VMS Software

VSI BASIC
Installation Guide

Operating System and Version: VSI OpenVMS Alpha Version 8.4-2L1 or higher
VSI OpenVMS IA-64 Version 8.4-1H1 or higher
VSI OpenVMS x86-64 Version 9.2-2 or higher

Software Version: VSI BASIC Version 1.8 for OpenVMS Alpha
VSI BASIC Version 1.8 for OpenVMS IA-64
VSI BASIC Version 1.9 for OpenVMS x86-64

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VSI BASIC Installation Guide

VMS Software

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Preface

This guide describes how to install VSI BASIC on the OpenVMS operating system.

Keep this guide with your distribution kit. You will need it to install maintenance updates or to reinstall VSI BASIC for any other reason.

1. About VSI

VMS Software, Inc. (VSI) is an independent software company licensed by Hewlett Packard Enterprise to develop and support the OpenVMS operating system.

2. Intended Audience

This guide is intended for system managers who install VSI BASIC.

3. Document Structure

This guide contains the following chapters:

- *Chapter 1, "Preparing for VSI BASIC Installation"* describes the preparations necessary for installing VSI BASIC.
- *Chapter 2, "Installing VSI BASIC"* describes how to install VSI BASIC.
- *Chapter 3, "After Installing VSI BASIC"* describes post-installation tasks.

4. Related Documents

In addition to this guide, the VSI BASIC documentation set includes the following documents:

- *The VSI BASIC for OpenVMS User Manual*
- *The VSI BASIC for OpenVMS Reference Manual*
- The VSI BASIC online release notes. The release notes can be found at the following location after installation:

  `SYS$HELP:BASIC01n.RELEASE_NOTES`

5. OpenVMS Documentation

The full VSI OpenVMS documentation set can be found on the VMS Software Documentation webpage at https://docs.vmssoftware.com.

6. VSI Encourages Your Comments

You may send comments or suggestions regarding this manual or any VSI document by sending electronic mail to the following Internet address: `<docinfo@vmssoftware.com>`. Users who have

VSI OpenVMS support contracts through VSI can contact `<support@vmssoftware.com>` for help with this product.

7. Conventions

The following typographic conventions may be used in this manual:

Convention	Meaning
Ctrl/*x*	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.
PF1 *x*	A sequence such as **PF1 *x*** indicates that you must first press and release the key labeled **PF1** and then press and release another key or a pointing device button.
. . .	A horizontal ellipsis in examples indicates one of the following possibilities: ● Additional optional arguments in a statement have been omitted. ● The preceding item or items can be repeated one or more times. Additional parameters, values, or other information can be entered.
. . .	A vertical ellipsis indicates the omission of items from a code example or command format; the items are omitted because they are not important to the topic being discussed.
( )	In command format descriptions, parentheses indicate that you must enclose choices in parentheses if you specify more than one.
[ ]	In command format descriptions, brackets indicate optional choices. You can choose one or more items or no items. Do not type the brackets on the command line. However,you must include the brackets in the syntax for OpenVMS directory specifications and for a substring specification in an assignment statement.
|	In command format descriptions, vertical bars separate choices within brackets or braces. Within brackets, the choices are optional; within braces, at least one choice is required. Do not type the vertical bars on the command line.
{ }	In command format descriptions, braces indicate required choices; you must choose at least one of the items listed. Do not type the braces on the command line.
bold type	Bold type represents the name of an argument, an attribute, or a reason.
`monospace`	Bold monospace type indicates a command line, command verb, or a qualifier.
italic type	Italic type indicates important information, complete titles of manuals, or variables. Variables include information that varies in system output (Internal error *number*), in command lines (/PRODUCER=*name*), and in command parameters in text (where *dd* represents the predefined code for the device type).
UPPERCASE TYPE	Uppercase type indicates the name of a routine, the name of a file, or the abbreviation for a system privilege.

Convention	Meaning
–	A hyphen at the end of a command format description, command line, or code line indicates that the command or statement continues on the following line.
numbers	All numbers in text are assumed to be decimal unless otherwise noted. Nondecimal radixes – binary, octal, or hexadecimal – are explicitly indicated.
IA-64	This abbreviation refers to the version of the OpenVMS operating system that runs on the Intel ® Itanium ® architecture.

Chapter 1. Preparing for VSI BASIC Installation

This chapter contains important information about the VSI BASIC installation requirements, license registration options, and recommendations on what should be done before installing VSI BASIC.

Reading the release notes before proceeding with the installation is strongly recommended. VSI BASIC provides online release notes. For information on accessing the online release notes, see *Section 1.1, "Reading the Release Notes"*.

1.1. Reading the Release Notes

VSI strongly recommends that you read the release notes before installing VSI BASIC. They contain information about changes to the installation and use of VSI BASIC, such as the minimum version of the OpenVMS operating system required for the current release of VSI BASIC.

You can extract the VSI BASIC release notes to a file and type or print them before starting VSI BASIC installation. The VSI BASIC release notes can also be found on your system after the installation.

To read the online release notes before installation, use the appropriate instructions depending on the architecture.

- For x86-64, use **`$ PRODUCT EXTRACT RELEASE_NOTES`**. Refer to *Section 2.1, "Installing VSI BASIC on x86-64"* (Step 4) for more detailed information on the command.

  After installation, the release notes are installed as text in:

  `SYS$HELP:BASIC01n.RELEASE_NOTES`

- If you are running OpenVMS on an IA-64 or an Alpha system, refer to *Section 2.2, "Installing VSI BASIC on Alpha and IA-64"* and follow Step 1 through Step 8.

1.2. Optional Software

The following optional software can be used with VSI BASIC:

- Oracle CDD/Repository
- Language-Sensitive Editor
- Source Code Analyzer

1.3. License Registration

During the installation (on Alpha and IA-64), the system asks whether you have registered the VSI BASIC license and loaded the appropriate PAK. Before you start the installation, you must register and load your license for VSI BASIC to be able to run the Installation Verification Procedure (IVP), and for users to be able to run VSI BASIC.

The license registration information you need is contained in the Product Authorization Key (PAK) file. If you are installing VSI BASIC as an update on a node or cluster that is licensed for this software, you have already completed the License PAK registration requirements.

Note

On Alpha systems, the VSI BASIC compiler license is covered by the ALPHA-LP license PAK.

If you are installing prerequisite or optional software along with VSI BASIC, review the PAK status and install the PAKs for any prerequisite or optional software before you install VSI BASIC.

To determine whether the VSI BASIC license is registered on the current system, enter the **LICENSE LIST** command. If the license is not on the list, you must register it.

To register the PAK on your system, you have the following options:

- Copy the zipped license script (provided as part of the license distribution sent to you by a VMS Software manager) to your target system, unzip it there, rename its extension from .TXT to .COM, and execute it as a simple command procedure.
- Copy the script from the appropriate PDF file (provided as part of the license distribution sent to you by a VMS Software manager) directly into a .COM file on your target system. Execute the created command procedure.
- Run the SYS$UPDATE:VMSLICENSE.COM command procedure and manually enter the PAK data[1] or load the PAK through the **LICENSE REGISTER** command. Refer to the *VSI OpenVMS License Management Utility Guide* for more information on how to do so.

Next, make sure the license is loaded into the license database using the **SHOW LICENSE** command.

```
$ SHOW LICENSE BASIC

Active licenses on node NODE1:

------- Product ID --------    ---- Rating ----- -- Version --
Product            Producer    Units PCL   Activ Version Release    Termination
BASIC              VSI             0  0     1      0.0  (none)      10-MAY-2024
```

If the license is not found, you will need to load it using the **LICENSE LOAD** command.

```
$ LICENSE LOAD BASIC
%LICENSE-I-LOADED, VSI BASIC was successfully loaded with 0 units
$
```

If you plan to use VSI BASIC on more than one node in a cluster, you will need to perform a license load on the other nodes after you complete this installation. See *Section 3.4, "Making VSI BASIC Usable on a VMSCluster"*.

For complete information on using LMF, see the *VSI OpenVMS License Management Utility Guide* or the online HELP LICENSE utility.

1.4. Installation Procedure Requirements

This section describes the requirements for installing VSI BASIC (process account quotas, system parameters, disk space, etc.).

[1] When you register a license with VMSLICENSE.COM, you can choose an option to load the license automatically to avoid loading the license manually.

1.4.1. Installation Account Privileges and Disk Space Requirements

To install VSI BASIC on Alpha or IA-64, you must be logged in to an account that has the SETPRV privilege.

To install VSI BASIC x86-64, your account must have the SETPRV privilege or at least the following privileges enabled:

- BYPASS
- CMKRNL
- SYSLCK
- SYSPRV

Privileges required for product use are defined in *Section 3.1, "User Account Requirements"*.

Table 1.1, "Disk Space Requirements" lists the VSI BASIC requirements for free disk storage space to install the compiler. The total blocks needed include Help, Starlet, and Motif files.

Table 1.1. Disk Space Requirements

Kit	Blocks Required
VSI BASIC for OpenVMS x86-64	150,000
VSI BASIC for OpenVMS IA-64	33,000
VSI BASIC for OpenVMS Alpha	21,000

These counts refer to the disk space required on the system disk. The sizes are approximate; actual sizes may vary depending on the user's system environment, configuration, and software options.

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

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

1.4.2. System Parameters

Installing VSI BASIC requires certain system parameter settings.

- For x86-64, 2 global sections, approximately 10000 contiguous free global pagelets, and a sufficient number of contiguous free global pagelets to contain the file SYS$LIBRARY:DCLTABLES.EXE.
- For IA-64, 6 global sections, approximately 3500 contiguous free pagelets, and a sufficient number of contiguous free global pagelets to contain the file SYS$LIBRARY:DCLTABLES.EXE.
- For Alpha, 4 sections, 9400 contiguous free pagelets, and a sufficient number of contiguous free global pagelets to contain the file SYS$LIBRARY:DCLTABLES.EXE.

These values represent the number of free global pagelets and global sections required for the installation, not the total number you need to run your system and other software.

Note

If you do not ensure that your system has the necessary global pagelets and global section SYSGEN parameters for the installation, the DCL tables can become corrupted in some situations.

1.4.2.1. Calculating Values for GBLPAGES and GBLSECTIONS

To determine the number of global pagelets required by SYS$LIBRARY:DCLTABLES.EXE, enter the following DCL command:

```
$ DIR/SIZE SYS$LIBRARY:DCLTABLES.EXE
```

This command returns the size (in blocks) of SYS$LIBRARY:DCLTABLES.EXE. As an approximation, use this figure as the number of global pagelets for the file.

You can use the **WRITE** command with the F$GETSYI lexical function to find the number of free contiguous global pagelets and free global sections. The following example shows how to get this information at your terminal (the default for SYS$OUTPUT).

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

If the value of free global pagelets or global sections is less than the required value (see *Section 1.4.2, "System Parameters"*), you must increase the system parameter settings. The following section describes the procedures for increasing these values using AUTOGEN.

1.4.2.2. Changing System Parameter Values with AUTOGEN

If you do not have enough free global pages or free global sections to install VSI BASIC, use the AUTOGEN command procedure to increase the GBLPAGES or GBLSECTIONS system parameters.

AUTOGEN automatically adjusts values for parameters that are associated with the values you reset manually. To change system parameters with AUTOGEN, edit the following file:

```
SYS$SYSTEM:MODPARAMS.DAT
```

To change a parameter value listed in this file, delete the current value associated with that parameter and enter the new value.

To add a new parameter, add a line to the file that specifies the name of the parameter and its value. For example:

```
WSMAX = 8096
```

To modify incremental parameters such as GBLPAGES and GBLSECTIONS, use the ADD_ prefix. The following example increases the global page setting by 2000:

```
ADD_GBLPAGES = 2000
```

Note

When you set the page file quota, do *not* use a value that exceeds the amount of page file space available on the system.

After you make all your changes, exit from the editor, then execute the AUTOGEN procedure to recalculate your system parameters and reboot the system:

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

When you specify REBOOT, AUTOGEN does an automatic system shutdown and then reboots the system. Any users logged on to the system are immediately disconnected during the shutdown. The automatic reboot puts the new parameter values into effect.

The AUTOGEN Utility 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 information about using AUTOGEN and its command-line parameters, see the *VSI OpenVMS System Manager's Manual, Volume 1: Essentials* and *VSI OpenVMS System Manager's Manual, Volume 2: Tuning, Monitoring, and Complex Systems*.

1.4.3. VMSINSTAL Installation Requirements (Alpha and IA-64 Only)

When you invoke VMSINSTAL, it checks the following:

- Whether you have set your default device and directory to SYS$UPDATE
- Whether you are logged in to a privileged account
- Whether you have adequate quotas for installation (see *Section 1.4, "Installation Procedure Requirements"*)
- Whether DECnet is running
- Whether any users are logged in to the system

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 adjust your system, type NO or press **Enter**. Then, correct the problem and restart the installation.

1.4.3.1. Installation Account Quotas Requirements

VMSINSTAL requires that the installation account have the following minimum quotas:

```
ASTLM = 100
BIOLM = 100
DIOLM = 100
ENQLM = 300
FILLM = 300
```

1.4.3.1.1. Modifying Process Quotas

Use the OpenVMS Authorize Utility to change the process quotas for the installation account in the user authorization file (UAF). (Some sites may restrict the use of the OpenVMS Authorize Utility to certain accounts or people.) For example, to change the BIOLM quota for the installation account, you might enter the following command sequence:

```
$ RUN SYS$SYSTEM:AUTHORIZE
```

```
UAF> MODIFY account-name /BIOLM = 100
UAF> SHOW account-name
.
.
.
UAF> EXIT
$ LOGOUT
```

After the quotas for the installation account have been changed, log out of the installation account and log in again for the new quotas to take effect. You can then proceed with the installation.

For more information on modifying account quotas, see the description of the AUTHORIZE utility in the *VSI OpenVMS System Manager's Manual, Volume 1: Essentials*.

1.5. Backing Up Your System Disk

VSI recommends that you do a system disk backup before installing any software. Use the backup procedures that are established at your site.

For details on performing a system disk backup, see the *VSI OpenVMS System Manager's Manual, Volume 1: Essentials*

Chapter 2. Installing VSI BASIC

After you register and load the license PAK, the installation takes approximately 2-5 minutes, depending on your system configuration and the kit components chosen.

If you encounter any failures during installation, see *Section 2.3, "Recovering from Installation Errors"*.

2.1. Installing VSI BASIC on x86-64

The VSI BASIC installation procedure consists of a series of questions and informational messages.

To abort the installation procedure at any time, press **Ctrl/Y**.

When the system prompts you with a question during the installation procedure, the default answer, if any, is enclosed in brackets "[]".

The installation steps are as follows:

1. Make sure you have downloaded the latest kit file. For example, `X86VMS-BASIC-X`*`nnnn-nnn`*`.ZIP`

2. Use the UNZIP utility to extract the installation files.

   The ZIP/UNZIP utility can be found on your system in the following directories:

   ```
   SYS$COMMON:[SYSHLP.UNSUPPORTED.ZIP]
   SYS$COMMON:[SYSHLP.UNSUPPORTED.UNZIP]
   ```

   To be able to use the `UNZIP` command, create a foreign command that will run the UNZIP utility, for example:

   ```
   $ UNZIP == "$SYS$COMMON:[SYSHLP.UNSUPPORTED.UNZIP]UNZIP.EXE"
   ```

   For information on how to use this utility, execute `UNZIP`.

3. Log in to a privileged account on the system (or cluster) where you will install VSI BASIC. This account must have the following privileges enabled:

   - BYPASS
   - CMKRNL
   - SYSLCK
   - SYSPRV

   If your process has the SETPRV privilege, you can enable these privileges by entering the following command:

   ```
   $ SET PROCESS/PRIVILEGE=(BYPASS,CMKRNL,SYSLCK,SYSPRV)
   ```

   To check whether your process has these privileges enabled, enter the following command:

   ```
   $ SHOW PROCESS/PRIVILEGES
   ```

4. To extract the VSI BASIC online release notes before you install VSI BASIC, enter the following command:

```
$ PRODUCT EXTRACT RELEASE_NOTES BASIC /SOURCE=disk:[directory]
```

In this command, `disk:[directory]` is the specification of the disk and directory containing the product installation files. If your process default directory is the same directory that contains the VSI BASIC product distribution files, you can specify the source directory as `/SOURCE=[]`.

You can view or print the file BASIC01*n*.RELEASE_NOTES before you continue with the installation. For example:

```
$ TYPE/PAGE BASIC01n.RELEASE_NOTES
```

5. Set the default directory to a writeable directory to allow the IVP to succeed. Then run the **`PRODUCT INSTALL`** command, pointing to the kit location. For example:

```
$ SET DEFAULT SYS$MANAGER
$ PRODUCT INSTALL BASIC /SOURCE=disk:[directory]
```

When the installation has been completed, the DCL `$` prompt reappears.

6. To obtain a list of files installed, enter the following command:

```
$ PRODUCT SHOW OBJECT /PRODUCT=BASIC
```

To use other features of the PCSI utility, see the *POLYCENTER Software Installation Utility User's Guide*.

2.2. Installing VSI BASIC on Alpha and IA-64

The VSI BASIC installation procedure consists of a series of questions and informational messages.

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.

When the system prompts you with a question during the installation procedure, the default answer, if any, is enclosed in brackets "[]".

The installation steps are as follows:

1. Make sure you have downloaded the latest kit file. For example, `AXPVMS-BASIC-Xnnnn-nnn.ZIP`.[1]

2. Use the UNZIP utility to extract the installation files.

The ZIP/UNZIP utility can be found on your system in the following directories:[2]

```
SYS$COMMON:[SYSHLP.UNSUPPORTED.ZIP]
SYS$COMMON:[SYSHLP.UNSUPPORTED.UNZIP]
```

To be able to use the **`UNZIP`** command, create a foreign command that will run the UNZIP utility, for example:

```
$ UNZIP == "$SYS$COMMON:[SYSHLP.UNSUPPORTED.UNZIP]UNZIP.EXE"
```

[1] If your kit file has an extension different from .ZIP, proceed from Step 3.
[2] If you cannot find the ZIP/UNZIP utility on your system, you can download it from the following webpage: https://vmssoftware.com/community/freeware/.

For information on how to use this utility, execute **UNZIP**.

3. Log in to a privileged account on the system (or cluster) where you will install VSI BASIC. This account must have the SETPRV privilege enabled.

   You can check what privileges are enabled for your process by entering the following command:

   ```
   $ SHOW PROCESS/PRIVILEGES
   ```

4. Invoke the VMSINSTAL command procedure.

   You should invoke the VMSINSTAL command procedure from a privileged account, such as the SYSTEM account. The VMSINSTAL procedure resides in the SYS$UPDATE directory. Set your default directory to SYS$UPDATE. For example:

   ```
   Username: SYSTEM
   Password:

   $ SET DEFAULT SYS$UPDATE
   $ @SYS$UPDATE:VMSINSTAL saveset-name device-name [OPTIONS option-list]
   ```

   saveset-name

   The installation name for the component. For VSI BASIC, use the following installation name:

   `BASIC01n`

   device-name

   The name of the device and the directory containing the VSI BASIC kit. For example:

   `$1$DGA700:[KITS]`

   OPTIONS option-list

   The word `OPTIONS` followed by one or more of the following option designators: `A`, `L`, `N`, `R`.

   If you specify multiple options, use commas to separate the options, for example: `OPTIONS A,N`.

   The table below describes the meaning of the option designators.

   Table 2.1. Options for the VMSINSTAL Procedure

Option	Meaning
A	Auto_answer 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).
L	File log option. Logs all activity to the terminal during installation.
N[1]	Display or print the release notes. Indicates that you want to see the installation question on 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 in case they contain additional information about the installation. If you are

Option	Meaning
	restarting the installation and have already reviewed the release notes, you do not need to specify `OPTIONS N`.
R	Alternate root option. Allows you to install the product to a system root other than that of the running system.

[1]Even if you omit the N option when you invoke VMSINSTAL, the VSI BASIC release notes are copied automatically to the SYS$HELP directory.

For detailed information on these VMSINSTAL options, refer to the *VSI OpenVMS System Manager's Manual, Volume 1: Essentials*.

The following example invokes VMSINSTAL to install VSI BASIC and shows the system response. This example uses the `OPTIONS N` release note option.

```
$ @SYS$UPDATE:VMSINSTAL BASIC01n $1$DGA700:[KITS] OPTIONS N

    OpenVMS  Software Product Installation Procedure V8.4-2L1

It is 2-NOV-2023 at 12:26.

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

If you do not supply the product name or the device name, VMSINSTAL prompts you for this information later in the installation procedure. VMSINSTAL does not prompt you for any options, so be sure to include whatever option you want on the VMSINSTAL command line.

5. Confirm system backup.

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

VMSINSTAL asks if you are satisfied with your system backup. You should always back up your system disk before performing an installation. If you are satisfied with the backup of your system disk, press the **Enter** key. Otherwise, enter NO to stop the installation. After you back up your system disk, you can restart the installation.

6. If you fail to include the device name of the VMSINSTAL command line, the following prompt is displayed:

```
* Where will the distribution volumes be mounted:
```

If this prompt is displayed, type the name of the device and directory that contain the VSI BASIC installation files.

7. Verify the product being installed.

```
The following products will be processed:

  BASIC V01.n


        Beginning installation of BASIC V01.n at 12:26

    ******************************************************************
%VMSINSTAL-I-VALSIGN, Performing product kit validation of signed kits ...
Success

%VMSINSTAL-I-VALPASSED, validation of $1$DGA700:[KITS]BASIC01n.A_VNC succeeded
Success

%VMSINSTAL-I-VALPASSED, validation of $1$DGA700:[KITS]BASIC01n.B_VNC succeeded
```

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

The product name and version are displayed. The save set (A) is restored to a subdirectory of SYS$UPDATE.

8. Select a release notes option.

   If you specified `OPTIONS N` when you invoked VMSINSTAL, you are asked to choose one of the four options for reviewing the release notes:

```
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]:
```

   - Select option 1 to immediately display the release notes. You can terminate the display at any time by pressing **Ctrl/C**.
   - Select option 2 to print the release notes. You will be prompted for the name of the print queue that you want to use:

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

     Either press **Enter** to send the file to the default output print device (SYS$PRINT) or enter another queue name.
   - Select option 3 to immediately display the release notes and then be prompted for a queue name for the printed version.
   - Select option 4 if you have already reviewed the release notes and are restarting the installation.

   You can later use the **`HELP`** command to find the location of the release notes in the HELP facility:

```
$ HELP BASIC RELEASE_NOTES
```

   Whichever option you choose, VMSINSTAL asks the following question next:

```
* Do you want to continue the installation [NO]?: YES
%VMSINSTAL-I-RELMOVED, The product's release notes have been
successfully moved to SYS$HELP.
```

   To continue the installation, enter YES. Otherwise, press **Enter**. In either case, the release notes are copied to a file in the SYS$HELP directory:

```
SYS$HELP:BASIC01n.RELEASE_NOTES
```

   The name of the release notes file installed by VMSINSTAL consists of the current product name and version number. Do not delete release notes for previous versions of VSI BASIC.

9. Select an installation option.

   The installation procedure lets you select the components of the kit that you want to install. The choices are as follows:

```
        There are four possible installation options. They are as follows:
```

```
     1) Perform a complete installation of VSI BASIC.
     2) Install only the Motif bindings and examples for BASIC.
     3) Install only the VSI BASIC language help library.
     4) Obtain a copy of the VSI BASIC message text for
        modification.
  * Which option do you want to use [1]:
```

If you specify option 1, which is the default, the installation continues.

Select the components you want to install by answering Y or N to the questions. If you want a more detailed description of any component, enter a question mark (?). After the explanation is displayed, you are prompted for a response again.

If you enter Y, the installation procedure installs the chosen component.

10. Install Motif definitions.

```
* Do you want to install the Motif definitions [YES]?
```

Answering YES to this option puts the VSI BASIC version of the Motif definitions, DECW$MOTIF.BAS, into the SYS$LIBRARY directory. These definitions require 15000 blocks of disk space and contain the Constant, Record, and External declarations needed to do Motif programming. Examples are also put into the DECW$EXAMPLES area provided it exists. Note that if the DECW$EXAMPLES area does not exist, the default for this question is NO, and the examples are not provided.

11. Install BASIC Help files.

```
* Do you want to install the VSI BASIC language HELP library [YES]?
```

The Help files describe how to invoke VSI BASIC from the DCL command line and the BASIC language features. The Help files require 400 blocks of disk space. It is recommended that you install these files.

12. Obtain the BASIC message file.

```
* Do you want to copy the VSI BASIC message file [NO]?
```

The BASIC message source file contains the text of the VSI BASIC messages that may be copied for customization purposes. It is placed in SYS$UPDATE:BASIC$MSG.MSG. The message file requires 100 blocks of disk space. Normally, you do not need to copy this file.

13. Respond to the license registration query for the new compiler.

If you have not registered and loaded your PAK, you must answer NO to the following question:

```
        Product:      BASIC
        Producer:     VSI
        Version:      01.n
        Release Date: dd-mm-yyyy


* Does this product have an authorization key registered and loaded? NO
%BASIC-I-NOLICENSE, VSI BASIC V01.n Product Authorization Key (PAK) is not registered
 and loaded.
%BASIC-I-NOLICENSE2, The IVP cannot be run without the PAK.
```

You have to register and load your PAK to run the Installation Verification Procedure (IVP). If you have not done so, you should stop the installation, register and load your PAK, and then restart the installation.

14. Choose the IVP option.

    The installation procedure asks if you want to run the IVP. The IVP for VSI BASIC checks to be sure that the installation is successful. It is recommended that you run the IVP; answer YES to the following prompt:

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

    After VSI BASIC is installed, you can run the IVP independently to verify that the software is available on your system. You might need to run the IVP after a system failure to make sure that users can access VSI BASIC.

15. Read the release-notes informational message.

    ```
    This kit contains a file summarizing the new features, changes,
    restrictions, and compatibility issues in this release of VSI BASIC.
    This file is named BASIC01n.RELEASE_NOTES and has been placed in
    SYS$HELP:.

    This file contains information valuable to VSI BASIC programmers.
    Please inform your user community of this file's existence.
    ```

16. Purge files.

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

    The directories SYS$HELP, SYS$LIBRARY, SYS$SYSTEM, SYS$EXAMPLES, SYS$MESSAGE, and SYS$TEST may contain previous versions of VSI BASIC 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 **Enter** to purge the files or enter NO to keep them.

17. 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 chose to have files purged, that work is done now.

    The end of the installation is indicated by the following message:

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

18. Observe the IVP.

    If you chose to run the IVP, VMSINSTAL now invokes the IVP to verify that VSI BASIC was installed successfully.

    You can also run the IVPs independently, after VSI BASICis installed, to verify that the software is available on your system. You might need to run the IVPs after a system failure to make sure that users can access VSI BASIC. You can do this by invoking either of the following command procedures:

```
$ @SYS$TEST:BASIC$IVP.COM
```

If VSI BASIC was installed successfully, the IVP displays the following:

```
%VMSINSTAL-I-IVPSUCCESS, VSI BASIC V01.n Installation test PASSED
The VSI BASIC V01.n IVP has succeeded!
```

19. The installation procedure ends.

```
        Installation of BASIC V01.n completed at 12:28

    Adding history entry in VMI$ROOT:[SYSUPD]VMSINSTAL.HISTORY

    Creating installation data file: VMI$ROOT:[SYSUPD]BASIC01n.VMI_DATA


        VMSINSTAL procedure done at 12:28
```

When the installation is complete, you can choose to install more products or to log out. If you removed any media from the console drive before beginning the installation, you should replace it now.

Be aware that 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.

2.3. Recovering from Installation Errors

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

- 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.

For descriptions of the error messages generated by these conditions, see the OpenVMS documentation on system messages, recovery procedures, and OpenVMS software installation. If you are notified that any of these conditions exist, you should take the appropriate action as described in the message.

For information about installation requirements, see *Section 1.4, "Installation Procedure Requirements"*.

Chapter 3. After Installing VSI BASIC

This chapter describes the user account requirements needed to work with VSI BASIC and the tasks that can be performed after VSI BASIC is installed.

3.1. User Account Requirements

To use VSI BASIC, each user account must have at least the TMPMBX and NETMBX privileges. Use the OpenVMS AUTHORIZE utility to determine whether users have the privileges they require.

For more information on how to use the AUTHORIZE utility, refer to the *VSI OpenVMS System Manager's Manual, Volume 1: Essentials*.

3.2. Making the BASIC Command Available After Installation

VSI BASIC is now installed and can be invoked by all users with the **BASIC** command.

The installation procedure modifies the DCL command table so that the **BASIC** command is recognized and processed. However, the previous command table is still in effect for those users who are currently logged in.

All logged-in users who want to use the **BASIC** command must log out and log in again, or use the following DCL command:

```
$ SET COMMAND /TABLES=SYS$LIBRARY:DCLTABLES
```

3.3. Running the Installation Verification Procedure Separately

You usually run the Installation Verification Procedure (IVP) during installation. If you have system problems and want to run the IVP separately to ensure the integrity of installed files, use the following command:

```
$ @SYS$TEST:BASIC$IVP.COM
```

3.4. Making VSI BASIC Usable on a VMSCluster

If you want to run VSI BASIC on multiple nodes of an Open VMScluster environment, first check to see that you have the appropriate software license (see *Section 1.3, "License Registration"*). Then, perform the following steps after you install VSI BASIC:

1. Enter the **LICENSE LOAD** command to activate the license on each node on which VSI BASIC is to be executed.

2. Use the OpenVMS System Management (SYSMAN) utility to execute a set of commands on all cluster nodes, whether or not the nodes are licensed to use VSI BASIC; failure to do so may cause unexpected errors for users.

   While logged in as SYSTEM or as another user name that has the SETPRV privilege or the CMKRNL and SYSPRV privileges, use SYSMAN to update the version of DCLTABLES.EXE available, as follows:

   ```
   $ RUN SYS$SYSTEM:SYSMAN
   SYSMAN> SET ENVIRONMENT/CLUSTER
   %SYSMAN-I-ENV, current command environment:
           Clusterwide on local cluster
           Username SYSTEM       will be used on nonlocal nodes
   SYSMAN> DO INSTALL REPLACE SYS$LIBRARY:DCLTABLES.EXE
   %SYSMAN-I-OUTPUT, command execution on node NODE1
   %SYSMAN-I-OUTPUT, command execution on node NODE2
   ```

   SYSMAN will cause each **DO** command to be executed on all nodes of the local cluster.

3. If VSI BASIC is installed as a known image, then do the following:

   ```
   SYSMAN> DO INSTALL REPLACE SYS$SYSTEM:BASIC.EXE
   %SYSMAN-I-OUTPUT, command execution on node NODE1
   %SYSMAN-I-OUTPUT, command execution on node NODE2
   ```

4. If the VSI BASIC message file is installed as a known image, then do the following:

   ```
   SYSMAN> DO INSTALL REPLACE SYS$MESSAGE:BASIC$MSG.EXE
   %SYSMAN-I-OUTPUT, command execution on node NODE1
   %SYSMAN-I-OUTPUT, command execution on node NODE2
   ```

5. Finally, exit from SYSMAN:

   ```
   SYSMAN> EXIT
   $
   ```