VM/SP 3 Program Directory
PREFACE

This Program Directory is for IBM Virtual Machine/System Product Release 3, (VM/SP 3), Program Number 5664-167. It contains program procedural and material information.
# CONTENTS

1.0 Introduction ........................................... 1

2.0 Program Documentation ............................... 2

3.0 Service Information .................................. 3

4.0 Product Packaging .................................... 4
   4.1 Product Tapes ....................................... 4
      4.1.1 Tape Formats .................................. 6
         4.1.1.1 Starter System Tape ......................... 6
         4.1.1.2 Text Tape ................................ 7
         4.1.1.3 CP Source Tape ................................ 7
         4.1.1.4 CMS Source Tape .............................. 7
         4.1.1.5 Text and Source Tape ....................... 8
         4.1.1.6 Text Tape ................................ 9
         4.1.1.7 CP Source Tape ................................ 9
         4.1.1.8 CMS Source Tape .............................. 9
         4.1.1.9 Text and Source Tape ....................... 10
      4.2 EREP Distribution Tape .......................... 10

5.0 Migration Guidelines ................................. 11
   5.1 Spool Files ........................................ 11
      5.1.1 Migrating From Previous Releases of VM/SP to VM/SP 3 .............................. 11
      5.1.2 Migrating to VM/SP 3 From Pre-VM/SP Systems ....................... 11
   5.2 PREP EXEC .......................................... 11
   5.3 CMS Modules Requiring a CP MACLIB ................. 11
   5.4 Elimination of Certain Files on Multiple Disks .... 12
   5.5 Obsolete Files to be Erased ....................... 12
   5.6 CMSSEG Removal Considerations ..................... 13
      5.6.1 Changes in DMSNUC (NUCON) .................... 13
      5.6.2 Change in SYSNAMES Macro ................... 13

6.0 Miscellaneous Notes .................................. 14
   6.1 Auxfile Reconciliation ............................. 14
   6.2 3370 Model 2 Considerations ....................... 15
   6.3 Optional 3800 Model 3 Character Sets .......... 16
      6.3.1 Character Set Tape Format .................... 16
      6.3.2 Character Set File Names .................... 16
      6.3.3 Installation Procedure ....................... 17
1.0 INTRODUCTION

This Program Directory contains information concerning the procedures and mate­
rials associated with this product. It is recommended that you read this docu­
ment in its entirety before installing VM/SP 3.

Please perform the following steps to obtain information on installing VM/SP 3:


2. Read this Program Directory.

3. Contact the Level One Support Center as soon as possible after the decision
to install this product is made. You should request that the Installation
and PUT Buckets be sent to you. Three days prior to installation or servic­
ing you should again call the Level One Support Center for and updates or
changes to these Buckets.
2.0 PROGRAM DOCUMENTATION

The following publications always accompany this product from PID:

- VM/SP Licensed Program Specifications, GC20-1842
- VM/SP Planning Guide and Reference, SC19-6201

The following publications accompany this product from PID when feature number 7042 is specified with your order:

- VM/SP Service Routines Program Logic, LY20-0890
- VM/SP System Logic and Problem Determination Guide Volume 1 (CP), LY20-0892
- VM/SP System Logic and Problem Determination Guide Volume 2 (CMS), LY20-0893
- VM/SP Data Areas and Control Block Logic Volume 1 (CP), LY24-5220
- VM/SP Data Areas and Control Block Logic Volume 2 (CMS), LY24-5221

The following microfiche accompanies this product from PID when feature number 7053 is specified with your order:

- VM/370 Program Listings CP (UP/AP), SYCO-9017
- VM/370 Program Listings CMS, SYCO-9018

The following microfiche accompanies this product from PID when feature number 7052 is specified with your order:

- VM/SP Program Listings CP (UP), LYCO-9012
- VM/SP Program Listings CP (AP/MP), LYCO-9013
- VM/SP Program Listings CMS, LYCO-9014
3.0 SERVICE INFORMATION

This program is classified as System Control Programming. Contact your IBM Representative for information concerning available Program Services.

The VM/SP product tapes have been service uplevelled to service level 312 (PUT 8501) with the following exception:

1. The source files have NOT been modified. Service has only been applied to the object files.
4.0 PRODUCT PACKAGING

4.1 PRODUCT TAPES

<table>
<thead>
<tr>
<th>Type of User</th>
<th>1600 BPI</th>
<th>6250 BPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users ordering a Starter System</td>
<td>Feature - DASD Number Type</td>
<td>Feature - DASD Number Type</td>
</tr>
<tr>
<td>5202 - 3330</td>
<td>5203 - 3330</td>
<td></td>
</tr>
<tr>
<td>5230 - 3330</td>
<td>5231 - 3330</td>
<td></td>
</tr>
<tr>
<td>5204 - 3340</td>
<td>5205 - 3340</td>
<td></td>
</tr>
<tr>
<td>5228 - 3340</td>
<td>5229 - 3340</td>
<td></td>
</tr>
<tr>
<td>5206 - 3350</td>
<td>5207 - 3350</td>
<td></td>
</tr>
<tr>
<td>5226 - 3350</td>
<td>5227 - 3350</td>
<td></td>
</tr>
<tr>
<td>5208 - 3310 or 3370</td>
<td>5209 - 3310 or 3370</td>
<td></td>
</tr>
<tr>
<td>5224 - 3310 or 3370</td>
<td>5225 - 3310 or 3370</td>
<td></td>
</tr>
<tr>
<td>5212 - 3375</td>
<td>5213 - 3375</td>
<td></td>
</tr>
<tr>
<td>5220 - 3375</td>
<td>5221 - 3375</td>
<td></td>
</tr>
<tr>
<td>5210 - 3380</td>
<td>5211 - 3380</td>
<td></td>
</tr>
<tr>
<td>5222 - 3380</td>
<td>5223 - 3380</td>
<td></td>
</tr>
</tbody>
</table>

Four Volumes
Starter System
Text
CP Source
CMS Source

Two Volumes
Starter System
Text
Source

(continued on next page)
<table>
<thead>
<tr>
<th>Type of User</th>
<th>1600 BPI</th>
<th>6250 BPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users not ordering a Starter System</td>
<td>Feature Number 5214 or 5218</td>
<td>Feature Number 5215 or 5219</td>
</tr>
<tr>
<td></td>
<td>Three Volumes Text ²</td>
<td>One Volume Text/Source ³</td>
</tr>
<tr>
<td></td>
<td>CP Source ⁴</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMS Source ⁵</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feature Number 5216</td>
<td>Feature Number 5217</td>
</tr>
<tr>
<td></td>
<td>Three Volumes Text ⁶</td>
<td>One Volume Text/Source ⁷</td>
</tr>
<tr>
<td></td>
<td>CP Source ⁸</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CMS Source ⁹</td>
<td></td>
</tr>
</tbody>
</table>

1. See Figure 1 on page 6
2. See Figure 2 on page 7
3. See Figure 5 on page 8
4. See Figure 3 on page 7
5. See Figure 4 on page 7
6. See Figure 6 on page 9
7. See Figure 9 on page 10
8. See Figure 7 on page 9
9. See Figure 8 on page 9

Product Packaging
4.1.1 Tape Formats

Note: In all the following representations of tape layouts, a tape mark is represented by:

4.1.1.1 Starter System Tape

<table>
<thead>
<tr>
<th>IPLable Format/Allocate Service Program (DMKFMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPLable DASD Dump/Restore Service Program (DMKDDR)</td>
</tr>
<tr>
<td>CP Nucleus</td>
</tr>
<tr>
<td>CMS Nucleus</td>
</tr>
<tr>
<td>CMS Libraries</td>
</tr>
</tbody>
</table>

Figure 1. Starter System Tape Format: Applicable Feature numbers:

5202, 5203, 5230, 5231 - 3330 DASD
5204, 5205, 5228, 5229 - 3340 DASD
5206, 5207, 5226, 5227 - 3350 DASD
5208, 5209, 5224, 5225 - 3310/3370 DASD
5212, 5213, 5220, 5221 - 3375 DASD
5210, 5211, 5222, 5223 - 3380 DASD

A note about Starter Systems: A Starter System is an installation aid. It is not a complete VM/SP System and should not be used as such.
### 4.1.1.2 Text Tape

<table>
<thead>
<tr>
<th>Installation Execs</th>
<th>Sample files for Product installation</th>
<th>CP object and support code</th>
<th>HELP files</th>
<th>CMS object and support code</th>
</tr>
</thead>
</table>

Figure 2. Text Tape Format: Applicable Feature numbers: 5214 or 5218 Volume 1

### 4.1.1.3 CP Source Tape

<table>
<thead>
<tr>
<th>CP Source</th>
</tr>
</thead>
</table>

Figure 3. CP Source Tape Format: Applicable Feature numbers: 5214 or 5218 Volume 2

### 4.1.1.4 CMS Source Tape

<table>
<thead>
<tr>
<th>CMS Source</th>
</tr>
</thead>
</table>

Figure 4. CMS Source Tape Format: Applicable Feature numbers: 5214 or 5218 Volume 3
4.1.1.5 Text and Source Tape

<table>
<thead>
<tr>
<th>Installation Excs</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample files for Product installation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP object and support code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HELP files</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS object and support code</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CP Source</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CMS Source</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 5. Text and Source Tape Format\(^\text{10}\): Applicable Feature numbers: 5215 or 5219

---

\(^{10}\) These Text and Source tapes contain both VM/370 and VM/SP modules.
4.1.1.6 Text Tape

CP object and support code
HELP files
CMS object and support code

Figure 6. Text Tape Format: Applicable Feature number: 5216 Volume 1

4.1.1.7 CP Source Tape

CP Source

Figure 7. CP Source Tape Format: Applicable Feature number: 5216 Volume 2

4.1.1.8 CMS Source Tape

CMS Source

Figure 8. CMS Source Tape Format: Applicable Feature number: 5216 Volume 3
4.1.1.9 Text and Source Tape

<table>
<thead>
<tr>
<th>CP object and support code</th>
</tr>
</thead>
<tbody>
<tr>
<td>HELP files</td>
</tr>
<tr>
<td>CMS object and support code</td>
</tr>
<tr>
<td>CP Source</td>
</tr>
<tr>
<td>CMS Source</td>
</tr>
</tbody>
</table>

Figure 9. Text and Source Tape Format\(^{11}\): Applicable Feature number: 5217

4.2 EREP DISTRIBUTION TAPE

EREP Version 2 Release 3, available as 5749-010 with feature numbers 5022 and 5023, is included with your order of 5664-167 VM/SP Release 3. EREP is required to provide hardware support.

If you have received EREP as part of your order of 5664-167 please refer to the EREP Program Directory enclosed for EREP installation procedures.

If you have received EREP as part of your order of 5750-AAK please refer to Chapter 6 of the VM/SP Installation Guide, SC24-5237 for installation procedures.

\(^{11}\) These Text and Source tapes contain only those modules which are unique to VM/SP.

Product Packaging 10
5.0 MIGRATION GUIDELINES

Refer to the VM/SP Installation Guide, SC24-5237, and the VM/SP Release 3 Guide, SC24-5240 for primary information concerning migrating to VM/SP 3 from previous releases of:

- VM/SP
- VM/BSEPP
- VM/SEPP
- VM/370

5.1 SPOOL FILES

5.1.1 Migrating From Previous Releases of VM/SP to VM/SP 3

The VM/SP 3 level of the SPTAPE command can accept spool files from a tape created by previous releases of VM/SP's SPTAPE command.

5.1.2 Migrating to VM/SP 3 From Pre-VM/SP Systems

When migrating from a pre-VM/SP level of VM to VM/SP 3, you should ensure that all existing spool files on the lower level system are processed, (i.e. printed and punched and all reader files taken care of by the individual users), before switching the VM/SP 3 system into production status.

5.2 PREP EXEC

Be aware that the installation EXEC (PREP EXEC) supplied on file one of the merged product tapes is written in the EXEC 2 language and therefore will not work on pre-VM/SP systems.

5.3 CMS MODULES REQUIRING A CP MACLIB

The DMKSP MACLIB is loaded to MAINT's 194 disk. If DMSITE, DMSIUC, DMSPOL, DMSPOP, DMSPQ, DMSPOR, DMSPOS or DMSRDR are to be assembled using VMFASM you must access MAINT's 194 disk. For any other CMS module assembly the following message appears and can be ignored.

DMSGLB002W FILE 'DMKSP MACLIB' NOT FOUND
5.4 ELIMINATION OF CERTAIN FILES ON MULTIPLE DISKS

• For previous releases of VM the TEXT files for DMKDDR, DMKDIR, DMKFMT, DMKIMG, DMKNMT, DMKRND and DMKTRR were shipped on the Product Text Tape for loading onto both MAINT's 194 and 190 disks. For Release 3 and subsequent releases these files will be shipped on the Product Text Tape for loading onto MAINT's 190 disk only. If, after migrating to Release 3, any of the above files appear on MAINT's 194 they should be erased.

• For previous releases of VM the TEXT file for DMKLD00E was shipped on the Product Text Tape for loading onto both MAINT's 194 and 190 disks. For Release 3 and subsequent releases, this file will be shipped on the Product Text Tape for loading onto MAINT's 194 disk only. If, after migrating to Release 3, this file appears on MAINT's 190 it should be erased.

5.5 OBSOLETE FILES TO BE ERASED

The following files are made obsolete by VM/SP 3 and should be erased from the indicated disks:

• CMS source files to be erased from MAINT's 393 disk
  - DMSEXC ASSEMBLE
  - DMSIFC ASSEMBLE
  - DMSOLD ASSEMBLE
  - DMSREA ASSEMBLE
  - DMSSEG ASSEMBLE
  - DMSTLA ASSEMBLE
  - DMSXSG ASSEMBLE

• CMS object and executable files to be erased from MAINT's 190 disk
  - CMSXGEN EXEC
  - CNVSPROF EXEC
  - CPEREP EXEC
  - EDGAR EXEC
  - SLC LEC0000
  - SLC LF30000
  - CPEREP MODULE
  - DMSEXT MODULE
  - DMSXTF MODULE
  - ECOMMAND MODULE
  - LISTFILE MODULE
  - RENAME MODULE
  - QUERY MODULE
  - XEDIT MODULE
  - XEDMAIN MODULE
  - DMSEXC TEXT
  - DMSIFC TEXT
  - DMSOLD TEXT
  - DMSREA TEXT
  - DMSSEG TEXT
  - DMSTLA TEXT
  - DMSXSG TEXT
Note: The CMS and CMSL named systems should be resaved after performing the above operations in order to have a shared S-stat.

5.6 CMSSEG REMOVAL CONSIDERATIONS

5.6.1 Changes in DMSNUC (NUCON)

The following fields in DMSNUC have changed for this release:

<table>
<thead>
<tr>
<th>Pre-VM/SP 3 Use</th>
<th>VM/SP 3 Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>Label</td>
</tr>
<tr>
<td>----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>OSMODLDW Size of OS Simulation (CMSSEG) in doublewords</td>
<td>Reserved Initialized to binary zeros</td>
</tr>
<tr>
<td>DCSSFLAG DCSS indicator flags</td>
<td>Reserved Init. to binary zeros</td>
</tr>
<tr>
<td>ACMSSEG Address of CMSSEG</td>
<td>Reserved Init. to binary zeros</td>
</tr>
<tr>
<td>AOSMODL Address of start of CMSSEG</td>
<td>ADMSSVT Address of DMSSVT</td>
</tr>
</tbody>
</table>

5.6.2 Change in SYSNAMES Macro

The entry for CMSSEG, (the first entry in the list), has been deleted. All non-VM/SP 3 modules that use SYSNAMES must be reassembled with the new version of the macro.
6.0 MISCELLANEOUS NOTES

6.1 AUXFILE RECONCILIATION

Since the object files on the product tape may not be at the same service level as the auxfiles on your current service tape, you may wish to adjust the auxfiles on that service tape to correctly reflect the object files on the product tape. Below is a sample exec that illustrates one possible way of accomplishing this.

1. Access the disk where the auxfiles that you wish to modify reside in R/W mode as filename B.

2. Create a CMS EXEC on your A-disk of those auxfiles.

3. Create an exec called FIXAUX EXEC A like the sample program below.

```cmsh
/* Sample Exec to adjust auxfiles - 3/1/85 */
Trace 0
Arg servlevel.
NEXTAUX:
  EXECIO 1 DISK CMS EXEC
  If rc != 0 then Exit
  Parse Upper Pull junk1 junk2 fname ftype fmode.
  NEXTLINE:
  EXECIO 1 DISK fname ftype fmode '(MARGINS 10 12'
  If rc != 0 then do
      Push 'FILE'
      Push 'REPEAT *'
      Push 'CINSERT *'
      Push 'NEXT'
      Push 'TOP'
      'XEDIT' fname ftype fmode '(NOPROF'
      end
  else do
      Parse Upper Pull level
      If level <= servlevel & level != ' then do
          Push 'FILE'
          Push 'REPEAT -*'
          Push 'CINSERT *'
          Push 'UP'
          Push 'CLOCATE :1'
          Push 'SET ZONE 1 *'
          Push '/level
          Push 'SET ZONE 10 12'
          'XEDIT' fname ftype fmode '(NOPROF'
          end
      else
          Signal NEXTLINE
      End
  Signal NEXTAUX
```

4. Enter the command 'FIXAUX servlevel', where 'servlevel' is the service level you wish you auxfiles to be at (eg. FIXAUX 307). This will comment out all updates that have come on a service level that is higher than the service level you specified.

Miscellaneous Notes 14
6.2 3370 MODEL 2 CONSIDERATIONS

APAR VM21121 has been applied to PREP EXEC and included on this product tape. With this modification, PREP will now format model two dasd completely. In order to correctly allocate the dasd space, all users installing VM/SP on 3370 Models A2 or B2 must make the following adjustment in the install procedures as defined in the Release 3.1 VM/SP Installation Guide:

After completing the DDR "restore all" to VMSRES (Phase 2, Step 2), the end of the 3370-2 VMSRES pack must be allocated as PERM space:

1. Rewind the Starter System tape.
2. IPL the tape (for the FORMAT/ALLOCATE program).
3. Type "allocate" in response to "ENTER FORMAT OR ALLOCATE" prompt.
4. Type the real address of your Starter System pack in response to the "ENTER DEVICE ADDRESS (CUU)" prompt.
5. Type "fb-512" in response to "ENTER DEVICE TYPE" prompt.
6. Type "VMSRES" in response to "ENTER DEVICE LABEL" prompt.
7. Enter "perm 51916 89093" when prompted for allocation data.
8. Type "end" and then proceed with Step 3 of the installation process.
6.3 OPTIONAL 3800 MODEL 3 CHARACTER SETS

The 3800 Model 3 character sets are on optional feature tape 7029 or 7031 labelled VM 3800-3 IMAGELIB. The tape format and installation procedures follow.

6.3.1 Character Set Tape Format

<table>
<thead>
<tr>
<th>Character Set TEXT Files</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character Set SOURCE Files</td>
</tr>
</tbody>
</table>

6.3.2 Character Set File Names

<table>
<thead>
<tr>
<th>Kind of File</th>
<th>Prefix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character Arrangement Table (CAT's)</td>
<td>XTB1</td>
</tr>
<tr>
<td>Graphic Character Modification Module (GRAPHMOD's)</td>
<td>GRF2</td>
</tr>
<tr>
<td>Library Character Set Model 3 (LCS's)</td>
<td>LCS2</td>
</tr>
<tr>
<td>Library Character Set Model 1 (LCS's)</td>
<td>LCS1</td>
</tr>
</tbody>
</table>
6.3.3 Installation Procedure

1. Create and format a 10 cylinder temporary disk with filemode 'fm'.

2. Enter VMFPLC2 LOAD ** fm to load all TEXT files.

3. IMAG3800 CNTRL contains all 3800 Model 3 character sets. Edit this file and remove any character sets your installation will not use. Include all LCS2's, desired CAT's, and GRAPHMOD's referenced by the CAT's.

4. Prepare an image library. See the VM/SP Planning Guide and Reference for details.

5. Use the IMAGELIB command to load the image library. See the VM/SP Operator's Guide for details.

6. Copy character sets that will be used with the SETPRT command to the S-disk. Copy desired CAT's. Copy LCS's and GRAPHMOD's referenced by the CAT's.

7. Installation Considerations
   - Load SOURCE files as needed for character set customization.
   - If customized CAT's reference odd CGMID's Load LCS1's into the image library for printing on the 3800 Model 1
   - If customized CAT's reference 3800 Model 1 CGMID's not shipped as LCS's, modify them for the 3800 Model 3 to reference the equivalent LCS.

* * * * * * * **END OF DOCUMENT** * * * * * * *