VAX DECalc
Installation and System Manager's Guide

Order Number: AA-X737D-TE

Software Version: DECalc Version 3.1

Operating System: VAX/VMS Version 5.0 and above

Digital Equipment Corporation

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Preface

This document describes how to install VAX DECalc on the VAX/VMS operating system. It is intended for system managers.

Keep this document with your distribution kit. You will need to refer to it again should you receive any maintenance updates or need to reinstall VAX DECalc for any other reason.

The installation procedure is described step by step. The dialog is interactive. The system prompts you to answer questions and change volumes, and waits for you to tell it to continue.

This document does not contain release notes information; release notes are provided on-line. You can display and/or print the release notes from within the installation procedure.

To read the release notes after installation, type or print the file SYS$HELP:CALC031.RELEASE_NOTES.

1 Preinstallation

This chapter describes how to prepare for the installation of VAX DECalc V3.1 software on your VAX/VMS system.

1.1 The Distribution Kit

DECalc V3.1 can be supplied on two different media types:

- MAG tape (16MT9)
- TK50

The installation procedure will prompt you to mount the volumes. To mount the distribution medium, see the *Guide to VAX/VMS Software Installation* for your system. This guide also details several options to the installation procedure. Be sure to read it.

Each distribution kit includes all files necessary to install and execute DECalc V3.1. Release notes regarding the DECalc installation and operation are available on-line and can be displayed and printed from within the installation procedure.

The CALC kit contains two savesets: CALC031.A and CALC031.B

1.2 Prerequisite Software

To run DECalc V3.1 you must have VMS V5.0 or later on your system.

1.3 Optional Software

DECalc provides users with the ability to execute VAX DECgraph from within a spreadsheet session. DECalc V3.1 supports VAX DECgraph V1.5 or later. See the section entitled "DECalc DECgraph Interface."

DECalc provides users with the ability to execute VAX DATATRIEVE from within a spreadsheet session. DECalc V3.1 supports VAX DATATRIEVE V4.2 or later. See the section entitled "DECalc Interactive DATATRIEVE Interface."

1.4 Installation Procedure Requirements

Before you can install DECalc, you must have the following:

- A DECalc distribution kit
- Access to a privileged system manager's account
- A minimum of 4,000 free blocks during installation; a minimum of 4,000 free blocks after installation
- A minimum of 900 unused global pages and a minimum of 5 global sections
- A proper license installed and loaded

1.4.1 Checking the System Parameters

Before you install DECalc you must compare the required number of global pages and sections with the values on your system. The installation procedure does not check these system parameters; if a parameter does not meet the minimum value, the results are unpredictable. Refer to the *VAX/VMS System Manager's Reference Manual* for information on modifying GBLPAGES and/or GBLSECTIONS values.

To determine the number of global pages and sections on your system, do the following:

1 Invoke the INSTALL utility by entering:

```
$ INSTALL := = $INSTALL/COMMAND_MODE
$ INSTALL
```

2 Determine the number of available global pages.

```
INSTALL> LIST/GLOBAL/SUMMARY
```

This command determines whether there are enough available global pages to install DECalc. It displays a list of all currently known global sections. At the end of the list, there is a summary of the number of global sections used, the number of global pages used, and the number of global pages unused.

DECalc requires approximately 900 global pages. If there are fewer than 900 unused pages, you can delete an existing known image (with the INSTALL utility) or increase the GBLPAGES system parameter with the SYSTEM GENERATION utility by using AUTOGEN.COM. For more information on using AUTOGEN, refer to the *VAX/VMS System Manager's Reference Manual*.

NOTE

Note the number of global sections used.

3 Exit from the INSTALL utility.

```
INSTALL> EXIT
```

4 Determine the number of available global sections by using the SYSGEN utility. Enter the following:

```
$ RUN SYS$SYSTEM:SYSGEN
SYSGEN> USE CURRENT
SYSGEN> SHOW GBLSECTIONS
```

These commands determine whether there are enough available global sections to install DECalc. The first number displayed is the maximum number of global sections. Compare this number to the number of global sections in use displayed by the INSTALL utility.

DECalc requires five global sections. Therefore, if the amount displayed plus five exceeds the system maximum, you must increase the number of available global sections before you can install DECalc.

To increase the amount, you must increase the GBLSECTIONS parameter with the SYSTEM GENERATION utility by using AUTOGEN.COM. For more information on AUTOGEN, refer to the *VAX/VMS System Manager's Reference Guide*.

If the amount displayed plus five is less than the system maximum, you can install DECalc.

1.4.2 Special Requirements

DECalc operation requires permanent disk space in the following directories:

- SYS$SYSTEM
- SYS$SHARE
- SYS$HELP
- SYS$MANAGER
- SYS$TEST
- SYS$SYSROOT:[SYSTEST.CALC031]
- SYS$SYSROOT:[CALC$UTILITY]

Table 1–1 shows the files in the directories. Note that SYS$SYSROOT:[CALC$UTILITY] can be redefined.

Table 1–1 Directories and Files for DECalc Installation

Directory	File
CALC$UTILITY	BAR.GRG CALC$CONVERT_BATCH.COM CALC$CONVERT_COM.COM CALC$CONVERT_COM.DOC CALC$CONVERT_GET_DEFAULTS.COM CALC$CONVERT_GET_DIRECTORIES.COM CALC$CONVERT_GET_FILE_SPEC.COM CALC$CONVERT_GRID.DOC CALC$CONVERT_GRIDS.COM CALC$CONVERT_GRIDS.EXE CALC$CONVERT_IF_THEN_ELSE.COM CALC$CONVERT_INTERACTIVE.COM CALC$CONVERT_LABEL.COM CALC$CONVERT_PROCESS_COMMAND.COM CALC$DTRSHR.COM CALC$DTRSHR.OPT DIVISION_PROJ.CALC$GRD HUGHES.CALC$GRD LINE.GRG MARTIN.CALC$GRD PIE.GRG Q1SALESPROJ1.CALC$GRD Q1SALESPROJ2.CALC$GRD SMITH.CALC$GRD TYLER.CALC$GRD
SYS$HELP	CALC031.RELEASE_NOTES CALC.HLB
SYS$MANAGER	CALC$SET_PASSWORD.EXE CALC$START.COM
SYS$SHARE	CALC$SHARE.EXE
SYS$SYSTEM	CALC$MAIN.EXE
SYS$TEST	CALC$IVP.COM
[SYSTEST.CALC031]	CALC$IVP.CALC$COM

Use the following command to determine if you have enough free disk blocks on your system disk (or target disk system) to install DECalc:

```
$ SHOW DEVICE SYS$SYSDEVICE
```

You need at least 4,000 free blocks before attempting this installation.

2 Installation

2.1 Installing DECalc

This section contains the steps you follow to install DECalc. You will have to log in to the system manager's account, and make a backup of the system disk, checking all parameters. It is recommended that you install DECalc in stand-alone mode. You will have to make sure that all users have logged out of the system, and that all batch jobs are complete. Then, you will shut down the DECnet network and invoke VMSINSTAL to install DECalc.

The installation procedure prompts you to enter information. Most queries require a simple YES or NO answer. Respond with Y or N, as appropriate, or press Return to choose the default.

Enhancements to VMSINSTAL in future releases of VMS may result in additional prompts appearing during the course of the installation. Although such prompts may not be documented in this installation guide, the installation will proceed normally.

The DECalc installation procedure takes between 2 and 30 minutes to complete depending on your particular VAX configuration.

2.2 Installation Procedure

1. Log in to the system manager's account. Set the default directory to SYS$UPDATE by entering:

   ```
   $ SET DEFAULT SYS$UPDATE
   ```

2. Make a backup of the system disk, and check the system parameters.

3. Start the installation by entering:

   ```
   $ @VMSINSTAL CALC031 [device] options N
   ```

   [device] is the name of the device on which you will mount the DECalc distribution media. The installation procedure displays information similar to the following:

```
     VAX/VMS Software Product Installation Procedure V5.0

It is 22-APR-1990 at 08:08.

Are you satisfied with the backup of your system disk [YES]?
```

If you have not made a backup of your system disk, enter N and Return. You will exit from the installation procedure.

If you have backed up your system disk, enter Y or just press Return to continue the installation procedure.

VMSINSTAL checks to see if DECnet is running and if users are logged in to the system. If any of these conditions exist, a warning message is displayed. You can stop the installation procedure by pressing Return when prompted to continue the installation procedure.

4 Mount the first installation kit volume when the system displays a message similar to the following:

```
Please mount the first volume of the set on [device]
Are you ready?
```

5 After mounting the first volume, enter Y and press Return to continue the installation procedure. The system displays the following messages:

```
%MOUNT-I-MOUNTED, CALC mounted on [device]:

The following products will be processed:

        CALC V3.1

             Beginning installation of CALC V3.1 at 08:10

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

Release Note Options:

     1. Display release notes
     2. Print release notes
     3. Both 1 and 2
     4. None of the above

* Select option [2]:
```

6 Select a release notes option. If you select option 1, VMSINSTAL displays the release notes immediately on your terminal. If you select option 2 or 3, VMSINSTAL prompts you for a queue name with the following prompt:

```
* Queue name  [SYS$PRINT]:
```

If you select option 4, VMSINSTAL will not display or print the release notes.

Enter a queue name or press Return to indicate the default output print device SYS$PRINT.

VMSINSTAL asks if you want to continue with the installation by displaying the following prompt:

```
Do you want to continue the installation [NO]? :
```

7 Enter N or press Return to stop the installation. Enter Y to continue.

a. VMSINSTAL checks asks if your license is loaded.

```
Product:       DECALC
Producer:      DEC
Version:       3.1
Release Date:  18-JUN-1990

* Does this peoduct have an authorization key registered and loaded?
```

If your license is not loaded, VMSINSTAL tells you and then gives you the option of continuing with the installation. You can continue with the installation, but will not be able to use DECalc:

```
You do not have the DECalc license currently installed on your
system.  You may continue with this installation, or you may
stop to load the license at this time.  If you do continue,
you will not be able to use the DECalc product until the
license is loaded.

* Do you wish to continue with the DECalc installation? [N]? YES
```

b. You also can choose to quit the installation so you can load the DECalc license:

```
You do not have the DECalc license currently installed on your
system.  You may continue with this installation, or you may
stop to load the license at this time.  If you do continue,
you will not be able to use the DECalc product until the
license is loaded.

* Do you wish to continue with the DECalc installation? [N]?

        You have chosen to quit this installation.  To install the
DECalc license, use the procedure:

         SYS$UPDATE:VMSLICENSE.COM

%VMSINSTAL-E-INSFAIL, The installation of CALC V3.1 has failed.

       VMSINSTAL procedure done at 11:11
```

8 If your license is loaded and you enter Y to continue the installation, VMSINSTAL searches for DECgraph on the system.

a. If DECgraph Version 1.5 or later is installed on the system, VMSINSTAL displays the following messages:

```
%CALC-I-GRAPHFOUND, DECgraph V1.5 has been located on this system.
%CALC-I-HASGRAPH, CALC V3.1 will be installed with the callable
DECgraph option.
```

b. If a version of DECgraph earlier than 1.5 (for example, Version 1.4) is installed on the system, VMSINSTAL displays the following messages:

```
%CALC-I-GRAPHFOUND, DECgraph V1.4 has been located on this system.
%CALC-I-WRONGGRAPH, CALC V3.1 requires DECgraph V1.5 or later.
CALC V3.1 will not have the callable DECgraph option.
```

c. If DECgraph is not installed on the system, VMSINSTAL continues the installation without displaying any messages.

9 VMSINSTAL then displays the following information:

```
*******************************************************
*                   VAX DECalc V3.1                   *
*                                                     *
* Integrated Electronic Spreadsheet Package           *
*                                                     *
*                                                     *
*                                                     *
*               Installation Procedure                *
*                                                     *
* Copyright 1990 , Digital Equipment Corporation      *
*                                                     *
*******************************************************

    During this installation, new files will be provided to
    replace existing versions.  You may purge these older
    versions to save disk space, or keep them if you feel
    they may be of use.  Purging is recommended.
```

10 VMSINSTAL asks if you want to purge the files the current installation replaces:

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

Press Return or enter Y to purge the old version of DECalc from your system. Enter N to keep the old version of DECalc.

11 The next prompt asks you where you would like to place CALC V3.1 files. The recommended location for this directory is SYS$SYSROOT:[CALC$UTILITY].

If you do not have enough space on your system disk, you can specify another location. To specify a location other than the default, enter a valid VMS directory specification in the form: device:[directory].

If the directory that you specify does not exist, it will be created by this installation. The system logical CALC$UTILITY will be equated to the directory that you specify.

If the directory CALC$UTILITY currently exists on your system, the following message is displayed:

```
Type ? for help
The directory CALC$UTILITY currently exists on your system.
* Would you like to place the CALC V3.1 utility files there [YES]?
```

If you enter Y, the installation procedure places the files in CALC$UTILITY. If you enter N, you will see the following prompt:

```
Where would you like to place the CALC V3.1 utility files
[SYS$SYSROOT:[CALC$UTILITY]]:
```

Enter the device and directory that you want to use. If the specified device does not exist on the system, the prompt is repeated. Specify the desired device and directory.

```
%VMSINSTAL-I-SYSDIR, This product creates system disk directory
[SYS$COMMON:[CALC$UTILITY].
%VMSINSTAL-I-SYSDIR, This product creates system directory
[SYSTEST.CALC031]

    If you intend to execute this layered product on the other nodes
    in your VAXcluster, and you have the appropriate software license,
    you must prepare the system-specific roots on the other nodes by
    issuing the following command on each node (using a suitable
    privileged account):

       $ CREATE /DIRECTORY SYS$SPECIFIC:[SYSTEST.CALC031]
```

12 The installation procedure displays the following message:

```
*****************************************************
IMPORTANT NOTE:  The CALC V3.1 startup command procedure
                 CALC$START.COM has been written to
                 SYS$STARTUP.  Be sure to modify your
                 system startup command procedure to
                 execute this command procedure.
*****************************************************
```

This important note informs you that you must modify the system startup file to run the command procedure.

13 The installation procedure now gives you the choice of running the Installation Verification Procedure (IVP). The IVP guarantees that the installation was successful. The IVP takes from 2 to 20 minutes to complete, depending on your configuration.

However, you cannot run the IVP if your DECalc license is not loaded. If it is *not* loaded, the installation procedure displays the following message:

```
      You do not have a license installed on your system.  Without it
the Installation Verification procedure will fail.  If you would like to
run the IVP by hand, exit, install the license, and then type:

                        @CALC$UTILITY:CALC$IVP.COM
```

If your license *is* loaded, the installation procedure displays the following prompt:

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

14 To run the Installation Verification Procedure, press Return.

```
You have answered all the questions necessary to install
CALC V3.1.  This installation will continue from 2 to 30
minutes depending on your particular configuration...
```

15 The installation procedure copies files from the distribution kit and performs the installation. It displays the following message:

```
%VMSINSTAL-I-RESTORE, Restoring product saveset B...
```

When complete, the installation procedure displays the following message:

```
The VAX DECalc V3.1 Installation Verification completed successfully.

   Installation of CALC V3.1 completed at 08:20

   VMSINSTAL procedure done at 08:20
```

If the installation did not pass the verification procedures, you will see a failure message.

16 If you are installing DECalc from the console drive, you must dismount DECalc media and remount your console media.

The DECalc installation is complete.

2.3 Installation Error Messages

This section describes an error message that can occur during installation.

Operating System Failure

If the power goes off during the installation procedure or the operating system fails for any other reason, you must restart the system and the installation procedure.

The following errors can occur during the installation procedure:

%CALC-E-BADVMS, CALC V3.1 requires VMS version V5.0 or later to install

Facility: VAX DECalc
Severity: Error
Explanation: Your VAX system must be running VMS V5.0 or later to install VAX DECalc V3.1. The installation procedure detected that an earlier version of VMS is running on your system. Upgrade to VMS V5.0 and then repeat the VAX DECalc V3.1 installation.

%CALC-E-NOSPACE, There is insufficient disk space to continue the installation. CALC V3.1 requires 4,000 free blocks to install.

Facility: VAX DECalc
Severity: Error
Explanation: The system disk on your system must have at least 4,000 free blocks in order to install VAX DECalc V3.1. The installation procedure found fewer than 4,000 blocks and terminated. Make sure that at least 4,000 blocks are available on your system disk and repeat the VAX DECalc V3.1 installation.

%CALC-I-DEVNOTSPEC, No device was specified, please re-specify.

Facility: VAX DECalc
Severity: Information
Explanation: When prompted for a directory specification, no device was specified. The installation procedure will reprompt for the directory specification. Be sure to include a valid device.

%CALC-I-NODEVICE, The specified device does not exist on this system, please re-specify.

Facility: VAX DECalc

Severity: Information
Explanation: When prompted for a directory specification, a device was specified that does not currently exist on your system. The installation procedure will reprompt for the directory specification. Be sure to include a valid device.

%CALC-I-DIRNOTSPEC, No directory was specified, please re-specify.

Facility: VAX DECalc
Severity: Information
Explanation: When prompted for a directory specification, no directory was specified. The installation procedure will reprompt for the directory specification. Be sure to include a valid directory.

3 Password UTILITY

3.1 Overview

DECalc Version 3.1 provides a utility program to allow system managers to override passwords. Passwords are not retrieved with the utility; they can only be changed or removed. The utility, CALC$SET_PASSWORD, can only be executed from a privileged account.

If a password is changed or removed, DECalc displays an informational message when the grid is restored. The message will be displayed every time the grid is restored until it is saved again.

3.2 Running CALC$SET_PASSWORD

The CALC$SET_PASSWORD.EXE file is found in the SYS$MANAGER directory. To use CALC$SET_PASSWORD, log in to the SYSTEM account and type RUN SYS$MANAGER:CALC$SET_PASSWORD.

With CALC$SET_PASSWORD, you change or remove a password from a specific grid. You can change more than one grid in a given session of CALC$SET_PASSWORD. CALC$SET_PASSWORD prompts you for the grid name and the new password (NONE is the default, indicating that there is no password).

Type ? at any time to see more information about a prompt. Press CTRL/Z after you change or remove a password to exit the program and save the changes. PRESS CTRL/C or CTRL/Y to quit the program without modifying the grid password. The sample session below shows all the prompts.

CALC$SET_PASSWORD displays error and warning messages if you enter an incorrect response to a prompt.

3.3 Sample Session

This session removes the password from the grid:

```
SYS$USERDISK:[JONES.DECALC_GRIDS]MORTGAGE.CALC$GRD
```

First log in to the SYSTEM account and start the program.

```
$ RUN SYS$MANAGER:CALC$SET_PASSWORD
```
Return

The utility displays the following messages:

```
*** CALC$SET_PASSWORD -- DECalc/DECalc-PLUS V3.1  ***
Type ? at any time for help, or CTRL/Z to quit.
Grid file [.CALC$GRD]:
```

Enter the grid file specification. There is no default for this prompt; you must enter a file specification. As defaults CALC$SET_PASSWORD uses: .CALC$GRID as the default file extension, the most recent version of a file, and the current directory as the default directory. You can also use any of the DECalc logicals defined for directories (for example, CALC$PRIVATE or CALC$COMMON).

Press CTRL/Z at this point to quit without making any changes. CALC$SET_PASSWORD verifies that the grid file exists before proceeding. You will see an error message if the file specification is incorrect.

In this sample session, the following grid name is entered:

```
Grid file [.CALC$GRD]:SYS$USERDISK:[JONES.DECALC_GRIDS]
    MORTGAGE.  <RETURN>
```

Next, CALC$SET_PASSWORD prompts for the new password for the grid.

```
Password [NONE]:
```

Enter the new password, or press Return to choose no password (NONE, the default). Choosing NONE in effect removes the password. CALC$SET_PASSWORD prompts for verification.

The password can be 1 to 16 alphanumeric characters. Passwords consist of any characters that are valid in VMS passwords (numbers, letters and the special characters $ and _). In this sample session the password is to be removed from the grid, so the system manager enters the following:

```
Password [NONE]: <RETURN>
Verification: <RETURN>
```

Now CALC$SET_PASSWORD displays the following informational message:

```
SYS$USERDISK:[JONES.DECALC_GRIDS]MORTGAGE.CALC$GRD;3
     password REMOVED on 16:58:46.14
```

If the system manager had changed the password instead of removing it, this would be reflected in the informational message shown above. Now CALC$SET_PASSWORD prompts for the name of the next grid to modify. In this session the system manager exits the program with CTRL/Z, saving the changes:

```
Grid file [.CALC$GRD]: <CTRL/Z>
```

The utility displays the following message:

```
Exiting ...
```

If the system manager exits the program before entering a new password, the grid is not changed and the exit message reflects this.

When the grid is restored the user will see the following message:

```
WARNING -- Grid password REMOVED on 16:58:46.14
```

3.4 Error messages

CALC$SET_PASSWORD displays warning and informational messages informing you of errors. If you receive a warning message, you must respond to the prompt again.

If the utility is run from any account besides SYSTEM, the following message will appear, and then the utility will exit:

```
CALC-F-BADACCT, CALC$SET_PASSWORD must be run from the SYSTEM account.
```

3.5 Warning Messages

CALC-W-BADFILE, Error accessing <FILENAME> <error reason>

```
There is an error in the grid name, or the grid does not exist.
The reason given will vary with the particular error.  The
reason will be an RMS error message such as "File not found",
"Directory not found", or "Error in directory name".   Enter
another file name.
```

CALC-W-PWSDINV, Password contains invalid characters. Re-enter password.

```
The password entered contains illegal characters.  Enter the
password again, using only alphanumeric characters.
```

CALC-W-PSWDLONG, Password too long (16 character limit). Re-enter password.

```
The password entered was too long (contained more than 16
characters).  Enter another password having no more than 16
alphanumeric characters.
```

3.6 Informational Messages

CALC-I-PSWDCHNG, <grid name> password CHANGED to <PASSWORD> on <date time>

```
The password on the grid has been changed.  The new password is
shown in the message.
```

CALC-I-PSWDGONE, <grid name> password REMOVED on <date time>

```
The password on the grid has been removed.
```

CALC-I-PSWDSAME, Grid password not changed. Exiting ...

```
The utility program was exited before the password was changed.
The grid has not been modified.
```

4 DECalc Logical Names

The following logical names are automatically defined when the system startup command procedure is executed.

- CALC$UTILITY—is equated during installation to the specification for the directory containing DECalc-related files.
- CALC$GRAPH_PRESENT—is given the value TRUE if VAX DECgraph V1.5 (or later) is located on your system during installation, otherwise it is given the value FALSE. DECalc translates this logical name to determine if DECgraph can be called from within DECalc. See the section entitled "DECalc DECgraph Interface."

The following additional DECalc logical names may be used to define default directories for DECalc files:

- CALC$PRIVATE—equates to the user's private grid directory. DECalc reads and writes grid files from the user's private directory if a directory is not explicitly specified when executing the STORAGE command. If CALC$PRIVATE is not defined, DECalc creates the subdirectory [.DECALC_GRIDS] from the user's default login directory and reads and writes private directory grid files to it.
- CALC$COMMON—equates to the user's default common grid directory. Common directories are grid file directories that are typically shared by at least two users. The user can change the default common directory by executing the New option of the STORAGE command.
- CALC$FORMS—equates to the default directory in which DECalc reads and writes form files. If CALC$FORMS is not defined, the user's current directory is used.
- CALC$MAX_VERSIONS governs the version limit for files in the Private Directory. DECalc only uses CALC$MAX_VERSIONS when it creates a user's grid subdirectory [sys$login.DECALC_GRIDS]. When you use CALC$MAX_VERSIONS, DECalc sets the specified version limit on the newly created subdirectory and VMS uses the version limit to maintain the grid files. When you save a grid that exceeds the version limit, VMS deletes the oldest version of the file.

If you have not yet converted from Version 2.x to 3.1, you can set the version limit before you convert to Version 3.1. Then, when you are running Version 3.1, whenever you save a file that exceeds the version limit, VMS deletes the oldest version.

To set the version limit to delete the oldest versions, do the following:

1 Define a process logical or a system logical.

To define the process logical, enter:

```
$ DEFINE CALC$MAX_VERSIONS n
```

To define the system logical, enter:

```
$ DEFINE/SYSTEM/EXECUTIVE CALC$MAX_VERSIONS n
```

2 Enter DECalc and then exit from DECalc.

DECalc creates a new grid subdirectory and sets the version limit for the directory as it is created.

3 Run the conversion utility.

DECalc converts the grids and stores them in the subdirectory it created with a version limit of CALC$MAX_VERSIONS.

DECalc only checks for the version limit when it creates a user grid subdirectory. Therefore, if you set CALC$MAX_VERSIONS *after* you converted from Version 2.x to 3.1, a file might exist that has more versions than the limit specified in CALC$MAX_VERSIONS.

You can use the following commands to delete the oldest version and to set the subdirectory and its files to the correct version limit:

```
$ SET DIRECTORY/VERSION LIMIT=n directory-spec
$ SET FILE/VERSION_LIMIT=n directory-spec*.*;*
```

Now, whenever a file exceeds the version limit you set, VMS will delete the oldest version.

For example, suppose Versions 1 through 4 of MORTGAGE.CALC$GRD already exist in your [SMITH.FINANCES] subdirectory. You want to keep the version limit at 4. To do that, type the following commands:

```
$ SET DIRECTORY/VERSION LIMIT=4 [SMITH.FINANCES]
$ SET FILE/VERSION_LIMIT=4 [SMITH.FINANCES]*.*;*
```

Now, the next time you save MORTGAGE.CALC$GRD, VMS will delete MORTGAGE.CALC$GRD;1 and DECalc will save the grid as MORTGAGE.CALC$GRD;5.

5 Running the Installation Verification Procedure

The DECalc Installation Verification Procedure (IVP) may be executed from a privileged or nonprivileged account any time after DECalc has been installed on your system.

To execute the IVP, enter the following:

```
$ @CALC$UTILITY:CALC$IVP
```

The following message displays:

```
************************************************************
                  VAX DECalc V3.1
     Integrated Electronic Spreadsheet Package

         Installation Verification Procedure

     Copyright 1990, Digital Equipment Corporation
************************************************************

Please wait for the Installation Verification Procedure to
complete.  The IVP takes from 2 to 20 minutes to complete
depending on your configuration.
```

If the IVP completes successfully, the following message displays:

```
The VAX DECalc V3.1 Installation Verification completed successfully.
```

If the IVP fails, a message indicating the reason for failure displays. See the section entitled "Installation Error Messages" for an explanation of the message.

6 DECalc Interactive DATATRIEVE Interface

If you have VAX DATATRIEVE V4.2 or later on your system, you can execute DATATRIEVE interactively from within DECalc using the Database Interactive option of the EXTERNAL command (\XDI).

To support the interactive DATATRIEVE option on your system, execute the following command procedure from the system account after DECalc has been installed on your system:

```
CALC$UTILITY:CALC$DTRSHR.COM
```

CALC$DTRSHR.COM generates the shareable image CALC$DTRSHR.EXE which DECalc calls to execute the Database Interactive option of the EXTERNAL command.

To support the interactive DATATRIEVE option on your system, perform the following steps:

1. Log in to the system account.
2. Enter

   ```
   @CALC$UTILITY:CALC$DTRSHR
   ```

   The command procedure displays the following message:

   ```
   This command procedure creates the shareable image
   CALC$DTRSHR.EXE which is needed to use the DECalc V3.1
   interactive DATATRIEVE option.
   ```

3. The command procedure determines whether DATATRIEVE has been installed on your system. The command procedure displays the name of the DATATRIEVE image. If your system has more than one version of DATATRIEVE installed, the names of each of the located images will be displayed. The command procedure displays the following:

   ```
   The following DTR shareable images have been located on your system:
   DTRSHR
   Which DTR shareable image would you like to link with [DTRSHR]:
   ```

   Enter the names of the DATATRIEVE image that you want to execute from within DECalc or press Return to select the default.

4 Next, choose where you want the image to be written. The command procedure displays the following:

```
Where would you like CALC$DTRSHR.EXE to be written [SYS$SHARE]:
```

It is recommended that the image be written to the default location, SYS$SHARE. If you choose to write the image elsewhere, define the logical CALC$DTRSHR to point to the image file. If you write the image to SYS$SHARE, no logical definition is necessary.

7 DECalc DECgraph Interface

VAX DECgraph can be called from within a DECalc session to graphically display spreadsheet data. DECgraph is called via the Graph option of the EXTERNAL command (\XG).

Your system must be running VAX DECgraph V1.5 (or later). DECalc determines if an appropriate version of DECgraph resides on your system by translating the logical CALC$GRAPH_PRESENT. If DECgraph V1.5 (or later) is on your system when DECalc is installed, CALC$GRAPH_PRESENT is defined TRUE in SYS$MANAGER:CALC$START.COM. Otherwise CALC$GRAPH_PRESENT is defined FALSE.

If DECgraph V1.5 (or later) is installed after DECalc has been installed, you do not need to reinstall DECalc. You can edit the file SYS$MANAGER:CALC$START.COM and change the definition of CALC$GRAPH_PRESENT from FALSE to TRUE. After reexecuting the DECalc startup procedure, you can access DECgraph from within DECalc.