DIGITAL GKS

Installing DIGITAL GKS for OpenVMS VAX Systems

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This document contains instructions for installing DIGITAL GKS™ (formerly DEC GKS™) Version 6.5 on an OpenVMS™ VAX™ system. It also explains how to read the online release notes before or after installing this product.

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Preface

This document describes how to install DIGITAL GKS Version 6.5 on the OpenVMS VAX operating system. For a summary of the significant changes to the installation procedure, you should read the *Read Before Installing or Using DIGITAL GKS for OpenVMS VAX Systems* letter.

Keep this document with your distribution kit. You will need it to install maintenance updates or to reinstall DIGITAL GKS for any other reason.

If you have any comments about this document, please send electronic mail to the "requests@bgsdev.enet.dec.com" account. Your comments will be considered for the next revision of the installation guide.

Intended Audience

This manual is for system managers installing DIGITAL GKS for OpenVMS VAX.

Structure of this Document

This manual is organized as follows:

- Chapter 1 describes the preparations and requirements for installing DIGITAL GKS.
- Chapter 2 provides the step-by-step instructions for the installation.
- Chapter 3 describes the operations you perform after installation.
- Appendix A lists the files installed with DIGITAL GKS.
- Appendix B contains sample logs from development kit and run-time-only kit installations.

Manuals in the DIGITAL GKS Documentation Set

In addition to this guide, the printed DIGITAL GKS documentation set includes the following manuals:

- *DEC GKS User's Guide*
- *DEC GKS GKS$ Binding Reference Manual*
- *DEC GKS GKS3D$ Binding Reference Manual*
- *DEC GKS C Binding Reference Manual*
- *DEC GKS FORTRAN Binding Reference Manual*
- *Device Specifics Reference Manual for DEC GKS and DEC PHIGS*

Related Manuals

For information on OpenVMS system management, see the following manuals:

- *OpenVMS System Manager's Manual*
- *Guide to Maintaining a VMS System*
- *OpenVMS License Management Utility Manual*
- *Guide to OpenVMS Performance Management*

Conventions Used in This Manual

The following conventions are used in this guide:

UPPERCASE TEXT	Uppercase letters indicate the name of a command, file, parameter, procedure, or utility.
bold	Boldface text is used in interactive examples to indicate typed user input.
$	The dollar sign is used to indicate the DCL prompt. This prompt may be different on your system.
`system output`	This typeface is used in interactive and code examples to indicate system output. In text, this typeface is used to indicate the exact name of a command, option, partition, path name, directory, or file.
[logical-name]	Square brackets indicate that the enclosed item is optional. (Square brackets are not, however, optional in the syntax of a directory name in a file specification or in the syntax of a substring specification in an assignment statement.)
Ctrl/X	In procedures, a sequence such as Ctrl/X indicates that you must hold down the key labeled Ctrl while you press another key or a pointing device button.
Return	In procedures, a key name is shown enclosed to indicate that you press a key on the keyboard.
. . .	Vertical ellipsis in an example means that information has been omitted.
VMS™ OpenVMS	The terms VMS and OpenVMS refer to the same operating system.
DIGITAL GKS	References to DIGITAL GKS refers to the DIGITAL GKS (formerly DEC GKS) product.

1
Preparing for DIGITAL GKS Installation

This chapter describes the preparations and requirements for installing DIGITAL GKS Version 6.5. This chapter will help you determine the following:

- Whether the system on which you will install DIGITAL GKS has the prerequisite software installed
- How to read the online release notes
- If installing DIGITAL GKS from media, whether your distribution kit includes all the components listed on the Bill of Materials (BOM)
- How to register a software license
- The privileges required to perform the installation
- How much disk space you will need
- Whether the global pages and sections parameters are defined properly
- Whether the user account quotas are defined correctly
- How to back up your system disk

1.1 Prerequisite Software

The software requirements for DIGITAL GKS Version 6.5 are:

- OpenVMS VAX operating system Version 5.5-2 or higher
- DEC C/DEC C++ Run-time Library Components Version 6.0 for OpenVMS VAX

Additional software requirements are:

For workstations running VWS:

OpenVMS VAX Workstation Software Version 4.4

For workstations running OpenVMS VAX DECwindows:

DECwindows is packaged with the operating system; therefore, no additional DECwindows software components are necessary.

For workstations running OpenVMS VAX DECwindows Motif:

DECwindows Motif Version 1.1 or higher for OpenVMS VAX

DIGITAL GKS also requires the following OpenVMS VAX classes for full functionality:

- OpenVMS VAX required save set
- Network support—where full DECwindows network functionality is necessary

- Programming support—required by the DIGITAL GKS development kit
- OpenVMS VAX workstation support—if you are using DIGITAL GKS on a workstation

For the development of application programs that use DIGITAL GKS under OpenVMS VAX, one of the DIGITAL GKS supported languages is also required.

1.2 Online Release Notes

DIGITAL GKS provides online release notes. DIGITAL strongly recommends that you read the release notes before using DIGITAL GKS, because they may contain information about product changes.

During installation, you can access release notes in the installation procedure when you invoke VMSINSTAL with the OPTIONS N parameter. This option lets you read or print the release notes before installing DIGITAL GKS.

After installation, you can obtain the DIGITAL GKS release notes for the development or run-time-only kit by printing the following files:

- SYS$HELP:DECGKS065.RELEASE_NOTES (ASCII format)
- SYS$HELP:DECGKS065_RELEASE_NOTES.PS (PostScript® format)

1.3 Media Distribution Kit

Your bill of materials (BOM) and indented bills report (BIL) specify the number and contents of your media. Be sure to check the contents of your kit against this information. If your kit is damaged or if you find that parts of it are missing, contact your DIGITAL representative. For more information on how to mount distribution media, see your processor-specific installation/operations guide, which also details several options for the installation procedure.

1.4 License Registration

Before you install and run DIGITAL GKS Version 6.5 on a newly licensed node or cluster, you must first register a License Product Authorization Key (License PAK) using the License Management Facility (LMF). The PAK is a paper certificate that contains information about the license that enables you to use the software. The License PAK is shipped with the kit if you ordered the license and media together; otherwise, the PAK is shipped separately to the location specified on your license order.

If you are installing DIGITAL GKS as an update on a node or cluster already licensed for this software, you have already completed the License PAK registration requirements. If you are installing prerequisite or optional software along with DIGITAL GKS, review the PAK status and install the PAKs for this prerequisite or optional software before you install DIGITAL GKS.

To register a license under the OpenVMS VAX operating system, first log in to the system manager's account, SYSTEM. You can then register the license in one of two ways:

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with the data from your License PAK.
- Enter the LICENSE REGISTER command with the qualifiers corresponding to the License PAK information.

If you plan to use DIGITAL GKS on more than one node in a VAXcluster™ configuration, you will need to perform a license load on the other nodes after you complete this installation. See Section 3.1 for details.

For complete information on using LMF, see the *OpenVMS License Management Utility Manual*.

1.5 Installation Procedure Requirements

The following sections describe the various requirements for installing DIGITAL GKS. The installation takes approximately 5 to 30 minutes, depending on your system configuration.

1.5.1 Privileges

To install DIGITAL GKS, you must be logged in to an account that has the SETPRV privilege, or at least the following privileges:

- CMKRNL
- WORLD
- SYSPRV

When you invoke VMSINSTAL to begin the installation procedure, VMSINSTAL turns off the BYPASS privilege.

After installation, each user account must have at least the TMPMBX and NETMBX privileges to use DIGITAL GKS. Use the OpenVMS Authorize Utility to determine whether users have the privileges they require.

1.5.2 Disk Space

The DIGITAL GKS requirements for free disk storage space are different during installation and after installation. Table 1–1 summarizes these requirements.

Table 1–1 Disk Space Requirements

Kit	Blocks During Installation	Blocks After Installation
DIGITAL GKS Development Kit	49,000	48,000
DIGITAL GKS Development Kit with Japanese save set	54,000	53,000
DIGITAL GKS Run-Time-Only Kit	28,000	27,000
DIGITAL GKS Run-Time-Only Kit with Japanese save set	32,000	31,000

To determine the number of free blocks on the current system disk, enter the following command at the DCL prompt:

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

Caution

You must ensure that your system has the necessary global page and global section SYSGEN quotas for the installation. Otherwise, the DCL tables may become corrupted in certain situations.

1.5.3 Global Pages and Global Sections System Parameters

The installation of DIGITAL GKS requires minimum values for the system parameters that define the global pages and global sections. These values are shown in Table 1–2. Depending on the kinds of programs and applications running at your site, you may need to define larger values.

Table 1–2 Required System Parameter Values

System Parameter	Minimum Value
GBLPAGES[1]	n + 4000
GBLSECTIONS[1]	n + 30

[1]The n variable refers to the system parameter values that are currently in use. To install DIGITAL GKS, you must increase those values by the number indicated. (See Section 1.5.3.3 and Section 1.5.3.4.)
These dynamic system parameters must be set permanently to values equal to or greater than the values listed. Do not decrease these values after the installation.

The following sections describe how to:

- Determine the number of global pages and global sections available
- Determine the global pages and global sections used
- Modify the global pages parameter
- Modify the global sections parameter
- Recalculate the global pages and global sections parameters to take the new values into account

1.5.3.1 Determining the Global Pages and Global Sections Available

You can determine the available global pages and global sections using the WRITE command with the F$GETSYI lexical function. The following example shows how to display this information on your terminal (the default for SYS$OUTPUT):

```
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLPAGES") Return
15848
$ WRITE SYS$OUTPUT F$GETSYI("FREE_GBLSECTS") Return
24
```

If the values displayed by the system are greater than the values in Table 1–2, you do not need to increase the values for these parameters. If the values of free global pages or global sections are less than the values in Table 1–2, you must increase the parameter values, as described in the following sections.

You can also determine the number of global sections available using the following procedure:

1. Invoke the SYSGEN Utility:

   ```
   $ RUN SYS$SYSTEM:SYSGEN Return
   SYSGEN> USE CURRENT Return
   ```

2. Determine the number of global sections available:

   ```
   SYSGEN> SHOW GBLSECTIONS Return

   Parameter Name              Current   Default   Minimum   Maximum Unit  Dynamic
   --------------              -------   -------   -------   ------- ----  -------
   GBLSECTIONS                     400       250        20      4095 Sections
   ```

The first number displayed is the current number of global sections. Compare this number to the number of global sections in use displayed by the OpenVMS Install Utility (see Section 1.5.3.2).

3. Exit from the SYSGEN Utility:

```
SYSGEN> EXIT Return
```

1.5.3.2 Determining the Global Pages and Global Sections Used

To determine the global pages and global sections used:

1. Invoke the OpenVMS Install Utility:

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

2. Determine the number of global pages used:

```
INSTALL> LIST/GLOBAL/SUMMARY Return

        Summary of Local Memory Global Sections

nn Global Sections Used,  nnnn/nnnn Global Pages Used/Unused

INSTALL> EXIT Return
```

The system displays a summary of the number of global sections used, the number of global pages used, and the number of global pages available.

3. Exit from the OpenVMS Install Utility:

```
INSTALL> EXIT Return
```

1.5.3.3 Modifying the Global Pages Parameter

To modify the number of global pages:

1. If there are fewer than 4000 global pages available, modify the GBLPAGES system parameter.

   You can modify the GBLPAGES parameter by editing the SYS$SYSTEM:MODPARAMS.DAT file. To change a parameter value in this file, delete the current value and enter the new value. (Another way of allocating space is to delete an existing known image with the OpenVMS Install Utility.)

   To modify GBLPAGES, use ADD_GBLPAGES as shown, where *n* is the number of global pages to add:

```
ADD_GBLPAGES = n
```

   Note that when you set the page file quota, you should not use a value that exceeds the amount of page file space available on the system.

2. Exit the editor.

3. Update the GBLPAGES parameter by invoking the AUTOGEN command procedure described in Section 1.5.3.5.

1.5.3.4 Modifying the Global Sections Parameter

To modify the number of global sections:

1. If the number of global sections in use plus 30 exceeds the current number of global sections, modify the GBLSECTIONS parameter.

   You can modify the GBLSECTIONS parameter by editing the SYS$SYSTEM:MODPARAMS.DAT file. To change a parameter value in this file, delete the current value and enter the new value.

   To modify GBLSECTIONS, use ADD_GBLSECTIONS as shown, where *n* is the number of global sections to add:

   ```
   ADD_GBLSECTIONS = n
   ```

   Note that when you set the page file quota, you should not use a value that exceeds the amount of page file space available on the system.

2. Exit the editor.
3. Update the GBLSECTIONS parameter by invoking the AUTOGEN command procedure described in Section 1.5.3.5.

1.5.3.5 Recalculating the Global Pages and Global Sections Parameters

To update the GBLPAGES and GBLSECTIONS parameters, invoke the AUTOGEN command procedure, SYS$UPDATE:AUTOGEN.COM:

```
$ @SYS$UPDATE:AUTOGEN GETDATA REBOOT Return
```

AUTOGEN automatically recalculates the parameters with the values you defined manually. When you specify REBOOT, AUTOGEN performs an automatic system shutdown and then reboots the system. Any users logged on to the system are immediately disconnected during the shutdown.

AUTOGEN also automatically adjusts some of the SYSGEN parameters, based on the consumption of resources since the last reboot. If you do not want to take advantage of this automatic adjustment, include the NOFEEDBACK qualifier on the AUTOGEN command line.

For more information about using AUTOGEN, see the OpenVMS System Management Subkit.

1.5.4 User Account Quotas

The account you use to install DIGITAL GKS requires certain minimum user account values. These values, which are defined in the SYSUAF.DAT file, are listed in Table 1–3.

Table 1–3 Process Account Quotas for the Installing Account

Account Quota	Value
ASTLM	24
BIOLM	18
BYTLM	18,000
DIOLM	18
ENQLM	30
FILLM	20

Using the OpenVMS Authorize Utility (AUTHORIZE), you can compare the current values of these quotas with the requirements for DIGITAL GKS. The account used in the following example is the SYSTEM account:

```
$ SET DEFAULT SYS$SYSTEM Return
$ RUN AUTHORIZE Return
UAF> SHOW SYSTEM Return
```

To change the values of these quotas, use the MODIFY command. For more information, see the *OpenVMS System Management Utilities Reference Manual*.

1.6 Backing Up Your System Disk

DIGITAL recommends that you back up your system disk before installing any software. Use the backup procedures that are established at your site. For details on performing a backup, see the section on the Backup Utility in the OpenVMS System Management Subkit.

2
Installing DIGITAL GKS

This chapter describes the DIGITAL GKS installation procedure. For a list of the files and directories created during the installation procedure, see Appendix A. For sample development kit and run-time-only installations, refer to Appendix B.

To abort the installation procedure at any time, press Ctrl/Y. When you press Ctrl/Y, the installation procedure deletes all files it has created up to that point and exits. You can then start the installation again.

2.1 Installation Procedure

Before you install DIGITAL GKS, DIGITAL recommends that you back up your system disk. Once you have done so, you can begin the installation. The installation takes approximately 5 to 30 minutes, depending on your system configuration.

You should not install DIGITAL GKS run-time-only Version 6.5 if you have already installed the full development kit of DIGITAL GKS Version 6.5. If you do, the installation procedure will overwrite the development kit with the run-time-only kit. To determine which version of DIGITAL GKS is currently installed, enter the following DCL command:

```
$ ANALYZE/IMAGE/INTERACTIVE/HEADER SYS$LIBRARY:[SYSLIB]GKS3D$RTLIB Return
```

Look for lines similar to the following in the resulting display:

```
                    .
                    .
                    .
                    .
Image Identification Information

 image name: "GKS3D$RTLIB"
 image file identification: "DECGKS V6.5"
 link date/time:  30-APR-1997 04:20:10.40
 linker identification: "05-13"
                    .
                    .
                    .
```

The procedure for installing DIGITAL GKS is:

1. **Log in to a privileged account and set your default device and directory to SYS$UPDATE.**

   DIGITAL recommends that you use the system manager's account.

   ```
   Username: SYSTEM Return
   Password:        Return
   $ SET DEFAULT SYS$UPDATE Return
   ```

2. **Define the destination for the output of the Installation Verification Procedure (IVP) with the following command, replacing *node* with your node name:**

   The IVP verifies the integrity of the installation. In the following command, *node* is your node name.

   ```
   $ DEFINE DECW$DISPLAY node::0.0 Return
   ```

3. **Invoke VMSINSTAL.**

   When you invoke VMSINSTAL, it checks the following:

   - Whether you are logged in to a privileged account. You should install software from the system manager's account with your default device and directory set to SYS$UPDATE.
   - The installing account has adequate:

     Disk space
     Global pages
     Global sections
     Account quotas

   - Whether you have adequate quotas for installation. VMSINSTAL requires the following minimum quota values:

     ASTLM = 24
     BIOLM = 18
     BYTLM = 18000
     DIOLM = 18
     ENQLM = 30
     FILLM = 20

   - Whether the following conditions exist:
     - DECnet™ network is up and running.
     - Users are logged in to the system.

   If VMSINSTAL detects problems, you will be asked whether you want to continue the installation. You should correct these problems before resuming the installation procedure. If you want to continue, enter YES. If you want to stop the installation, press Return.

   To invoke the VMSINSTAL command procedure, enter:

   ```
   $ @SYS$UPDATE:VMSINSTAL saveset-name device-name OPTIONS N Return
   ```

   The VMSINSTAL parameters are:

   ### saveset-name

   The installation name for the component. For the DIGITAL GKS development kit, use the name:

   ```
   DECGKS065
   ```

   For the DIGITAL GKS run-time-only kit, use the name:

   ```
   DECGKSRT065
   ```

device-name

The name of the device on which you plan to mount the distribution volumes for the DIGITAL GKS installation media. The format of the device name is *ddcu*, where *dd* is the device code, *c* is the controller code, and *u* is the unit number. For example, DKA400 is the device name for a CD–ROM.

For CD–ROM media, you must also supply the directory location of the DIGITAL GKS save set on the CD–ROM. To obtain this location, see the *Software Product Library CD–ROM User's Guide* booklet that accompanies the CD–ROM distribution kit, or complete the following steps before starting the installation:

a. Determine whether the CD–ROM drive is already mounted by entering the command:

   ```
   $ SHOW DEVICE DKA400: Return
   ```

   If the device is mounted, skip to the next step. If it is not mounted, enter the appropriate MOUNT command to mount the CD–ROM, omitting the /FOREIGN qualifier.

b. Obtain the directory name by entering the command:

   ```
   $ DIRECTORY DKA400:[000000]*decgks*.dir Return
   ```

   The directory name will be displayed; for example:

   ```
   Directory DKA400:[000000]

   DECGKS065.DIR;1          (development kit)

   DECGKSRT065.DIR;1        (run-time-only kit)
   ```

c. Obtain the save set name by using a DIRECTORY command specifying the directory file from the previous command. For example, for the development kit, enter:

   ```
   $ DIRECTORY DKA400:[DECGKS065.KIT]*.A Return
   ```

   For the run-time-only kit, enter:

   ```
   $ DIRECTORY DKA400:[DECGKSRT065.KIT]*.A Return
   ```

OPTIONS N

An optional parameter that enables you to access the release notes. If you do not include the OPTIONS N parameter, VMSINSTAL does not ask you about the release notes. You should review the release notes before proceeding with the installation, because they contain additional information about the installation.

Note that there are several other options you can select when you invoke VMSINSTAL:

- Auto_answer option (**A**)

  This option initially creates a file that contains your answers to VMSINSTAL questions and prompts. You can then use the option (and the answer file) to save time during a reinstallation (typically after upgrading your system).

- Get save set option (**G**)

  This option lets you temporarily store product save sets on a magnetic tape or in a disk directory.

- File log option (**L**)

  This option logs all activity to the terminal during installation.

- Alternate root option (**R**)

  This option lets you install the product to a system root other than that of the current system.

If you do not supply the save set and device names, VMSINSTAL prompts you for them later in the installation. VMSINSTAL does not prompt you for any options, however, so be sure to include the desired options on the VMSINSTAL command line. If you specify more than one option, separate the options with commas (for instance, OPTIONS A,N). See the documentation on software installation in the OpenVMS System Management Subkit for detailed information on these options.

The following example invokes VMSINSTAL to install DIGITAL GKS development kit from a CD–ROM and shows the system response:

```
$ @SYS$UPDATE:VMSINSTAL DECGKS065 DKA400:[DECGKS065.KIT] OPTIONS N Return

      VAX/VMS Software Product Installation Procedure V5.5-2

It is dd-mmm-yyyy at hh:mm.
Enter a question mark (?) at any time for help.
```

If VMSINSTAL detects any problems during the installation, it notifies you and asks if you want to continue the installation. In some instances, you can enter YES to continue. To stop the installation process and correct the situation, enter NO or press Return. Then, correct the problem and restart the installation.

4. **Check the status of your processes.**

   If DECnet software is running, VMSINSTAL displays a list of all active processes and asks if you want to continue the installation:

   ```
   %VMSINSTAL-W-ACTIVE, The following processes are still active:
      .
      .
      .
   * Do you want to continue anyway [NO]? Return
   ```

   You should install DIGITAL GKS on a standalone system or cluster with DECnet shut down; therefore, NO is the default response to the question.

5. **Confirm system backup.**

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

   You should always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press Return. Otherwise, enter NO and press Return to stop the installation. After you back up your system disk, you can restart the installation.

6. **Mount the media.**

   If you omitted the device name on the VMSINSTAL command line, the following prompt appears:

   ```
   * Where will the distribution volume be mounted: DKA400: Return
   ```

Enter the name of the distribution media device and directory that contains the DIGITAL GKS save sets. For example, if the media is contained on a CD–ROM located on unit DKA400:, and the DIGITAL GKS save set is located in the directory DECGKS065.KIT, enter:

```
DKA400:[DECGKS065.KIT]
```

Depending on the type of device and whether the device is already mounted, the following may or may not appear:

```
Please mount the first volume of the set on DKA400:.
* Are you ready? Y Return
```

If you entered the wrong device name when you invoked VMSINSTAL and need to restart the installation, enter NO in response to the ''Are you ready?'' question. If you respond YES to indicate that you are ready, VMSINSTAL indicates that the media containing DIGITAL GKS has been mounted, and then prompts for the product name and any desired installation options:

DIGITAL GKS DEVELOPMENT KIT

```
%MOUNT-I-MOUNTED, DECGKS MOUNTED ON DKA400 (NODE 1)

 Enter the products to be processed from the first distribution volume set.
  * Products: DECGKS065 Return
  * Enter installation options you wish to use (none): Return

The following products will be processed:
  DECGKS V6.5

        Beginning installation of DECGKS V6.5 at hh:mm.

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

DIGITAL GKS RUN-TIME-ONLY KIT

```
%MOUNT-I-MOUNTED, DECGKSRT MOUNTED ON DKA400 (NODE 1)

 Enter the products to be processed from the first distribution volume set.
  * Products: DECGKSRT065 Return
  * Enter installation options you wish to use (none): Return

The following products will be processed:
  DECGKSRT V6.5

        Beginning installation of DECGKSRT V6.5 at hh:mm.

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

7. **Select a release notes option.**

   This step applies only if you specified OPTIONS N when starting the installation.

```
Release Notes Options:

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

* Select option [2]: 1 Return
```

   If you select option 1, VMSINSTAL displays the release notes immediately on the console terminal. You can terminate the display at any time by pressing Ctrl/C.

If you select option 2, VMSINSTAL prompts you for a queue name. Either enter a queue name or press Return to send the file to the default output print device:

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

If you select option 3, VMSINSTAL displays the release notes on the terminal and then prompts you for a queue name for the printed version. After you enter a queue name or press Return to send the file to the default output print device, the release notes are copied to:

- SYS$HELP:DECGKS065.RELEASE_NOTES
- SYS$HELP:DECGKS065_RELEASE_NOTES.PS

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

Note

This version of the release notes file installed by VMSINSTAL is labeled with the current product name and version number. Be sure not to delete release notes for previous versions of DIGITAL GKS.

VMSINSTAL then displays the following prompt:

```
* Do you want to continue the installation [N]?: Y Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
```

To continue the installation, enter YES and press Return. Otherwise, press Return. In either case, the release notes are copied to files in the SYS$HELP directory.

After the installation, you can enter the following command to review the release notes through the Help facility, for example:

```
$ HELP GKS RELEASE_NOTES Return
```

8. **Purge the old DIGITAL GKS files.**

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

   The SYS$COMMON: directories may contain previous versions of DIGITAL GKS files. These files are replaced during the installation with new files, but the old files are not automatically purged. Purging is recommended. In response to the purging prompt, press Return to purge the files or enter NO to keep them.

   Appendix A lists the files on the system that are added or modified when you install the DIGITAL GKS development kit and the run-time-only kit.

9. **Respond to license registration queries.**

   DIGITAL GKS supports the OpenVMS License Management Facility (LMF). The installation procedure displays license information about your product and then asks if you have registered and loaded your authorization key for DIGITAL GKS. The following is an example of this information:

```
DIGITAL GKS DEVELOPMENT KIT

   Product:       GKS
   Producer:      DEC
   Version:       6.5
   Release Date:  30-APR-1997

* Does this product have an authorization key registered and loaded? Y Return

DIGITAL GKS RUN-TIME-ONLY KIT

   Product:       GKS-RT
   Producer:      DEC
   Version:       6.5
   Release Date:  30-APR-1997

* Does this product have an authorization key registered and loaded? Y Return
```

Your PAK must be registered and loaded for the installation to complete successfully. Therefore, if your PAK is not registered and loaded, you must answer NO to this question, stop the installation, register and load your PAK, and then restart the installation.

10. **Install the PEX device handler.**

```
* Do you wish to install the PEX device handler and its associated
  files [NO]? Y Return
```

Installing the PEX device handler is *optional*. When deciding whether to install the device handler, you should consider the following:

- The PEX device handler requires special graphics accelerators.
- If this device handler is installed, the installation procedure modifies the DIGITAL GKS startup file, GKSTARTUP.COM, to include the DIGITAL GKS PEX workstation types. The installation procedure also defines the necessary logical names.

Press Return to install the PEX device handler, or enter NO if you do not want to install the device handler. If you enter NO in response to this prompt, you can install the device handler at a later date by performing the installation procedure again.

11. **Install PEXlib (development kit only).**

```
* Do you wish to have PEXlib installed [YES]? Return
```

If you chose to install the PEX device handler, you can also install the PEXlib library, by pressing Return. If you do not want to install PEXlib, enter NO.

12. **Install the GKS example programs (development kit only).**

```
* Do you wish to install the example programs [YES]? Return
```

The example programs are source code files written in various programming languages that illustrate how to call various DIGITAL GKS functions. Press Return if you want to install these programs. Enter NO if you do not want to install these programs.

13. **Install the Japanese GKS-related files.**

```
      This kit contains Japanese related-images and files.
      They require Japanese OpenVMS.

* Do you wish to install Japanese related images and files [NO]? Return
```

If the Japanese version of OpenVMS VAX is installed on your system, you will be asked if you want to install the Japanese components of DIGITAL GKS. Press Return if you do not want to install the Japanese files. Enter YES if you do want to install these files.

14. **Run the Installation Verification Procedure.**

```
* Do you wish to perform the Installation Verification Procedure [YES]? Return
```

The Installation Verification Procedure (IVP) verifies that the installation is successful. The DIGITAL GKS IVP reads a three-dimensional image from a metafile workstation (GKS$TEST:GKS$IVP.DAT). The metafile is large, and executing the IVP tests the DIGITAL GKS installation thoroughly.

Press Return if you wish to run the IVP during the installation; enter NO if you do not wish to run this procedure. If you do not run the IVP at this time, DIGITAL recommends that you run this procedure after the installation to verify that the software is available on your system. You may also need to run the IVP after a system failure to ensure that users can access DIGITAL GKS. Refer to Section 3.3 for details.

15. **Select the workstation type on which the IVP will be displayed.**

```
* Select the workstation type; 1 for Motif or 2 for DECwindows [1]: 1 Return
```

If you are installing DIGITAL GKS on a workstation that has DECwindows or Motif software installed, you must define the workstation type on which the IVP image will be displayed. The default workstation types are listed in Table 2–1.

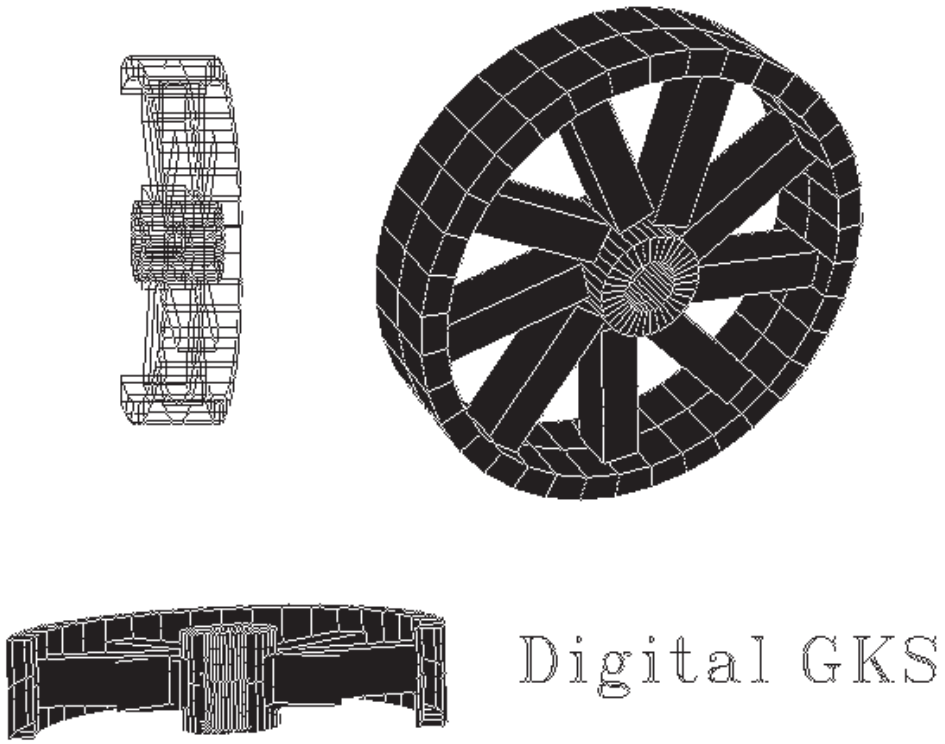
Table 2–1 Default Workstation Types

Workstation	Default Type
VAX	Sixel
Workstation running DECwindows	DECwindows or Motif
Workstation running VAXstation™ Windowing Software (VWS)	VWS

The IVP image is output to the default OUTPUT or OUTIN workstation, which is defined by the workstation identifier and connection identifier (the logical names GKS$WSTYPE and GKS$CONID, respectively). You can redirect the IVP output to another workstation by modifying the values associated to the logical names.

If the installation is successful, the IVP generates a picture like the one in Figure 2–1. If your device produces color output, the image will appear in color.

Figure 2–1 Sample IVP Display



16. **Select the version of the Motif device handler to be used.**

```
* Select the Motif device handler (1 for Motif V1.1 or 2 for
  Motif V1.2) [1]: 2 Return
```

If the version of Motif installed on your system is 1.2, you must choose the version of the Motif device handler to be used. Press Return if you wish to use Motif Version 1.1. Enter 2 if you wish to use Motif Version 1.2.

17. **Read the informational messages.**

At this point, the installation procedure displays a number of informational messages that report on the progress of the installation; there are no further questions. If the installation procedure has been successful up to this point, VMSINSTAL moves the new or modified files to their target directories, updates help files, and updates DCL tables, if necessary. If you requested that files be purged, they are purged at this time.

The messages displayed are:

DIGITAL GKS DEVELOPMENT KIT:

```
      STARTING to perform all the installation work. No additional user
      actions are necessary from this point.The remaining part of the
      installation will take ( 5 - 30 ) minutes depending on your CPU.
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-RESTORE, Restoring product save set E ...
      .
      .
      .
   Installation of DECGKS V6.5 completed at hh:mm

   VMSINSTAL procedure done at hh:mm
```

DIGITAL GKS RUN-TIME-ONLY KIT:

```
      STARTING to perform all the installation work. No additional user
      actions are necessary from this point.The remaining part of the
      installation will take ( 5 - 30 ) minutes depending on your CPU.
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
      .
      .
      .
   Installation of DECGKSRT V6.5 completed at hh:mm

   VMSINSTAL procedure done at hh:mm
```

The installation procedure is complete. You can now install more products or log out.

18. **Log out of the privileged account.**

```
$ LOGOUT [Return]
SYSTEM     logged out at dd-mmm-yyyy hh:mm:ss.ss
```

VMSINSTAL deletes or changes entries in the process symbol tables during the installation. Therefore, if you are going to continue using the system manager's account and you want to restore these symbols, you should log out and log in again.

2.2 Error Recovery

If errors occur during installation, VMSINSTAL displays failure messages. If the installation procedure fails, one or more of the following messages may also appear:

```
%VMSINSTAL-E-INSFAIL, The installation of DIGITAL GKS V6.5 has failed.

This kit requires OpenVMS VAX V5.5-2

System disk does not contain enough free blocks to install DECGKS
```

Errors can occur during the installation if any of the following conditions exists:

- The operating system version is incorrect.
- A prerequisite software version is incorrect.
- Quotas necessary for successful installation are insufficient.

- System parameter values for successful installation are insufficient.
- The OpenVMS help library is currently in use.
- The product license has not been registered and loaded.
- The metafile input handler is not installed.
- The default output handler, defined by the logical names GKS$WSTYPE and GKS$CONID, is not installed.

If the IVP fails for any reason, the following messages are displayed:

```
The DECGKS V6.5 Installation Verification Procedure failed.

%VMSINSTAL-E-IVPFAIL, The IVP for DECGKS V6.5 has failed.
```

Other errors can also occur during IVP execution in the following

- The workstation handler is not installed.

  ```
  GKS-E-ERROR_23, specified workstation type does not exist in
   routine OPEN WORKSTATION
  ```

  First, verify that the metafile input handler is installed. Then, ensure that the definition of GKS$WSTYPE is a valid workstation type, including bit masks, and that GKS$CONID corresponds to a physical device that is supported and functioning.

- The connection identifier and workstation type are not compatible.

  ```
  GKS-E-ERROR_26, specified workstation cannot be opened
   in routine OPEN WORKSTATION
  ```

  Ensure that the definitions of GKS$CONID and GKS$WSTYPE are compatible, and that GKS$CONID corresponds to a physical device that is supported and functioning.

- There are not enough unused color entries available for DIGITAL GKS in DECwindows.

  ```
  DECGKS-E-ERROR_NEG_2, requested color map could not be created
   in routine OPEN WORKSTATION
  ```

  Set *n* (the color table size) in the workstation bit mask %x0nmm00xx to a value, such as 16. For example, for workstation type 231, specify %x001000E7.

If you are notified that any of these conditions exist, you should take the appropriate action, as described in the error message. For descriptions of the error messages, see the *OpenVMS System Messages and Recovery Procedures Reference Manual*, your processor-specific installation/operations guide, or the *OpenVMS License Management Utility Manual*.

3
After Installing DIGITAL GKS

You can perform the following tasks after you install DIGITAL GKS:

- Installing DIGITAL GKS on a cluster
- Editing the system startup file
- Running the Installation Verification Procedure
- Determining and reporting problems

3.1 Installing DIGITAL GKS on an OpenVMS VAXcluster

If you want to run DIGITAL GKS on multiple nodes of a VAXcluster configuration, first check to see that you have the appropriate software license. Then, follow these steps after installing DIGITAL GKS:

1. Issue the LICENSE LOAD command to activate the license on each node in the cluster on which DIGITAL GKS is to be executed.

   For the development kit, enter the command:

   ```
   $ LICENSE LOAD GKS Return
   ```

   For the run-time-only kit, enter the command:

   ```
   $ LICENSE LOAD GKS-RT Return
   ```

2. Run the following command on each node of the cluster that has the software license:

   ```
   $ @SYS$STARTUP:GKSTARTUP.COM Return
   ```

3. Prepare the system-specific roots on other nodes by issuing the following commands on each node:

   ```
   $ CREATE/DIRECTORY SYS$SPECIFIC:[SYSHLP.EXAMPLES.GKS] Return
   $ CREATE/DIRECTORY SYS$SPECIFIC:[SYSTEST.GKS] Return
   ```

4. Verify the installation by running the IVP on each node:

   ```
   $ RUN GKS$TEST:GKS$IVP Return
   ```

   Information about running the IVP is provided in Section 3.3.

5. Determine if the INSTALL utility was used to install GKS3D$RTLIB.EXE:

   a. Log in to a node on the cluster.

   b. Run INSTALL and enter the following command at the INSTALL> prompt:

      ```
      INSTALL> LIST SYS$LIBRARY:GKS3D$RTLIB.EXE Return
      ```

The INSTALL utility displays how the GKS3D$RTLIB was installed. For example:

```
DISK$SYSTEM01:<SYS0.SYSCOMMON.SYSLIB>.EXE
    GKS3D$RTLIB;1    Open     Share         Lnkbl
```

If an error occurs with this command, DIGITAL GKS was not properly installed.

c. Repeat steps a and b for each node of the cluster.

Do not purge files during the installation. You can purge these files after you have run the DIGITAL GKS startup command procedure on each node of the cluster.

3.2 Editing the System Startup File

To enable the automatic startup of DIGITAL GKS when your system is rebooted, you must include the startup procedure GKSTARTUP.COM in the startup file—SYS$MANAGER:SYSTARTUP_V5.COM under OpenVMS VAX Version 5.5-2 or SYS$MANAGER:SYSTARTUP_VMS.COM under OpenVMS VAX Version 6.5. Because DIGITAL GKS cannot be started before the network has been started, you must position this new command line *after* the line that invokes the network startup command procedure. The following example shows the network startup command line followed by the DIGITAL GKS startup command line:

```
$ @SYS$MANAGER:STARTNET.COM
      .
      .
      .
$ @SYS$STARTUP:GKSTARTUP.COM
```

When you install DIGITAL GKS on a cluster, GKSTARTUP.COM is automatically executed for the system node from which the installation was performed. You may need to execute this file for other nodes in the cluster, however, to have the newest DIGITAL GKS images installed on those systems. This is particularly true if you purged older versions of DIGITAL GKS during the installation.

3.3 Running the Installation Verification Procedure

To run the Installation Verification Procedure (IVP) after installation, enter the command:

```
$ RUN GKS$TEST:GKS$IVP Return
```

For example, if you want to run the DECwindows Motif IVP on a remote node, ensure that you have the access rights on the server for remote use and that the DIGITAL GKS DECwindows Motif handler is installed. Then, enter the following commands, substituting your node name for the node *REMOTE*:

```
$ DEFINE GKS$WSTYPE 231 Return
$ DEFINE GKS$CONID  REMOTE::0.0 Return
$ RUN GKS$TEST:GKS$IVP Return
```

In this example, the image is output to the remote server.

3.4 Determining and Reporting Problems

If you encounter a problem while using DIGITAL GKS, report it to DIGITAL. Depending on the nature of the problem and the type of support you have, you can take one of the following actions:

- Call DIGITAL if your software contract or warranty agreement entitles you to telephone support.
- Submit a Software Performance Report (SPR).
- Send electronic mail to the "requests@bgsdev.enet.dec.com" account if the problem has to do with the DIGITAL GKS documentation. Be sure to include the section and page number of the error.

Review the Software Product Description (SPD) and Warranty Addendum for an explanation of warranty. If you encounter a problem during the warranty period, report the problem as described in this section, or follow alternate instructions provided by DIGITAL for reporting SPD nonconformance problems.

A

Files Installed on Your System

The DIGITAL GKS installation procedure installs a number of files on your system. These files are listed in Section A.1 and Section A.2.

A.1 DIGITAL GKS Development Kit Files

Table A–1 lists the files on the system that are added or modified when you install the DIGITAL GKS development kit.

Table A–1 Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYS$STARTUP]		
	GKSTARTUP.COM	
SYS$COMMON:[SYSFONT]		
	GKS$MARKERS.VWS$FONT	
	GKS$MARKERS.VWS$VAFONT	
SYS$COMMON:[SYSHLP]		
	DECGKS065.RELEASE_NOTES	Release notes
	DECGKS065_RELEASE_NOTES.PS	
	DECGKS_CBIND_OP_SPEC.PS	
	DECGKS_CBIND_OP_SPEC.TXT	
	DECGKS_FBIND_OP_SPEC.PS	
	DECGKS_FBIND_OP_SPEC.TXT	
	DECGKS_G3DBIND_OP_SPEC.PS	
	DECGKS_G3DBIND_OP_SPEC.TXT	
	DECGKS_GBIND_OP_SPEC.PS	
	DECGKS_GBIND_OP_SPEC.TXT	
	HELPLIB.HLB	Modified with GKS.HLP file

(continued on next page)

Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSHLP.JA_JP]		
	HELPLIB.HLB	Modified with JGKS.HLP file, supplied with the Japanese save set
SYS$COMMON:[SYSHLP.EXAMPLES.GKS]		
	ACCUM_XFORM_MATRIX_ADD.C	Optional files
	ACCUM_XFORM_MATRIX_ADD_3D.C	
	ACCUM_XFORM_MATRIX_ADD_CBND.C	
	ACCUM_XFORM_MATRIX_ADD_FORBND.FOR	
	ASS_SEG_WS.C	
	ASS_SEG_WS_3D.C	
	ASS_SEG_WS_CBND.C	
	ASS_SEG_WS_FORBND.FOR	
	BACKGAMMON.C	
	BUILD_PROG.COM	
	BUILD_PROG.MAKE	
	CELL_ARRAY.C	
	CELL_ARRAY_3D.C	
	CELL_ARRAY_CBND.C	
	CELL_ARRAY_FORBND.FOR	
	CLEAR_WS.C	
	CLEAR_WS_3D.C	
	CLEAR_WS_CBND.C	
	CLEAR_WS_FORBND.FOR	
	DEVICE_BUILD.COM	
	DEVICE_DFT.C	
	DEVICE_DFT.MAR	
	DEVICE_SAMPLE.C	
	DEVICE_SAMPLE.MMS	
	DEVICE_SAMPLE_DFT.C	
	ERR_HAND.C	
	ERR_HAND_3D.C	
	ERR_HAND_CBND.C	
	ERR_HAND_FORBND.FOR	
	ESCAPE.C	
	ESCAPE_3D.C	
	ESCAPE_CBND.C	

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Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSHLP.EXAMPLES.GKS]		
	ESCAPE_FORBND.FOR	
	ESC_CONID_STRING_FORBND.FOR	
	EVAL_XFORM_MATRIX.C	
	EVAL_XFORM_MATRIX_3D.C	
	EVAL_XFORM_MATRIX_CBND.C	
	EVAL_XFORM_MATRIX_FORBND.FOR	
	EVENT_MODE.C	
	EVENT_MODE_3D.C	
	EVENT_MODE_CBND.C	
	EVENT_MODE_FORBND.FOR	
	EX_CHOICE_INPUT_CB.C	
	EX_CHOICE_INPUT_FB.FOR	
	EX_CHOICE_INPUT_G3B.C	
	EX_CHOICE_INPUT_GB.C	
	EX_STRING_INPUT_CB.C	
	EX_STRING_INPUT_FB.FOR	
	EX_STRING_INPUT_G3B.C	
	EX_STRING_INPUT_GB.C	
	EX_TEXT_OUTPUT_CB.C	
	EX_TEXT_OUTPUT_FB.FOR	
	EX_TEXT_OUTPUT_G3B.C	
	EX_TEXT_OUTPUT_GB.C	
	FONTS_HEX.C	
	GDP.C	
	GDP_3D.C	
	GDP_CBND.C	
	GDP_FORBND.FOR	
	GERHND_FORBND.FOR	
	GFX_DFT.C	
	GKS_PICK213.C	
	GKS_PICK233.C	
	GKS_PICK313.C	
	GKS_PICK333.C	
	GKS_PREDEF.C	
	GKS_SAMPLE.C	
	INIT_INQ_ST_2D.C	
	INIT_INQ_ST_2D.FOR	

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Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSHLP.EXAMPLES.GKS]		
	INIT_INQ_ST_2D.PAS	
	INIT_INQ_ST_3D.ADA	
	INIT_INQ_ST_3D.C	
	INIT_INQ_ST_3D.FOR	
	INIT_INQ_ST_3D.PAS	
	INIT_INQ_ST_3D_SIZEOF.ADA	
	INIT_STRING.C	
	INIT_STRING_3D.C	
	INIT_STRING_CBND.C	
	INIT_STRING_FORBND.FOR	
	INQUIRY_CBND.C	
	INQ_DEF_DATA_2D.ADA	
	INQ_DEF_DATA_2D.C	
	INQ_DEF_DATA_2D.FOR	
	INQ_DEF_DATA_2D.PAS	
	INQ_DEF_DATA_3D.ADA	
	INQ_DEF_DATA_3D.C	
	INQ_DEF_DATA_3D.FOR	
	INQ_DEF_DATA_3D.PAS	
	INSERT_SEG.C	
	INSERT_SEG_3D.C	
	INSERT_SEG_CBND.C	
	INSERT_SEG_FORBND.FOR	
	MANDELBROT_CBND.C	
	OUTPUT_INPUT_3D.ADA	
	OUTPUT_INPUT_3D.C	
	OUTPUT_INPUT_3DF.FOR	
	OUTPUT_INPUT_3DP.PAS	
	OUTPUT_INPUT_CBND.C	
	OUTPUT_INPUT_FORBND.FOR	
	README.FIRST	
	REQUEST_MODE.C	
	REQUEST_MODE_3D.C	
	REQUEST_MODE_CBND.C	
	REQUEST_MODE_FORBND.FOR	
	SAMPLE.OPT	
	SAMPLE_ALPHA.OPT	

(continued on next page)

Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSHLP.EXAMPLES.GKS]		
	SAMPLE_DEVICE_DFT.C	
	SAMPLE_MODE.C	
	SAMPLE_MODE_3D.C	
	SAMPLE_MODE_CBND.C	
	SAMPLE_MODE_FORBND.FOR	
	SAMPLE_PICK.C	
	SAMPLE_PICK_3D.C	
	SAMPLE_PICK_CBND.C	
	SAMPLE_PICK_FORBND.FOR	
	SAMPLE_VALUATOR.C	
	SAMPLE_VALUATOR_3D.C	
	SAMPLE_VALUATOR_CBND.C	
	SAMPLE_VALUATOR_FORBND.FOR	
	SAMPLE_VAX.OPT	
	SET_CLIP.C	
	SET_CLIP_3D.C	
	SET_CLIP_CBND.C	
	SET_CLIP_FORBND.FOR	
	SET_COLOUR_REP.C	
	SET_COLOUR_REP_3D.C	
	SET_COLOUR_REP_CBND.C	
	SET_COLOUR_REP_FORBND.FOR	
	SET_FILL_AREA_REP.C	
	SET_FILL_AREA_REP_3D.C	
	SET_FILL_AREA_REP_CBND.C	
	SET_FILL_AREA_REP_FORBND.FOR	
	SET_HILIGHT.C	
	SET_HILIGHT_3D.C	
	SET_HILIGHT_CBND.C	
	SET_HILIGHT_FORBND.FOR	
	SET_LINETYPE.C	
	SET_LINETYPE_3D.C	
	SET_LINETYPE_CBND.C	
	SET_LINETYPE_FORBND.FOR	
	SET_TEXT_ALIGN.C	
	SET_TEXT_ALIGN_3D.C	
	SET_TEXT_ALIGN_CBND.C	

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Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSHLP.EXAMPLES.GKS]		
	SET_TEXT_ALIGN_FORBND.FOR	
	SET_WS_VP.C	
	SET_WS_VP_3D.C	
	SET_WS_VP_CBND.C	
	SET_WS_VP_FORBND.FOR	
	USER_MANUAL_1_3.C	
	USER_MANUAL_3_1.C	
	USER_MANUAL_4_1.C	
	USER_MANUAL_5_1.C	
	USER_MANUAL_6_1.C	
	USER_MANUAL_7_1.C	
SYS$COMMON:[SYSLIB]		
	DECW$SVEXT_MULTI_BUFFERING.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GB.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GB_UCODE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_STP.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_STP_UCODE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_VCFB.EXE	PEX device handler only
	FLOATDEF.H	PEXlib only
	GKS$DEV_HAND_DFT_MAC.MLB	
	GKS$I3D.EXE	
	GKS$INQ_LIB.EXE	
	GKS$MI_WS_HANDLER.EXE	
	GKS$MO_WS_HANDLER.EXE	
	GKS$WISS_WS_HANDLER.EXE	
	GKS$WS_MANAGER.EXE	
	GKS.F	
	GKS.H	
	GKS3D$CBND.H	
	GKS3D$DEFS.ADA	
	GKS3D$DEFS.BAS	
	GKS3D$DEFS.FOR	
	GKS3D$DEFS.H	
	GKS3D$DEFS.PAS	

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Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	GKS3D$DEFS.PEN	
	GKS3D$DEFS.PLI	
	GKS3D$DEFS.R32	
	GKS3D$ERRORS.ADA	
	GKS3D$ERRORS.BAS	
	GKS3D$ERRORS.FOR	
	GKS3D$ERRORS.H	
	GKS3D$ERRORS.PAS	
	GKS3D$ERRORS.PEN	
	GKS3D$ERRORS.PLI	
	GKS3D$ERRORS.R32	
	GKS3D$FORBND.FOR	
	GKS3D$GKSRTLIB.EXE	
	GKS3D$RTLIB.EXE	
	GKS3D_DEFS.ADA	
	GKS3D_DEFS.BAS	
	GKS3D_DEFS.FOR	
	GKS3D_DEFS.H	
	GKS3D_DEFS.PAS	
	GKS3D_DEFS.PEN	
	GKS3D_DEFS.PLI	
	GKS3D_DEFS.R32	
	GKS3D_ERRORS.ADA	
	GKS3D_ERRORS.BAS	
	GKS3D_ERRORS.FOR	
	GKS3D_ERRORS.H	
	GKS3D_ERRORS.PAS	
	GKS3D_ERRORS.PEN	
	GKS3D_ERRORS.PLI	
	GKS3D_ERRORS.R32	
	GKSCBND.OLB	
	GKSCRTLIB.EXE	
	GKSDEFS.ADA	
	GKSDEFS.BAS	
	GKSDEFS.BND	
	GKSDEFS.FOR	
	GKSDEFS.H	

(continued on next page)

Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	GKSDEFS.LIB	
	GKSDEFS.PAS	
	GKSDEFS.PEN	
	GKSDEFS.PL2	
	GKSDEFS.PLI	
	GKSDEFS.R32	
	GKSDESCRIP.H	
	GKSFORBND.OLB	
	GKSGFX$CGMO_DEV_HANDLER.EXE	
	GKSGFX$COLSIX_DEV_HANDLER.EXE	
	GKSGFX$DDIF_DEV_HANDLER.EXE	
	GKSGFX$DECW_DEV_HANDLER.EXE	
	GKSGFX$DWV2_DEV_HANDLER.EXE	
	GKSGFX$HPGL_DEV_HANDLER.EXE	
	GKSGFX$HPPCL_DEV_HANDLER.EXE	
	GKSGFX$IM_JP.EXE	Japanese
	GKSGFX$JUIS_DEV_HANDLER.EXE	Japanese
	GKSGFX$KEY_MAP_TABLE.EXE	Japanese
	GKSGFX$MOTIF11_DEV_HANDLER.EXE	
	GKSGFX$MOTIF_DEV_HANDLER.EXE	
	GKSGFX$PS_DEV_HANDLER.EXE	
	GKSGFX$REGIS_DEV_HANDLER.EXE	
	GKSGFX$RTL.EXE	
	GKSGFX$SIXEL_DEV_HANDLER.EXE	
	GKSGFX$TEK41_DEV_HANDLER.EXE	
	GKSGFX$TEK_DEV_HANDLER.EXE	
	GKSGFX$UIS_DEV_HANDLER.EXE	
	GKSMSGS.ADA	
	GKSMSGS.BAS	
	GKSMSGS.FOR	
	GKSMSGS.H	
	GKSMSGS.LIB	
	GKSMSGS.PAS	
	GKSMSGS.PEN	
	GKSMSGS.PLI	
	GKSMSGS.R32	
	GKSRTLIB.EXE	

(continued on next page)

Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	MPEX.H	PEXlib only
	MPEXLIB.H	PEXlib only
	MPEXOC.H	PEXlib only
	MPEXPROTO.H	PEXlib only
	MPEXPROTOSTR.H	PEXlib only
	MULTIBUF.H	PEXlib only
	PEX.H	PEXlib only
	PEXLIB.H	PEXlib only
	PEXLIBINT.H	PEXlib only
	PEXLIBPROTOS.H	PEXlib only
	PEXOC.H	PEXlib only
	PEXOCBUF.H	PEXlib only
	PEXPROTO.H	PEXlib only
	PEXPROTOST.H	PEXlib only
	PEX_COLOR_SIZE.H	PEXlib only
	PEX_FEATURES.H	PEXlib only
	PEX_MACROS.H	PEXlib only
	PL_DEF_DATA.H	PEXlib only
	PL_OC_BUFF.H	PEXlib only
	PL_REF_DATA.H	PEXlib only
	SMTPEXLIBINT.H	PEXlib only
	USE_BUILTINS.H	PEXlib only
	VAXGFX$DDIF_COLOR_TABLE.DAT	
	VAXGFX$FONT_J0102.FNT	Japanese
	VAXGFX$FONT_JISX0201.FNT	Japanese
	VAXGFX$FONT_JISX0208.FNT	Japanese
	VAXGFX$FONT_NEG01.FNT	
	VAXGFX$FONT_NEG02.FNT	
	VAXGFX$FONT_NEG03.FNT	
	VAXGFX$FONT_NEG04.FNT	
	VAXGFX$FONT_NEG05.FNT	
	VAXGFX$FONT_NEG06.FNT	
	VAXGFX$FONT_NEG07.FNT	
	VAXGFX$FONT_NEG08.FNT	
	VAXGFX$FONT_NEG09.FNT	
	VAXGFX$FONT_NEG10.FNT	
	VAXGFX$FONT_NEG11.FNT	

(continued on next page)

Table A–1 (Cont.) Installed Files for the DIGITAL GKS Development Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	VAXGFX$FONT_NEG12.FNT	
	VAXGFX$FONT_NEG13.FNT	
	VAXGFX$FONT_NEG14.FNT	
	VAXGFX$FONT_NEG15.FNT	
	VAXGFX$FONT_NEG16.FNT	
	VAXGFX$FONT_NEG17.FNT	
	VAXGFX$FONT_NEG18.FNT	
	VAXGFX$FONT_NEG19.FNT	
	VAXGFX$FONT_NEG20.FNT	
	VAXGFX$FONT_NEG21.FNT	
	VAXGFX$FONT_NEG22.FNT	
	VAXGFX$FONT_NEG23.FNT	
	VAXGFX$FONT_NEG24.FNT	
	VAXGFX$RTL.EXE	
SYS$COMMON:[SYSMSG]		
	GKS$MSGS.EXE	
SYS$COMMON:[SYSTEST]		
	GKS.DIR	
SYS$COMMON:[SYSTEST.GKS]		
	GKS$IVP.DAT	
	GKS$IVP.EXE	
SYS$SYSROOT:[DECW$DEFAULTS.SYSTEM]		
	GKS_DECW.UID	
	GKS_DECW_EN.UID	
	GKS_DECW_JP.UID	Japanese
	GKS_MOTIF.UID	
	GKS_MOTIF.UID11	
	GKS_MOTIF_EN.UID	
	GKS_MOTIF_EN.UID11	
	GKS_MOTIF_JP.UID	Japanese
	GKS_MOTIF_JP.UID12	Japanese

A.2 DIGITAL GKS Run-Time-Only Kit Files

Table A–2 lists the files on the system that are added or modified when you install the DIGITAL GKS run-time-only kit.

Table A–2 Installed Files for the DIGITAL GKS Run-Time-Only Kit

Directory	File Name	Description
SYS$COMMON:[SYS$STARTUP]		
	GKSTARTUP.COM	
SYS$COMMON:[SYSFONT]		
	GKS$MARKERS.VWS$FONT	
	GKS$MARKERS.VWS$VAFONT	
SYS$COMMON:[SYSHLP]		
	DECGKS065.RELEASE_NOTES	Release notes
	DECGKS065_RELEASE_NOTES.PS	
	HELPLIB.HLB	Modified with GKS.HLP file
SYS$COMMON:[SYSHLP.JA_JP]		
	HELPLIB.HLB	Modified with JGKS.HLP file, supplied with the Japanese save set
SYS$COMMON:[SYSLIB]		
	DECW$SVEXT_MULTI_BUFFERING.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GB.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GB_UCODE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_GE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_STP.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_STP_UCODE.EXE	PEX device handler only
	DECW$SVEXT_X3D_PEX_VCFB.EXE	PEX device handler only
	GKS$I3D.EXE	
	GKS$INQ_LIB.EXE	
	GKS$MI_WS_HANDLER.EXE	
	GKS$MO_WS_HANDLER.EXE	
	GKS$WISS_WS_HANDLER.EXE	
	GKS$WS_MANAGER.EXE	
	GKS3D$GKSRTLIB.EXE	
	GKS3D$RTLIB.EXE	

(continued on next page)

Table A–2 (Cont.) Installed Files for the DIGITAL GKS Run-Time-Only Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	GKSCRTLIB.EXE	
	GKSGFX$CGMO_DEV_HANDLER.EXE	
	GKSGFX$COLSIX_DEV_HANDLER.EXE	
	GKSGFX$DDIF_DEV_HANDLER.EXE	
	GKSGFX$DECW_DEV_HANDLER.EXE	
	GKSGFX$DWV2_DEV_HANDLER.EXE	
	GKSGFX$HPGL_DEV_HANDLER.EXE	
	GKSGFX$HPPCL_DEV_HANDLER.EXE	
	GKSGFX$IM_JP.EXE	Japanese
	GKSGFX$JUIS_DEV_HANDLER.EXE	Japanese
	GKSGFX$KEY_MAP_TABLE.EXE	Japanese
	GKSGFX$MOTIF11_DEV_HANDLER.EXE	
	GKSGFX$MOTIF_DEV_HANDLER.EXE	
	GKSGFX$PS_DEV_HANDLER.EXE	
	GKSGFX$REGIS_DEV_HANDLER.EXE	
	GKSGFX$RTL.EXE	
	GKSGFX$SIXEL_DEV_HANDLER.EXE	
	GKSGFX$TEK41_DEV_HANDLER.EXE	
	GKSGFX$TEK_DEV_HANDLER.EXE	
	GKSGFX$UIS_DEV_HANDLER.EXE	
	GKSRTLIB.EXE	
	VAXGFX$DDIF_COLOR_TABLE.DAT	
	VAXGFX$FONT_J0102.FNT	Japanese
	VAXGFX$FONT_JISX0201.FNT	Japanese
	VAXGFX$FONT_JISX0208.FNT	Japanese
	VAXGFX$DDIF_COLOR_TABLE.DAT	
	VAXGFX$FONT_NEG01.FNT	
	VAXGFX$FONT_NEG02.FNT	
	VAXGFX$FONT_NEG03.FNT	
	VAXGFX$FONT_NEG04.FNT	
	VAXGFX$FONT_NEG05.FNT	
	VAXGFX$FONT_NEG06.FNT	
	VAXGFX$FONT_NEG07.FNT	
	VAXGFX$FONT_NEG08.FNT	
	VAXGFX$FONT_NEG09.FNT	
	VAXGFX$FONT_NEG10.FNT	
	VAXGFX$FONT_NEG11.FNT	

(continued on next page)

Table A–2 (Cont.) Installed Files for the DIGITAL GKS Run-Time-Only Kit

Directory	File Name	Description
SYS$COMMON:[SYSLIB]		
	VAXGFX$FONT_NEG12.FNT	
	VAXGFX$FONT_NEG13.FNT	
	VAXGFX$FONT_NEG14.FNT	
	VAXGFX$FONT_NEG15.FNT	
	VAXGFX$FONT_NEG16.FNT	
	VAXGFX$FONT_NEG17.FNT	
	VAXGFX$FONT_NEG18.FNT	
	VAXGFX$FONT_NEG19.FNT	
	VAXGFX$FONT_NEG20.FNT	
	VAXGFX$FONT_NEG21.FNT	
	VAXGFX$FONT_NEG22.FNT	
	VAXGFX$FONT_NEG23.FNT	
	VAXGFX$FONT_NEG24.FNT	
	VAXGFX$RTL.EXE	
SYS$COMMON:[SYSMSG]		
	GKS$MSGS.EXE	
SYS$COMMON:[SYSTEST]		
	GKS.DIR	
SYS$COMMON:[SYSTEST.GKS]		
	GKS$IVP.DAT	
	GKS$IVP.EXE	
SYS$SYSROOT:[DECW$DEFAULTS.SYSTEM]		
	GKS_DECW.UID	
	GKS_DECW_EN.UID	
	GKS_DECW_JP.UID	Japanese
	GKS_MOTIF.UID	
	GKS_MOTIF.UID11	
	GKS_MOTIF_EN.UID	
	GKS_MOTIF_EN.UID11	
	GKS_MOTIF_JP.UID	Japanese
	GKS_MOTIF_JP.UID12	Japanese

B

Sample Installation

This appendix contains three sample installations of DIGITAL GKS. These samples were run on a system where:

- No previous version of DIGITAL GKS is installed.
- No users are logged on.
- DECnet has been shut down.

B.1 Development Kit Installation Without PEXlib

This section contains a sample installation of the DIGITAL GKS development kit without the PEXlib option. Before the installation, the destination for the output of the IVP is defined as follows, where *node* is your node name:

```
$ DEFINE DECW$DISPLAY node::0.0 Return
```

The sample installation follows.

```
$ @SYS$UPDATE:VMSINSTAL DECGKS065 DKA400:[DECGKS065.KIT] OPTIONS N Return

       VAX/VMS Software Product Installation Procedure V5.5-2

It is 30-APR-1997 at 16:18.

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

Enter the products to be processed from the first distribution volume set.

* Products: DECGKS065 Return
* Enter installation options you wish to use (none): Return


The following products will be processed:
  DECGKS V6.5

       Beginning installation of DECGKS V6.5 at 16:18

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

  Release notes included with this kit are always copied to SYS$HELP.

  Additional Release Notes Options:

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

* Select option [2]: 4 Return
* Do you want to continue the installation [NO]? Y Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

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

        Product:      GKS
        Producer:     DEC
        Version:      6.5
        Release Date: 30-APR-1997

* Does this product have an authorization key registered and loaded? Y Return

  This kit contains a PEX device handler.  Installation of this device handler
  is optional.  The following points should be considered before electing to
  install the PEX device handler and its associated files.

  1. The PEX device handler requires specialized graphics hardware,
     for example, the VAXstation 3520, VAXStation 3540, or VAXstation 4000.
     If GKS application programs are to be run in a client/server
     environment you should elect to install the PEX device handler if any
     of the nodes have the accelerated (specialized) graphics hardware.

  2. If you choose to install the PEX device handler, the DECwindows server
     must be restarted before you can run any DIGITAL GKS program which uses
     the pex device handler.  To restart the DECwindows server, issue the
     command:

     @SYS$STARTUP:DECW$STARTUP.COM RESTART

  3. If you choose to install the PEX device handler, the DIGITAL GKS startup
     file, GKSTARTUP.COM, will be modified to include the DIGITAL GKS PEX
     workstation types and the necessary logical names will be defined.
     If these logical names are not defined a DIGITAL GKS application program
     will generate an error if an attempt is made to utilize the PEX
     workstation types.

  4. The PEX device handler and its associated files can be installed at a
     later date by performing this installation procedure again.

* Do you wish to install the PEX device handler and its associated files [NO]? Return

  This kit contains Japanese-related images and files.
  They require Japanese OpenVMS.

* Do you wish to install Japanese-related images and files [NO]? Return

  This kit contains an Installation Verification Procedure (IVP) to
  verify the correct installation of the DIGITAL GKS product.  It can be run
  prior to the conclusion of this procedure by answering "YES" to the IVP
  prompt or invoked after the installation as follows :

       RUN SYS$SYSROOT:[SYSTEST.GKS]GKS$IVP
  or
       RUN GKS$TEST:GKS$IVP

* Do you wish to perform the Installation Verification Procedure [YES]? Return

* Select the IVP workstation type; 1 for Motif and 2 for DECwindows [1]?  Return

   Motif Version 1.2 is installed on your system.  This kit supplies two
   Motif device handlers; one (the default) supports Motif V1.1, while
   the other supports Motif V1.2.

* Select the Motif device handler (1 for Motif V1.1 or 2 for Motif V1.2) [1]: 2 Return

   STARTING to perform all the installation work. No additional user
   actions are necessary from this point. The remaining part of the
   installation will take ( 5 - 30 minutes ) depending on your CPU.
%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
```

```
    The DIGITAL GKS base kit files have been processed successfully. The
    installation procedure is continuing...

    The DIGITAL GKS Development Environment has been processed
    successfully. The installation procedure is continuing...

    DIGITAL GKS has built successfully. Continuing installation...

    System Manager:

    Upon completion of this installation, please be sure to edit the
    system startup files as described in the DIGITAL GKS Installation Guide.

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

    Beginning the DIGITAL GKS Installation Verification Procedure (IVP).
    The IVP will take 1 to 5 minutes depending on your CPU.

    Since you are running on a VAXstation the Installation Verification
    Procedure will be run with DIGITAL GKS device type 231 (MOTIF).  Output
    will be done to the node indicated by the logical name DECW$DISPLAY.

    If the results of the Installation Verification Procedure (IVP) look
    like the illustration provided with the DIGITAL GKS Installation Guide,
    then installation has been successful.

    The DIGITAL GKS V6.5 Installation Verification Procedure (IVP)
    completed successfully.

        Installation of DECGKS V6.5 completed at 16:27

        VMSINSTAL procedure done at 16:27
```

B.2 Development Kit Installation with PEXlib

This section contains a sample installation of the DIGITAL GKS development kit with the PEXlib option. Before the installation, the destination for the output of the IVP is defined as follows, where *node* is your node name:

```
$ DEFINE DECW$DISPLAY node::0.0 Return
```

The sample installation follows.

```
$ @SYS$UPDATE:VMSINSTAL DECGKS065 DKA400:[DECGKS065.KIT] OPTIONS N Return

       VAX/VMS Software Product Installation Procedure V5.5-2

It is 30-APR-1997 at 16:18.

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

Enter the products to be processed from the first distribution volume set.

* Products: DECGKS065 Return
* Enter installation options you wish to use (none): Return


The following products will be processed:
  DECGKS V6.5

       Beginning installation of DECGKS V6.5 at 16:18

%VMSINSTAL-I-RESTORE, Restoring product save set A ...

  Release notes included with this kit are always copied to SYS$HELP.

  Additional Release Notes Options:

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

* Select option [2]: 4 Return
* Do you want to continue the installation [NO]?  Y Return
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
```

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

       Product:      GKS
       Producer:     DEC
       Version:      6.5
       Release Date: 30-APR-1997
* Does this product have an authorization key registered and loaded? Y Return

  This kit contains a PEX device handler.  Installation of this device handler
  is optional.  The following points should be considered before electing to
  install the PEX device handler and its associated files.

  1. The PEX device handler requires specialized graphics hardware,
     for example, the VAXstation 3520, VAXStation 3540, or VAXstation 4000.
     If GKS application programs are to be run in a client/server
     environment, you should elect to install the PEX device handler if any
     of the nodes have the accelerated (specialized) graphics hardware.

  2. If you choose to install the PEX device handler, the DECwindows server
     must be restarted before you can run any DIGITAL GKS program which uses
     the pex device handler.  To restart the DECwindows server, issue the
     command:

     @SYS$STARTUP:DECW$STARTUP.COM RESTART

  3. If you choose to install the PEX device handler, the DIGITAL GKS startup
     file, GKSTARTUP.COM, will be modified to include the DIGITAL GKS PEX
     workstation types and the necessary logical names will be defined.
     If these logical names are not defined a DIGITAL GKS application program
     will generate an error if an attempt is made to utilize the PEX
     workstation types.

  4. The PEX device handler and its associated files can be installed at a
     later date by performing this installation procedure again.

* Do you wish to install the PEX device handler and its associated files [NO]? Y Return

  This kit contains a C language PEXlib library and its associated include
  files.  Installation of these files is optional.  These files are only of
  use to GKS application developers who desire to directly call the PEXlib
  library functions.

* Do you wish to have PEXlib installed [YES]? Return

  This kit contains a set of example programs (4000 blocks).  They can be
  installed by answering "YES" to the EXAMPLE prompt.

* Do you wish to install the example programs [YES]? Return

  This kit contains Japanese-related images and files.
  They require Japanese OpenVMS.

  Since SYS$LIBRARY:JSYSHR.EXE is not present, Japanese-related
  components will not be installed at this time.

  This kit contains an Installation Verification Procedure (IVP) to
  verify the correct installation of the DIGITAL GKS product.  It can be run
  prior to the conclusion of this procedure by answering "YES" to the IVP
  prompt or invoked after the installation as follows:
```

```
        RUN SYS$SYSROOT:[SYSTEST.GKS]GKS$IVP
  or
        RUN GKS$TEST:GKS$IVP

* Do you wish to perform the Installation Verification Procedure [YES]? Return

* Select the IVP workstation type; 1 for Motif and 2 for DECwindows [1]? 1 Return

    Motif Version 1.2 is installed on your system.  This kit supplies two
    Motif device handlers; one (the default) supports Motif V1.1, while
    the other supports Motif V1.2.

* Select the Motif device handler (1 for Motif V1.1 or 2 for Motif V1.2) [1]: 2 Return

    STARTING to perform all the installation work. No additional user
    actions are necessary from this point. The remaining part of the
    installation will take ( 5 - 30 minutes ) depending on your CPU.

%VMSINSTAL-I-RESTORE, Restoring product save set B ...
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...

    The DIGITAL GKS base kit files have been processed successfully. The
    installation procedure is continuing...

    The DIGITAL GKS Development Environment has been processed successfully.
    The installation procedure is continuing...

    The DIGITAL GKS Example Programs have been processed successfully.  The
    installation procedure is continuing...

    The DIGITAL GKS PEX files have been processed successfully.  The
    installation procedure is continuing...

    DIGITAL GKS has built successfully. Continuing installation...

    System Manager:

    Upon completion of this installation, please be sure to edit the
    system startup files as described in the DIGITAL GKS Installation Guide.

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

    Beginning the DIGITAL GKS Installation Verification Procedure (IVP).  The
    IVP will take 1 to 5 minutes depending on your CPU.

    Since you are running on a VAXstation the Installation Verification
    Procedure will be run with DIGITAL GKS device type 231 (MOTIF).  Output
    will be done to the node indicated by the logical name DECW$DISPLAY.

    If the results of the Installation Verification Procedure (IVP) look
    like the illustration provided with the DIGITAL GKS Installation Guide,
    then installation has been successful.

    The DIGITAL GKS V6.5 Installation Verification Procedure (IVP)
    completed successfully.

        Installation of DECGKS V6.5 completed at 16:27

        VMSINSTAL procedure done at 16:27
```

B.3 Run-Time-Only Kit Installation

This section contains a sample installation of the DIGITAL GKS run-time-only kit. Before the installation, the destination for the output of the IVP is defined as follows, where *node* is your node name:

```
$ DEFINE DECW$DISPLAY node::0.0 Return
```

The sample installation follows.

```
$ @SYS$UPDATE:VMSINSTAL DECGKSRT065 DKA400:[DECGKSRT065.KIT] Return

       VAX/VMS Software Product Installation Procedure V5.5-2

It is 30-APR-1997 at 16:12.

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

%VMSINSTAL-W-ACTIVE, The following processes are still active:
       GKS3D
* Do you want to continue anyway [NO]? Y Return
* Are you satisfied with the backup of your system disk [YES]? Return

The following products will be processed:
  DECGKSRT V6.5

 Beginning installation of DECGKSRT V6.5 at 16:12

%VMSINSTAL-I-RESTORE, Restoring product save set A ...
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.

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

         Product:      GKS-RT
         Producer:     DEC
         Version:      6.5
         Release Date: 30-APR-1997
* Does this product have an authorization key registered and loaded? Y Return

  This kit contains a PEX device handler.  Installation of this device handler
  is optional.  The following points should be considered before electing to
  install the PEX device handler and its associated files.

  1. The PEX device handler requires specialized graphics hardware,
     for example, the VAXstation 3520, VAXStation 3540, or VAXstation 4000.
     If GKS application programs are to be run in a client/server
     environment, you should elect to install the PEX device handler if any
     of the nodes have the accelerated (specialized) graphics hardware.

  2. If you choose to install the PEX device handler, the DECwindows server
     must be restarted before you can run any DIGITAL GKS program which uses
     the pex device handler.  To restart the DECwindows server, issue the
     command:

     @SYS$STARTUP:DECW$STARTUP.COM RESTART

  3. If you choose to install the PEX device handler, the DIGITAL GKS startup
     file, GKSTARTUP.COM, will be modified to include the DIGITAL GKS PEX
     workstation types and the necessary logical names will be defined.
     If these logical names are not defined a DIGITAL GKS application program
     will generate an error if an attempt is made to utilize the PEX
     workstation types.
```

```
  4. The PEX device handler and its associated files can be installed at a
     later date by performing this installation procedure again.

* Do you wish to install the PEX device handler and its associated files [NO]? Return

  This kit contains Japanese-related images and files.
  They require Japanese OpenVMS.

* Do you wish to install Japanese related images and files [NO]? Return

  This kit contains an Installation Verification Procedure (IVP) to
  verify the correct installation of the DIGITAL GKS product.  It can be run
  prior to the conclusion of this procedure by answering "YES" to the IVP
  prompt or invoked after the installation as follows:

       RUN SYS$SYSROOT:[SYSTEST.GKS]GKS$IVP
  or
       RUN GKS$TEST:GKS$IVP)

* Do you wish to perform the Installation Verification Procedure [YES]? Return

* Select the IVP workstation type; 1 for Motif and 2 for DECwindows [1]?  Return

    Motif Version 1.2 is installed on your system.  This kit supplies two
    Motif device handlers; one (the default) supports Motif V1.1, while
    the other supports Motif V1.2.

* Select the Motif device handler (1 for Motif V1.1 or 2 for Motif V1.2) [1]: 2 Return

    STARTING to perform all the installation work. No additional user
    actions are necessary from this point. The remaining part of the
    installation will take ( 5 - 30 minutes ) depending on your CPU.
%VMSINSTAL-I-RESTORE, Restoring product save set B ...

    The DIGITAL GKS base kit files have been processed successfully. The
    installation procedure is continuing...

    DIGITAL GKS has built successfully. Continuing installation...

    System Manager:

    Upon completion of this installation, please be sure to edit the
    system startup files as described in the DIGITAL GKS Installation Guide.

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

    Beginning the DIGITAL GKS Installation Verification Procedure (IVP).  The
    IVP will take 1 to 5 minutes depending on your CPU.

    Since you are running on a VAXstation the Installation Verification
    Procedure will be run with DIGITAL GKS device type 231 (MOTIF).  Output
    will be done to the node indicated by the logical name DECW$DISPLAY.

    If the results of the Installation Verification Procedure (IVP) look
    like the illustration provided with the DIGITAL GKS Installation Guide,
    then installation has been successful.

    The DIGITAL GKS RT V6.5 Installation Verification Procedure (IVP)
    completed successfully.

 Installation of DECGKSRT V6.5 completed at 16:17

        VMSINSTAL procedure done at 16:17
```