PROGRAM DIRECTORY

For Use With

IBM Disk Operating System/
Virtual Storage (DOS/VS)

Release 34
Program Number 5745-010,
Basic Material

This directory contains information concerning available basic
material associated with the IBM Disk Operating System/Virtual Storage
(DOS/VS), Release 34.

The purpose of the directory is to describe what is contained in this
program package and what to do with it.

CONTENTS

1.   COMPONENT CONTENTS OF THE RELEASE

Release 34 of IBM Disk Operating System/Virtual Storage
consists of the following components:

Component Number	Component Name
5745-SC-AIT	Attention Routines, Initiators, Terminators
5745-SC-AMS	DOS/VS Access Method Services
5745-SC-APC	Analysis Program Component (AP-1)
5745-SC-ASM	Assembler
5745-SC-BTM	Basic Telecommunications Access Method (BTAM)
5745-SC-CKR	Checkpoint/Restart
5745-SC-DAM	Direct Access Method
5745-SC-DIC	Diskette IOCS
5745-SC-DIS	DOS/VS Distribution Program
5745-SC-DKE	Disk Error Recovery Procedures
5745-SC-DCC	Display Operator Console Support
5745-SC-DSK	Sequential Disk IOCS
5745-SC-ERP	Environmental Recording and Editing Program
5745-SC-E20	System/360 Model 20 Emulator
5745-SC-ICM	Compiler I/O Modules
5745-SC-IOX	IOCS and Device Independent I/O
5745-SC-IPL	IPL and Buffer Load
5745-SC-ISM	Indexed Sequential Access Method (ISAM)
5745-SC-JCL	Job Control
5745-SC-LER	Librarian - Maintenance and Service
5745-SC-LNK	Linkage Editor
5745-SC-MCR	Magnetic Character Recognition IOCS
5745-SC-OCR	Optical Character Recognition IOCS
5745-SC-OLT	On-Line Test Executive Program (OLTEP)
5745-SC-PDA	Problem Determination Aids
5745-SC-PTP	Paper Tape IOCS
5745-SC-PWR	POWER/VS (Priority Output Writers, Execution Processors and Input Readers)
5745-SC-QTM	Queued Telecommunications Acess Method (QTAM)
5745-SC-RMS	Recovery Management Support and Recording
5745-SC-SUP	Supervisor
5745-SC-TAP	Magnetic Tape IOCS
5745-SC-TLT	Teleprocessing On-Line Test Executive Program (TOLTEP)
5745-SC-TPE	Tape Error Recovery Procedures
5745-SC-UTL	System Utility Programs
5745-SC-UTS	Maintain System History Utility (PTFHIST)
5745-SC-VSM	Virtual Storage Access Method (VSAM)
5745-SC-VTM	Virtual Telecommunications Access Method (VTAM)

Note 1: All components of 5745-SC except ISM, MCR, PTP, QTM, TAP, PCP,
and TEE are affected by new developed code in this release.

Note 2: Components 5745-SC-EML,   1401/1440/1460 and 1410/70
Emulators, and 5745-SC-SSS, Subsystem Support Services, have
been removed from DOS/VS Release 34. 1401/1440/1460 and
1410/7010 Emulators may be ordered as an independent release
with program number 5747-CC3 and Subsystem Support Services
also as an independent release with program number 5747-CC4.

An independent release is a program that is separately
orderable from the program library.

Note 3: Host Support

Please consult your IBM representative for information on the
availability of the following independent releases:

Program Number	System
5747-ER1	3600 Finance System
5747-BJ3	3650 Retail Store System
5747-BJ2	3650 Subsystem Program Prepa- ration Support
5747-BK1	3660 Supermarket System
5747-EQ1	3790 Communication System
5747-BW1	3790 Batch Transfer System

2.   DOS/VS PUBLICATIONS

Detailed information of the support offered by DOS/VS can be obtained
from publications in the System Reference Library (SRL).

The following list contains all DOS/VS SRLs.

Copies of those SRLs are distributed based on the subscription
profiles that have been submitted to the System Library Subscription
Services. Please contact your IBM Marketing Representative if a
revision of your subscription profile is required.

Form numbers marked with an asterisk indicate that those publications
are new with this release.

Name of publication	Form number	Technical Newsletter (TNL) number
QTAM Message Processing Program Services	GC27-6985-0	
QTAM Message Control Program	GC27-6986-0	
BTAM	* GC27-6989-3	
OS/VS - DOS/VS - VM/370 Assembler Language	GC33-4010-4,	GN33-8193, GN33-8201, GN33-8207, GN33-8226*
Guide to the DOS/VS Assembler	GC33-4024-2,	GN33-8200, GN33-8208, GN33-8227*
Introduction to DOS/VS	* GC33-5370-5	
System Management Guide	* GC33-5371-6	
Data Management Guide	GC33-5372-3,	GN33-9183, GN33-9186, GN24-5542 *
Supervisor and I/O Macros	* GC33-5373-5	
Tape Labels	GC33-5474-0,	GN33-8778
DASD Labels	* GC33-5375-2	

Name of publication	Form number	Technical Newsletter (TNL) number
System Control Statements	* GC33-5376-5	
System Generation	* GC33-5377-6	
Operating Procedures	* GC33-5378-4	
Messages	* GC33-5379-5	
Serviceability Aids and Debugging Procedures	* GC33-5380-3	
System Utilities	GC33-5381-2,	GN33-9211 *
Access Method Services Users Guide	* GC33-5382-5	
POWER/VS Installation Guide and Reference	* GC33-6048-0	
POWER/VS Workstation User's Guide	* GC33-6049-0	
OS/VS and DOS/VS Analysis Program-1 (AP-1) User's Guide	* GC26-3855-1	
CLTEP	GC33-5383-2,	GN25-0319, GN25-0323 *
1401/1440/1460 DOS/VS Emulator on System/370 Reference	* GC33-5384-1	
1410/7010 DOS/VS Emulator on System/370 Reference	* GC33-5385-1	
Moving from Model 20 to DOS/VS -- Transition Guide	GC33-5386-1	
Model 20 DOS/VS Emulator on System/370 Reference	GC33-5388-2,	GN33-7068, GN33-7071, GN33-7063, GN33-7091, GN33-7103 *
Moving from System/3 to DOS/VS -- Transition Guide	GC33-5389-0	
VTAM Network Operating Procedures	GC27-0025-1	GN27-1571

Name of publication	Form number	Technical Newsletter (TNL) number
VTAM System Programmer's Guide	GC27-6957-3	GN27-1568, GN27-1572 GN27-1583 *
Introduction to VTAM	GC27-6987-5	
VTAM Macro Language Guide	GC27-6994-2,	GN27-1574, GN27-1582
VTAM Macro Language Reference	GC27-6995-4,	GN27-1575, GN27-1581
VTAM Concepts and Planning	GC27-6998-3,	GN27-1545
DOS/VS and OS/VS TCLTEP for VTAM	GC28-0663-2	
VTAM Debugging Guide	GC27-0021-1,	GN27-1573
Supplement to VTAM Macro Language Guide	GC27-0036-1,	GN27-1546
System/370 Subsystem Support Services User's Guide	GC30-3022-4	
System/370 Subsystem Support Services Messages	GC38-1011-3	

Note: The DOS/VS microfiches that can be ordered from Mechanicsburg as
      optical publications have been replaced with DOS/VS Release 34
      for all components except QTAM. Each microfiche card now
      contains 360 frames (microfilmed printer output pages) instead
      of 90. For further information contact your IBM Marketing
      Representative.

4._____CLASSIFICATION

DOS/VS is System Control Programming (SCP)[1] for IBM System/370 Models
115-0, 115-2, 125-0, 125-2, 135, 135-3, 138, 145, 145-3, 148, 155-II
and 158. Only 158 uniprocessor models are supported including the 5
and 6 MB main memory sizes. For Models 155-II and 158-II (marketed in
Japan only) there is no EREP support under DOS/VS but a dump of the
recorder file can be obtained.

Note [1]: Programming components fundamental to the generation, support,
and operation of DOS/VS are distributed as SCPs. Programs
supporting DOS/VS are distributed separately as licensed
programs and other types of IBM programs. Please contact your
IBM Marketing Representative for further information.

4._____CURRENCY

Programming Support for DOS/VS Release 32 will be discontinued
effective August 31, 1977.

Programming support for the QTAM component will be discontinued
effective November 30, 1977.

For DOS/VS Release 33 and 34, IBM will provide 12 months notice prior
to discontinuance of programming support.

Programming support for the CMS-DOS/VS environment for DOS/VS Release
32 will be discontinued effective August 31, 1977.

For the CMS-DOS/VS environment of VM/370 for DOS/VS Release 33 and 34, IBM will
provide 12 months notice prior to discontinuance of programming support.

Please note that the level of VM/370 required to run with DOS/VS
Release 34 is at least PLC 8 of Release 3.

5. _____ PROGRAM COMPATIBILITY

User programs running on DOS/VS Release 33 will generally be object
code compatible with DOS/VS Release 34. Execption may be user programs
using DOS/VS interfaces other than external user interfaces. The
following user interface changes in relation to previous DOS/VS
releases have been made:

Explained   Change
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here   1. Elimination of automatic condense function

                    To allow a better scheduling of condense operations
                    DOS/VS no longer performs an automatic condense
                    when the condense limit of a library is reached;
                    instead a message is issued to the operator, who
                    then has to initiate the condense operation through
                    a condense command which may be given at a later
                    point in time.

in chap. 2.B in
Memo to Users   2. Elimination of possibility for one partition
                    DOS/VS Systems to assign SYSLOG to a printer
                    during IPL

in chap. 2.B in
Memo to Users   3. New expansions of DTFPH, DTFDA and DTFSD due to
                    3330-11 and 3350 support

in chap. 2.B in
Memo to Users   4. Removal of COPYSERV from DOS/VS

in chap. 6   5. Increase in supervisor sizes

in chap. 8   6. Default supervisor is no longer selected
                    by pressing END/ENTER

in chap 2.B in
Memo to Users   7. Miscellaneous minor changes in POWER/VS

6.   SYSTEM REQUIREMENTS

Please contact your IBM Marketing Representative for full details on
the system requirements for DOS/VS.

Highlights include:

- Minimum machine supported by DOS/VS is a 64K IBM System/370 Model
  115.

- The minimum DOS/VS configuration requires two Direct Access
  Storage Devices (DASD), where one must be with a removable disk
  pack. Alternatively one DASD which might have a non-removable
  disk and two magnetic tape drives are required.

- A minimum supervisor is:

  30K bytes for models 115, 125, 135, 145, 155-II, and 158,
  34K bytes for models 138, and 148.

  These supervisor sizes are achieved by the following system
  generation options:

  RELLDR=NC
  CLTEP=NO
  TAPE=NO
  MCH=NC
  RMS=NO
  CHAN=NO (for Models 115 and 125)
  DOC=125D (for Models 115, 125, 138, and 148) or DOC=3277 (for
  models 138 and 148)

  All other options have their default values.

- The IBM-supplied Supervisors are:

              34K bytes for $$A$SUP0
              48K bytes for $$A$SUP1
              52K bytes for $$A$SUP2
              70K bytes for $$A$SUP3
              70K bytes for $$A$SUP4
              82K bytes for $$A$SUP5
              96K bytes for $$A$SUP6

  $$A$SUP0 is the supervisor that has to be used for system
  generation on a Model 115 with only 64K storage.

  $$A$SUP2 has been redefined compared to Release 33 and is the
  suggested entry supervisor for models 115 and 125.

  $$A$SUP1,3-6 have only minor changes compared to Release 33.
  They have increased about 4K bytes or more in size.

Attachment 2 contains a list of the system generation options for the IBM supplied supervisors.

- Details on all the supervisor options available in DOS/VS are in DOS/VS System Generation, GC33-5377.

Required System Features

VTAM requires the Compare and Swap and the Compare Double and Swap instructions which are available as follows:

- Optional on IBM System/370 Model 135 via the Conditional Swapping Feature (1051). Standard on IBM System/370 Models 138 and 135-3.

- Optional on IBM System/370 Model 145 via Advanced Control Program Support Feature (1001), or the Conditional Swapping Feature (1051). Standard on IBM System/370 Models 148 and 145-3.

- Standard on IBM System/370 Models 115, 125, 155II and 158 (in simplex mode).

Required EC Levels

- EC311279 (or REA23-11872) must be applied to a 3705 Type I Channel Adapter if a PEP system is loaded in the 3705 and the native and emulator subchannels both use the Type I Channel Adapter.

- EC311262 must be applied to a 370X Type II Channel Adapter to enable the 370X to function with VTAM.

- In order to run half duplex SDLC on a Type 2 CSB, the following EC level is required: 3705 EC311283, 3704 EC311138.

- For 3770 the following EC levels must be applied:
  3771 EC314762   + 18.1
  3773 EC314763   + 18
  3774 EC314764   + 18
  3775 EC314765   + 18
  3776 EC314770.6
  3784 EC314771.3

7._____DOS/VS DISTRIBUTION

DOS/VS is distributed either on disk or on magnetic tape. The DOS/VS
library contents are the same regardless of the distribution medium.

Tape Distribution

Distribution to the tape user is on 2400-foot reels of magnetic tape:

    two reels 9-track/800 bpi,
    one reel 9-track/1600 bpi, or
    one reel 9-track/6250 bpi.

The tapes are externally labeled 'BASIC-SCP1' and 'BASIC-SCP2', or
'BASIC-SCP' if one reel only.

The tape copy is in a format suitable for restoring to either of the
following:

- 2314   (two 2316 disk packs)
- 3330   (one 3336 Model 1 or 11 disk pack)
- 3340   (one 70 MB or two 35 MB 3348 data modules)
- 3350   (native or 3330 compatibility mode)
- 3344   (3340 compatibility mode)

3344 is treated as a 3348 (70 MB). 3350 emulated as 3330 is treated
as a 3336 Model 1.

The tape contains five logical files:

File 1: DOS/VS Distribution Program part 1 (Initialize Disk) followed
        by a Tape Mark (TM)
File 2: DOS/VS Distribution Program part 2 (Restore Tape to Disk) plus
        TM
File 3: DOS/VS System Residence File plus TM

INSTALLATION TOOLS:

File 4: LINK JOB to catalog DOS/VS Restore System Utility plus TM
File 5: LINK JOB to catalog COPYSERV (Release 33 level) installation
        aid plus TM.

Steps 1 through 3 under "Installation Procedure" contain information
on how to prepare, from the tape, a disk system ready for system
generation. Further details can be found in DOS/VS System Generation,
GC33-5377.

Note 1: The Initialize Disk program is tape loadable. It may be
        bypassed if the disk is already initialized.

Note 2: The Restore Tape to Disk program need not be IPL-ed. It is
        executed directly after the Initialize Disk program is
        executed or bypassed.

Disk Distribution

Distribution is on two 2316 or one 3336 Mod. 1 disk pack or one 3348
(70 MB) data module. The volumes are externally labeled 'BASIC-SCP1'
and 'BASIC-SCP2', or 'BASIC-SCP' if one pack only. The installation
aid COPYSERV is contained as a SYSIN-file on the shipment disk volume.
Execute the LVTOC program to find out further details. To link the
COPYSERV program use the following job control statements

    // DLBL IJSYSIN 'INSTAID.COPYSERV.LINK'
    // EXTENT SYSIN
    ASSGN SYSIN,   input disk

Step 3 in the next chapter contains information on how to prepare the
pack for system generation.

Disk Stacking

Users ordering this release of DOS/VS on a 2316 or 3336 disk pack or a
3348 data module may also order other programs at the same time; these
programs will then be stacked, that is, placed behind the DOS/VS
SYSRES file, if there is enough space left on the volume.

To list the file content of a disk pack with stacked programs you can
execute the program LVTOC. The printout will show the file-IDs and
disk addresses of the various files. When using these files, it is
not necessary to supply EXTENT statements for the input files,
provided that the file-ID is specified in the DLBL statement.

8. _____ INSTALLATION PROCEDURE

The tape distributed from the IBM Program Library is an IPL-able tape
that contains the DOS/VS Distribution Program. This program is device
independent and will restore the DOS/VS System to either 2316,
3336(Mod. 1 or Mod. 11) disk pack or 3348 (35MB or 70MB) data module
or 3350 Direct Access Storage Device. To perform this restore, execute
the following steps:

Step 1: Initialize disk

> Mount two 2316 or one 3336 (Mod. 1 or Mod. 11) disk pack or
> two 3348 (35 MB) or one 3348 (70 MB) data module or assign one
> 3350 disk. Mount the distribution tape and IPL from it. If
> you have previously initialized your packs, then skip the
> initialization and go on to step 2, otherwise execute the
> initialize disk. See DOS/VS System Generation, GC33-5377 for
> further details.

Step 2: Restore tape to disk

> After the initialize disk step has been executed or skipped,
> the restore step is started without operator intervention.
> During execution the Restore program asks for allocations for
> the DOS/VS system libraries and start addresses for DOS/VS
> private libraries (for 2316 and 3348 35 MB).
>
> The following values are appropriate for restoring the system:

2316 (1)	CL=77(16)	RL=64(8)	SL=Exx(x)	PL=3(2)
2316 (2)	CL=FVT	PSL=106(3)	START=1	
3348(35MB)(1)	CL=109(16)	RL=100(8)	SL=Exx(x)	PL=5(2)
3348(35MB)(2)	CL=FVT	PSL=183(3)	START=1	
3336(Mod1/11)	CL=44(10)	RL=39(5)	SL=69(3)	PL=2(2)
3348(70MB)	CL=109(16)	RL=100(8)	SL=183(3)	PL=5(2)
3350	CL=21(8)	RL=19(4)	SL=35(2)	PL=1(2)

> The above allocations for 3336, 3348 (70 MB), and 3350 will be
> generated as default allocations if END or ENTER is pressed
> instead of typing in allocations. The default allocations are
> not applicable to 2316 and 3348 (35 MB).

The following values are the minimum values for the system:

2316 (1)	CL=39(9)	RL=61(8)		PL=3(2)
2316 (2)		PSL=101(3)		
3348 (35 MB)	CL=55(9)	RL=95(8)		PL=5(2)
3348 (35 MB)		PSL=175(3)		
3336(Mod1/11)	CL=22(6)	RL=37(5)	SL=66(3)	PL=2(2)
3348 (70 MB)	CL=55(9)	RL=95(8)	SL=175(3)	PL=5(2)
3350	CL=11(5)	RL=18(4)	SL=33(2)	PL=1(2)

If a later installation of Advanced Functions--DOS/VS
(5746-XE2) is being considered, the following minimum values
are required to restore the system (note that these values are
slightly higher than the default allocations):

2316 (1)	CL=42(9)	RL=66(8)		PL=3(2)
2316 (2)		PSL=119(3)		
3348(35MB) (1)	CL=60(9)	RL=103(8)		PL=5(2)
3348(35MB) (2)		PSL=206(4)		
3336(MOD1/11)	CL=25(6)	RL=40(5)	SL=77(3)	PL=2(2)
3348(70MB)	CL=60(9)	RL=103(8)	SL=206(4)	PL=5(2)
3350	CL=12(5)	RL=19(4)	SL=39(2)	PL=1(2)

Before completion of the restore, the DOS/VS Distribution
program prints, on the console, the lower and upper limits of
the disk extent occupied by the system residence file,
including the label cylinder(s). Disk space beyond the upper
limit is available for recorder file, page data set, work
files, etc.

At this point the restored disk volume is identical in
contents to the volume shipped by the Distribution Library to
the disk-only user.

Step 1 and 2 can also be done online, i.e. under control of any DOS/VS
system. If you want to use a DOS/VS system other than Release 34, do
the following to obtain the correct online version of the Restore
System utility:

. provide these control statements

      ASSGN SYSIN,X'cuu' distribution tape
      MTC FSF,SYSIN,n
                  n=3 for 1600 bpi tape or
                  n=1 on second volume of 800 bpi tapes

. execute file 4 of distribution tape
  (link job to catalog RESTORE SYSTEM utility)
. provide control statements

      MTC REW,SYSIN
      ASSGN SYSIN,X'cuu' normal SYSIN device

Program Directory for IBM Disk Operating System/Virtual Storage
Release 34, Program Number 5745-010, Basic Material

For detailed information, refer to DOS/VS System Generation,
GC33-5377.

Note 1:   Take appropriate action to save phase RESTORE of your current
           system before executing the above job.
Note 2:   The given online procedure does not work if SYSRES is to be
           created on 3336 model 11 or 3350.

To catalog the COPYSERV isntallation aid to your current system use the
following:

a) for tape distribution

    - ASSGN SYSIN,X'cuu' distribution tape
    - MTC FSF, SYSIN,4 for 1600/6250 bpi tape
      or
      MTC FSF, SYSIN,2 on second volume of 800 bpi tape
    · execute file 5 of distribution tape (link job to catalog COPYSERV
      installation aid)
    - MTC REW, SYSIN
    - ASSGN SYSIN, X'cuu' usual SYSIN device

b) for disk distribution

    - //DLBL IJSYSIN, 'INSTAID.COPYSERV.LINK'
      //EXTENT SYSIN
      ASSGN SYSIN, X'cuu' disk
    - Execute the disk file INSTAID.COPYSERV.LINK (a supervisor with
      SYSFIL=YES in FOPT-macro is required)

The installation aid COPYSERV is not part of DOS/VS Release 34 as
explained in chapter 2.B 2 COPYSERV functions have been integrated
into the CORGZ Program. The COPYSERV Installation aid is at the
Release 33 level of DOS/VS and is provided as an installation aid with
no programming support (COPYSERV will not work with DOS/VS Release
28). The documentation on the use of COPYSERV is attached to the
Program Directory that is distributed with the basic material.

Step 3:   IPL from the restored disk pack and define standard label
           information. At IPL time, one of the IBM-supplied precompiled
           supervisors $$A$SUP0 to $$A$SUP6 can be selected. Refer to
           Attachment 2 for detailed information on the IBM-supplied
           supervisors. $$A$SUP1 is the standard Distribution Library
           supervisor. For CPU model 115 with 64K storage only the
           supervisor $$A$SUP0 can be used.

           If you intend to use POWER/VS under $$A$SUP1 give the job
           control command ALLOC F1=160K before starting POWER/VS.

Note: A change has been made in the IPL operation. After the first
           WAIT of an IPL operation, the operator must send an attention

interrupt via the device being selected as operator console.
Only attention interrupts from device types which are
supported as DOS/VS system consoles are accepted. The system
assigns the device from which the interrupt was received as
SYSLOG. The system uses SYSLOG during IPL to read the
supervisor name and to display any messages to the operator.
The default supervisor can be selected by pressing END or
ENTER on the SYSLOG device. After the second WAIT of an IPL
operation, the operator must send another interrupt to the
system, thus specifying the device through which he wants to
specify further IPL commands. The IPL commands can be read
from console, card reader or diskette.

Standard label sets for 3336 (Mod. 1 or Mod. 11) or 3348 (70
MB) or 3350 (native) SYSRES packs can be obtained from the
procedure library by executing the procedure

- LABELS30 for 3336 (Mod. 1 or Mod. 11)
- LABELS40 for 3348 (70 MB)
- LABELS50 for 3350

Please note that the supplied label sets match the default
library sizes.

Loading of standard labels is necessary because the label
cylinder of the restored system is empty. Do not use a // JOB
statement since the recorder file cannot be opened until
standard labels are present on the pack. Prior to reading the
first job card the recorder file must have been created by
using the SET RF=CREATE command. Standard label information
must be defined for the SYSRES file, the recorder file and
any other files you may need, such as SYSLNK, SYS001, SYS002,
SYS003, etc.

After execution of step 3, the system is ready for further
system generation. Please consult System Generation,
GC33-5377 for detailed instructions.

Note: Programs other than DOS/VS SCP may contain unedited macro
          definitions. These macros must be edited into the E. or F.
          sublibrary prior to usage in an assembly.

9._____DOS/VS LIBRARY CONTENTS

The DOS/VS SYSRES file consists of a system core image library, a system relocatable library, a system source statement library, a procedure library, and empty label cylinder(s). The contents of these libraries as distributed by IBM are summarized in the following list:

- System Core Image Library

Attention Routines, Initiators, Terminators	5745-SC-AIT
DOS/VS Access Method Services	5745-SC-AMS
Analysis Program Component	5745-SC-APC
Assembler	5745-SC-ASM
Basic Telecommunications Access Method	5745-SC-BTM
Checkpoint/Restart	5745-SC-CKR
Direct Access Method	5745-SC-DAM
Diskette IOCS	5745-SC-DIO
Disk Error Recovery Procedures	5745-SC-DKE
Display Operator Console Support	5745-SC-DOC
Sequential Disk IOCS	5745-SC-DSK
Environmental Recording and Editing Program	5745-SC-ERP
System/360 Model 20 Emulator	5745-SC-E20
Compiler I/C Modules (RPS)	5745-SC-IOM
IOCS and Device Independent I/O	5745-SC-IOX
IPL and Buffer Load	5745-SC-IPL
Indexed Sequential Access Method	5745-SC-ISM
Job Control	5745-SC-JCL
Librarian - Maintenance and Service	5745-SC-LBR
Linkage Editor	5745-SC-LNK
Magnetic Character Recognition IOCS	5745-SC-MCR
Optical Character Recognition IOCS	5745-SC-OCR
On-Line Test Executive Program	5745-Sc-OLT
Problem Determination Aids	5745-SC-PDA
Paper Tape IOCS	5745-SC-PTP
POWER/VS	5745-SC-PWR
Queued Telecommunications Access Method	5745-SC-QTM
Recovery Management Support and Recording	5745-SC-RMS
Supervisor	5745-SC-SUP
Magnetic Tape IOCS	5745-SC-TAP
Teleprocessing On-Line Test Executive Program	5745-SC-TLT
Tape Error Recovery Procedures	5745-SC-TPE
System Utility Programs	5745-SC-UTL
Virtual Storage Access Method	5745-SC-VSM
Virtual Telecommunications Access Method	5745-SC-VTM

Note: 5745-SC-EML   1401/1440/1460 and   1410/7010 Emulators   are not
        shipped with DOS/VS Release 34   but as an independent release
        with program number 5747-CC3.

- System Relocatable Library

Attention Routines, Initiators, Terminators	5745-SC-AIT
DOS/VS Access Method Services	5745-SC-AMS
Analysis Program Component	5745-SC-APC
Assembler	5745-SC-ASM
Basic Telecommunications Access Method	5745-SC-BTM
Direct Access Method	5745-SC-DAM
Display Operator Console Support	5745-SC-DOC
Sequential Disk ICCS	5745-SC-DSK
Environmental Recording and Editing Program	5745-SC-ERP
System/360 Model 20 Emulator	5745-SC-E20
Compiler I/O Modules	5745-SC-IOM
IOCS and device independent I/O	5745-SC-IOX
IPL and Buffer Load	5745-SC-IPL
Indexed Sequential Access Methods	5745-SC-ISM
Job Control	5745-SC-JCL
Librarian - Maintenance and Service	5745-SC-LBR
Linkage Editor	5745-SC-LNK
On-Line Test Executive Program	5745-SC-OLT
Problem Determination Aids	5745-SC-PDA
Queued Telecommunication Access Method	5745-SC-QTM
Magnetic Tape ICCS	5745-SC-TAP
Tape Error Recovery Procedure	5745-SC-TPE
Teleprocessing On-Line Test Executive Program	5745-SC-TLT
System Utility Programs	5745-SC-UTL
Maintain System History	5745-SC-UTS
Virtual Storage Access Method	5745-SC-VSM
Virtual Telecommunications Access Method	5745-SC-VTM

Notes: Preassembled versions of UCS-buffer load modules for
        1403-N1, 3203, 3211, and 5203 are also included.

        5745-SC-EML 1401/1440/1460 and 1410/7010 Emulators are not
        shipped with DOS/VS Release 34 but as an independent release
        with program number 5747-CC3.

        5745-SC-SSS Subsystem Support Services is not shipped with
        DOS/VS Release 34 but as an independent release with program
        number 5747-CC6.

Program Directory for IBM Disk Operating System/Virtual Storage
Release 34, Program Number 5745-010, Basic Material

System Source Statement Library

Basic Telecommunications Access Method   5745-SC-BTM
Checkpoint/Restart   5745-SC-CKR
Direct Access Method   5745-SC-DAM
Diskette IOCS   5745-SC-DIO
Disk Error Recovery Procedures   5745-SC-DRP
Display Operator Console Support   5745-SC-DOC
Sequential Disk IOCS   5745-SC-DSK
System/360 Model 20 Emulator   5745-SC-E20
IOCS and Device Independent I/O   5745-SC-IOX
Indexed Sequential Access Method   5745-SC-ISM
Magnetic Character Recognition IOCS   5745-SC-MCR
Optical Character Recognition IOCS   5745-SC-OCR
Paper Tape IOCS   5745-SC-PTP
Queued Telecommunication Access Method   5745-SC-QTM
POWER/VS   5745-SC-PWR
Supervisor   5745-SC-SUP
Magnetic Tape IOCS   5745-SC-TAP
Fast Volume Copy Utility   part of   5745-SC-UTL
Maintain System History Utility   5745-SC-UTS
Virtual Storage Access Method   5745-SC-VSM
Virtual Telecommunications Access Method   5745-SC-VTM
Installation Verification Procedures

* Includes stand-alone IPL, supervisor and job control.

Notes: All macros in the source statement library are in edited
       format with the exception of

       Z.Books   = sample programs and the Fast Copy Disk
                            Volume utility and the Restore utility

       Y.Books   = System History model macros

       A.Books   = source for the supervisor samples.

       5745-SC-EML 1401/1440/1460 and 1410/7010 Emulators are not
       shipped with DCS/VS Release 34 but as an independent release
       with program number 5747-CC3.

       5745-SC-SSS Subsystem Support Services is not shipped with
       DCS/VS Release 34 but as an independent release with program
       number 5747-CC6.

Procedure Library

Procedures to create System Directory List and load the SVA
Delete procedures
Link procedures
Standard Label procedures
Samples

10.____PROGRAMMING CONSIDERATIONS

NCP

All installations using a POA that does not automatically respond to
VTAM action messages (i.e. one that does echo request to/from a
terminal/LU must generate all NCPs with: AUTOIPL=YES, AUTODMP=YES,
AUTOSYN=YES, and INITEST=NO on the PCCU macro. If this restriction is
not followed VTAM can interlock with the POA application.

VTAM

If you plan to use NCP support in your VTAM network, four NCP modules
must be linkage edited into the core image library. There is an
IBM-supplied VTAM calling book, ISTLINK7, for this purpose. Following
is the job stream necessary to perform this linkage editing:

```
// JOB LINKEDIT NCP MODULES
// OPTION CATAL
   INCLUDE ISTLINK7
// EXEC LNKEDT
/&
```

This job should be run after the NCP distribution tape has been
cataloged into your system.

"Cardless" Systems

- Subsystem Support Services (SSS) require a card reader.

- Utilities referring to IJSYSIN do not handle 81-byte records.

- DLBL and EXTENT information for SYSIN files on diskette must be made
  standard (either PARSID or STDLABEL). It is therefore recommended to
  include the following set of DLBL and EXTENT cards into the STDLABEL
  set of the system, to be able to include single PTFs from diskette
  into the system:

```
// DLBL IJSYSIN,'DTTEPTF',,DU
// EXTENT SYSIN
// EXTENT SYSIN
// EXTENT SYSIN
```

  This set of label information can also be used for user SYSIN-files
  if the file-id 'DTTEPTF' is used for the creation of the SYSIN-file.

  The standard label information for 3348 (70 MB), 3336 and
  3350 (supplied in the procedure library) contain the above label set.

3344 and 3350

If input option IQ is used for a 3344 emulating 3340 or a 3350 in
3330-1 compatibility mode, the program attempts to reclaim any track
that is flagged defective. A track that can be reclaimed is made
available for reuse as prime data track; the track originally used as
alternate track is returned to the pool of alternate tracks.

For a 3344 volume that was shipped with factory flagged defective
tracks - which must never be reclaimed - this may require that Assign
Alternate Track Disk Utility runs are performed following the
initialize disk run in order to reassign alternate tracks for
reclaimed factory flagged defective tracks. Failure to do this may
result in later input/output problems. Factory flagged defective
tracks on a 3344 volume are listed on an external label.

BTAM local 3270 users must assemble the BTMOD macro and linkedit
their BTAM applications. If BTAM BTMOD macro is not assembled for
a six or seven partition Advanced Function-DOS/VS system, local
3270 BTAM applications will run in only five of the available
six or seven partitions. F1 and/or F2 will not be supported.

11. _____PROGRAM TEMPORARY FIXES

You are advised to apply any program temporary fixes provided with the shipment of this release to ensure proper execution.

Prior to installing program temporary fixes contact your progamming support representative.

It might seem strange to many users that, although a DOS/VS release has just been made available, there are already program temporary fixes to be applied. However, there is a lead time of several months between the point in time when the system is made stable to start production of basic and optional material plus pertaining documentation like microfiches and the point in time when the first shipment from your Program Library takes place. Errors found during this lead time - through usage of previous releases and through reliability testing of the new release - are corrected through program temporary fixes, as are errors found after the first shipment.

12. ___ APAR SUBMISSION

To report any difficulties encountered in the use of DOS/VS Release 34,
an APAR (Authorized Program Analysis Report) should be submitted through
your IBM Programming Support Representative. He/She is required to
submit specific material with the APAR which will aid the APAR processing
location in solving the problem.

You are advised to retain the following:

- Supervisor assembly listings and linkage editor maps

- A storage dump

- A source deck of the failing program and sufficient input data to
  allow the problem to be recreated at the APAR processing location.

- SYSLST or SYSLOG output.

- a HISTLIST copy to show the programming service level of the system

A delay in solving the problem may occur if the required supporting
material is not submitted with the APAR.

Any or all supporting material will be returned on request.

Your co-operation in providing the required supporting material will
enable' the APAR processing location to respond to you via your
programming support representative more efficiently.

PROGRAM   DIRECTORY

For Use With

Release 34

of

DOS/VS

5745-010

(Optional Material)

This directory ccntains information concerning available material
associated with the subject program. The objective is to enable the
user of this program package to understand what he has received.

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CONTENTS

Program Directory DOS/VS Release 34, 5745-010
Optional Material

1. INTRODUCTION

Optional Programming Material is normally required only if you
planning to alter the System Control Programming design to your
special requirements.

The optional programming package contains the machine readable source
code of the entire SCP, including macros in un-edited format.

2. DISTRIBUTION

Distribution of the DOS/VS optional material is on magnetic tape
(9-track 800, 1600 or 6250 BPI) and 2316, 3336 or 3350 packs or 3340
data modules.

DOS/VS optional material cannot be stacked on disk with other
orderable items.

Each Optional Volume consists of one copy of a DOS/VS private source
statement library. On disk it is shipped as a DOS/VS private source
statement library; on tape it is a copy that can be restored to disk
with the DOS/VS System Restore Utility (see Retrieval chapter).

3. CONTENTS

The contents of the Optional Volumes are as follows:

Optional Volume 1

External Label: OPTIONAL-VOLUME 1

Attention Routines, Initiators, Terminators	5745-SC-AIT *
Analysis Program Component	5745-SC-APC
Assembler	5745-SC-ASM *
Ckeckpoint / Restart	5745-SC-CKR *
DOS/VS Distribution Program	5745-SC-DIS
Display Cperator Console support	5745-SC-DOC *
Environmental Recording and Editing Program	5745-SC-ERP *
IPL and Buffer Load	5745-SC-IPL *
Job Control	5745-SC-JCL *
Librarian - Maintenance and Service	5745-SC-LBR *
Linkage Editor	5745-SC-LNK
Problem Determination Aids	5745-SC-PDA
Recovery Management Support and Recording	5745-SC-RMS *
Supervisor	5745-SC-SUP *

* = Without macros; macros are on volume 2

Program Directory DOS/VS Release 34, 5745-010
Optional Material

Optional Volume 2

External Label: OPTIONAL-VOLUME 2

Attention Routines, Initiators, Terminators   5745-SC-AIT *
Assembler   5745-SC-ASM *
Ckeckpoint / Restart   5745-SC-CKR *
Direct Access Method   5745-SC-DAM
Diskette IOCS   5745-SC-DIO
Disk Error Recovery Procedures   5745-SC-DKE
Display Cperator Console Support   5745-SC-DOC *
Sequential Disk IOCS   5745-SC-DSK
Environmental Recording and Editing Program   5745-SC-ERP *
Compiler I/O Modules   5745-SC-IOM
IOCS and Device Independent I/O.   5745-SC-IOX
IPL and Buffer Load   5745-SC-IPL *
Indexed Sequential Access Method (ISAM)   5745-SC-ISM
Job Control   5745-SC-JCL *
Librarian - Maintenance and Service   5745-SC-LBR *
Magnetic Character Recognition IOCS   5745-SC-MCR
Optical Character Recognition IOCS   5745-SC-OCR
On-Line Test Executive Program (OLTEP)   5745-SC-OLT
Paper Tape IOCS   5745-SC-PTP
Recovery Management Support and Recording   5745-SC-RMS *
Supervisor   5745-SC-SUP *
Magnetic Tape IOCS   5745-SC-TAP
Tape Error Recovery Procedures   5745-SC-TPE
System Utility Programs   5745-SC-UTL
Maitain System History Utility (PTFHIST)   5745-SC-UTS

* = macros only; modules are on volume 1   (all other
components contain modules and macros on this volume)

Optional Volume 3

External Label: OPTIONAL-VOLUME 3

Basic Telecommunications Access Method (BTAM)   5745-SC-BTM
System/360 model 20 Emulator   5745-SC-E20
POWER/VS   5745-SC-PWR
Queued Telecommunications Access Method (QTAM)   5745-SC-QTM

Optional Volume 4

External Label: OPTIONAL-VOLUME 4

Access Method Services   5745-SC-AMS

Optional Volume 5

External Label: OPTIONAL-VOLUME 5

Virtual Storage Access Method   5745-SC-VSM

Optional Volume 6

External Label: OPTIONAL-VOLUME 6

Virtual Telecommunication Access Method (VTAM)   5745-SC-VTM
(part 1)

Optional Volume 7

External Label: OPTIONAL-VOLUME 7

Virtual Telecommunication Access Method (VTAM)   5745-SC-VTM
(part 2)

Optional Volume 8

External Label: OPTIONAL-VOLUME 8

Virtual Telecommunication Access Method (VTAM)   5745-SC-VTM
(part 3)

Optional Volume 9

External Label: OPTIONAL-VOLUME 9

Virtual Telecommunication Access Method (VTAM)   5745-SC-VTM
(part 4)
Teleprocessing On-Line Test Executive   5747-SC-TLT
Program (TOLTEP)

4. RETRIEVAL

Optional Volumes 1 - 9 can be restored with:

JOB A   allocations are entered directly from the console

or

JOB B   allocations are included in the job stream

```
JOB A:  // JOB RESTORE
        // UPSI 10
        // ASSGN SYS004,UA
        // ASSGN SYS005,UA
        // ASSGN SYS006,X'cuu'          Input Tape
        // ASSGN SYS007,UA
        // ASSGN SYS008,UA
        // ASSGN SYS009,X'cuu'          Output Disk
        // EXEC RESTORE                 NOTE 1
        /&
```

    NOTE 1: The allocations to be entered from the console
            are given on the next page

```
JOB B:  // JOB RESTORE
        // DLBL IJSYSSL,'A5745010.OPTVOLnn.FILE'
        // EXTENT SYSSLB,,1,1,1,XXXX        NOTE 2
        // ASSGN SYS004,UA
        // ASSGN SYS005,UA
        // ASSGN SYS006,X'cuu'          Input Tape
        // ASSGN SYS007,UA
        // ASSGN SYS008,UA
        // ASSGN SYS009,X'cuu'          Output Disk
        // EXEC RESTORE
           ALLOC PS=xxx(tt)             Note 3
        /*
        /&
```

    Note 2: For xxx, the number of tracks to be specified
            in the EXTENT card, see next page.

    Note 3: For allocations to be entered into ALLOC card
            see next page.

5. ALLOCATIONS

Opt Vol	2316 ALLOC (NOTE 1, NOTE 3)	2316 EXTENT NOTE 2	3336 ALLOC	3336 EXTENT	3348 ALLOC	3348 EXTENT	3350 ALLOC	3350 EXTENT
1	178(03)	3560	115(03)	2185	308(03)	3696	059(02)	1770
2	150(05)	3000	097(04)	1843	259(05)	3108	049(03)	1470
3	142(04)	2840	092(03)	1748	246(04)	2952	047(03)	1410
4	126(02)	2520	081(02)	1539	217(02)	2604	041(02)	1230
5	133(02)	2660	086(02)	1634	230(02)	2760	044(02)	132?
6	191(02)	3820	124(02)	2356	330(02)	3960	063(02)	189?
7	193(02)	3860	125(02)	2375	333(02)	3996	063(02)	189?
8	191(02)	3820	124(02)	2356	331(02)	3972	063(02)	189?
9	191(02)	3820	124(02)	2356	331(02)	3972	063(02)	1890

Each optional volume requires the following disk space at
the maximum:

2316 : 193 cyl (full pack)
3336 : 125 cyl
3348 : 333 cyl (full pack for 35 MB)
3350 : 063 cyl

6. ASSEMBLY

To assemble the (modified) source code, you can use any
DOS/VS assembler that supports System/370 instruction set
or the OS/VS F-Assembler.
NOTE: That the OS/VS H-Assembler does not produce
      DOS/VS compatible object code.

When using the DOS/VS assembler (5745-SC-ASM) the macros
used must be edited first.

7. PROGRAMMING SERVICES

FE Programming Service covers only the unaltered portions of
the SCP. If the affected SCP has been altered, the error
must be reproduceable in the unaltered code.