# OpenVMS/Hangul VAX Version 7.2 Installation Guide

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This document contains installation information for the OpenVMS/Hangul VAX Version 7.2 operating system.

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# Preface

## Purpose of This Guide

This guide describes how to install OpenVMS/Hangul VAX Version 7.2 (hereafter referred to as OpenVMS/Hangul VAX) on OpenVMS VAX Version 7.2.

Keep this document with your distribution kit. You will need it to install maintenance updates or to reinstall OpenVMS/Hangul VAX for any other reasons.

## Intended Audience

This guide is intended for OpenVMS/Hangul VAX system manager.

It is assumed that users of this guide are experienced in upgrading the OpenVMS operating system and are familiar with:

- System Management
- VMSINSTAL

## Associated Documents

- *OpenVMS/Hangul Version VAX 7.2 Release Notes*
- *OpenVMS VAX Version 7.2 Upgrade and Installation Manual*
- *DECprint Supervisor for OpenVMS Release Notes*
- *DECprint Supervisor for OpenVMS Software Installation Guide*
- *OpenVMS License Management Facility Manual*
- OpenVMS Documentation set
- OpenVMS/Hangul Documentation set
- *Asian Printing Support for OpenVMS Version 1.0 Release Notes*

- *Asian Printing Support for OpenVMS Version 1.0 Installation Guide*

## Document Structure

This guide is organized as follows:

- Chapter 1 describes the preparations and requirements necessary for installing OpenVMS/Hangul VAX.
- Chapter 2 describes the installation options available.
- Chapter 3 describes how to install OpenVMS/Hangul VAX.
- Chapter 4 describes the steps to proceed after OpenVMS/Hangul VAX is installed.
- Appendix A contains a log of a sample installation of OpenVMS/Hangul VAX.
- Appendix B contains a log of a sample execution of Installation Verification Procedure of OpenVMS/Hangul VAX.
- Appendix C contains a list of files and logical names created or modified by this installation procedure.

## Conventions

The following conventions are used throughout this guide.

| Convention | Meaning |
|---|---|
| KEY | Means pressing the key named inside the box. |
| Return | Carriage return. |
| CTRL | The phrase CTRL/x indicates that you must press key labeled CTRL while you simultaneously press another key. For example, CTRL/C, CTRL/Y and CTRL/O. |
| .<br>.<br>. | Vertical ellipsis in an example means that information not directly related to the example has been omitted. |
| [ ] | In format descriptions, brackets indicate that whatever is enclosed within the brackets is optional; you can select none, one or all of the choices. |
| UPPERCASE | Indicates logical, file and command names. |

# 1

# Preparing for OpenVMS/Hangul VAX Installation

This chapter discusses the preparations and requirements necessary for installing OpenVMS/Hangul VAX.

## 1.1 Software Prerequisites

### 1.1.1 Required Base Operating System

OpenVMS/Hangul VAX Version 7.2 requires the OpenVMS VAX Version 7.2 operating system. OpenVMS VAX Version 7.2 must be installed and running on the system before OpenVMS/Hangul VAX Version 7.2 is installed.

OpenVMS/Hangul VAX Version 7.2 also requires the XPG4 locale database for the DEC Korean Character Set. This database is in the VMSI18N072 kit that is provided on the same media as the OpenVMS VAX Version 7.2 operating system. It is not installed during the installation of OpenVMS VAX Version 7.2. To install this database, install the VMSI18N072 kit using VMSINSTAL procedure after the installation of OpenVMS VAX Version 7.2 is complete. Be sure to answer YES to the question "Do you want Korean support?"

If you are planning to set up an international environment in your system, you must select other locale databases during the installation of the VMSI18N072 kit. You can install the locale databases after the VMSI18N072 kit is installed if necessary. Please refer to the *OpenVMS VAX Version 7.2 Upgrade and Installation Manual* for details.

### 1.1.2 Required Layered Product

To enable World-Wide PostScript printing subsystem feature provided by OpenVMS/Hangul VAX Version 7.2, it requires to install DECprint Supervisor for OpenVMS (DCPS) Version 1.0C or higher. For details on the installation of DECprint Supervisor for OpenVMS, please refer to *DECprint Supervisor for OpenVMS Release Notes* and *DECprint Supervisor for OpenVMS Software Installation Guide*.

## 1.2 Prerequisite Hardware

OpenVMS/Hangul VAX Version 7.2 requires the following hardware:

- Any valid VAX configuration supported by OpenVMS VAX Version 7.2
- VT382-K Korean terminal

## 1.3 License Registration

You must register and load your license for OpenVMS/Hangul VAX Version 7.2 *before* you start the installation in order to run the Installation Verification Procedure (IVP) and use the software.

To register a license under OpenVMS, first log in to the system manager's account, SYSTEM. You then have a choice of two ways to perform the registration:

- Invoke the SYS$UPDATE:VMSLICENSE.COM procedure. When it prompts you for information, respond with data from your License PAK.
- At the DCL prompt, enter the LICENSE REGISTER command with the appropriate qualifiers that correspond to License PAK information.

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

## 1.4 Installation Procedure Requirements

The following sections discuss various requirements for installing OpenVMS /Hangul VAX.

### 1.4.1 Time

The installation takes approximately 10 to 45 minutes, depending on your system configuration and the options you select during the installation.

### 1.4.2 Privileges

To install OpenVMS/Hangul VAX, you must log in to the system manager's account or an account that has the SETPRV privilege.

### 1.4.3 Disk Space

Installing OpenVMS/Hangul VAX requires certain amount of free storage disk space during the installation. Once installed, less disk space will be required. Table 1–1 summarizes the disk space requirement for OpenVMS/Hangul VAX Version 7.2.

**Table 1–1 Disk Space Requirement**

| | |
|---|---|
| Maximum disk space utilization during installation | |
| with DECwindows Motif /Hangul fonts | 93,100 blocks |
| Without DECwindows Motif /Hangul fonts | 85,000 blocks |
| Net disk space utilization after installation | |
| with DECwindows Motif /Hangul fonts | 71,900 blocks |
| without DECwindows Motif /Hangul fonts | 71,600 blocks |

## 1.5 Resources Requirement

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

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

The available free blocks must be greater than or equal to the maximum disk space required for installation, i.e. 93,100 blocks or 85,000 blocks, depending on whether you are going to install DECwindows Motif /Hangul fonts or not.

### 1.5.1 System Parameters

Installing OpenVMS/Hangul VAX requires certain system parameter available resources. Table 1–2 lists the minimum required system parameter values for installation.

**Table 1–2 System Parameter Requirement**

| Parameter name | Minimum value |
|---|---|
| GBLPAGES | 2,850 pages |
| GBLSECTIONS | 35 sections |

To determine the number of free global pages and global sections on the system: first you can use the SYSGEN utility to check the current value of global pages and global sections. For example:

```
$ MCR SYSGEN
SYSGEN> SHOW GBLPAGES
SYSGEN> SHOW GBLSECTIONS
SYSGEN> EXIT
```

Then, enter the following command at DCL prompt to display global pages and global sections usage on the system.

```
$ INSTALL LIST /GLOBAL /SUMMARY
```

The difference of the two figures must be greater than or equal to the minimum values required for installation.

### 1.5.2 Process Account Quotas

The account you use to install OpenVMS/Hangul VAX must have sufficient quotas to enable you to perform the installation. Table 1–3 summarizes the process account quotas required for the installation account.

**Table 1–3 Process Account Quotas Requirements**

| Account Quota | Value |
|---|---|
| ASTLM | 40 |
| BIOLM | 40 |
| BYTLM | 32768 |
| DIOLM | 40 |
| ENQLM | 200 |
| FILLM | 300 |

The installation procedure checks your account quotas at the beginning of the installation. For each account quota that is below the minimum requirement, the installation procedure displays a message that shows your account quota and the minimum requirement. If any of your account quotas is indeed below the minimum requirement, the installation procedure will ask whether you want to continue with the installation. You can answer YES to continue but the installation may or may not complete successfully. Alternatively, you can answer NO or press the Return key to abort the installation. Then you can correct the account quotas and restart the installation.

User account quotas are stored in the file SYSUAF.DAT. You can use the Authorize utility to verify and change user account quotas. First set your default directory to SYS$SYSTEM and then run AUTHORIZE:

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

At the Authorize utility prompt (UAF>), use the SHOW command with an account name to check a particular account. For example:

```
UAF> SHOW SYSTEM
```

To change the quota, use the MODIFY command at the UAF> prompt. For example, to change the FILLM quota for the SYSTEM account and then exit, you can type the following:

```
UAF> MODIFY SYSTEM/FILLM=300
UAF> EXIT
```

After you exit from the Authorize utility, the OpenVMS operating system displays messages indicating whether or not changes were made. Once the changes have been made, the owner of the altered account must log out and then log in again for the new quotas to take effect.

For more information on modifying account quotas, see the description of the Authorize utility in the OpenVMS Documentation Set.

### 1.5.3 Backing Up Your System Disk

At the beginning of the installation, VMSINSTAL procedure asks if you have backed up your system disk. Compaq recommends that you do a system disk backup before installing any software.

Use the backup procedures that have been established at your site. For details on performing a system disk backup, see the section on Backup utility in the OpenVMS documentation set.

## 1.6 Warning on OpenVMS/Hangul VAX Upgrades

OpenVMS/Hangul VAX can only be installed on the corresponding version of OpenVMS VAX. When you upgrade OpenVMS/Hangul VAX system, you have to:

1. Upgrade the base OpenVMS VAX system.
2. Then, install the OpenVMS/Hangul VAX kit on the upgraded base OpenVMS VAX system.

To upgrade the base OpenVMS VAX system, you have to:

1. Remove the HSY$STARTUP.COM startup command procedure of OpenVMS/Hangul VAX from the system startup sequence. In other words, SYS$STARTUP:HSY$STARTUP.COM should be taken out from

SYS$MANAGER:SYSTARTUP_VMS.COM site specific startup command procedure or removed from the SYSMAN utility as a startup file.

2. Execute the command procedure @HSY$SYSTEM:RECOVER.COM to restore from OpenVMS/Hangul VAX system to OpenVMS VAX system. RECOVER.COM will replace some of the localized images with the original images.

3. Reboot the system.

**Note**

If you are upgrading from OpenVMS/Hangul VAX Version 6.1 and have not applied the AVMSMUP01_061 mup kit, you *must* reset the SYSGEN parameter LGI_CALLOUTS to 0 *before* rebooting the system, as follows:

```
$ RUN SYS$SYSTEM:SYSMAN
 SYSMAN> PARAMETER USE CURRENT
 SYSMAN> PARAMETER SET LGI_CALLOUTS 0
 SYSMAN> PARAMETER WRITE CURRENT
 SYSMAN> EXIT
```

Otherwise, you may not be able to log into your system after reboot.

4. After the system has been rebooted, upgrade the base OpenVMS VAX operating system.

## 1.7 Examining VAXVMSSYS.PAR File

Before you begin an installation for OpenVMS/Hangul VAX, be sure the file protection of the VAXVMSSYS.PAR file stored in SYS$SYSTEM directory is "System:RWED,Owner:RWED, Group:RE,World:RE". If it is incorrect, you need to change the file protection of the VAXVMSSYS.PAR file with the following command.

```
$ SET FILE /PROTECTION=(S:RWED, O:RWED, G:RE, W:RE) -
_$ SYS$COMMON:[SYSEXE]VAXVMSSYS.PAR
```

# 2
# Installation Options

This chapter describes the options provided with the installation.

## 2.1 Asian Printing Support Sub-Kit

There is a separate sub-kit called ASPS010 provided in the media of OpenVMS /Hangul VAX Version 7.2. It is used to install the Asian Printing Support for OpenVMS Version 1.0. If you want to have high quality Korean printing capabilities, please install this sub-kit after the installation of OpenVMS /Hangul VAX Version 7.2. For details on the installation and features of Asian Printing Support, please refer to *Asian Printing Support for OpenVMS Version 1.0 Installation Guide* and *Asian Printing Support for OpenVMS Version 1.0 Release Notes*.

**Note**

High quality Korean printing is only supported with the installation of DECprint Supervisor for OpenVMS (DCPS) Version 1.0C or higher. That is, in addition to the Asian Printing Support sub-kit, you must install DCPS V1.0C or higher if you want to have Korean printing supported.

## 2.2 DECwindows Motif/Hangul Fonts

During the installation of OpenVMS/Hangul VAX Version 7.2, you have the option to install DECwindows Motif/Hangul fonts. If you are planning to install DECwindows Motif/Hangul or above, you must install this option; otherwise you do not need to install this option. If you want to install the fonts after OpenVMS/Hangul VAX Version 7.2 is installed, you must re-install the OpenVMS/Hangul VAX Version 7.2 by restoring the system to OpenVMS VAX first. Please refer to Section 1.6 for details.

## Installation Options
## 2.2 DECwindows Motif/Hangul Fonts

**Note**

Starting with Version 7.1, OpenVMS/Hangul VAX no longer supports DECwindows Motif/Hangul Version 1.2 or earlier. To use DECwindows Motif and Korean characters with OpenVMS/Hangul VAX Version 7.2, you must install DECwindows Motif/Hangul Version 1.2-3 or later. Please see *OpenVMS/Hangul VAX Version 7.2 Release Notes* for details.

# 3
# Installing OpenVMS/Hangul VAX

This chapter describes how to install the OpenVMS/Hangul VAX Version 7.2 operating system. Section 3.1.2 contains a step-by-step description of the installation procedure.

## 3.1 The Installation Procedure

The OpenVMS/Hangul VAX installation process consists of a series of questions and informational messages.

To abort the installation procedure at any time, press CTRL/Y. However, when you abort the installation procedure, it does not delete files created up to that point. You must delete those files interactively. Appendix C lists the files created by this installation procedure and the directories in which they reside. Note that all files and directories are created under SYS$COMMON.

### 3.1.1 Invoking VMSINSTAL

To start the installation, invoke the VMSINSTAL procedure from a privileged account, such as the SYSTEM account. VMSINSTAL procedure is in the SYS$UPDATE directory. You use the following syntax to invoke VMSINSTAL procedure:

```
$ @SYS$UPDATE:VMSINSTAL HANGUL072 device-name [OPTIONS N]
```

**HANGUL072**
This refers to the OpenVMS/Hangul VAX Version 7.2 saveset.

**device-name**
The name of the device on which you plan to mount the media. For example, DKA400: is the device name for a compact disc drive. It is not necessary to use the console drive for this installation. However, if you do use the console drive, you should replace any media you have removed once the installation is completed.

**[OPTIONS N]**
This portion of the command line invokes the release notes option, allowing you to display or save a copy of the release notes. This portion is optional. If you omit this option, the Release Notes question is omitted from the VMSINSTAL procedure dialog and the release notes are automatically copied to SYS$HELP.

Note that there are several options you can select when you invoke VMSINSTAL procedure. See the OpenVMS Documentation Set on software installation for information on those options.

The following example displays the command to invoke VMSINSTAL procedure to install OpenVMS/Hangul VAX Version 7.2 from compact disk drive DKA400: and shows the system response:

```
$ @SYS$UPDATE:VMSINSTAL HANGUL072 DKA400:[HANGUL072.KIT]

         OpenVMS VAX Software Product Installation Procedure V7.2

It is 2-MAR-1999 at 16:22

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

If you do not supply either the product name or the device name, VMSINSTAL procedure will prompt you for information later on in the installation process. VMSINSTAL procedure does not prompt you for any options.

## 3.1.2 Installation Questions

This section discusses the questions that appear during the installation. Appendix A contains a sample installation log showing how the questions can be answered.

Each question in the installation is marked with an asterisk (*) at the beginning of the line. Some questions show the default response in brackets, for example [YES]. If you want to use the default response, press Return.

1. **System backup**

   VMSINSTAL procedure asks if you are satisfied with your system backup using the following question:

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

   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 to discontinue the installation. After backing up your system disk, you can restart the installation.

If you respond YES, VMSINSTAL procedure displays a message showing that the installation has begun. For example:

```
The following products will be processed:
  HANGUL V7.2

       Beginning installation of HANGUL V7.2 at 16:24
%VMSINSTAL-I-RESTORE, Restoring product save set A ...
```

2. **Choosing Release Notes Options**

   If you specified OPTIONS N in the VMSINSTAL command line, the following release notes options are displayed:

```
  Release Notes Options:
          (1) Display release notes
          (2) Print release notes
          (3) Both 1 and 2
          (4) Copy release notes to SYS$HELP
          (5) Do not display, print or copy release notes
```

   If you select 1, the release notes are displayed on your terminal and are copied to HANGUL072.RELEASE_NOTES in SYS$HELP.

   If you select 2, the release notes are queued to SYS$PRINT for printing, and copied to HANGUL072.RELEASE_NOTES in SYS$HELP.

   If you select 3, the release notes are displayed on your terminal, queued to SYS$PRINT for printing, and copied to HANGUL072.RELEASE_NOTES in SYS$HELP.

   If you select 4, the release notes are copied to HANGUL072.RELEASE_ NOTES in SYS$HELP.

   If you select 5, the release notes are not printed, displayed, or copied to SYS$HELP.

   If you did not include the OPTIONS N portion of the VMSINSTAL command line, the following message is displayed:

```
%VMSINSTAL-I-RELMOVED, Product's release notes have been moved to SYS$HELP.
```

3. **Product Authorization Key**

   The installation procedure wants to make sure you have registered and loaded the product authorization key (PAK) of OpenVMS/Hangul VAX before it checks for its validity. It asks you with the following question:

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

If you answer NO, the installation procedure will stop. If you answer YES but you actually have not loaded the PAK, the Installation Verification Procedure will fail out when it checks the validity of the PAK.

4. **DECwindows Motif/Hangul fonts**

   The saveset of OpenVMS/Hangul VAX contains the font files of DECwindows Motif/Hangul. If you have installed or are planning to install DECwindows Motif/Hangul V1.2-3 or above to your system, you are recommended to install the fonts by answering YES to the question:

   ```
   * Do you want to install DECwindows Motif /Hangul fonts [YES]?
   ```

   If you answer NO to the question, the font files will not be installed.

   **Note**

   If you choose to install the DECwindows Motif/Hangul fonts, the installation procedure will display a warning message as follows

   ```
   %COPY-W-INCOMPAT,
   VMI$ROOT:[SYSFONT.DECW.75DPI]DECW$FONT_ALIAS_GS.DAT (input) and
   VMI$ROOT:[SYSFONT.DECW.75DPI]DECW$FONT_ALIAS.DAT (output) have
   incompatible attributes
   ```

   This warning message can be safely ignored.

5. **Purge replaced files**

   If you have successfully mounted the media, VMSINSTAL procedure proceeds to restore the saveset A of OpenVMS/Hangul VAX and move the release notes to SYS$HELP.

   It then asks if you want to purge the files replaced by the installation of OpenVMS/Hangul VAX as follows:

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

   If you answer NO, the old files with the same name in the same directory will remain there. Usually you answer YES to save disk space.

6. **Delete SYS$SPECIFIC files**

   OpenVMS/Hangul VAX puts its component files in the directories under SYS$COMMON. However, if there are files under SYS$SPECIFIC possessing the same name, those files under SYS$SPECIFIC will be used instead of those under SYS$COMMON. So it is *essential* to delete those SYS$SPECIFIC files in order for OpenVMS/Hangul VAX to run successfully.

You can have the installation procedure to delete those SYS$SPECIFIC files by answering YES to the question:

```
* Do you want to delete files in SYS$SPECIFIC directory, if found [YES]?
```

If you answer NO to the question, you then need to manually delete those files under SYS$SPECIFIC when their names are in conflict with the files created by this installation procedure. Appendix C lists the files created by this installation procedure.

7. **System shutdown**

   The last question that the installation procedure asks you is:

   ```
   * Will you allow a system shutdown after this product is installed [YES]?
   ```

   Note that before rebooting your system, you should make sure that the command procedure SYS$STARTUP:HSY$STARTUP.COM is executed during system reboot by either putting that command procedure as a SYSMAN startup file, or by adding the line:

   ```
   $ @SYS$STARTUP:HSY$STARTUP.COM
   ```

   to your site-specific startup command procedure SYS$MANAGER:SYSTARTUP_VMS.COM. You are recommended to use the latter method.

### 3.1.3 Informational Messages

At this point, the installation procedure displays a number of informational messages that report the progress of the installation (refer to the sample installation file in Appendix A for the text of the informational messages that OpenVMS/Hangul VAX displays).

There is no further question. If the installation procedure has been successful up to this point, VMSINSTAL procedure begins moving files to their target directories, updates the help files, and updates the system library and DCL tables. The following message is displayed:

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

### 3.1.4 Before completing Installation Procedure

Before fully completing the installation, the installation procedure will run the Installation Verification Procedure to verify the OpenVMS/Hangul VAX installation.

```
%VMS/HANGUL-I-BEGINIVP, beginning 7.2 IVP.
```

### 3.1.5 Completing the Installation Procedure

The following messages indicate that the entire installation procedure is completed:

```
Installation of HANGUL V7.2 completed at 17:01

VMSINSTAL procedure done at 17:07
```

## 3.2 Error Recovery

If errors occur during the installation, VMSINSTAL procedure displays failure messages.

For descriptions of the error messages generated by those conditions, see the OpenVMS Documentation Set on system messages, recovery procedures and OpenVMS software installation. If you are notified that any of those conditions exists, you should take appropriate actions as described in the message.

# 4

# After Installing OpenVMS/Hangul VAX

After you have installed the OpenVMS/Hangul VAX operating system, you need to perform several important tasks to prepare the system for operation. This chapter describes these tasks in the following sections.

## 4.1 Rebooting The System

If you have chosen to reboot the system after installation, which is the default, the installation procedure will automatically invoke the SHUTDOWN command procedure, and display the following message:

```
%VMSINSTAL-I-SHUTDOWN, This product requires that the system be rebooted.

 SHUTDOWN -- Perform an Orderly System Shutdown
             on node HANVMS
```

If you choose to reboot at a later time, you can use the SHUTDOWN command procedure later as follows:

```
$ @SYS$SYSTEM:SHUTDOWN
```

However, please be reminded that the file SYS$STARTUP:HSY$STARTUP.COM must be executed at startup time. This can be done by one of the following procedures:

*Procedure A*

By adding the following line to your site-specific VMS startup procedure, SYS$MANAGER:SYSTARTUP_VMS.COM

```
$ @SYS$STARTUP:HSY$STARTUP.COM
```

**Note**

If you plan to install layered products with Korean capability, for example, Asian Printing Support for OpenVMS, you should add this

layered product startup command procedure after the above line. Otherwise, the layered product would not startup properly.

---

*Procedure B*

This can be done with SYSMAN as

```
$ RUN SYS$SYSTEM:SYSMAN
SYSMAN> STARTUP ADD FILE HSY$STARTUP.COM -
_SYSMAN> /PARAMETER=(P1,P2,P3,P4,P5,P6,P7,P8) -
_SYSMAN> /PHASE=LPBEGIN
```

## 4.2 Running the Installation Verification Procedure

Once the system is running again, you can invoke a command procedure to verify the OpenVMS/Hangul VAX installation.

```
$ @SYS$COMMON:[SYSTEST.VMS-HANGUL]VMS-HANGUL$IVP
```

This Installation Verification Procedure will be invoked by the installation procedure of this version of OpenVMS/Hangul VAX. Appendix B contains a sample log of the execution of the Installation Verification Procedure.

## 4.3 Updating Individual Compilers Libraries

Individual compilers have their own libraries. If you upgrade your system to OpenVMS/Hangul VAX Version 7.2 without re-building the corresponding libraries for individual compilers, those libraries will not automatically reflect the latest contents of the STARLET library. Using new symbols introduced in the latest version of the STARLET library will result in compilation errors. Therefore, after the system is installed or upgraded to OpenVMS/Hangul VAX, you are recommended to re-install or upgrade the compiler and choose to rebuild its library during installation.

For example, Korean SMG defines several new literals for supporting character sets in the STARLET library of the system, such as SMG$C_ASCII, SMG$C_SPEC_GRAPHICS and SMG$C_HANGUL. Users can specify the character set parameter in any SMG routine calls with the new literals for processing Korean characters in their application. Thus, you will have to re-install the compiler and rebuild its library. The program compilation will fail if the compiler library is not updated.

## 4.4 Determining and Reporting Problems

If you encounter a problem while using OpenVMS/Hangul VAX Version 7.2, report it to Compaq. Depending on the nature of the problem and the type of support you have, you can take one of the following actions:

- Call Compaq if your software contract or warranty agreement entitles you to telephone support.
- Submit a Software Performance Report (SPR).

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 indicated above or follow alternative instructions provided by Compaq for reporting SPD non-conformance problems.

If you find an error in the OpenVMS/Hangul Documentation set, fill out and submit the Reader's Comments form to Compaq.

# A

# OpenVMS/Hangul VAX Sample Installation

The following is the log of a sample installation.

```
$ @SYS$UPDATE:VMSINSTAL HANGUL072 $1$DIA2:[KIT]

        OpenVMS VAX Software Product Installation Procedure V7.2

It is 3-MAR-1999 at 15:45.

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

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

The following products will be processed:

  HANGUL V7.2

         Beginning installation of HANGUL V7.2 at 15:45

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

******************************************************************************
*                                                                            *
*                    OpenVMS/Hangul Version 7.2                              *
*                    KIT INSTALLATION PROCEDURE                              *
*                                                                            *
*               COPYRIGHT (C) 1994,1995,1996,1997,1999                       *
*                    COMPAQ COMPUTER CORPORATION                             *
*                HOUSTON TEXAS.  ALL RIGHTS RESERVED.                        *
*                                                                            *
******************************************************************************


        Product:      VMS-UI-HANGUL
        Producer:     DEC
        Version:      7.2
        Release Date: 7-MAY-1999

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

## OpenVMS/Hangul VAX Sample Installation

```
  If you have installed or planning to install DECWindows Motif /Hangul,
  you are recommended to install the DECWindows Motif /Hangul fonts.

* Do you want to install DECwindows Motif /Hangul fonts [YES]? NO

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

  This kit will be installed under the SYS$COMMON directory of this
  node. If there are files in SYS$SPECIFIC directory and not removed,
  the files will be executed instead of the newly installed ones.

* Do you want to delete files in SYS$SPECIFIC directory, if found [YES]?

      #============================================================#
       The file SYS$STARTUP:HSY$STARTUP.COM must be executed at
       startup time.

       This can be done with SYSMAN as
       $ RUN SYS$SYSTEM:SYSMAN
       SYSMAN> STARTUP ADD FILE HSY$STARTUP.COM -
       _SYSMAN> /PARAMETER=(P1,P2,P3,P4,P5,P6,P7,P8) -
       _SYSMAN> /PHASE=LPBEGIN

       OR

       By adding the following line in SYS$MANAGER:SYSTARTUP_VMS.COM
       $ @SYS$STARTUP:HSY$STARTUP.COM

       When the installation is completed, the procedure performs an
       orderly shutdown of the system.  OpenVMS/Hangul V7.2
       will become available when the system is up again.

      #============================================================#

    To complete the installation of this product, you should reboot
    the system.  If it is not convenient to reboot at this time, then
    enter NO to the following question.

    If you enter NO, the installation procedure will continue.

* Will you allow a system shutdown after this product is installed [YES]? YES
* How many minutes for system shutdown [0]: 5
* Do you want to do an automatic system reboot [YES]? YES

      #============================================================#
        There are NO FURTHER QUESTIONS during the installation and it
        will continue for 10 to 45 minutes...
      #============================================================#

%VMSINSTAL-I-SYSDIR, This product creates system directory [HSYHLP.HANGUL].

    If you intend to execute this layered product on 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 suitably privileged account):
```

```
 $ CREATE /DIRECTORY SYS$SPECIFIC:[HSYHLP.HANGUL]/OWNER=[1,4]/PROTECTION
=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSMSG.HANGUL].

    If you intend to execute this layered product on 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 suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[SYSMSG.HANGUL]/OWNER=[1,4]/PROTECTION
=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-SYSDIR, This product creates system directory [HSYEXE.HANGUL072].

    If you intend to execute this layered product on 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 suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[HSYEXE.HANGUL072]/OWNER=[1,4]/PROTECT
ION=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSTEST.VMS-HANGUL].

    If you intend to execute this layered product on 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 suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[SYSTEST.VMS-HANGUL]/OWNER=[1,4]/PROTE
CTION=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-SYSDIR, This product creates system directory [SYSHLP.HANGUL].

    If you intend to execute this layered product on 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 suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[SYSHLP.HANGUL]/OWNER=[1,4]/PROTECTION
=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-SYSDIR, This product creates system directory [HSYEXE.VMS072].

    If you intend to execute this layered product on 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 suitably privileged account):

 $ CREATE /DIRECTORY SYS$SPECIFIC:[HSYEXE.VMS072]/OWNER=[1,4]/PROTECTION
=(S:RWE,O:RWE,G:RE,W:RE)
%VMSINSTAL-I-RESTORE, Restoring product save set B ...

        #============================================================#
         Saving standard files and images for future upgrade ...
        #============================================================#
```

## OpenVMS/Hangul VAX Sample Installation

```
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]DCL.EXE;3 copied to VMI$ROOT:[HSYEXE.VMS072]
V072$DCL.EXE;3 (229 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSMSG]CLIUTLMSG.EXE;2 copied to VMI$ROOT:[HSYEXE.V
MS072]V072$CLIUTLMSG.EXE;3 (201 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]SEARCH.EXE;3 copied to VMI$ROOT:[HSYEXE.VMS0
72]V072$SEARCH.EXE;3 (35 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]SMGBLDTRM.EXE;3 copied to VMI$ROOT:[HSYEXE.V
MS072]V072$SMGBLDTRM.EXE;3 (46 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]SMGTERMS.TXT;3 copied to VMI$ROOT:[HSYEXE.VM
S072]V072$SMGTERMS.TXT;3 (170 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]TERMTABLE.EXE;3 copied to VMI$ROOT:[HSYEXE.V
MS072]V072$TERMTABLE.EXE;3 (170 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYS$LDR]FBDRIVER.EXE;3 copied to VMI$ROOT:[HSYEXE.V
MS072]V072$FBDRIVER.EXE;3 (18 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]TFF$MASTER.DAT;3 copied to VMI$ROOT:[HSYEXE.
VMS072]V072$TFF$MASTER.DAT;3 (134 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSMGR]TFF$STARTUP.COM;29 copied to VMI$ROOT:[HSYEX
E.VMS072]V072$TFF$STARTUP.COM;3 (5 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSHLP]TFF$TFUHELP.HLB;3 copied to VMI$ROOT:[HSYEXE
.VMS072]V072$TFF$TFUHELP.HLB;3 (55 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSLIB]TFFSHR.EXE;3 copied to VMI$ROOT:[HSYEXE.VMS0
72]V072$TFFSHR.EXE;3 (21 blocks)
%COPY-S-COPIED, SYS$COMMON:[SYSEXE]TFU.EXE;3 copied to VMI$ROOT:[HSYEXE.VMS072]
V072$TFU.EXE;3 (32 blocks)
%VMSINSTAL-I-RESTORE, Restoring product save set C ...
%VMSINSTAL-I-RESTORE, Restoring product save set D ...
%VMSINSTAL-I-RESTORE, Restoring product save set F ...
%VMSINSTAL-I-RESTORE, Restoring product save set G ...

        #================================================================#
         Creating libraries ...
        #================================================================#

%PURGE-I-NOFILPURG, no files purged
%LIBRAR-S-INSERTED, module CHARACTER_MANAGER inserted in VMI$ROOT:[HSYHLP]HSYHL
P.HLB;3
%LIBRAR-S-INSERTED, module CMGR inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HDUMP inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HEDT inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HELP inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HMAIL inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HMERGE inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HSORT inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HSYSHR inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module HTPU inserted in VMI$ROOT:[HSYHLP]HSYHLP.HLB;3
%LIBRAR-S-INSERTED, module Phrase_Input_Utility inserted in VMI$ROOT:[HSYHLP]HS
YHLP.HLB;3

        #================================================================#
         Moving files to destination directories and searching SYS$SPECIFIC
        #================================================================#
```

```
%CREATE-I-CREATED, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPSPEC.DAT;1 created
%CREATE-I-CREATED, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPDELETE.COM;1 created
%DELETE-I-FILDEL, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPSPEC.DAT;2 deleted (0
 blocks)
%DELETE-I-FILDEL, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPSPEC.DAT;1 deleted (0
 blocks)
%DELETE-I-FILDEL, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPDELETE.COM;2 deleted
(4 blocks)
%DELETE-I-FILDEL, $1$DIA1:[SYS0.SYSUPD.HANGUL072]AVMS$TEMPDELETE.COM;1 deleted
(0 blocks)
%DELETE-I-TOTAL, 4 files deleted (4 blocks)
%RENAME-I-RENAMED, VMI$SPECIFIC:[SYSEXE]TEMPMODPARAMS.DAT;1 renamed to VMI$SPEC
IFIC:[SYSEXE]MODPARAMS.DAT;4

%CREATE-I-CREATED, $1$DIA1:[SYS0.SYSUPD.HANGUL072]HANGULSTATE.MAR;1 created
%VMSINSTAL-I-MOVEFILES, Files will now be moved to their target directories...

%VMS/HANGUL-I-BEGINIVP, beginning 7.2 IVP.

******************************************************************************
*                                                                            *
*                        OpenVMS/Hangul VAX V7.2                             *
*                    INSTALLATION VERIFICATION PROCEDURE                     *
*                                                                            *
*               COPYRIGHT (C) 1994,1995,1996,1997,1999                       *
*                                                                            *
*                      COMPAQ COMPUTER CORPORATION                           *
*                  HOUSTON TEXAS.  ALL RIGHTS RESERVED.                      *
******************************************************************************

        Starting OpenVMS/Hangul VAX IVP ...
%VMS/HANGUL-I-ENDIVP, 7.2 IVP completed successfully.

        Installation of HANGUL V7.2 completed at 15:52

%VMSINSTAL-I-SHUTDOWN, This product requires that the system be rebooted.

        SHUTDOWN -- Perform an Orderly System Shutdown
                    on node AVMS

Do you really want to shutdown node AVMS [NO]?

        VMSINSTAL procedure done at 15:56
```

# B

# OpenVMS/Hangul VAX Sample Installation Verification Procedure

This appendix contains a sample of the Installation Verification Procedure (IVP). Refer to Chapter 4 for information about running the IVP.

```
$ @SYS$COMMON:[SYSTEST.VMS-HANGUL]VMS-HANGUL$IVP

*************************************************************************
*                                                                       *
*                       OpenVMS/Hangul VAX V7.2                         *
*                   INSTALLATION VERIFICATION PROCEDURE                 *
*                                                                       *
*               COPYRIGHT (C) 1993,1994,1995,1996,1997,1999             *
*                                                                       *
*                       COMPAQ COMPUTER CORPORATION                     *
*                    HOUSTON TEXAS.  ALL RIGHTS RESERVED.               *
*                                                                       *
*************************************************************************

         Starting OpenVMS/Hangul VAX IVP ...

         OpenVMS/Hangul VAX IVP completed successfully.

$
```

# C

# OpenVMS/Hangul VAX Software Components and Defined System Logical Names

The OpenVMS/Hangul VAX installation procedure installs a number of files on your system. Table C–1 lists the names of all the files installed in the directories under SYS$COMMON when OpenVMS/Hangul VAX is installed.

**Table C–1 Component File List**

| Directory | File | Change |
|---|---|---|
| [DECW$DEFAULTS.SYSTEM.KO_KR] | HEVE$WIDGETS_MOTIF.UID | New |
| [HSYEXE.EXAMPLE] | CALLASMG$C.C | New |
| [HSYEXE.EXAMPLE] | CALLASMG$FORTRAN.FOR | New |
| [HSYEXE.EXAMPLE] | DATETIME.C | New |
| [HSYEXE.EXAMPLE] | EXAMPLE.B32 | New |
| [HSYEXE.EXAMPLE] | SAMPLE.BAS | New |
| [HSYEXE.EXAMPLE] | SAMPLE.C | New |
| [HSYEXE.EXAMPLE] | SAMPLE.COB | New |
| [HSYEXE.EXAMPLE] | SAMPLE.FOR | New |
| [HSYEXE.EXAMPLE] | SAMPLE.MAR | New |
| [HSYEXE.EXAMPLE] | SAMPLE.PAS | New |
| [HSYEXE.EXAMPLE] | SAMPLE.PLI | New |
| [HSYEXE.EXAMPLE] | SAMPLE_HSYSHR.C | New |
| [HSYEXE.EXAMPLE] | TEXT.IN | New |
| [HSYEXE.HANGUL072] | EDIT.CLD | Replace |

(continued on next page)

**Table C–1 (Cont.) Component File List**

| Directory | File | Change |
|---|---|---|
| [HSYEXE.HANGUL072] | EDIT_EN.HLP | Replace |
| [HSYEXE] | HANGULGEN.EXE | New |
| [HSYEXE] | HDUMP.EXE | New |
| [HSYEXE] | HEDT.EXE | New |
| [HSYEXE] | HMAIL.EXE | New |
| [HSYEXE] | HSY$INIT.EXE | New |
| [HSYEXE] | HTPU.EXE | New |
| [HSYEXE] | MAILEDIT_KOR.COM | New |
| [HSYEXE] | RECOVER.COM | New |
| [HSYEXE] | WWPPS.EXE | New |
| [HSYHLP.HANGUL] | HANGULGEN.HLB | New |
| [HSYHLP.HANGUL] | HEDTHELP.HLB | New |
| [HSYHLP.HANGUL] | HEVE$HELP.HLB | New |
| [HSYHLP.HANGUL] | HEVE$KEYHELP.HLB | New |
| [HSYHLP.HANGUL] | HMAILHELP.HLB | New |
| [HSYHLP.HANGUL] | HTPUHELP.HLB | New |
| [HSYHLP] | HANGULGEN.HLB | New |
| [HSYHLP] | HEDTHELP.HLB | New |
| [HSYHLP] | HEVE$HELP.HLB | New |
| [HSYHLP] | HEVE$KEYHELP.HLB | New |
| [HSYHLP] | HMAILHELP.HLB | New |
| [HSYHLP] | HTPUHELP.HLB | New |
| [SYS$LDR] | ASDRIVER.EXE | New |
| [SYS$LDR] | FBDRIVER.EXE | Replace |
| [SYS$LDR] | HNDRIVER.EXE | New |
| [SYS$STARTUP] | HSY$CONFIG.COM | New |
| [SYS$STARTUP] | HSY$STARTUP.COM | New |
| [SYS$STARTUP] | HSYHLPSTARTUP.COM | New |
| [SYSEXE] | DCL.EXE | Replace |

(continued on next page)

**Table C–1 (Cont.) Component File List**

| Directory | File | Change |
|---|---|---|
| [SYSEXE] | SEARCH.EXE | Replace |
| [SYSEXE] | SMGBLDTRM.EXE | Replace |
| [SYSEXE] | SMGTERMS.TXT | Replace |
| [SYSEXE] | TERMTABLE.EXE | Replace |
| [SYSEXE] | TFF$MASTER.DAT | Replace |
| [SYSEXE] | TFU.EXE | Replace |
| [SYSFONT.WWPPS] | ANGSANAUPC-BOLD. | New |
| [SYSFONT.WWPPS] | ANGSANAUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | ANGSANAUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | ANGSANAUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | CORDIAUPC-BOLD. | New |
| [SYSFONT.WWPPS] | CORDIAUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | CORDIAUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | CORDIAUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | EUCROSIAUPC-BOLD. | New |
| [SYSFONT.WWPPS] | EUCROSIAUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | EUCROSIAUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | EUCROSIAUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | FREESIAUPC-BOLD. | New |
| [SYSFONT.WWPPS] | FREESIAUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | FREESIAUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | FREESIAUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | HEI-GB2312-80.CSDATA | New |
| [SYSFONT.WWPPS] | HEI-LIGHT-CNS11643-1.CSDATA | New |
| [SYSFONT.WWPPS] | HEI-LIGHT-CNS11643-2.CSDATA | New |
| [SYSFONT.WWPPS] | IRISUPC-BOLD. | New |
| [SYSFONT.WWPPS] | IRISUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | IRISUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | IRISUPC-LIGHT. | New |

(continued on next page)

**Table C–1 (Cont.) Component File List**

| Directory | File | Change |
|---|---|---|
| [SYSFONT.WWPPS] | JASMINEUPC-BOLD. | New |
| [SYSFONT.WWPPS] | JASMINEUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | JASMINEUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | JASMINEUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | KODCHIANGUPC-BOLD. | New |
| [SYSFONT.WWPPS] | KODCHIANGUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | KODCHIANGUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | KODCHIANGUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | LILYUPC-BOLD. | New |
| [SYSFONT.WWPPS] | LILYUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | LILYUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | LILYUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | MUNJO.CSDATA | New |
| [SYSFONT.WWPPS] | SUNG-LIGHT-CNS11643-1.CSDATA | New |
| [SYSFONT.WWPPS] | SUNG-LIGHT-CNS11643-2.CSDATA | New |
| [SYSFONT.WWPPS] | WATERLILYUPC-BOLD. | New |
| [SYSFONT.WWPPS] | WATERLILYUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | WATERLILYUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | WATERLILYUPC-LIGHT. | New |
| [SYSFONT.WWPPS] | XISONG-GB2312-80.CSDATA | New |
| [SYSFONT.WWPPS] | YUCCAUPC-BOLD. | New |
| [SYSFONT.WWPPS] | YUCCAUPC-BOLDITALIC. | New |
| [SYSFONT.WWPPS] | YUCCAUPC-ITALIC. | New |
| [SYSFONT.WWPPS] | YUCCAUPC-LIGHT. | New |
| [SYSHLP.HANGUL] | TFF$TFUHELP.HLB | New |
| [SYSHLP] | HANGUL072.RELEASE_NOTES | New |
| [SYSHLP] | TFF$TFUHELP.HLB | Replace |
| [SYSHLP] | WWPPSHLP.HLB | New |
| [SYSLIB] | HEDTSHR.EXE | New |

(continued on next page)

**Table C–1 (Cont.) Component File List**

| Directory | File | Change |
|---|---|---|
| [SYSLIB] | HEVE$SECTION.TPU$SECTION | New |
| [SYSLIB] | HEVE$WIDGETS_MOTIF.UID | New |
| [SYSLIB] | HEVE.DAT | New |
| [SYSLIB] | HMAILSHR.EXE | New |
| [SYSLIB] | HMAILSHRP.EXE | New |
| [SYSLIB] | HSMGSHR.EXE | New |
| [SYSLIB] | HSYSHR.EXE | New |
| [SYSLIB] | HTPU$CCTSHR.EXE | New |
| [SYSLIB] | HTPU$DEBUG.TPU | New |
| [SYSLIB] | HTPU$MOTIFSHR.EXE | New |
| [SYSLIB] | HTPU.DAT | New |
| [SYSLIB] | HTPUSHR.EXE | New |
| [SYSLIB] | TFFSHR.EXE | Replace |
| [SYSLIB] | WWPPS.PCF | New |
| [SYSMGR] | TFF$STARTUP.COM | Replace |
| [SYSMSG.HANGUL] | CLIUTLMSG.EXE | New |
| [SYSMSG.HANGUL] | HDUMPMSG.EXE | New |
| [SYSMSG.HANGUL] | HMAILMSG.EXE | New |
| [SYSMSG.HANGUL] | HTPUMSG.EXE | New |
| [SYSMSG] | CLIUTLMSG.EXE | Replace |
| [SYSMSG] | HDUMPMSG.EXE | New |
| [SYSMSG] | HEDTMSG.EXE | New |
| [SYSMSG] | HMAILMSG.EXE | New |
| [SYSMSG] | HTPUMSG.EXE | New |
| [SYSTEST.VMS-HANGUL] | AVMSIVP.EXE | New |
| [SYSTEST.VMS-HANGUL] | VMS-HANGUL$IVP.COM | New |

## OpenVMS/Hangul VAX Software Components and Defined System Logical Names

Table C–2 lists the system logical names defined by the OpenVMS/Hangul VAX startup procedure.

**Table C–2 Defined System Logical Names**

| Logical Name | Value |
|---|---|
| HSY$EXAMPLE | SYS$SYSROOT:[HSYEXE.EXAMPLE] |
| HSY$HELP | SYS$SYSROOT:[HSYHLP.HANGUL], SYS$SYSROOT:[HSYHLP] |
| HSY$LIBRARY | SYS$LIBRARY |
| HSY$SYSTEM | SYS$SYSROOT:[HSYEXE] |
| HTPU$SECTION | HEVE$SECTION |
| HTPU$JOURNAL | SYS$SCRATCH |
| SYS$HELP | SYS$SYSROOT:[SYSHLP.HANGUL], SYS$SYSROOT:[SYSHLP] |
| SYS$MESSAGE | SYS$SYSROOT:[SYSMSG.HANGUL], SYS$SYSROOT:[SYSMSG] |