

Professional Tool Kit DIBOL Release Notes and Installation Guide

Order No. AA-P045C-TK

October 1983

Supersession: This is Version 1.6 and replaces Version 1.5

Operating System: VAX/VMS V3.2
RSX-11M V4.1
RSX-11M-Plus V2.1
P/OS V1.7

Software Version: Professional Developer's Tool Kit V1.7
PRO/Tool Kit V1.0
Professional Host Tool Kit DIBOL V1.6
PRO/Tool Kit DIBOL V1.6

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PREFACE

Professional Host Tool Kit DIBOL Version 1.6 and PRO/Tool Kit DIBOL Version 1.6 are major releases of the DIBOL product. They should be installed in place of Professional Tool Kit DIBOL Version 1.5.

NOTE

DIBOL product version numbers reflect a level of functionality, not a sequence of product versions. There is, for example, no Version 1.5 of PRO/Tool kit DIBOL; the first version is V1.6.

Section 1, the release notes, provides the following.

- A general introduction to Professional Tool Kit DIBOL.
- A list of related DIBOL and operating system documentation.
- A description of the differences between Professional Tool Kit DIBOL V1.5 and this product.

Section 2, the installation guide, describes the installation procedure for Professional Host tool KIT DIBOL and PRO/Tool Kit DIBOL.

SECTION 1

RELEASE NOTES

1.1 INTRODUCTION TO PROFESSIONAL TOOL KIT DIBOL

Professional Tool Kit DIBOL Version 1.6 is an enhanced version of DIBOL which runs on the PROFESSIONAL family of personal computers. It has been designed to be highly compatible with other versions of DIBOL-33. The Professional Operating System, upon which Professional Tool Kit DIBOL is layered, is derived from RSX-11M-PLUS. The user command interface on the Professional is menu based. All file I/O is through the RMS-11 Record Management system, which provides sequential and random access to sequential, relative, and indexed file organizations.

Many system service features have been included with the Professional Operating System to provide a user-friendly system interface. These are features such as menus, message facilities, form facilities, graphics, a callable editor, and a system sorting routine. DIBOL on the Professional allows access to most of these system facilities with external subroutine calls from within a DIBOL program or by chaining from one DIBOL program to another.

DIBOL functionality which has been available with other PDP-11 based DIBOLs which will not be available on Professional Tool Kit DIBOL include: DMS file structure support, DECFORM, and VT52 cursor positioning sequences.

DIBOL program development can take place either on the Professional itself or on a host system for subsequent execution on the Professional. DIBOL program development on the Professional uses Professional Host Tool kit DIBOL V1.6; development on a host system uses PRO/Tool Kit DIBOL V1.6.

If the Professional is used for program development, PRO/Tool kit DIBOL must be run on the Professional Operating System (P/OS) V1.7.

If a host system is used for program development, it must be either a PDP-11 computer or a VAX computer. The PDP-11 operating systems may be any of the following: RSX-11M V4.1 or later, RSX-11M-PLUS V2.1 or later. The VAX operating systems may be VAX/VMS V3.3 or later. All Professional DIBOL compiling and program linkage is accomplished on the host. The application programs so developed will then be transferred to the Professional, using an asynchronous terminal line connected to the host machine using file transfer software which is provided to run on both machines. Debugging and execution of DIBOL programs will be done on the Professional.

It will not be possible to execute DIBOL programs developed for the Professional on the host PDP-11 or VAX computer. An enhanced version of the DIBOL Debugging Technique (DDT) is available for debugging Professional DIBOL programs on the Professional computer. This version of DDT, which supports all of the features of previous versions of DDT will allow all DDT terminal input and output to be directed to a VT100 terminal which has been connected to the printer port of the Professional via a special cable. A VT100 terminal connected in this manner is supported for debugging purposes only. The Professional is a single-terminal system in all other respects. The Professional terminal appears, from a program, to be a VT102 terminal (very similar to a VT100).

The character set used by the Professional has been enhanced to use all eight bits of a character to allow a greatly expanded character set. The Professional terminal is capable of generating all of the printable characters in this character set, which includes the ASCII character set.

Run time support on the Professional is provided by shareable resident libraries, several of which may be clustered into the same address space, leaving more user address space for programs. All Professional DIBOL programs will cluster the DIBOL run-time system resident library (DBLRES), the system services library (POSRES, POSSUM), and the RMS resident library (RMSRES). Additional libraries may be clustered with these under certain situations.

It is important to note that Professional Host Tool Kit DIBOL V1.6 uses a new resident library called DBLRES. This library is used on the Professional 300 for run-time support as well as with the tool kit on the host for linking purposes. This new run-time library is not compatible with the run-time system which was part of Professional Tool Kit DIBOL V1.0 (called DBLPRO). The old library will be provided with this and future releases of Tool Kit DIBOL as part of P/OS to allow DIBOL programs which were built with V1.0 to continue to run. DBLPRO will not be provided as part of the Professional DIBOL tool kit. Therefore, all new programs will have to be built against DBLRES, the new library.

1.2 RELATED DOCUMENTATION

The following is a list of documentation related to DIBOL on the Professional.

Professional Installation Instructions

Professional Owner's Manual

Professional for Beginners: Hard Disk System

Professional User's Guide for Hard Disk System

Professional User's Guide for Diskette System

Professional Reference Card Diskette System
Professional System Reference Card
PRO/BASIC Language Manual
Professional Communications Manual
Documentation Guidelines
Tool Kit Documentation Directory
Tool Kit Installation Guide and Release Notes
Tool Kit User's Guide
CORE Graphics Library Manual
P/OS System Reference Manual
Terminal Subsystem Manual
IAS/RSX-11 ODT Supplement
IAS/RSX-11 ODT Reference Manual
Host Communications Installation Procedures
PRO/RMS-11: An Introduction
PRO/RMS-11 MACRO Programmers Guide
FMS-11/RSX-11 Software Reference Manual
FMS-11/RSX-11 Release Notes
PRO/FMS-11 Documentation Supplement
RSX-11M/M-PLUS Task Builder Manual
PDP-11 MACRO-11 Language Reference Manual
Introduction to DIBOL
Professional Tool Kit DIBOL User's Guide
Professional Tool Kit DIBOL Message Manual
DIBOL-83 Language Reference Manual
DIBOL-83 Compatability Guide

1.3 DIBOL ON THE PROFESSIONAL COMPARED TO OTHER SYSTEMS

DIBOL on the Professional has been designed to be as compatible as possible to allow straightforward program migration for existing DIBOL-83 programs. The principal differences, both in the language itself, and in the DIGITAL supplied external subroutine libraries, are a result of the RMS file system, which is very similar to RMS RSTS/E DIBOL (CTS-500), differences in the operating system, and support for VT-100 cursor positioning only. These differences and physical migration of DIBOL programs which were originally developed on other DIBOL systems are described in the DIBOL-83 Compatibility Guide.

Linking of Professional DIBOL program modules which have been compiled on the host is also accomplished on the host using the Professional Application Builder (PAB). PAB is derived from, and very similar to the Task Builder (TKB) which is used on RSX-11M and on some RSTS/E systems. It has special features which have been added to enhance the linking of programs for the Professional. Use of PAB is described in Chapter 4 of the Professional Tool Kit DIBOL User's Guide, the Professional Tool Kit User's Guide, and in the RSX-11M/M-PLUS Task Builder Manual.

1.4 GENERAL REMARKS ABOUT PROFESSIONAL HOST TOOL KIT DIBOL V1.6

1.4.1 Known Problems

1.4.1.1 - If the ISMCRE subroutine is used, but no other indexed file operations are contained in the task, the symbol \$D.IDX may be undefined when the application is built with PAB. This undefined symbol may be resolved by reversing the order of DBPLIB/LB and DBPOSL/LB in the .ODL file, or by including other IDX file operations in the program.

1.4.1.2 - The DIBOL STOP statement (STOP filespec) cannot transfer control to uninstalled tasks.

- If the STOP statement is used to transfer control to a task that is present on the disk but is not installed, that task is installed and control is then transferred to that task.

The task that executed the STOP statement (initiating transfer of control) will return a status indicating that execution is complete, even though the uninstalled task has been installed and may be still running. This could result, for example, in the display of a menu while the application is still running.

- If the STOP statement is used to transfer control to a task that is not present on the disk (uninstalled and not present), the system will hang and require rebooting.

1.4.1.3 - Moving a zero-valued decimal quantity to an alpha variable yields an incorrect value; the alpha variable contains a zero followed by a null character, rather than simply a zero. In addition, if this value is moved back into a decimal variable, a BAD DIGIT error results. - this error is corrected in P/OS update 1.8.

1.4.2 Informational Notes

- The Professional will accept either TT: or TI: as the designator for the Professional terminal.
- If an application uses OLDFIL or NEWFIL services (see Sections 8.4.4 and 8.4.5 in Chapter 8 of the Professional Tool Kit DIBOL User's Guide), the task build command file must contain the following option:

ASG = SY:n

where n is the value of the global symbol WC\$LUN.

1.4.3 Changes and New Features for Version 1.6

Version 1.6 has incorporated the changes and new features discussed in the following sections.

1.4.3.1 PRO/Tool Kit - DIBOL programs can be compiled and built directly on the Professional; host systems can still be used.

1.4.3.2 Version 1.5 Bugs Corrected - Certain program bugs in V1.5 have been corrected. These bugs were related to the use FMS, graphics, multiply, and DELETE.



2.1 THE DISTRIBUTION KIT

The Professional Tool Kit DIBOL software is distributed on one of the following media:

For VAX/VMS:

- one RX01 diskette
- one TU58 cartridge

For RSX-11M/M-PLUS:

- 800 BPI 9-track DOS Magnetic Tape
- 1600 BPI 9-track DOS Magnetic Tape
- RL02 Disk
- RK07 Disk

For P/OS PRO/Tool Kit

- One RX50 diskette

The distribution kit contains the following software:

File	Contents

Files to be installed on the Tool Kit (VAX, PRO/Tool Kit, RSX-11M, RSX-11M-PLUS):	
DBLDDT.OBJ	Object file which must be linked with DIBOL programs in order to use DDT for debugging the task.
DBLRES.TSK	A truncated DIBOL run-time resident library file required to build DIBOL tasks for the Professional.
DBPLIB.OLB	DIBOL Universal External Subroutine Library
DBPOSL.OLB	DIBOL Operating System Specific Library
DBLRES.STB	A DIBOL run-time library symbol table file required to build DIBOL tasks for the Professional.

DIB83P.EXE or DIB83P.TSK	PRO/DIBOL-83 Compiler
DIB83E.MSG	DIBOL-83 error message file
CGL.DBL	DIBOL source containing graphics symbolic definitions
ELEMENTED.DBL	Installation Verification - DIBOL source main program
ELEMENTED.INS	Installation verification - Installation command file
GEO.DBL	Installation Verification - DIBOL external subroutines
MAP.DBL	Installation Verification - DIBOL graphics program
ELEMENTED.CMD	Installation Verification - PAB command file
ELEMENTED.ODL	Installation Verification - Overlay Descriptor file
MAP.CMD	Installation Verification - PAB command file
MAP.ODL	Installation Verification - Overlay Descriptor file

PRO/Tool Kit DIBOL distribution media also contain the following files (Professional Host Tool Kit DIBOL distribution media do not).

ELEMENTED.MSG	Installation verification - message file
ELEMENTED.MNU	Installation verification - menu file
ELEMENTED.HLP	Installation verification - help file

2.2 INSTALLATION INSTRUCTIONS

2.2.1 Professional Tool Kit Installation

The files required on the Professional to run DIBOL are transferred to the Professional as part of the Professional operating system installation. This is described in the Professional 300 Series Installation Instructions (AZ-N626B-TH).

It is recommended that the DBLRES run-time library be installed in memory as part of each DIBOL application installation from the application's .INS file. In that case it will be removed when the application exits. It will be physically present on the Professional systems but should not be "installed" in memory until it is needed by an application.

2.2.2 VAX/VMS Tool Kit Installation

The Professional Host Tool Kit DIBOL Version 1.6 kit is distributed on either floppy diskettes (for the VAX-11/780 or VAX-11/782) or TU58 cartridges (for the VAX-11/750 or VAX-11/730 processors). The kit is installed using the VMSINSTAL command procedure for installing optional software products.

The Version 1.6 kit contains one distribution volume, comprising a VAX/VMS BACKUP sequential disk save set. The volume is physically labeled with a unique label that identifies the kit.

The approximate time required for installation is as follows.

VAX-11/780 or VAX-11/782	10 minutes
VAX-11/750	15 minutes
VAX-11/730	20 minutes

The approximate disk block utilization requirements for Professional Host Tool Kit DIBOL Version 1.6 are as follows.

Peak disk block utilization: (in safety mode)	600 blocks
Peak disk block utilization: (in non-safety mode)	500 blocks
Net disk block utilization: (if source files are not installed)	400 blocks

VMSINSTAL will operate in safety mode if sufficient free blocks are available, so that system failure during the installation leaves the system in a recoverable state. If a sufficient number of blocks are not available, VMSINSTAL will operate in an alternate mode that reduces peak utilization. If a system failure occurs in the alternate mode, however, files on the system disk may be corrupted.

2.2.2.1 VAX/VMS Installation Procedure - The steps for preparing for and invoking the VMSINSTAL command procedure are documented in the software installation guide for each system.

VAX-11/780 Software Installation Guide

VAX-11/750 Software Installation Guide

VAX-11/730 Software Installation Guide

You should read this documentation carefully before installing the Professional Host Tool Kit DIBOL kit, and follow the steps outlined for preparing to use VMSINSTAL. In particular you should ensure that all users are logged out, that all batch jobs are completed, and that users are prevented from gaining access to the system. If this is not done, the installation may fail.

Professional Host Tool Kit DIBOL Version 1.6 may be installed to a system root or system disk other than that of the running system. Follow the VMSINSTAL directions for doing so.

To initiate installation using VMSINSTAL, enter the following command at the DCL prompt:

```
@SYS$UPDATE:VMSINSTAL PRODBL ddcu:
```

where PRODBL is the name of the product being installed, and ddcu: represents the device specification of the drive (normally CSA1:) on which the distribution volume for the Professional Host Tool Kit DIBOL Version 1.6 kit is to be mounted. VMSINSTAL will prompt you for the parameters if you omit them from the command line.

At this point, if the conditions necessary to safely perform the installation are not met, you will receive a warning that explains the problem and a prompt asking if you wish to continue. It is strongly recommended that you correct the situation before reinvoking VMSINSTAL.

You will also be asked if you are satisfied with the backup of your system disk. If you are not satisfied, it is strongly recommended that you correct the situation before continuing.

Once the VMSINSTAL procedure is invoked, you will be requested to mount the first volume of the kit. VMSINSTAL uses the BACKUP utility to restore files from the volume.

A typical sequence of messages and requests would be as follows

_CSA1: allocated

Please mount the first volume of the set on CSA1:.

* Are you ready? YES

%MOUNT-I-MOUNTED, PRODBL016 mounted on _CSA1:

The following products will be installed:

PRODBL V1.6

Beginning installation of PRODBL V1.6 at 15:30

%VMSINSTAL-I-RESTORE, Restoring product saveset A...

Once the files have been copied from the distribution volume to the system disk, the Professional Host Tool kit DIBOL Version 1.6 installation is begun and the following message is printed:

Professional Host Tool Kit DIBOL Installation

Then the following questions are asked.

* Do you want to purge files replaced by this installation [YES]?

If you answer yes, previous versions of files created by this installation will be deleted.

* Do you want to run the IVP after the installation [YES]?

The Installation Verification Procedure (IVP) compiles and "task builds" two sample application and graphics programs; these programs are called installation verification programs. Following the installation, the files must be transferred to the Professional and run. The steps for this procedure are outlined in Section 2.3. Whether you request the IVP to be run (or not), the files are copied to a subdirectory of SYS\$EXAMPLES (SYS\$ROOT:[SYSHLP.EXAMPLES.PRODBL]) for later use.

The installation can continue without further operator interaction from this point. Before the IVP is run, any of the following informational messages may appear.

%CREATE-I-EXISTS, VMI\$ROOT:[SYSHLP.EXAMPLES.PRODBL] already exists

This message simply means that the destination directory for the IVP files already existed (probably as the result of a previous installation). The existing directory will be used.

%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.EXAMPLES.PRODBL]

This message means that a new directory for the IVP files has been created.

```
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...
```

This message indicates that the installation files have been built and are now about to be moved to their final destinations.

If you requested the IVP to be run, the results of its tests will be printed.

If any errors occur during the IVP, you should check the messages carefully to see whether they indicate a problem with your system, or a problem with the installation. If the problem appears to be a non-correctable software installation problem, please contact your local Digital representative.

After the successful completion of the installation, the following message will be displayed by VMSINSTAL:

```
Successful installation of PRODBL V1.6 at hh:mm
```

where hh:mm represents the current time.

VMSINSTAL will then ask if you want to install any other products by asking the following question:

```
Enter the products to be installed from the next distribution volume set.
```

```
* Products [EXIT]:
```

If you have no other products to install, answer EXIT (or just press RETURN).

The following message will be printed.

```
VMSINSTAL procedure done at hh:mm
```

where hh:mm represents the current time.

The installation is now complete.

Store the tool kit console medium and the Professional Host Tool Kit DIBOL media in a safe place.

2.2.2.2 Example VAX/VMS Installation Procedure

Username: SYSTEM

Password:

Welcome to VAX/VMS version 3.4

\$ SET DEF SYS\$UPDATE

\$ @VMSINSTAL PRODBL CSA1:

VAX/VMS Software Product Installation Procedure

It is 26-AUG-1983 at 15:32.

Enter a question mark (?) at any time for help.

* Are you satisfied with the backup of your system disk [YES]? YES
_CSA1: allocated

Please mount the first volume of the set on CSA1:.

* Are you ready? YES

%MOUNT-I-MOUNTED, PRODBL016 mounted on _CSA1:

The following products will be installed:

PRODBL V1.6

Beginning installation of PRODBL V1.6 at 15:33

%VMSINSTAL-I-RESTORE, Restoring product saveset A...

Professional Host Tool Kit DIBOL Installation
Field Test Version 1.6

* Do you want to purge files replaced by this installation [YES]? YES

* Do you want to run the IVP after the installation [YES]? YES

%VMSINSTAL-I-SYSDIR, This product creates system directory
[SYSHLP.EXAMPLES.PRODBL].

%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target
directories...

Compiling ELEMENTED.DBL

No errors detected

Compiling GEO.DBL

No errors detected

Compiling MAP.DBL

No errors detected

Task-building ELEMENTED with GEO

Task-building MAP

Successful installation of PRODBL V1.6 at 15:40

Enter the products to be installed from the next distribution volume
set.

* Products [EXIT]: EXIT

VMSINSTAL procedure done at 15:41

\$

2.2.3 RSX-11M or RSX-11M-PLUS Tool Kit Installation

The following files must be copied from the distribution media to the indicated accounts:

DBLDDT.OBJ	must be copied to LB:[1,5]
DBLRES.TSK	must be copied to LB:[1,5]
DBPLIB.OLB	must be copied to LB:[1,5]
DBPOSL.OLB	must be copied to LB:[1,5]
DBLRES.STB	must be copied to LB:[1,5]
DIB83E.MSG	must be copied to LB:[1,5]
DIB83P.TSK	must be copied to SY:[1,54] and should be installed with "INSTALL \$DIB83P/TSK=...DIB

The following files are used for the installation verification process:

CGL.DBL	must be copied to user's account
ELEMENTED.DBL	must be copied to user's account
ELEMENTED.INS	must be copied to user's account
GEO.DBL	must be copied to user's account
MAP.DBL	must be copied to user's account
MAP.CMD	must be copied to user's account
MAP.ODL	must be copied to user's account

2.2.3.1 RSX Systems Using Distribution on Disk

On RSX-11M or RSX-11M-PLUS systems with disk distribution media, the copy is accomplished as follows:

NOTE

In the following procedure, an RL02 disk is assumed.

1. Log into a privileged account other than LB:[1,1] on the system disk.

If you are using a DCL terminal, type the following:

```
>SET TERM MCR
```

2. Place the disk in an unused RL02 drive. DL1: is assumed in the example. Be sure the drive is write locked.

3. Allocate the drive:

```
>ALL DL1:
```

4. Mount the disk volume:

```
>MOU DL1:MTK15A
```

5. Copy the installation command file (TKIP.CMD) from the distribution volume to your default directory:

```
>PIP/NV=DL1:[1,5]TKIP.CMD
```

6. Initiate the command file to transfer the tool kit:

```
@TKIP
```

7. At this point, the tool kit installation procedure (TKIP) takes over and conducts a dialogue in which you are required to answer several questions.

8. When the installation is complete, dismount the distribution volume and deallocate the drive:

```
>DMO DL1:
```

```
>DEA DL1:
```

9. Unload and store the distribution media in a safe place.

10. Proceed to Section 2.3

2.2.3.2 RSX Systems Using Distribution on Magnetic Tape

On RSX-11M/M-PLUS systems using magtape distribution, the copy is accomplished as follows:

1. Log into a privileged account other than LB:[1,1] on the system disk.

If you are using a DCL terminal, type the following:

```
>SET TERM MCR
```

2. Place the tape in an unused drive. (MM0: is assumed in the example.) Be sure the plastic write-enable ring has been removed from the tape.

3. Allocate the magtape drive:

```
>ALL MM0:
```

4. Mount the distribution tape:

```
>MOU MM0:/FOR/DENS:800 (or /DENS:1600 if 1600 bpi)
```

5. Copy the Installation Command File (TKIP.CMD) from the distribution volume to your default directory. It is assumed that

FLX is installed as ...FLX:

If your tape is 800 BPI, type:

```
>FLX /RS=MM0:[1,5]TKIP.CMD/DO/DNS:800
```

If your tape is 1600 BPI, type:

```
>FLX /RS=MM0:[1,5]TKIP.CMD/DO/DNS:1600
```

6. Initiate the command file to transfer the tool kit:

```
>@TKIP
```

7. At this point, the tool kit installation procedure (TKIP) takes over and conducts a dialogue in which you are required to answer several questions. Some questions have default responses. To answer a default response, just press the <RETURN> key.

8. When the installation is complete, dismount the distribution volume and deallocate the drive:

```
>DMO MM0:
```

```
>DEA MM0:
```

9. Store the distribution media in a safe place.

10. Proceed to section 2.3.

2.2.4 PRO/tool Kit Installation

The PRO/Tool Kit is used to install PRO/Tool Kit DIBOL; it must be installed before PRO/Tool kit DIBOL is installed. The following procedure should be followed.

1. Select PRO/Tool Kit from the main menu.
2. After the START.CMD file (phase 2) is completed, begin installation of PRO/Tool Kit DIBOL.
3. Insert the PRO/Tool Kit DIBOL diskette in the top drive (DZ1:).
4. Enter @DZ1:[INSTALL]INSTALL in response to the DCL prompt.

In order for the DIBOL start up file to be activated, you should EXIT the PRO/Tool Kit, then select it again from the menu prior to building the Installation Verification Programs (IVP).

The DIBOL installation verification files have been copied to the directory [ELEMENTED] on your system disk.

2.3 INSTALLATION VERIFICATION PROCEDURE (IVP)

The Installation Verification Procedure (IVP) confirms the successful installation of the Professional DIBOL Tool Kit on a VAX/VMS or RSX-11M/M-PLUS host system.

The verification procedure assumes that the Tool Kit and Tool Kit DIBOL have been installed on the host, and that the Professional Communications Facility, the Fast Install program and the DIBOL OTS have been installed on the Professional.

The following installations and logical assignments are assumed to have been made:

On RSX-11M/M-PLUS

```
> INS $DIB83P/TASK=...DIB
> INS $PROTKB/TASK=...PAB
```

On VAX/VMS

```
$ DIB := MCR DIB83P
$ PAB := MCR PROTKB
```

On PRO/Tool Kit, these components are available through DCL, which is built into the kit.

Whenever the symbol \$> appears, it means the system prompt. The prompt on VAX/VMS is \$ and the prompt on RSX-11M/M-PLUS is >.

The IVP verifies the successful installation of the Tool Kit through the step-by-step development of a sample DIBOL application. The sample application is an Elementary Education Application (ElementEd). This application is supplied in a partly-developed state. It is used to exercise specific features of the Tool Kit.

The following application files are provided for use in the IVP:

For the application:

```
ELEMENTED.DBL  source code
ELEMENTED.CMD  PAB command file
ELEMENTED.ODL  PAB overlay descriptor file
GEO.DBL        source code
ELEMENTED.INS  installation file
```

For Graphics:

```
MAP.DBL        source code
MAP.CMD        PAB command file for the FPU library
MAP.ODL        PAB overlay descriptor file for FPU
```


The remaining files are supplied with the tool kit on an RX50 diskette. They are used for both the BASIC-PLUS-2 and the DIBOL installation verification process. They are:

ELEMENTED.MSG
ELEMENTED.MNU
ELEMENTED.HLP

There are six steps in the verification process:

- STEP 1 Compile application and graphics source code with the DIBOL compiler.
- STEP 2 Task build the application and graphics with PAB.
- STEP 3 Transfer the application files to the Professional with the Professional Communications Facility.
- STEP 4 Copy the user interface files onto P/OS.
- STEP 5 Install the application on P/OS.
- STEP 6 Run the application.

NOTE

Steps 3 and 4 are not required when program development is on the PRO/Tool Kit.

STEP 1 -- COMPILE APPLICATION AND GRAPHICS SOURCE CODE

The following procedure compiles the source code:

- A. On RSX, log into the same account used for the professional tool kit DIBOL installation.

On VAX, log into an account and set the default directory to SYS\$SYSROOT:[SYSHLP.EXAMPLES.PRODBL].

NOTE

If you are compiling on VAX and if you requested the IVP files as part of the VAX/VMS installation procedure, skip to STEP 3.

On PRO, set the default directory to [ELEMENTED]

- B. Compile the application using the Tool Kit DIBOL compiler.

```
$> DIB
* ELEMENTED/B
DIBOL BUILD>ELEMENTED,GEO
No errors detected
*^Z
$>
```

- C. Compile the application's subroutine using the DIBOL compiler.

```
$> DIB GEO
No errors detected
$>
```

- D. Compile the graphics source using the DIBOL compiler.

```
$> DIB MAP
No errors detected
$>
```

The following files are created by the above steps:

```
ELEMENTED.OBJ
ELEMENTED.ODL
ELEMENTED.CMD
GEO.OBJ
MAP.OBJ
```

STEP 2 --TASK BUILD THE APPLICATION AND GRAPHICS WITH PAB

NOTE

LB:[1,1] should not be used to run the Professional Application Builder (PAB).

The task builder commands require you to enter the names of the command files.

For VAX or RSX host systems:

```
$> PAB @MAP
$> PAB @ELEMENTED
```

For a PRO/tool kit:

```
$ LINK @MAP
$ LINK @ELEMENTED
```

The files produced are:

```
ELEMENTED.TSK
MAP.TSK
```

STEP 3 -- TRANSFER THE APPLICATION FILES TO THE PROFESSIONAL

NOTE

If you are running on the PRO/Tool Kit go to STEP 5.

The application files will be transferred to a special directory on the disk. Before you can transfer the files, you have to create the directory.

To create the new directory on the Professional disk:

1. Use the down arrow key to position the pointer at Disk Services on the P/OS Main Menu. Press <DO>.
2. The Disk/Diskette Services Menu will appear. Select Create Directory. Press <DO>.
3. A form will appear requesting the directory name. Type:

ElementEd

Press <DO>.

4. P/OS then creates the directory ElementEd. The Disk/Diskette Services menu reappears. Select Specify new current directory from the Disk/Diskette menu. Press <DO>.
5. A list of all available directories will appear. Select Elemented. Press <DO>.
6. Elemented is now your default directory. When the Disk/Diskette Services Menu reappears, press <MAIN SCREEN>. The P/OS Main Menu will be displayed.

Now the application files can be transferred:

1. Using instructions in the Professional Communications Manual for running File Transfer, transfer the following files to the Professional:
 - ELEMENTED.TSK
 - ELEMENTED.INS
 - MAP.TSK

STEP 4 -- COPY THE USER INTERFACE FILES TO THE PROFESSIONAL

The following user interface files for the sample application are provided on an RX50 diskette, supplied with the Tool Kit:

- Elemented.MSG
- Elemented.MNU
- Elemented.HLP

To copy the files from the diskette to the disk, follow these steps once for each of the three files.

1. Insert the diskette in a diskette drive slot.
2. From the P/OS Main Menu, select **File Services**. Press <DO>.
3. The **File Services** menu will appear. Select **Copy File** and press <DO>.
4. Press <ADDTNL OPTIONS>.
5. The **Additional Options** menu will appear. Select **Choose a different directory/volume** and press <DO>.
6. The **Directory Selection** menu will appear. Select the directory **ElementEd** from the volume **Toolkit** and press <DO>.
7. The **File Selection** menu will appear. Select the file **Elemented.MSG** from the list of files. Press <DO>.
8. The **Name a File Form** will appear. Press <ADDTNL OPTIONS>.
9. The **Additional Options** menu will reappear. Select **Choose a different directory/volume**. Press <DO>.
10. The **Directory Selection** menu will appear. Select the directory **ElementEd** from the volume **BIGVOLUME** and press <DO>.
11. When the **Name a File Form** displays, type the file name:

Elemented

Press <DO>.

12. When the file **Elemented.MSG** is copied to the disk directory **Elemented**, the **File Services** menu will reappear.

Repeat this procedure from step 3 for each of the other two user interface files, **Elemented.MNU** and **Elemented.HLP**.

STEP 5 -- INSTALL THE APPLICATION ON P/OS

To install the application on P/OS:

1. Select **Fast Install** from the P/OS menu on which it was installed. Press <DO>.
2. **Fast Install** prompts for the disk directory name in which the application resides. Enter:

ElementEd

Press <DO>.

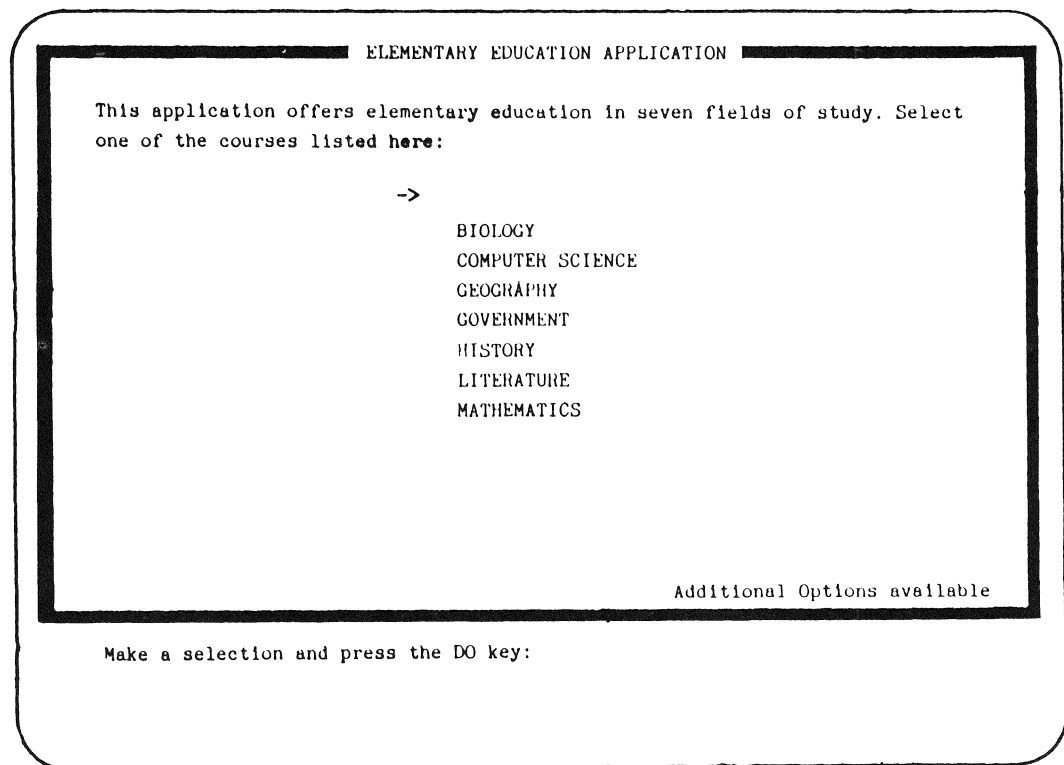
3. The **Application Group Menu** is displayed. Position the pointer at **A Group** and press <DO>.
4. A form appears displaying the name of the application, **ELEMENTED**. Press <DO>.
5. The application is installed in **A Group** and the **Disk/Diskette** menu reappears. Press <MAIN SCREEN>. The main Menu will reappear.

STEP 6 -- RUN THE APPLICATION ON THE PROFESSIONAL

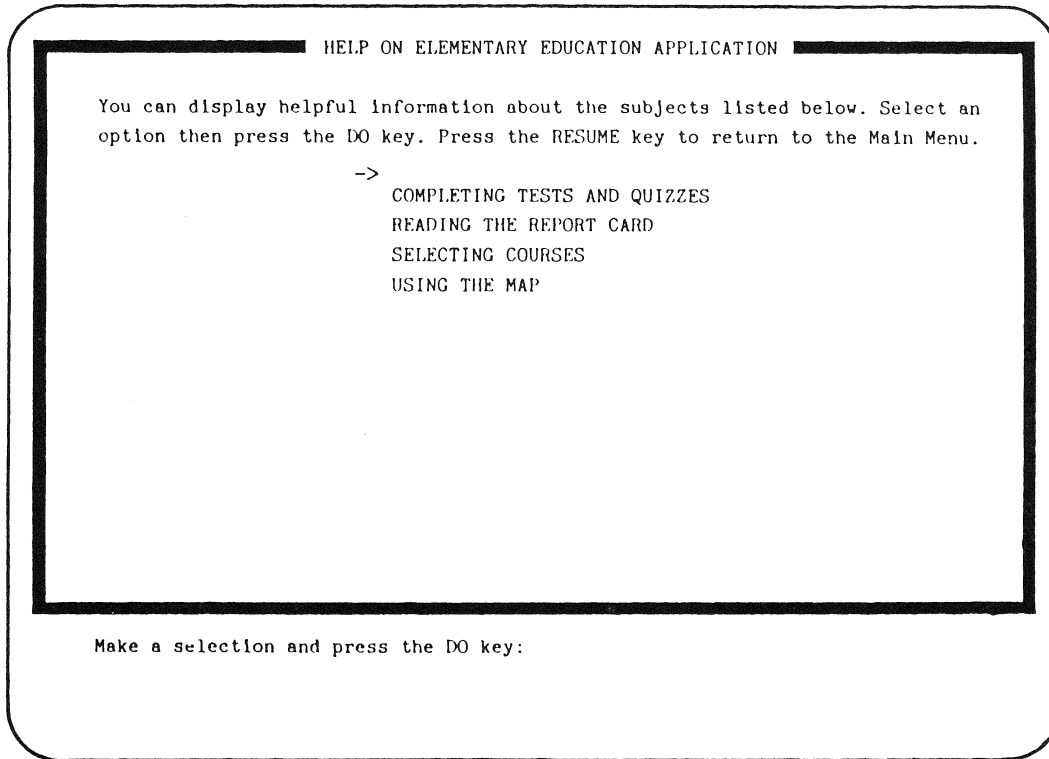
Follow these steps to run the application:

1. Position the pointer at **Additional applications** on the Main Menu.

Press DO.
2. Select **A Group** from the Application Group Menu.
3. Select **ELEMENTED** on the A Group menu.
4. The application starts. The first menu displayed is titled **Elementary Education Application**.

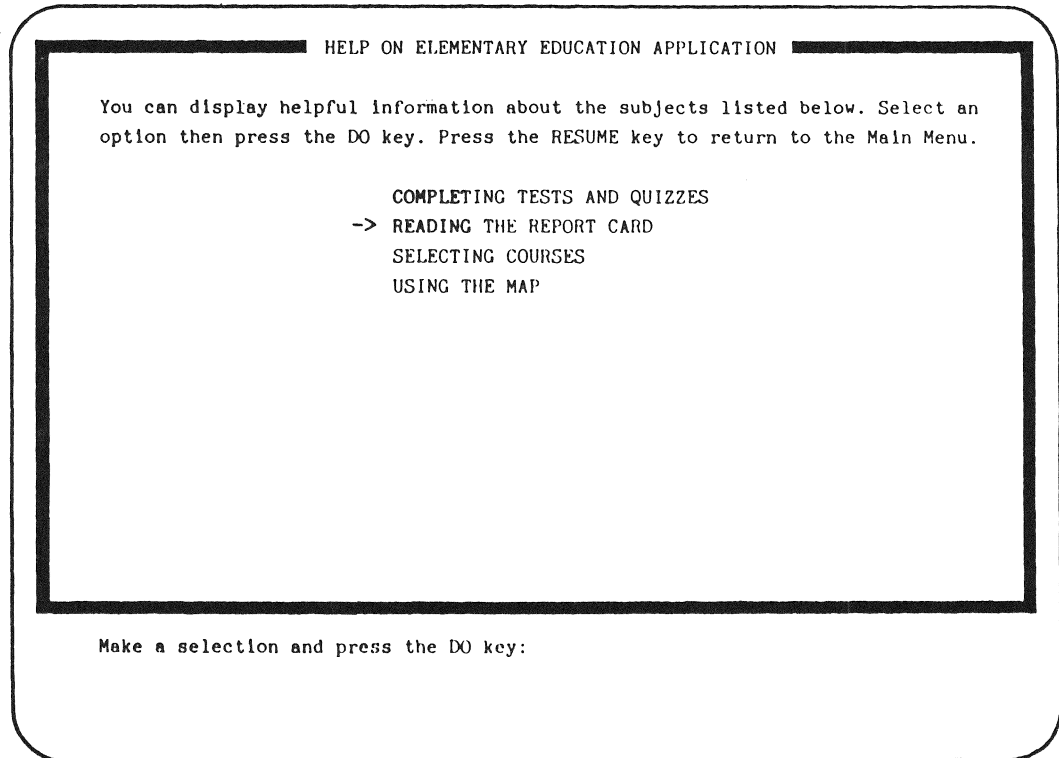


5. Press HELP. A menu titled Help on Elementary Education Application is displayed.

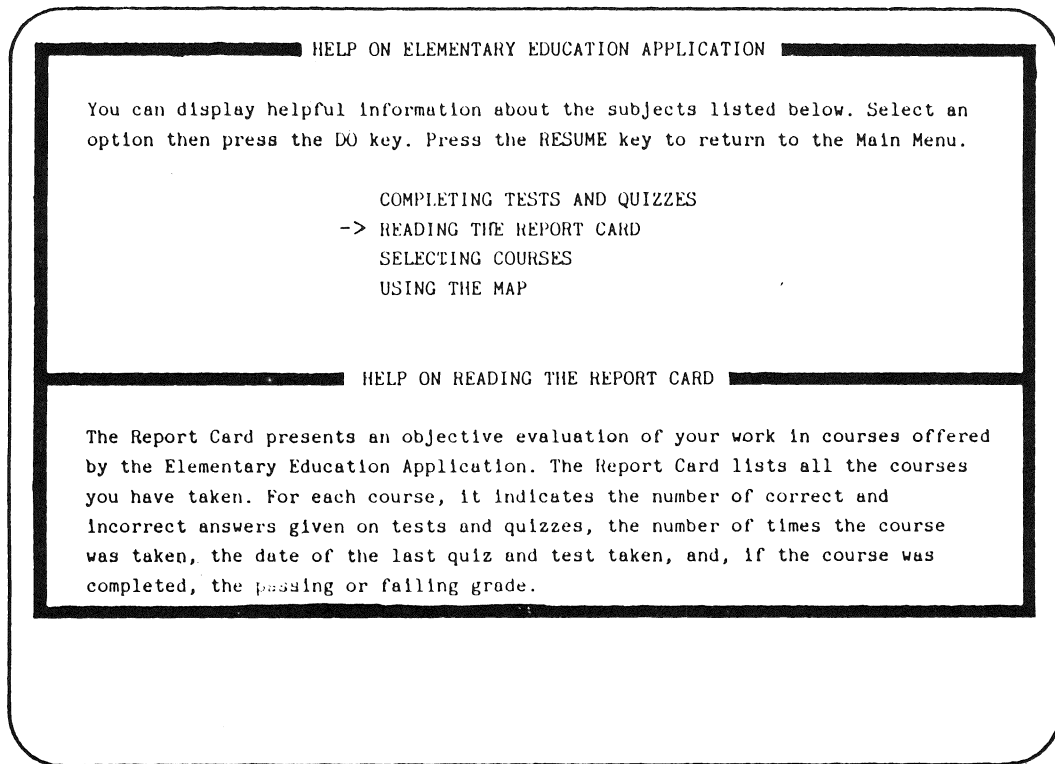


6. Position the pointer with the down arrow key to Reading the Report Card.

Press DO.



7. A help text frame titled Help on Reading the Report Card is displayed.



8. Press RESUME. The first menu, titled Elementary Education Application, is displayed.

ELEMENTARY EDUCATION APPLICATION

This application offers elementary education in seven fields of study. Select one of the courses listed here:

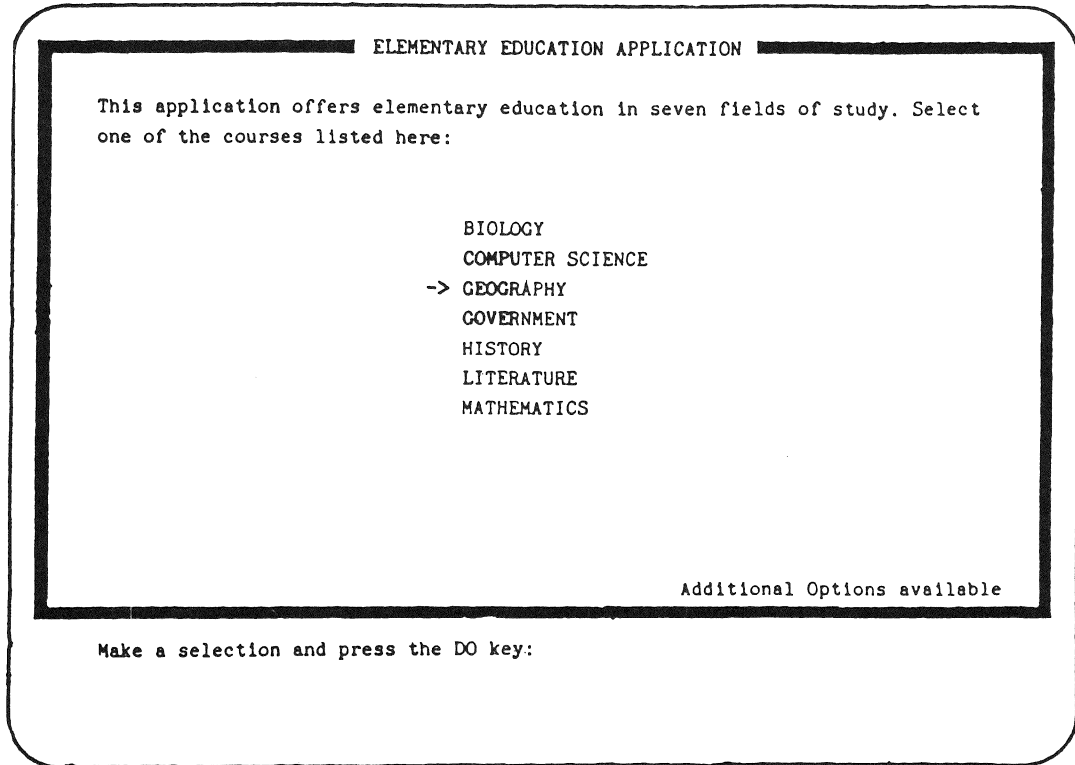
->

- BIOLOGY
- COMPUTER SCIENCE
- GEOGRAPHY
- GOVERNMENT
- HISTORY
- LITERATURE
- MATHEMATICS

Additional Options available

Make a selection and press the DO key:

9. Position the pointer with the down arrow key to Geography.
Press DO.



10. A multiple-choice menu titled **Course: Geography of North America** is displayed.

COURSE: GEOGRAPHY OF NORTH AMERICA

This course covers rivers, lakes, and mountains. The first topic is mountains. The mountains listed below are located in different parts of the world. Select all the mountains located in North America:

->

- MT. RUSHMORE
- MT. WASHINGTON
- MT. HOOD
- GRAND TETON
- MT. RAINIER
- MT. FUJI
- KILIMANJARO
- MT. ST. HELENS
- MT. MCKINLEY

Choose one or more options with the SELECT key and press the DO key:

Select 9 items
(0 chosen)

11. Position the pointer on the first item, Mt. Rushmore, and then press SELECT. Move the pointer to the next item, Mt. Washington, and mark the selection by pressing SELECT. In this manner, choose all the items selected in the following figure. (This exercise purposely includes wrong answers.)

After making the selections, you should have pointers in front of the items Mt. Rushmore, Mt. Washington, Mt. Hood, Grand Teton, Mt. Rainier, Kilimanjaro, Mt. St. Helens, and Mt. McKinley. Make sure you have pointers only in front of these selections. If you mistakenly select an item that is not in this group, position the cursor on it again, and press SELECT. By using SELECT to choose it again, you unmark the choice.

COURSE: GEOGRAPHY OF NORTH AMERICA

This course covers rivers, lakes, and mountains. The first topic is mountains. The mountains listed below are located in different parts of the world. Select all the mountains located in North America:

- > MT. RUSHMORE
- > MT. WASHINGTON
- > MT. HOOD
- > GRAND TETON
- > MT. RAINIER
- MT. FUJI
- > KILIMANJARO
- > MT. ST. HELENS
- >-> MT. MCKINLEY

Choose one or more options with the SELECT key and press the DO key:

Select 9 items
(8 chosen)

12. Press DO. A message frame is displayed at the bottom of the screen. The message indicates that a wrong answer was given to the question.

COURSE: GEOGRAPHY OF NORTH AMERICA

This course covers rivers, lakes, and mountains. The first topic is mountains. The mountains listed below are located in different parts of the world. Select all the mountains located in North America:

- > MT. RUSHMORE
- > MT. WASHINGTON
- > MT. HOOD
- > GRAND TETON
- > MT. RAINIER
- MT. FUJI
- > KILIMANJARO
- > MT. ST. HELENS
- >-> MT. MCKINLEY

Choose one or more options with the SELECT key and press the DO key:
Kilimanjaro is not in North America. It is in Tanzania, Africa.
At 19,340 feet, it is the highest point in Africa.

13. The multiple-choice menu is redisplayed with no items selected. Use the down arrow and SELECT to choose all the items selected in the following figure. After making the selection, you should have pointers in front of the items Mt. Rushmore, Mt. Washington, Mt. Hood, Grand Teton, Mt. Rainier, Mt. St. Helens, and Mt. McKinley. Press DO. A message indicating you have supplied the correct answer is displayed.

COURSE: GEOGRAPHY OF NORTH AMERICA

This course covers rivers, lakes, and mountains. The first topic is mountains. The mountains listed below are located in different parts of the world. Select all the mountains located in North America:

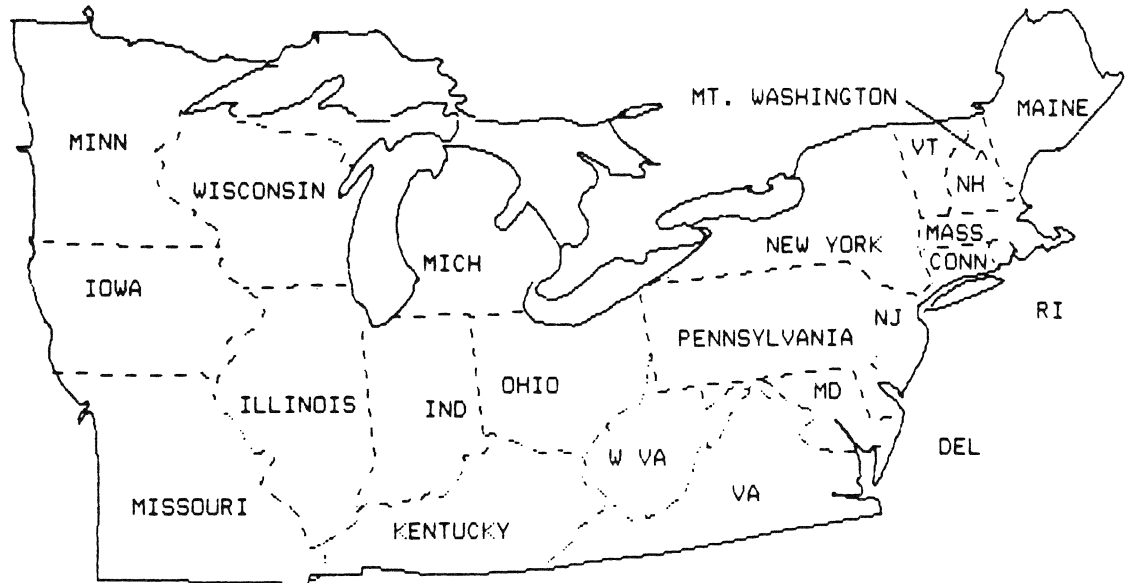
- > MT. RUSHMORE
- > MT. WASHINGTON
- > MT. HOOD
- > GRAND TETON
- > MT. RAINIER
- MT. FUJI
- KILIMANJARO
- > MT. ST. HELENS
- >-> MT. MCKINLEY

Choose one or more options with the SELECT key and press the DO key:

Correct! You pass the course.

14. After a few seconds, the graphics will appear on your screen.

This completes the Installation Verification Process. The Tool Kit has been successfully installed on your host system.





READER'S COMMENTS

NOTE: This form is for document comments only. DIGITAL will use comments submitted on this form at the company's discretion. Problems with software should be reported on a Software Performance Report (SPR) form. If you require a written reply and are eligible to receive one under SPR service, submit your comments on an SPR form.

Did you find errors in this manual? If so, specify by page.

Did you find this manual understandable, usable, and well-organized? Please make suggestions for improvement.

Is there sufficient documentation on associated system programs required for use of the software described in this manual? If not, what material is missing and where should it be placed?

Please indicate the type of user/reader that you most nearly represent.

- Assembly language programmer
- Higher-level language programmer
- Occasional programmer (experienced)
- User with little programming experience
- Student programmer
- Non-programmer interested in computer concepts and capabilities

Name _____ Date _____

Organization _____

Street _____

City _____ State _____ Zip Code _____

or
Country

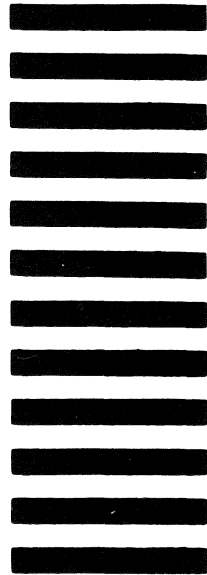
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