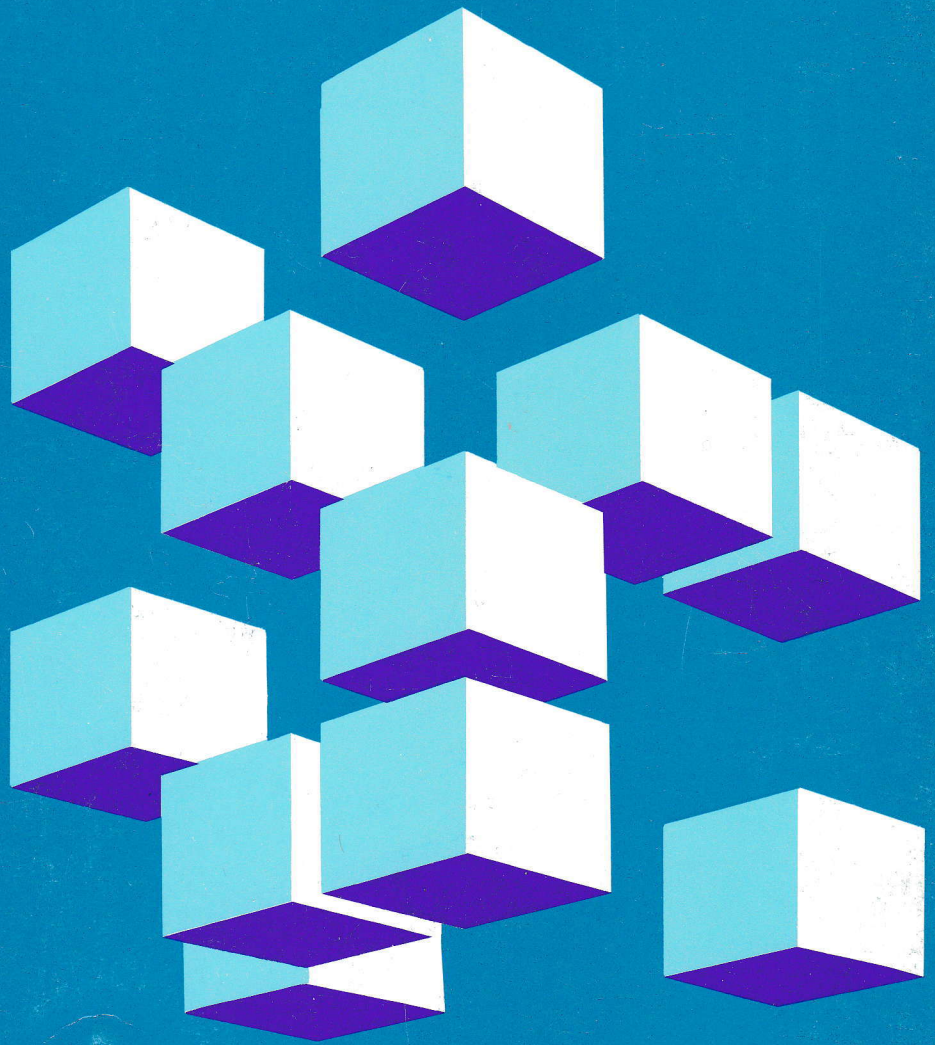




VS Pascal Installation Guide for VM/System Product

Licensed
Program



Order Number
SC26-4342-0

Program Numbers
5668-767
5668-717

Release 1



VS Pascal Installation Guide for VM/System Product

Licensed
Program

First Edition (June 1987)

This edition applies to Release 1 of VS Pascal, Licensed Program 5668-767 (Compiler and Library) and 5668-717 (Library only), and to any subsequent releases until otherwise indicated in new editions or technical newsletters.

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Preface

This book is for administrators and system programmers who will install VS Pascal under Virtual Machine/System Product (VM/SP). VS Pascal is a language processor that runs under VM/SP. You should read the Program Directory, which is shipped with VS Pascal. The Program Directory may contain changes to this book.

VS Pascal also runs under Multiple Virtual Storage/System Product (MVS/SP) and Multiple Virtual Storage/Extended Architecture (MVS/XA). For information on installing VS Pascal under MVS/SP or MVS/XA, see *VS Pascal Installation Guide for MVS*, SC26-4321.

Prerequisite Knowledge

This book assumes familiarity with Virtual Machine/System Product (VM/SP), Conversational Monitor System (CMS), and a general knowledge of the structure and function of VS Pascal.

Organization of the Book

The chapters of this book are divided as follows:

- **Chapter 1, “Introduction”** gives a brief introduction to VS Pascal installation.
- **Chapter 2, “Planning for Installation”** provides planning information before installing VS Pascal.
- **Chapter 3, “Installing VS Pascal Under VM/SP”** describes how to install VS Pascal under VM/SP.
- **Appendix A, “Installation Messages”** describes the installation messages.
- **Appendix B, “VS Pascal Service”** describes how to run the service EXECs.

Related Publications

VS Pascal Publications

- *VS Pascal Licensed Program Specifications*, GC26-4317

This leaflet provides the warranty for VS Pascal.

- *VS Pascal General Information*, GC26-4318

This manual provides customer management and technical staff with the information needed to make a preliminary evaluation of the applicability of VS Pascal to their installation.

- *VS Pascal Application Programming Guide*, SC26-4319

This manual describes how to compile, link-edit, run, and debug VS Pascal programs using the ANSI/IEEE 770X3.97-1983 standard and extensions. This book assumes the user has a basic knowledge of Pascal programming.

- *VS Pascal Language Reference*, SC26-4320

This manual outlines the programming rules for VS Pascal. It includes full American National Standard Pascal (ANSI/IEEE 770 X3.97-1983) and extensions to that standard.

- *VS Pascal Reference Summary*, SX26-3760

This booklet provides a summary of the VS Pascal language elements.

- *VS Pascal Diagnosis Guide and Reference*, LY27-9525

This manual provides guidance on developing a keyword string to describe a VS Pascal problem.

VM/SP Publications

Virtual Machine/System Product Planning Guide and Reference, SC19-6201

Virtual Machine/System Product Installation Guide, SC24-5237

Virtual Machine/System Product System Message and Codes, SC19-6204

Virtual Machine/System Product CMS Command and Macro Reference, SC19-6209

Virtual Machine/System Product CP Command Reference for General Users, GC19-6211

Other Publication

Programming System General Information Manual, G229-2228

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Chapter 1. Introduction

VS Pascal is available as two separate products. VS Pascal Compiler and Library (5668-767) is the complete licensed program containing the compiler, run-time library, and the interactive debugging library. VS Pascal Library (5668-717) contains only the run-time library.


Each licensed program is distributed as a single tape containing the necessary modules.

Overview of the Installation and Customization Process

Installation is the process of adding to your system the materials on the distribution tape supplied by IBM Software Distribution (ISD) tape. This process produces a fully operational VS Pascal product.

Customization is an optional process. It gives you the opportunity to change the format from the DATETIME procedure either when you install VS Pascal or after VS Pascal has been installed.

Where to Find More Installation Information



For specific information on space allocations and other details needed to install VS Pascal, see the Program Directory for your system. The Program Directory is shipped in the same package as the installation tape for the VS Pascal product. The Program Directory describes all the installation materials and gives installation instructions specific to the product release level, and the modification level.

The Installation Process

The following features have been designed into the VS Pascal installation process to make the installation as automated as possible.

- The product tape contains pregenerated executable modules to avoid generating and link-editing modules during installation.
- The installation verification procedure (IVP) is completely automated and is invoked by the installation EXEC upon completion of the installation.
- The installation EXEC uses a configuration file which contains the current and/or default responses to the prompts of the EXEC. This feature allows the installation EXEC to “remember” your responses to prompts, thus saving time if you need to run the installation EXEC again to service or customize the product.





Chapter 2. Planning for Installation

This chapter discusses the hardware, program products, and storage required to install and run VS Pascal.

Hardware Requirements

VS Pascal runs on any processing unit supported by VM/SP.

Operating System Requirements

The VS Pascal compiler and library run under Virtual Machine/System Product (VM/SP) Version 1 Release 4 or later (with or without the High Performance Option (HPO)).

Virtual Storage Considerations

Under CMS, VS Pascal requires a minimum of 1M to compile a program. The storage required will depend on the complexity of your programs. The 1M storage is sufficient to run the SAMPLE program that is supplied with the ISD tape. Execution of a minimum compiled program can be performed in an 864K CMS machine.

VM/SP Installation Considerations

Tape Drive Requirements

Installation of VS Pascal requires a magnetic tape drive on which you can mount and run the distribution tape(s).


Disk Storage Requirements

The production minidisk is required to install VS Pascal and run the installation verification procedure (IVP). The production minidisk is used to run VS Pascal and is linked to by all VS Pascal users. It contains the production libraries installed from the IBM Software Distribution (ISD) tape.

Additionally, during customization and servicing of VS Pascal, a temporary minidisk will be created on an unused device address in the range of 210 to 280.

See the appropriate Program Directory for the DASD sizes of the production and temporary minidisks.

Pascal/VS Users



If you have Pascal/VS (program number 5796-PNQ) installed on your system, you should make sure the production minidisk for VS Pascal is different from that of Pascal/VS since there may be name conflicts.



Chapter 3. Installing VS Pascal Under VM/SP

This chapter describes both the contents of the IBM Software Distribution (ISD) tape and the installation steps.

The IBM Software Distribution (ISD) Tape

The contents of the ISD tape for the VS Pascal Compiler and Library are:

- File 1—product identifier file and installation EXEC
- File 2—memo to users
- File 3—VS Pascal compiler modules, run-time and debugging TXTLIBs, include MACLIBs, EXECs to compile and link-edit, CMS help, and compiler messages
- File 4—installation verification EXEC and sample programs
- File 5—files needed for service and customization

The contents of the ISD tape for the VS Pascal Library only are:

- File 1—product identifier file and installation EXEC
- File 2—memo to users
- File 3—VS Pascal Library (TXTLIBs) and EXEC to create the load module
- File 4—installation verification EXEC and precompiled sample programs
- File 5—files needed for service and customization

The Installation Steps

The installation steps are:

1. Loading the ISD tape
2. Installing VS Pascal
3. Verifying the output

Step 1: Loading the ISD Tape

To load the ISD tape, perform the following steps:

1. Attach the ISD tape to virtual device address 181.
2. Access the VS Pascal production minidisk in READ/WRITE mode and format it (if necessary).
3. Issue the following command to load the first file from the ISD tape:

```
VMFPLC2 LOAD * * filemode
```

filemode is the file mode of the VS Pascal production minidisk.

Notes:

- *Do NOT use file mode "A" for the production minidisk.*
- *Do not move the tape at this point.*

Step 2: Installing VS Pascal

Perform the following steps:

1. If you are installing the VS Pascal Compiler and Library, issue the following command:

```
I5668767
```

If you are installing only the VS Pascal Library, issue the following command:

```
I5668717
```

If you want to stop the installation process, you can do so by responding to any prompt with "QUIT". If you need to see the informational message again before answering the input prompt, enter "?" to review the material.

2. The installation EXEC will prompt you for the device address of the disk you have chosen as the production disk. The installation EXEC will load the required files onto the production disk. Messages will be issued periodically to inform you of the progress of the installation.

Note: If you are installing VS Pascal under VM/SP Version 1 Release 5 and have full screen mode set on, the installation EXEC will temporarily suspend full screen mode while it is executing. Full screen mode will be set back on when the installation EXEC has completed. This is done to allow informational messages to be displayed on a timely basis.

3. You will also be prompted for the date format (see "Customizing VS Pascal" on page 11). If you want to change the date format, the installation EXEC will regenerate the library on the temporary disk and then copy the new library to the production disk. Any error messages you get during the installation procedure are listed in Appendix A, "Installation Messages" on page 15.

Note: The compiler TEXT files that are not required to run the compiler, but are required for service and customizing, will be loaded with a file mode of *fm1*, where *fm* is the file mode character used to access the production minidisk. The files needed to run the compiler will be loaded with a file mode of *fm2*. You can "hide" the TEXT files, and thereby save storage and access time by accessing the production minidisk with the command:

```
ACCESS cuu fm/A * * fm2
```

where *fm* is the file mode you used to access the production minidisk and *cuu* is the virtual address of your production minidisk. This allows only the files needed to run the compiler to be included in the CMS resident directory.

Step 3: Verifying the Output

The installation verification procedure (IVP) is automatically run when you install VS Pascal. The IVP consists of two sample programs: one is a prime number generator and the other prints out "PASCAL IS UP".

Figure 1 shows the output from installing VS Pascal. The lines beginning with ==> indicate what you entered.

```
==> VMFPLC2 LOAD * * D

LOADING.....
I5668767 011005  D1  (note 2)
I5668767 EXEC   D1  (note 2)
END-OF-FILE OR END-OF-TAPE
R;

==> I5668767  (note 1)

*** Begin VS Pascal Installation Procedure ***  (note 2)
      Version 1 Release 1.0

This procedure will type out messages and request responses
from you to guide the installation process.  If at any time
you want to quit, type 'QUIT' as a response, and the procedure
will terminate immediately.  If you need to see the information
message again before answering the input prompt, enter '?' to
review the material.

Specify the device address of the product disk.
This disk must be linked in READ/WRITE mode.

==> 195

*** Installation of VS Pascal (5668-767) begins ....  (note 2)

*** Loading product files to disk ...

*** Loading installation verification files ...

*** Loading service files ...

Do you want to use the US date format (mm/dd/yy) or the
European date format (dd/mm/yy) ?

Enter 'US' or 'European' (Default: US).

==> ENTER key
```

Figure 1 (Part 1 of 2). Output from Installing VS Pascal

*** VS Pascal Compiler and Library verification in progress. (note 2)

INVOKING VS PASCAL R1.0 (note 3)
NO COMPILER DETECTED ERRORS (note 3)

Source lines: 57; Total time: 0.15 seconds; Total rate: 22800 LPM (note 3)

2	3	5	7	11	13	17	19	23	29
31	37	41	43	47	53	59	61	67	71
73	79	83	89	97	101	103	107	109	113
127	131	137	139	149	151	157	163	167	173
179	181	191	193	197	199	211	223	227	229
233	239	241	251	257	263	269	271	277	281
283	293	307	311	313	317	331	337	347	349
353	359	367	373	379	383	389	397	401	409
419	421	431	433	439	443	449	457	461	463
467	479	487	491	499	503	509	521	523	541

INVOKING VS PASCAL R1.0 (note 3)
NO COMPILER DETECTED ERRORS (note 3)

Source lines: 121; Total time: 0.48 seconds; Total rate: 15125 LPM (note 3)

```
PPPPPPP   AAAA   SSSS   CCCCC   AAAA   L
P   P   A   A   S   S   C   C   A   A   L
P   P   A   A   S   C   C   A   A   L
PPPPPPP   A   A   SSSS   C   A   A   L
P   AAAAAAA   S   C   AAAAAAA   L
P   A   A   S   C   C   A   A   L
P   A   A   S   S   C   C   A   A   L
P   A   A   SSSS   CCCCC   A   A   LLLLLLLL

IIII   SSSS   U   U   PPPPPPP
II   S   S   U   U   P   P
II   S   U   U   P   P
II   SSSS   U   U   PPPPPPP
II   S   U   U   P
II   S   U   U   P
II   S   S   U   U   P
IIII   SSSS   UUUU   P
```

...at 13:25:24 on 02/18/87

*** VS Pascal Compiler and Library verification successful. (note 2)

*** VS Pascal ***** (note 2)

*** Product installation is complete.

Figure 1 (Part 2 of 2). Output from Installing VS Pascal

Notes to Figure 1 :

1. If you are running the installation procedure for the VS Pascal Library, you would enter "I5668717" instead of "I5668767".
2. If you are running the installation procedure for the VS Pascal Library, the program number would be "I5668717" instead of "I5668767" and the comments would indicate "VS Pascal Library".
3. If you are running the installation procedure for the VS Pascal Library, these lines will not be printed in your output.

Running the Installation Verification Procedure

The installation verification procedure is automatically run when you install VS Pascal. However, there may be times you need to run the installation verification procedure separately from the installation procedure, such as when you install VS Pascal service (see Appendix B, “VS Pascal Service” on page 21).

The IVP consists of two sample programs: one is a prime number generator and the other prints out “PASCAL IS UP”.

If you are verifying the VS Pascal Compiler and Library, issue the following command:

```
v5668767
```

If you are verifying only the VS Pascal Library, issue the following command:

```
v5668717
```

Customizing VS Pascal

You can change the output from the DATETIME procedure any time after you have installed VS Pascal. The output from the DATETIME procedure can be changed from the US format (month/day/year) to the European format (day/month/year) or vice versa. For more information on the DATETIME procedure, see *VS Pascal Language Reference*.

If you are customizing the VS Pascal Compiler and Library, issue the following command to invoke the installation EXEC:

```
I5668767 DATE
```

If you are customizing only the VS Pascal Library, issue the following command to invoke the installation EXEC:

```
I5668717 DATE
```

You will be prompted for the device address of your VS Pascal product disk.

Note:

When you are running this EXEC, do NOT use file mode "A" for the VS Pascal product disk.

You will be prompted for the US or European date format. Respond by entering US or European (or an abbreviation such as U or E). If you press the ENTER key, the default value shown will be used. The installation EXEC will regenerate the library on a temporary disk and then copy the new library to the product disk.

After the installation EXEC has modified the library, it will automatically invoke the verification procedure to verify the product customization. You will be given a message whether the procedure completed successfully or not.

Note: If you are customizing VS Pascal under VM/SP Version 1 Release 5 and have full screen mode set on, the installation EXEC will temporarily suspend full screen mode while it is executing. Full screen mode will be set back on when the installation EXEC has completed. This is done to allow informational messages to be displayed on a timely basis.

Output from the Customization Procedure: Figure 2 on page 12 shows the output from the customization procedure. The lines that begin with = = = > indicate what you entered.

==> I5668767 DATE (note 1)

*** Begin VS Pascal Customization Procedure *** (note 2)
Version 1 Release 1.0

This procedure will type out messages and request responses from you to guide the customization process. If at any time you want to quit, type 'QUIT' as a response, and the procedure will terminate immediately. If you need to see the information message again before answering the input prompt, enter '?' to review the material.

Specify the device address of the product disk.
This disk must be linked in READ/WRITE mode.

==> 195

Do you want to use the US date format (mm/dd/yy) or the European date format (dd/mm/yy) ?

Enter 'US' or 'European' (Default: US).

==> E

*** Customizing VS Pascal (5668-767) ... (note 2)

*** VS Pascal Compiler and Library verification in progress. (note 2)

INVOKING VS PASCAL R1.0 (note 3)
NO COMPILER DETECTED ERRORS (note 3)

Source lines: 57; Total time: 0.15 seconds; Total rate: 22800 LPM (note 3)

2	3	5	7	11	13	17	19	23	29
31	37	41	43	47	53	59	61	67	71
73	79	83	89	97	101	103	107	109	113
127	131	137	139	149	151	157	163	167	173
179	181	191	193	197	199	211	223	227	229
233	239	241	251	257	263	269	271	277	281
283	293	307	311	313	317	331	337	347	349
353	359	367	373	379	383	389	397	401	409
419	421	431	433	439	443	449	457	461	463
467	479	487	491	499	503	509	521	523	541

Figure 2 (Part 1 of 2). Output from the Customization Procedure

```
INVOKING VS PASCAL R1.0          (note 3)
NO COMPILER DETECTED ERRORS      (note 3)
```

```
Source lines:  121; Total time:  0.48 seconds; Total rate: 15125 LPM  (note 3)
```

```
PPPPPPP   AAAA   SSSS   CCCCC   AAAA   L
P         P   A   A   S   S   C     C   A   A   L
P         P   A     A   S     C     C   A     A   L
PPPPPPP   A     A   SSSS   C     C     A     A   L
P         AAAAAAA   S   C     AAAAAAA   L
P         A     A     S   C     C   A     A   L
P         A     A   S   S   C     C   A     A   L
P         A     A   SSSS   CCCCC   A     A   LLLLLLLL
```

```
IIII     SSSS           U     U   PPPPPPP
II      S   S           U     U   P     P
II      S           U     U   P     P
II     SSSS           U     U   PPPPPPP
II      S           U     U   P
II      S           U     U   P
II     S   S           U     U   P
IIII     SSSS           UUUU   P
```

```
...at 13:25:24 on 18/02/87
```

```
*** VS Pascal Compiler and Library verification successful.  (note 2)
```

```
*** VS Pascal ***** (note 2)
```

```
*** Product customization is complete.
```

```
*****
```

Figure 2 (Part 2 of 2). Output from the Customization Procedure

Notes to Figure 2 :

1. If you are customizing only the VS Pascal Library, you would issue "I5668717 DATE" instead of "I5668767 DATE".
2. If you are customizing only the VS Pascal Library, program number "I5668717" instead of "I5668767" will be displayed, and the messages would indicate "VS Pascal Library".
3. If you are customizing only the VS Pascal Library, these lines will not be printed in your output.



Appendix A. Installation Messages

The following return codes and messages may be issued during the installation of VS Pascal. An explanation of each message with a user response is provided. The IVP error messages are listed in “IVP Error Messages” on page 20.

VS Pascal Compiler and Library Installation Error Messages

These messages apply when you install the VS Pascal Compiler and Library or if you are installing only the Library.

111 ***** VS Pascal or VS Pascal Library *******
***** User requested termination.**

Explanation: During installation, the user answered “QUIT” when asked to select an installation option.

User Response: Determine which option, if any, is desired and rerun the installation EXEC.

200 ***** VS Pascal or VS Pascal Library *******
***** name is required for product installation.**
***** Installation is terminated.**

Explanation: The *name* command returned a negative return code. The most likely cause would be that the named command could not be found.

User Response: Check to see if the Y-disk (19E) has been released; if so, reaccess it. Otherwise, check with your local system support personnel. After fixing the problem, begin the installation process again.

205 ***** VS Pascal or VS Pascal Library *******
***** name failed with return code = rc**
***** Installation is terminated.**

Explanation: The *name* command unexpectedly failed.

User Response: As indicated, this is an unexpected failure and you will have to determine the cause. Consult the appropriate manuals to determine why the command might have failed.

210 ***** VS Pascal or VS Pascal Library *******
***** The disk designated for installation of this product**
***** is NOT in READ/WRITE mode.**
***** Installation is terminated.**

Explanation: The production disk specified is not in read/write mode.

User Response: Ensure that the production disk is linked and accessed in read/write mode. Invoke the installation EXEC again.

215 *** VS Pascal or VS Pascal Library *****
*** Error linking to *diskcuu* as *devaddr*.
*** Return code = *rc* from CP LINK command.
*** Installation is terminated.

Explanation: The LINK command failed with return code *rc* trying to link to disk *diskcuu* as *devaddr*.

User Response: Determine why the LINK command failed. The most probable cause for failure is an incorrect password. See *Virtual Machine/System Product CP Command Reference for General Users* for specific command error codes and conditions. After correcting the problem, rerun the installation procedure.

220 *** VS Pascal or VS Pascal Library *****
*** Tape at device address 181 is not the ISD product tape
*** for this product.
*** Installation is terminated.

Explanation: A scan of the tape at device 181 was done to determine if the VS Pascal product tape was mounted at 181. This error indicates that the tape on device 181 was not recognized as an ISD product tape for VS Pascal.

User Response: Mount the ISD product tape for VS Pascal on tape drive 181 and start the installation process over.

225 *** VS Pascal or VS Pascal Library *****
*** Error occurred while trying to *function* tape.
*** Return code = *rc* from the CMS VMFPLC2 command.
*** Installation is terminated.

Explanation: A tape error occurred while trying to perform the function specified by *function*.

User Response: Define more disk space or correct the tape error and reexecute the EXEC. See *Virtual Machine/System Product CMS Command and Macro Reference* for a more specific explanation of VMFPLC2 errors (see the TAPE command).

230 *** VS Pascal or VS Pascal Library *****
*** Error occurred while loading files from installation
*** tape to disk.
*** Installation is terminated.

Explanation: The disk is full or a tape error has occurred.

User Response: Define more disk space or correct the tape error and reexecute the EXEC. See *Virtual Machine/System Product CMS Command and Macro Reference* for a specific explanation of VMFPLC2 errors (see the TAPE command).

235 *** VS Pascal or VS Pascal Library *****
*** A normally non-terminating error occurred during
*** installation with the NOPROMPT option specified.
*** Installation is terminated.

Explanation: An error that normally does not terminate the installation EXEC occurred with the NOPROMPT option specified.

User Response: Restart the Installation EXEC without the NOPROMPT option.

240 *** VS Pascal or VS Pascal Library *****
*** Error occurred copying the product files.
*** Installation is terminated.

Explanation: When VS Pascal is customized or serviced, product files are copied back and forth between the temporary disk and the specified “production” disk. This error can be caused by a file not existing or the production disk not having enough space to hold the files.

User Response: Determine which file does not exist and why it was not generated. See *Virtual Machine/System Product CMS Command and Macro Reference* for specific command error codes and conditions. For disk space problems, increase the space allocated for the production disk. The installation process must then be rerun.

245 *** VS Pascal or VS Pascal Library *****
*** Error occurred updating the product *type* library,
*** (*name*).
*** Installation is terminated.

Explanation: When the library is customized or serviced, certain TXTLIBs need to be modified. This error can be caused by a file not existing or by the failure of the TXTLIB command.

User Response: Determine which file does not exist and why it was not generated. See *Virtual Machine/System Product CMS Command and Macro Reference* for specific command error codes and conditions. The installation process must then be rerun.

250 *** VS Pascal *****
*** Error occurred while re-generating the compiler.
*** Installation is terminated.

Explanation: When the product is customized or serviced, certain phases of the product need to be regenerated. This error can be caused by a file not existing or by the failure of the LOAD or GENMOD commands.

User Response: Determine which file does not exist and find out why it was not generated. See *Virtual Machine/System Product CMS Command and Macro Reference* for specific command error codes and conditions. The installation process must be rerun.

255 ***** VS Pascal or VS Pascal Library *******
***** Error occurred while trying to get a temporary disk**
***** (name). Return code = rc**
***** Installation is terminated.**

Explanation: This error occurs when a temporary disk can not be obtained for a variety of reasons (*name*): no device address available, a CP DEFINE error, or a CMS FORMAT error.

User Response: If a device address is not available, then one needs to be freed up (in the range 210-280). For a DEFINE error, consult the CP Command Reference manual. For a FORMAT error, see *Virtual Machine/System Product CMS Command and Macro Reference*.

260 ***** VS Pascal or VS Pascal Library *******
***** No maintenance files exist for this product**
***** Service is terminated.**

Explanation: When invoked with the PTF option the installation EXEC expects to find all service files on the PTF tape. This error indicates that none were found.

User Response: Ensure that the PTF or PUT tape being used is a VS Pascal service tape. Correct the error and reexecute the service procedure.

666 ***** VS Pascal or VS Pascal Library *******
***** Tape drive 181 is not available.**
***** Installation is terminated.**

Explanation: Tape drive (device address 181) was not attached to the user's virtual machine.

User Response: Correct the problem and start the installation again.

888 ***** VS Pascal or VS Pascal Library *******
***** All necessary files have been loaded from tape, but**
***** verification must be done manually.**
***** Installation is terminated.**

Explanation: Product installation completed successfully. However, the verification procedure was not executed during the installation procedure. This is caused when the EXEC that does the verification process could not be found.

User Response: See if the file (V5668767 or V5668717 EXEC) is on the installation tape. If it is, load it and start the installation process again. If it is not on the tape, then report the problem to the IBM Support Center.

999 *** VS Pascal or VS Pascal Library *****
*** All necessary files have been loaded from the tape,
*** but verification failed.
*** Installation is terminated.

Explanation: An error occurred during the execution of the verification procedure.

User Response: Ensure that all files have been generated correctly; run the installation verification procedure as described in “Running the Installation Verification Procedure” on page 10.

999 *** VS Pascal or VS Pascal Library *****
*** Fatal error during installation.
*** Return code = *rc*
*** Installation is terminated.

Explanation: A failure occurred during the execution of the installation procedure with return code *rc*. This error should only occur if the EXEC was incorrectly modified.

User Response: If the EXEC has not been modified (that is, it is identical to the version on the installation tape), then report the problem to the IBM Support Center.

IVP Error Messages

The following error messages may be displayed during the installation verification procedure.

300 ***** VS Pascal Compiler and Library or VS Pascal Library *******
***** File *name* not found.**
***** File is required for product verification.**
***** Verification is terminated.**

Explanation: This error is caused by the file *name* not existing.

User Response: Ensure that all files have been loaded and generated correctly; run the installation verification procedure as described in “Running the Installation Verification Procedure” on page 10.

305 ***** VS Pascal Compiler and Library *******
***** The compilation of the sample program failed.**
***** Verification is terminated.**

Explanation: An error occurred during the compilation of the sample program.

User Response: Ensure that all files have been generated correctly; run the installation verification procedure as described in “Running the Installation Verification Procedure” on page 10.

310 ***** VS Pascal Compiler and Library or VS Pascal Library *******
***** The execution of the sample program failed.**
***** Verification is terminated.**

Explanation: An error occurred during the execution of the sample program.

User Response: Ensure that all files have been generated correctly; run the installation verification procedure as described in “Running the Installation Verification Procedure” on page 10.

999 ***** VS Pascal Compiler and Library or VS Pascal Library *******
***** Fatal error during installation verification.**
***** Return code = *rc***
***** Installation is terminated.**

Explanation: A failure occurred during the execution of the verification procedure with return code *rc*. This error should only occur if the EXEC was incorrectly modified.

User Response: If the EXEC has not been modified (that is, it is identical to the version on the installation tape), then report the problem to the IBM Support Center.

Appendix B. VS Pascal Service

ISG program services provide corrective and preventive service for product defects and support for resolving program problems through Central Service, including the IBM Support Center. For details of these facilities and a list of all the products supported, refer to *Programming System General Information Manual*, G229-2228.

When you encounter a failure in the product, follow this procedure:

1. Use the *VS Pascal Diagnosis Guide and Reference* to assist you in describing the failure as a keyword string.
2. Compare the keyword string with the index of keywords in the software support data base of documented failures. Contact the IBM Support Center for assistance in the keyword search if necessary.
3. If you cannot find a documented failure similar to yours, report your failure to the IBM Support Center to determine if an authorized programming analysis report (APAR) is required.

An APAR is resolved by Central Service with either an explanation or a new corrective service program temporary fix (PTF) for the defect. A PTF is a replacement text module that is installed in the product to correct the defect. Collections of new PTFs for products are provided to all customers as preventive service program update tapes (PUTs).

Installing VS Pascal Service from a PUT Tape

If you are installing a PUT tape, the service EXECs are included on the tape.

To apply the VS Pascal fixes distributed on a PUT tape, perform the following steps:

1. Make a copy of your current VS Pascal product on another disk. This assures you that if something goes wrong when you are applying the service, you will have a working version of your current product. Make sure that one of the two production disks is not accessed while you are installing the PUT tape. Access the other disk as your target disk, with a file mode of "E".
2. Choose a second disk to contain the VMSERV EXEC. Access this disk with a file mode of "C".
3. Mount the PUT tape at virtual address 181.
4. Issue the command:

```
VMFPLC2 LOAD * * C
```

to load the VMSERV EXEC onto the "C" disk.

5. Issue:

```
VMSERV
```

The VMSERV EXEC asks you if you want to print the memo to users. If you answer YES, the EXEC issues the print command and then terminates.

6. Read the memo to users for the VS Pascal service file or files. When you have finished reading the memo to users, issue:

VMSEVR

again and answer NO to the memo to users prompt.

7. The VMSEVR EXEC then asks if you want to install the service. Answer YES to this prompt. VMSEVR then loads the first service EXEC, advances the tape to the beginning of the first service file, and invokes the service EXEC to install the first service file. The service EXEC defines a temporary minidisk and accesses it with the file mode of "A". The service EXEC then loads the service file(s) onto the A-disk and calls the installation EXEC to install the service.
8. When the installation EXEC asks for the address of the production disk, enter the address of the target disk. The installation EXEC then uses the service file(s) on the A-disk to update the product disk and then installs the service onto the target disk. If an error occurs, VMSEVR issues an error message and either terminates or indicates what you should do next.
9. After the installation EXEC has applied service for the PUT tape, it will automatically invoke the installation verification procedure to verify the service installation. You will be given a message which states whether the verification procedure completed successfully or not. See Figure 3 on page 24 for a similar example of your output.

When all the VS Pascal service has been applied, VMSEVR will apply service for the remaining products on the tape or allow you to exit.

Output from Applying VS Pascal Service: Figure 3 on page 24 shows a similar example of your output from customizing VS Pascal.

Installing VS Pascal PTFs

VS Pascal PTF tapes do not include service EXECs, but you can use the installation EXEC with the “PTF” option to install the PTFs.

To use the installation EXEC, use the following procedure:

1. Make a copy of your current VS Pascal product on another disk. This assures you that if something goes wrong while you are applying the service, you will have a working version of your current product. Make sure one of these two product disks is not accessed while you are installing the PTF tape. Access the other disk as your target disk, with a file mode of “B”.
2. Mount the PTF tape at virtual address 181.
3. Position the tape to the beginning of the first VS Pascal service file. If you need assistance, contact your IBM software support center.
4. To invoke the installation EXEC for the Compiler and Library product, issue the following command:

```
I5668767 PTF
```

To invoke the installation EXEC for the Library only, issue the following command:

```
I5668717 PTF
```

Note: If you are installing the VS Pascal PTF under VM/SP Version 1 Release 5 and have full screen mode set on, the installation EXEC will temporarily suspend full screen mode while it is executing. Full screen mode will be set back on when the installation EXEC has completed. This is done to allow informational messages to be displayed on a timely basis.

5. The installation EXEC will ask you for the address of the product disk. Enter the address of the target disk. The installation EXEC installs the service onto the target disk. If an error occurs, an error message will be issued and the PTF installation procedure will terminate.
6. After the installation EXEC has applied service for the PTF tape, it will automatically invoke the installation verification procedure to verify the service installation. You will be given a message which states whether the verification procedure completed successfully or not. See Figure 3 on page 24.
7. If there are more VS Pascal PTFs on the tape, make sure the tape is positioned at the beginning of the next VS Pascal service file and repeat steps 4 through 6.

Output from Applying VS Pascal Service: Figure 3 on page 24 shows the output from customizing VS Pascal. The line beginning with = = = > indicates what you entered.

====> I5668767 PTF (note 1)

*** Begin VS Pascal Maintenance Procedure *** (note 2)
Version 1 Release 1.0

This procedure will type out messages and request responses from you to guide the maintenance process. If at any time you want to quit, type 'QUIT' as a response, and the procedure will terminate immediately. If you need to see the information message again before answering the input prompt, enter '?' to review the material.

Specify the device address of the product disk.
This disk must be linked in READ/WRITE mode.

====> 195

*** Servicing VS Pascal (5668-767) ... (note 2)

*** VS Pascal Compiler and Library verification in progress. (note 2)

INVOKING VS PASCAL R1.0 (note 3)

NO COMPILER DETECTED ERRORS (note 3)

Source lines: 57; Total time: 0.15 seconds; Total rate: 22800 LPM (note 3)

2	3	5	7	11	13	17	19	23	29
31	37	41	43	47	53	59	61	67	71
73	79	83	89	97	101	103	107	109	113
127	131	137	139	149	151	157	163	167	173
179	181	191	193	197	199	211	223	227	229
233	239	241	251	257	263	269	271	277	281
283	293	307	311	313	317	331	337	347	349
353	359	367	373	379	383	389	397	401	409
419	421	431	433	439	443	449	457	461	463
467	479	487	491	499	503	509	521	523	541

Figure 3 (Part 1 of 2). Output from Applying VS Pascal Service

INVOKING VS PASCAL R1.0 (note 3)
NO COMPILER DETECTED ERRORS (note 3)

Source lines: 121; Total time: 0.48 seconds; Total rate: 15125 LPM (note 3)

```
PPPPPP  AAAA  SSSS  CCCCC  AAAA  L
P      P  A    A  S    S  C    C  A    A  L
P      P  A    A  S    C    C  A    A  L
PPPPPP  A    A  SSSS  C    A    A  L
P      AAAAAAA  S  C    AAAAAAA  L
P      A    A    S  C    C  A    A  L
P      A    A  S    S  C    C  A    A  L
P      A    A  SSSS  CCCCC  A    A  LLLLLLL
```

```
IIII  SSSS  U    U  PPPPPP
II    S    S  U    U  P    P
II    S    U    U  P    P
II    SSSS  U    U  PPPPPP
II    S    U    U  P
II    S    U    U  P
II    S    S  U    U  P
IIII  SSSS  UUUU  P
```

...at 13:25:24 on 02/18/87

*** VS Pascal Compiler and Library verification successful. (note 2)

*** VS Pascal *****
*** Product maintenance is complete.

Figure 3 (Part 2 of 2). Output from Applying VS Pascal Service

Notes to Figure 3 :

1. If you are servicing the VS Pascal Library only, you would issue "I5668717 PTF" instead of "I5668767 PTF".
2. If you are servicing the VS Pascal Library only, program number "I5668717" instead of "I5668767" will be displayed, and the messages will state "VS Pascal Library".
3. If you are servicing the VS Pascal Library only, these lines will not be printed in your output.



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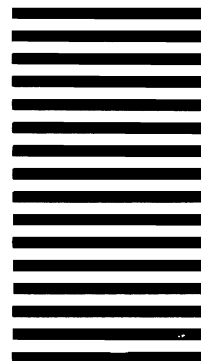


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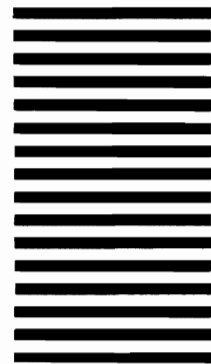


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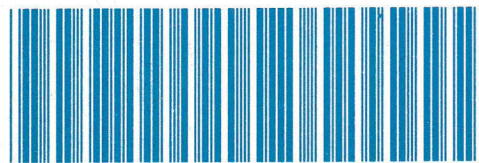




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