOR/MAP:[111,41]FOR/NOFLO
;
; FORTRAN IV COMPILER TASK BUILD FILE
;
; FOR V01C-03, IAS SYSTEMS
;
;
; TASK NAME
;
TASK=...FOR
;
; LINK TO SYSTEM RESIDENT LIBRARY
;
LIBR=SYSRES:RO
;
; BUILD FOR PARTITION GEN, WHICH MUST BE AT LEAST 8K
;
PAR=GEN
;
; SP STACK SIZE
; STACK MUST BE AT LEAST 150 WORDS
;
STACK=150
;
; COMPILER LOGICAL UNIT ASSIGNMENTS
;
;       1 - COMMAND INPUT
;       2 - COMMAND OUTPUT
;       3 - .OBJ OUTPUT
;       4 - .LST OUTPUT
;       5 - .FTN INPUT
;
UNITS=5
ASG=TI:1:2
;
; TASK SIZE FOR SYSTEM CONTROLLED PARTITIONS
;
; THE FOLLOWING EXTTSK SETS THE COMPILER DEFAULT SIZE TO 8K WORDS.
; IF A LARGER COMPILER IS REQUIRED, THE EXTTSK MAY BE INCREASED,
; OR THE COMPILER MAY BE INSTALLED WITH THE /EXTEND SWITCH.
;
EXTTSK=4449
;
; NUMBER OF LINES PER LISTING PAGE
;
; THE FOLLOWING GBLPAT CONTROLS THE NUMBER OF LINES PER LISTING PAGE.
; THE VALUE SPECIFIED FOR THE PATCH IS THE NUMBER OF LINES
; PER PAGE DESIRED, MINUS 1.
; DEFAULT VALUE IS 000070(8) = 56. = 57. LINES PER PAGE.
;
GBLPAT=FOR:$LNMAX:000070
;
; DEFAULT SWITCH SETTINGS
;
; THE GLBPAT WHICH FOLLOWS ALLOWS THE DEFAULT SWITCH SETTINGS FOR
; THE COMPILER TO BE SET.  THE VALUE SPECIFIED FOR THE PATCH IS
; THE LOGICAL OR OF THE INDIVIDUAL SWITCH SETTINGS DESIRED.
;
```

```
; SWITCH          SWITCH
;  NAME          SETTING          VALUE TO "OR" INTO PATCH
; ------         -------          ------------------------
;
;    LI          /LI:SRC (/LI:1) 000001  LISTING OF SOURCE PROGRAM
;                /LI:MAP (/LI:2) 000002  LISTING OF STORAGE MAP
;                /LI:COD (/LI:4) 000004  LISTING OF GENERATED CODE
;                /LI:ALL (/LI:7) 000007
;                /-LI            000000
;
;    OP          /OP             000000  CROSS-STATEMENT OPTIMIZATION
;                /-OP            000020
;
;    SN          /SN             000000  STATEMENT TRACE ON ERRORS
;                /-SN            000200
;
;    EX          /EX             000400  ACCEPT 80 COLS. OF INPUT
;                /-EX            000000   (RATHER THAN 72 + SEQ FIELD)
;
;    SP          /SP             001000  SPOOL LISTING OUTPUT
;                /-SP            000000
;
;    I4          /I4             004000  ALLOCATE 2 WORDS TO INTEGER
;                /-I4            000000   VARS BY DEFAULT
;
;    DE          /DE             020000  COMPILE DEBUG LINES
;                /-DE            000000
;
;    VA          /VA             000000  VECTOR ARRAYS
;                /-VA            040000
;
;    WR          /WR             000000  PRINT WARNING DIAGNOSTICS
;                /-WR            100000
;
; THE VALUE CALCULATED FOR THE OPTIONS DESIRED MUST BE "OR"ED WITH
; 000040(8) TO YIELD THE VALUE FOR THE PATCH (I.E., THE 40(8) BIT
; MUST BE SET IN THE $SWDEF WORD).
;
; THE DEFAULT VALUE, 001043(8), IS THE EQUIVALENT OF:
;       /LI:3/OP/SN/-EX/SP/-I4/-DE/VA/WR
;
GBLPAT=FOR:$SWDEF:001043
/
```

APPENDIX B

SAMPLE VERIFICATION PRINTOUT

This appendix contains a sample console printout of the verification procedures in Chapter 3. The test program supplied with each kit verifies the proper installation of the appropriate system. The execution of this program yields two floating-point exception conditions. The correct reporting of these conditions indicates proper installation.

B.1 RSX-11M SAMPLE VERIFICATION

```
>SET /UIC=[1,1]
>FOR FORTST=FORTST
>RUN $TKB
TKB>FORTST=FORTST,FOROTS/LB
TKB>//
>RUN FORTST
****** FORTRAN IV DEMONSTRATION TEST PROGRAM ******
A FLOATING DIVIDE-BY-ZERO EXCEPTION SHOULD NOW OCCUR.
TTO  --  ERROR 73
FLOATING ZERO DIVIDE
  IN    ".MAIN." AT 5

A FLOATING OVERFLOW ERROR SHOULD NOW BE REPORTED.
TTO  --  ERROR 72
FLOATING OVERFLOW
  IN    ".MAIN." AT 8

******  DEMONSTRATION TEST IS NOW COMPLETE.  ******
>
```

B.2 RSX-11D SAMPLE VERIFICATION

```
MCR>SET /UIC=[1,1]
MCR>FOR FORTST=FORTST
MCR>TKB FORTST=FORTST,FOROTS/LB
MCR>RUN FORTST$
****** FORTRAN IV DEMONSTRATION TEST PROGRAM ******
A FLOATING DIVIDE-BY-ZERO EXCEPTION SHOULD NOW OCCUR
FORTST  --  ERROR 73
FLOATING ZERO DIVIDE
  IN    ".MAIN." AT 5

A FLOATING OVERFLOW ERROR SHOULD NOW BE REPORTED.
FORTST  --  ERROR 72
FLOATING OVERFLOW
  IN    ".MAIN." AT 8

******  DEMONSTRATION TEST IS NOW COMPLETE.  ******
MCR>
```

B.3 IAS SAMPLE VERIFICATION

```
PDS> RUN FORTST
17:37:22
****** FORTRAN IV DEMONSTRATION TEST PROGRAM ******
A FLOATING DIVIDE-BY-ZERO EXCEPTION SHOULD NOW OCCUR.
JOB11  --  ERROR 73
FLOATING ZERO DIVIDE
  IN    ".MAIN." AT 5

A FLOATING OVERFLOW ERROR SHOULD NOW BE REPORTED.
JOB11  --  ERROR 72
FLOATING OVERFLOW
  IN    ".MAIN." AT 8

******  DEMONSTRATION TEST IS NOW COMPLETE.  ******
17:37:45 TASK TERMINATION
CORE SIZE 7K            CPU TIME 00.03

PDS> LOGO
USER SYSTEM   UIC [1,1]   TT01:   TASK 11    17:37:56  28-FEB-76
CONNECT TIME 11 M    SYSTEM UTILIZATION 123 MCTS


BYE
```

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