



# Tape/Copy

## Installation Guide

Release 2.7.4



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OpenTech Systems, Inc.  
405 State Highway 121  
Building C, Suite 130  
Lewisville, TX 75067  
469-635-1500

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# 1

# About This Guide

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## TOPICS COVERED IN THIS CHAPTER

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[Software Documentation Library \(page 1-2\)](#)

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## Introduction

This guide explains the installation and basic customization of the Tape/Copy product.

## Documentation Amendment History

This section lists any notable amendments to the Tape/Copy Installation Guide.

Date	Revision Description
November 2002	Extracted installation instructions from Tape/Copy R2.4.4 Product Reference Guide to create new manual. Rewrote installation instructions to use an XMIT file that can be RECEIVED for ease of use.
January 2004	Updated Operating System, Tape Management System and ATL Interface requirements. Updated Tape Management Considerations. Updated SETUP job instructions to include special Control-T steps. Added TLMSUPDT information for updating TLMS VMF. Added Include/Exclude Filter Tables Report. Added I/O Allocation Control Backup Report.
May 2004	Added Control-T R6.1 considerations. Removed references to the ATLNAMES PARMLIB member.
June 2005	Updated the PROPRIET member customization instructions. Update REXX Library update instructions. Added TAPECOPY to Enqueue information in pre-installation. Added optional installation step for EXCPVR. Added considerations and troubleshooting information for Syncsort z/OS errors.
November 2005	SETUP populates the BVIRBASE member of PARMLIB with VTS information. RMM Z1.6 added. New INSTALL library member UPFRM26X.
February 2006	Added LCS Z1.6 support. Added CA-1 and TLMS R11.5 support.
December 2007	SETUP populates the BVIRBASE member of PARMLIB with STK virtual tape library information. Added RMM Z1.7, RMM Z1.8, and ZARA R1.6 support.
August 2008	Added RMM Z1.9 and RMM Z1.10
September 2009	Added RMM Z1.11
April 2010	Added OAM interface installation instructions Added a section on Tape Expiration Using Tape/Copy & RMM
January 2012	Made minor updates.

## Software Documentation Library

This documentation can also be found online on the OpenTech Systems Technical Support web site (<http://www.opentechsystems.com/support.php>). Registration is required to access the web site.

All documents in the OpenTech Systems Software Documentation Library are in PDF format and can be read using Adobe Acrobat Reader. Acrobat Reader can be downloaded free at:

<http://www.adobe.com/acrobat>.

## Customer Service

OpenTech Systems' Technical Support can be reached:

- By Phone: 469-635-1500
- By Fax: 469-635-1507
- By Email: [support@opentechsystems.com](mailto:support@opentechsystems.com)

Normal business hours are Monday through Friday from 8:30 a.m. to 5:00 p.m., Central Standard Time. However, user assistance is available 24 hours a day, 7 days a week.

After hours support can be reached by calling 469-635-1500 and leaving a message. When leaving a message, specify whether your support request is urgent. If it is urgent, a Technical Support representative will contact you immediately. If it is not urgent, you will be contacted the following business day.

International customers should contact their local distributor in the event that they encounter problems with an OpenTech Systems product.

## Problem Reporting Information

In order for Technical Support to research any problems you may have with Tape/Copy, please have the following information available:

- Tape/Copy release, version and PTF level
- OS/390 or z/OS release number
- Tape management system name and release number
- JCL that was submitted
- Job output and dump, if generated
- Any error message codes
- Any other information you think may be important to understanding the problem

## Cautionary and Notable Items

The alert statements—**Note**, **Caution**, and **Warning**—are formatted in the following styles:



---

**Note** This symbol appears in the margin next to items that should be given special consideration. Understand these items completely before continuing with the installation and customization process.

---



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**Caution** Advises of important information, such machine or data error that could occur should the user fail to take or avoid a specified action.

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**Note** This symbol appears next to items that offer information about the use of this software or that describe differences between this and previous releases.

---

## JCL Example Conventions

This guide and the Tape/Copy JCL libraries contain JCL and control statement examples. Please keep in mind that these examples may not be appropriate for every environment. Most of these examples will require some modification before they will function properly in your specific environment.

The fields that require modification are noted with the characters '<===>' near the right margin. There may be other fields in the examples that require modification before use. In particular, most of the dataset names in the JCL examples will need to be changed before you can use these examples in your data center.

## Reference Guide Chapter Summaries

The Tape/Copy Installation Guide consists of the following chapters:

Chapter 1, “About This Guide” – This section provides an amendment history of the manual, customer service contact information and problem reporting tips.

[Chapter 2, “Pre-Installation”](#) – This section explains Tape/Copy’s software requirements and items to consider before installing the Tape/Copy product.

[Chapter 3, “Additional TMS Requirements”](#) – This section contains implementation considerations and requirements specifically for TLMS users.

[Chapter 4, “Installation Instructions”](#) – This section explains the installation and basic customization procedure for Tape/Copy.

[Chapter 5, “SETUP Utility”](#) – This section gives detailed information on the functions of the Tape/Copy SETUP utility and provides examples of the reports generated by the SETUP utility.

[Chapter 6, “Product Maintenance”](#) – This section provides information about how the Tape/Copy product is distributed and where to find available maintenance.

[Chapter 7, “Troubleshooting”](#) – This section provides information on some of the more common problems encountered when installing Tape/Copy, and common customization mistakes.

[Appendix A, “Pre-Installation Checklist”](#) – This section provides a checklist of items to review and the information needed before installing Tape/Copy on your system.

[Appendix B, “Installation Checklist”](#) – This section provides a checklist that can be used to track your installation progress.

[Appendix C, “Wildcard Characters”](#) – This section provides a list of the valid wildcarding (or dataset masking) characters used by Tape/Copy.



# 2

# Pre-Installation

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## TOPICS COVERED IN THIS CHAPTER

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[Supported Media \(page 2-2\)](#)

[Tape Management System Requirements \(page 2-3\)](#)

[Automated Tape Library Interface Requirements \(page 2-4\)](#)

[Other Software Requirements \(page 2-4\)](#)

[Tape Management System Considerations \(page 2-6\)](#)

[Special Considerations \(page 2-10\)](#)

[Tape Label Considerations \(page 2-11\)](#)

## Introduction

Before installing Tape/Copy, review this chapter thoroughly. This chapter contains information on Tape/Copy's software requirements, installation recommendations and special considerations.

A Pre-Installation Checklist is included in [Appendix A](#) of this manual. The Pre-Installation Checklist should be completed prior to beginning the installation of Tape/Copy.



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**Note** The installation of Tape/Copy does not require SMPE.

Tape/Copy does not run as a started task.

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## Operating System Requirements

Tape/Copy operates on the following operating systems:

O/S	Release
OS/390	R2.10 (IBM ended support on 10/01/2004)
z/OS	All currently supported IBM z/OS releases

## Operating System Support Policy

OpenTech Systems, Inc. recommends that our customers keep current on operating system releases and maintenance to ensure optimum compatibility, usability and support with our products. If a customer runs our products on an un-supported IBM operating system release, Technical Support will continue to take calls and support requests to assist our customers as best we can with the exception of modifying our products through zaps or PTFs. Please note customers must always maintain a supported release of an OpenTech Systems product and the products must be covered under current annual maintenance.

## Supported Media

Tape/Copy supports all tape media formats. Tape/Copy can automate the conversion of tape datasets from any tape media or device, to any other tape media or device.

## Tape Management System Requirements

Tape/Copy requires the use of one of the following tape management systems:

TMS	Release
A-Auto	R6.0
AFM	V2.4
CA-1	R5.2; R11.0; R11.5; R12
Control-T (Control-M/Tape)	R5.0; R5.1; R6.0; R6.1; R6.2; R6.3; R7.0
DFSMSrmm	R1.4; R1.5; R2.10; Z1.1, Z1.2; Z1.3; Z1.4; Z1.5; Z1.6; Z1.7; Z1.8 ; Z1.9; Z1.10; Z1.11, Z1.12, Z1.13 (see note below)
TLMS	R5.4; R5.5; R11.0, R11.5; R12
ZARA (Automedia)	R1.3, R1.4; R1.5; R1.6; R1.7; R1.8



**Note** See the Tape Management System Considerations section in this chapter for any special requirements specific to each tape management system.

In OpenTech Systems documentation for RMM, “R” indicates an OS/390 release number and “Z” indicates a z/OS release number. For example, if using RMM 1.4 for a OS/390 system, RMM R1.4 would be used. If using RMM 1.4 for a z/OS system, RMM Z1.4 would be used.

### Tape Management System Support Policy

OpenTech Systems, Inc. recommends that our customers keep current on tape management system releases and maintenance to ensure optimum compatibility, usability and support with our products. If a customer runs our products on a tape management system that is no longer supported by its vendor, Technical Support will continue to take calls and support requests to assist our customers as best we can with the exception of modifying our products through zaps or PTFs. Please note customers must always maintain a supported release of an OpenTech Systems product and the products must be covered under current annual maintenance.

### Audit/Journal Records

Tape/Copy users should verify that the tape management system’s auditing or journal database contain enough space to allow for the new records that will be created as part of increased activity when mass copying tapes with Tape/Copy. It may be necessary to increase the size of the journal to accommodate additional entries. *Refer to your tape management systems’ documentation for more information.*

## Automated Tape Library Interface Requirements

Tape/Copy does **not require** use of an automated or virtual tape library. However, if an automated library is to be used with Tape/Copy (to copy data TO or copy data FROM), the following ATL software interfaces are supported:

ATL Manufacturer/Software Interface	Release
IBM / LCS or HDS / LCS	R1.4; R1.5; R2.10; Z1.1; Z1.2; Z1.3; Z1.4; Z1.5; Z1.6, Z1.7, Z1.8, Z1.9, Z1.10; Z1.11; Z1.12; Z1.13 (see note below)
STK / HSC	R1.2; R2.0; R2.1; R4.0; R4.1; R5.0; R5.1; R6.0
Memorex / LMS	all
Sutmyn / LMS	all
Comparex / LMS	all
VTAPE	VTAPE R2.x, R11.x, R11.5, or R12



**Note** In OpenTech Systems documentation for LCS, “R” indicates an OS/390 release number and “Z” indicates a z/OS release number. For example, if using LCS 1.4 for a OS/390 system, LCS R1.4 would be used. If using LCS 1.4 for a z/OS system, LCS Z1.4 would be used.

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## Other Software Requirements

### Sort Utilities

Tape/Copy requires the use of one of the following sort utilities:

- CASORT
- DFSORT
- SYNCSORT

### APF-Authorization

The Tape/Copy load library must be APF authorized. Use your site’s standard procedure to authorize the Tape/Copy load library during the Tape/Copy installation.

### Security Authorization

The batch job user id that Tape/Copy will be using to perform its functions needs to be authorized by your security system (RACF, ACF2, etc.) to:

- access all datasets Tape/Copy selects

- move/copy any datasets Tape/Copy selects
- directly update your tape management catalog
- update the Tape/Copy PARMLIB library
- if processing HSM datasets, the user id needs to be authorized in DFSMSHsm to update the HSM CDS
- if using CopyCrypt for file encryption, the user id also needs authorization to use ICSF facilities

## JOB Statements

When creating your JCL JOB card statements, please use at least a REGION=4M.

## JES3



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**Warning** All Tape/Copy jobs should be excluded from being restarted by JES3. This can be done by specifying FAILURE=CANCEL in the STANDARDS initialization statement, in the CLASS statement that is associated with Tape/Copy jobs, or in the JOB card of your Tape/Copy jobs.

---

## CA-Disk

CA-Disk users must apply PTF RO18743 to avoid incorrect error messages when accessing the subfile interface.

ADSDM863 9999 MODULE xxxxxxxx CALLED WITHOUT A DBAC - FIND AND FIX

This does not affect the operation of TapeCopy but does cause excessive job output and spool utilization.

## EMC CopyCross Devices

EMC CopyCross devices use non-standard UCB device types, therefore the Tape/Copy SETUP routine (performed during installation) does not locate the EMC CopyCross devices in the Eligible Device Table (EDT) properly. The UCBDTYPE table has been provided in the Tape/Copy PARMLIB library as a means of allowing Tape/Copy to recognize CopyCross devices. (The table is shipped already populated with the known default devices.)

When Tape/Copy detects a non-standard UCB device type during processing, it will check the UCBDTYPE table for a matching entry. If no matching entry is found, a warning message (OT000206W) is issued, a condition code is set and Tape/Copy will continue processing using the default generic name based on the 4<sup>th</sup> byte of the UCB device type.

## Enqueue on OTPRMLIB and TAPECOPY

Tape/Copy issues an Enqueue/Dequeue for resource OTPRMLIB and resource TAPECOPY.

- The resource OTPRMLIB is an internally generated Major Name that is used by Tape/Copy to serialize the PARMLIB updates that may be needed during candidate selection and conversion jobs.
- The resource TAPECOPY is an internally generated Major Name that is used by Tape/Copy to serialize the candidate selection and conversion jobs. A related Minor Name of CONV.VS.CSEL is also used.

The user must ensure that these resource names (OTPRMLIB and TAPECOPY) will be recognized and propagated by their cross system resource product such as GRS or CA-MIM.

## Tape Management System Considerations

This section lists other items that should be taken into special consideration when using Tape/Copy with a specific tape management system, or a specific release of a tape management system.



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**Note** While we do our best to identify and inform our customers of any tape management system issues/fixes that could adversely affect Tape/Copy processing, we cannot be sure that this list is totally complete.

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### CA-1 R5.2

- If APAR QO49675 is applied to your CA-1 R5.2 installation, please be sure that APAR QO49896 is also applied. APAR QO49896 fixes a problem that occurs after application of APAR QO49675 which causes TMC updates not to occur even though they are reported as being successful.

### CA-1 (all releases)

- CA-1 will check your security system for access to the following resources when Tape/Copy is executing; the user id that is used to run the Tape/Copy jobs will need access to these resources:
  - a YSVCCOND or YSVCUNCD READ and UPDATE access is required
  - b NLRES/NLNORES or NSLRES/NSLNORES access is required if NL or NSL tape label types will be processed
  - c BLPRES/BLPNORES access is required when using any Tape/Copy utilities that use BLP access
  - d FORRES/FORNORES access is required when the READ-INPUT-TAPES-AS-98000 parameter is set to YES, which is the default value (default)

## Control-T R6.1

- The minimum maintenance level required for IOA is PTF PA07398, which updates load module IOADBS. The minimum maintenance level required for Control-T (Control-M/Tape) is PTF PA07946, which updates load module CTTDBT. Prior to these PTFs, the tape database could be corrupted by jobs running in a shared database environment. Control-T R6.1 users are urged to contact BMC to verify that they have all applicable maintenance applied to IOA and Control-T.

## ZARA R1.3

- ZARA R1.3 must be at PTF level 39 with additional PTFs T130ATCW, T130ATCX and T130A054.
- There is an error in the ZARA API that causes ZARA to indicate SUL tapes as SL tapes, so Tape/Copy is unable to distinguish between SL and SUL labels. As a result, Tape/Copy will treat all SUL tapes as SL tapes unless ZARA PTF T130ATDK is applied. Processing an SUL tape as SL will not cause an error or abend but it will create a copy that has an incorrect label type. If T130ATDK is not applied, the only bypass is to identify all SUL volsers and place them in the EXCLVOLS member of the Tape/Copy PARMLIB so that they are excluded from Tape/Copy processing.

## All DFSMSrmm Releases

All available APARs that apply to the DFSMSrmm API should be applied, as Tape/Copy uses the API to perform updates to the tape database for all RMM releases after and including RMM R1.4. RMM API problems can cause Tape/Copy job failures. Some known PTFs/APARs that are required are UW84367, UW78009, OW47481, OW51613 but others may be need as well.

IBM has released APAR OA07773 for RMM. The following is the description from the APAR description on the IBM website: "*OpenTech TAPECOPY is used to move tape data from one media to another. This product does OPEN TYPE=J type processing to move multiple files. The first file to be copied is allocated in JCL. Then TYPEJ processing is used to move subsequent files in the same execution. This works correctly. When IEBCGENER is subsequently used to read back the tapes the first tape is read okay. But any attempt to read data sets other than the first results in an ABEND613. The program [DFSMSrmm] does not provide correct processing in the case described.*" All Tape/Copy users with RMM should verify that they have this fix applied, if applicable, to prevent receiving errors when reading tapes created by Tape/Copy conversion jobs. Please contact IBM with any specific questions regarding this fix.

## DFSMSrmm EDGHSKP Function

Various Tape/Copy jobs execute PGM=EDGHSKP, with PARM='RPTEXT,DATEFORM(J)', to obtain a copy of the RMM database. EDGHSKP is also used by data centers to perform RMM housekeeping (scratch processing, storage location management, VRS processing, etc.).

RMM only allows one instance of EDGHSKP to run at a time. Any attempt to run EDGHSKP when another instance of EDGHSKP is already running will result in a failed job and will generate RMM message EDG6205E.

Tape/Copy's call to EDGHSKP can be bypassed by inserting:

```
//BYPSDUMP DD DSN=<edghskp.file>
```

into the Tape/Copy job JCL. This will cause Tape/Copy to use an RMM extract dataset that has previously been created (must be in Julian format).

Another way to avoid this problem is to create a simple queuing mechanism for jobs that invoke EDGHSKP by adding a dummy DD that points to a predefined dataset using DISP=OLD in every job step that calls EDGHSKP. This will cause those jobs to process one at a time without failing since only one job step can have the DISP=OLD control of the dummy dataset at a time.

## DFSMSrmm RETAINBY option

The DFSMSrmm RETAINBY(VOLUME), the default option, expiration/retention feature can expire volumes within an original multi-dataset stacked volset. The remaining original volumes are not sequence numbered consecutively.

Installations that use this feature should carefully review the Parameter Guide descriptions of the ALLOW-MISSING-INPUT-DATASET-VOLUME, BYPASS-END-OF-VOLSET-TEST, FORCE-BROKEN-MULTIVOL-SELECTION parameters.

## STGADMIN.EDG.MASTER Access Authority

Tape/Copy requires access to STGADMIN.EDG.MASTER when using RMM, therefore the userid that the Tape/Copy job is running under will need authority to access the RMM control dataset. The following information from IBM's "DFSMSrmm Implementation and Customization Guide" may assist you in setting up the proper RACF authority for Tape/Copy to access STGADMIN.EDG.MASTER.

Access to information in the DFSMSrmm control data set:

```
REDFINE FACILITY STGADMIN.EDG.MASTER UACC(NONE)  
PERMIT STGADMIN.EDG.MASTER CLASS(FACILITY)  
ACCESS(CONTROL) ID(userid)
```

Use of the INIT and ERASE function:

```
REDFINE FACILITY STGADMIN.EDG.OPERATOR UACC(NONE)  
PERMIT STGADMIN.EDG.OPERATOR CLASS(FACILITY)  
ACCESS(UPDATE) ID(userid)
```

Changing of information recorded by DFSMSrmm during O/C/EOV processing:

```
REDFINE FACILITY STGADMIN.EDG.FORCE UACC(NONE)  
PERMIT STGADMIN.EDG.FORCE CLASS(FACILITY)  
ACCESS(UPDATE) ID(userid)
```

## DFSMSrmm R2.10

Sites that have applied APAR OW47481 should also ensure that APAR OW50282 is also applied. If OW47481 is applied without OW50282, users can experience looping Tape/Copy conversions jobs.

### *RMM sites that Use the SMS Management Class Values*

RMM will pass any updates to the SMS Management Class value that is stored in RMM to the associated IBM VTS (if any). Therefore, if you are copying tape files into an IBM VTS and you wish to have the SMS Management Class values that are assigned by the SMS ACS routines as Tape/Copy creating the output file, then you should set this parameter value to YES. Otherwise, any SMS Management Class value which was stored in RMM for the input tape file, will be used to update the RMM SMS Management Class value (which it will then propagate to the VTS, if any).

## All TLMS Releases

In order for TapeCopy to update the TLMS Retention Schedule, the PPOPTION member of TLMSIPO must specify MANUAL=YES.

Beginning in TLMS 11 SP 3, an enhancement was made to the TLMS RMF facility which permits new and robust wildcard patterns for dataset and job name entries stored in the TLMS RMF dataset. The TapeCopy now supports the TLMS enhanced RMF functions, see the TLMS specific sections in the [TapeCopy User Guide](#) and [VDR User Manual](#) for any limitations.



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**Warning** See [Chapter 3](#) for TLMS specific instructions relating to TLMS dataset expiration process and adding Retention Master File (RMF) entries.

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## Special Considerations

### Allocation Control Systems/SMS

If your data center is using an allocation control system, such as SMS, you may need to verify that it will allow Tape/Copy to allocate its DASD work datasets, the Audit Log file and the Statistics file where appropriate.



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**Warning** Work datasets created by Tape/Copy should not be assigned a management class with "YES IMMEDIATE" or "CONDITIONAL IMMEDIATE" partial release values. Assigning these management classes to the Tape/Copy work datasets could cause Tape/Copy to encounter space abends when creating the conversion job JCL.

---

### BCU Upgrade

Prior to installing this release of the TapeCopy product, it is strongly recommended that the sample jcl member VDRBCUUP be customized and run with the REPORT option only to complete any pending BCU update activity. This is due to the fact that record size of the BCU database has changed and failure to complete any pending update activity prior to upgrading the TapeCopy software may result in an abnormal termination of the BCU process after the software upgrade.

### International Foreign Characters

Tape/Copy uses special characters in some of its PARMLIB library table entries (such as the IOCNTLTB). If Tape/Copy is used in a country where certain special characters may not have the same interpretation as in the United States, the following hex code translation table can be used to ensure that the proper hex codes are associated with each special character.

Special Character	Hex Code
!	5A
\$	5B
*	5C
/	61
%	6C
#	7B
@	7C
=	7E

## Tape Label Considerations

Tape/Copy supports the following label types:

For Input	For Output
SL	SL
NL	NL
NSL	NSL
SUL	SUL
LTM	LTM
AL1	AL3
AU1	AL4
AL3	
AU3	

### *Non-Standard Labels (NSL)*



**Warning** Non-Standard Labels are read, verified and created by MVS system installation exists. These exits must be in place for Tape/Copy to successfully process NSL tapes. If you do not have these exits installed, or if you do not wish to process NSL tapes with Tape/Copy, you can exclude them processing by adding "NSL" (without quotes) to the EXCLTLBL member of the Tape/Copy PARMLIB library.

### *ANSI/ISO Labels (AL1, AL3, AL4)*

All formats of ANSI/ISO label tapes can be read by MVS, but your system determines what type of AL labels are written to output AL tapes. Under MVS, only AL3 and AL4 are supported for output processing.

### **3590-A60 Control Unit Microcode Level**

Users who have installed a 3590-A60 with control unit microcode level 1.15.11.1 may receive an IEC147I 613-14 error message (sometimes accompanied by a IOS000I message stating that tape positioning has been lost) while running Tape/Copy conversion jobs. This problem can be resolved by upgrading the A60 microcode to level 1.15.11.4 which corrects the timing issue that causes the Positioning Lost error.

## Cycle Control File Retention

Datasets that are retained solely by cycle control can be prematurely expired if Tape/Copy's conversion job runs at the same time as your tape management system's scratch processing. To avoid this situation, you should either:

- Exclude cycle control datasets from being processed by Tape/Copy when the conversion may run at the same time as your scratch processing by using the Expiration Type Selection panel invoked through the Candidate Selection panel (when creating the conversion JCL).
- OR
- Not allow your scratch processing to run when a Tape/Copy conversion job is executing.

## SYNCSORT z/OS

Tape/Copy requires that several SYNCSORT fixes be applied when Tape/Copy is used on systems with SYNCSORT z/OS. The fix numbers listed are the “early warning” fix numbers. Please contact Syncsort support for the PTF numbers needed.

- EW5666 and EW5672 fix an error causing “insufficient virtual storage” errors (WER039A INSUFFICIENT VIRTUAL STORAGE with a U0016 abend) when running the Tape/Copy SETUP job.
- EW5624 corrected a problem where the SORTOUT DD does not get deallocated after the datasets are closed when FREE-CLOSE is specified. This can cause a dynamic allocation error.
- EW6258-0 corrected an error that caused a S0C4 abend when striped datasets are used for input or output on a z/OS 1.7 system.
- EW6258-2 corrected a problem that caused an error when using striped SORTIN/SORTOUT when running on z/OS 1.7.



---

**Warning** Also see [“Syncsort z/OS Failures”](#) in [Chapter 7](#) of this guide for information on fixes and work around for Syncsort failures.

---

## Large Block Interface (LBI)

Tape/Copy supports Large Block Interface (LBI) but all IBM APARS relating to LBI (such as UW88389) should be applied for Tape/Copy to function correctly when using LBI. The tape management system being used has to be at a level that supports LBI.

## Proprietary Datasets

Please review [Chapter 5](#) of the Tape/Copy User Guide for detailed information on special considerations for dataset formats such as DFSMShsm, SAR, FDRABR, DMS/CA-Disk, etc. if you will be processing proprietary data formats using Tape/Copy.

## Tape/Copy Library Sizes

The following are approximate space requirements for the installation of Tape/Copy on 3390 DASD volumes, as well as the library attributes.

Dataset	DSORG	RECFM	Space (approx.)
DBRM	PO	FB	30 TRK
INSTALL	PO	FB	910 TRK
JCLLIB	PO	FB	26 TRK
LOADLIB	PO	U	550 TRK
MSGS	PO	FB	9 TRK
OBJ	PO	FB	260 TRK
PANELS	PO	FB	37 TRK
PARMLIB	PO	FB	60 TRK
REXX	PO	FB	56 TRK
SKELS	PO	FB	9 TRK
XMITFILE	PO	FB	580 TRK

## Using Symbolics in Tape/Copy Dataset Names

Tape/Copy supports the use of static system symbol substitution in several parameters requiring dataset names as the parameter value. If used, the symbols must be defined in the MVS PARMLIB member IEASYMxx.

### Example:

```
AUDIT-LOG-FILE-GDG-BASE-NAME: &LPARID..&OTQUAL..AUDITLOG
```

The Tape/Copy parameters that support the use of system symbol substitution are listed below:

- ADVR-ROUTING-FILE-NAME
- AUDIT-LOG-FILE-GDG-BASE-NAME
- CNV-JOB-STACK-CNTL-FILE-PREFIX
- CNV-JOB-TRIGR-CREATE-DSN
- CNV-JOB-TRIGR-CTRL-DSN
- CNV-JOB-TRIGR-SUBMIT-DSN
- CNV-JOB-TRIGR-WTO-DSN
- CONVERSION-JCL-TARGET-DATASET-NAME
- DBS-DUALCOPY-BRIDGE-FILE-NAME
- DMS/CA-DISK-FILES-DATASET
- DMS/CA-DISK-PARMLIB
- DYNAMIC-ALLOCATION-DATASET-NAME-PREFIX

- DYNAMIC-ALLOCATION-VSAM-DATASET-NAME-PREFIX
- REXX-LIB-NAME
- SMF-DATASET-NAME
- STATISTICS-FILE-GDG-BASE-NAME
- TMS-DATABASE-NAME
- TMS-LOAD-LIB-NAME
- TMS-PARMLIB-NAME
- TMS-RETENTION-CONTROL-FILE-NAME
- TMS-SECOND-DATASET-NAME
- TMS-SECOND-PARMLIB-NAME
- TMS-THIRD-DATASET-NAME

## Authorization Codes



---

**Warning** Tape/Copy requires an authorization code for each CPU on which the product will execute. If an authorization code is not provided, the Tape/Copy job will not run successfully.

---

Tape/Copy's authorization codes are generated using the 6-character CPU serial number of the CPU. If you are in need of an authorization code and do not know the 6-character CPU serial number, you can find out that information by:

- Issuing the 'D M=CPU' MVS command on the system console.  
OR
- Using the JCL provided in the CPUID member of the Tape/Copy JCLLIB. This JCL may require job card modification and you should supply your APF-authorized Tape/Copy LOADLIB in the STEPLIB DD. After the job completes successfully, the last three lines of output should look similar to this:

```
CVT   CPUID=FF01ADFE20940000 2094-UNK
STIDP CPUID=FF01ADFE20948000 2094-UNK
STSI  CPUID= 04ADFE           2094-720
```

The 3rd through 8th characters after CPUID= will be the 6 character CPU serial number, the following field is the CPU Model and Type.

## Obtaining An Authorization Code

Authorization codes can be obtained by:

- Emailing [productkey@opentechsystems.com](mailto:productkey@opentechsystems.com).
- Contacting your Tape/Copy Sales Representative.
- Completing the product key request form in the secure Support Portal area of our website



---

**Note** Please have your CPU model and the 6-character CPU serial number available when requesting an authorization code.

---

# 3 Additional TMS Requirements

---

## TOPICS COVERED IN THIS CHAPTER

[Tape Expiration Using Tape/Copy & TLMS \(page 3-2\)](#)

[Tape Expiration Using Tape/Copy & RMM \(page 3-4\)](#)

## Tape Expiration Using Tape/Copy & TLMS

When Tape/Copy performs a MOVE (not a COPY) or VDR Dual Copy backups are expired using TLMS as the tape management system, an extra process must be implemented to ensure that the input tapes are scratched when appropriate. (The setting of the MOVED-DATASET-RETENTION-PERIOD parameter determines when the dataset should be scratched.)

With other tape management systems, Tape/Copy is able to simply change the expiration date of the input tape so that it is scratched by the next scratch job. However, TLMS' Retention Master File (RMF) can prevent Tape/Copy from using this method because the RMF will cause the expiration date of the input tape to revert to what it was before Tape/Copy changed it. This would prevent the tape from being scratched as it should be.



---

**Warning** Follow the instructions in this chapter to ensure that input tapes that are involved in a MOVE operation or Dual Copy backup are properly expired.

---

### TLMS Interface Related Parameters

In addition to other parameters related to specifying your tape management system to Tape/Copy, TLMS users should review Parameter Guide descriptions for the following parameters that affect Tape/Copy interface with TLMS and set the appropriate values in the USERSETS member of the Tape/Copy PARMLIB:

- GREGORIAN-DATE-FORMAT
- TMS-DATABASE-INDEX-NAME
- TMS-TLMS-PPOPTION-FILE-NAME
- TMS-TLMS-PPOPTION-FILE-MEMBER-NAME

### Addition to TLMS Daily Maintenance

In order to work around the tape expiration situation mentioned above, the Tape/Copy conversion jobs set the creating job name in the input tape's TLMS database record to "OPENTECH" and set the last used date to the current day (the date of the conversion).



---

**Warning** A step must then be added to your TLMS daily maintenance process (either to your maintenance job itself, or scheduled as a separate job; as long as it runs prior to the CATTRS step in the TLMS daily maintenance job). The JCL for this step is located in the TLMSSTEP member of the Tape/Copy JCLLIB library.

---

The TLMSSTEP will gather all of the TLMS database records that have a creating job name of "OPENTECH" and are not cataloged in the system (ICF) catalog and then compare their last used date, plus the value of the MOVED-DATASET-RETENTION-PERIOD parameter, to the current date.

If the last used date + MOVED-DATASET-RETENTION-PERIOD is less than or equal to the current date and if the location id *is equal to* the value listed for the DATA-CENTER-ID parameter (in your USERSETS), the dataset name of that record will be changed to "OPENTECH.EXPIRED".

If the last used date + MOVED-DATASET-RETENTION-PERIOD is less than or equal to the current date and if the location id *is NOT equal to* the value listed for the DATA-CENTER-ID parameter (in the USERSETS), the dataset name of that record will be changed to "OPENTECH.EXPIRExx" (xx = the location id on the volume record).

**Example:**

If the location id on the volume record is 99; the dataset name of the tape management system record would be changed to "OPENTECH.EXPIRE99".



---

**Note** If the location id contains a space in either the first or second byte, the space will be replaced with a '#' character when the new dataset name is created.

**Example:** If the location id on the volume record is " 4"; the dataset name of the tape management system record would be changed to "OPENTECH.EXPIRE#4".

---

## Updating the TLMS RMF

In addition to adding the TLMSSSTEP to the TLMS daily maintenance process, entries must also be added to the Retention Master File (RMF) to tell TLMS to scratch datasets with the dataset name of "OPENTECH.EXPIRED" or "OPENTECH.EXPIRExx" defined with a retention type 6 (move immediate).

### ON-SITE

The entry into the RMF update procedure (CATRMFU) for on-site datasets (those with a location ID equal to the value of the DATA-CENTER-ID parameter; the default of DC is used here) would look as shown below:

```
TDAOPENTECH . EXPIRED
6DC
```

If using the Enhanced RMF format, use procedure CATRMFE. The the control cards are:

```
ADDRTN +
DSN(OPENTECH.EXPIRED          ) +
JOB(*) +
RTN(6DC          ) +
OWNER(TAPE LIBRARIAN)
```

Sample TDA control cards need "TAPE LIBRARIAN" starting in column 56.

### OFF-SITE

The entry into the RMF update procedure (CATRMFU) for off-site datasets would look as shown below (xx = the location id on the volume record):

```
TDAOPENTECH . EXPIRExx
6DC      5xx0001
```

This rule allows the volume to rotate back from the off-site storage and be expired. Code 5 is "elapsed days" processing so the additional rule is saying that the volume should return from the xx location after one day.

**Example:**

The RMF update procedure (CATRMFU) for datasets with a location id of 9C would look like this:

```
TDAOPENTECH . EXPIRE9C  
6DC      59C0001
```

## TLMS Scratch Report

The TLMS Scratch Report is generated to show the detail activity of tapes expiring under TLMS control. A count of all the unexpired tapes is listed at the end of the report.

RELEASE x.x.x	PTF LEVEL x	T A P E / C O P Y				PROGRAM OTTC0008
DATE: xx/xx/xxxx	TIME: xx:xx:xx	SCRATCH REPORT FOR OPENTECH_SYSTEMS,_INC.				PAGE 1
MSGID	DATASET NAME	VOLSER	EXPDT	REASON		
M0150	MRKT211.MRKTRPTS.DETAILS.DATA	203894	95349	EXPIRED	TAPE IS CATALOGED	
M0151	DEVL112.WORKLOAD.TESTDATA	203943	95349	EXPIRED	TAPE IS FLAGGED FOR SCRATCH	
.	.	.	.	.	.	
M0152	O131.YFT939.NXKFSNA.Y1986	207431	95349	EXPIRED	TAPE FAILED TO FLG FOR SCRATCH	
NUMBER OF TAPES AWAITING EXPIRATION:		115				

## Tape Expiration Using Tape/Copy & RMM

When Tape/Copy expires an input file during a MOVE operation or when a VDR Dual Copy backup is no longer needed, it updates the following fields:

- Expiration Date is set to the value derived from MOVED-DATASET-RETENTION-PERIOD
- Creating Job and Step name based on the settings of INPUT-CREATING-STEPNAME-VALUE and MODIFY-INPUT-CREATING-STEPNAME
- VRS Management Value based on the setting of MOVE-EXPIRE-MANAGEMENTVALUE

In many cases, this is sufficient to allow the tape to expire. However, when the tape files are retained by a VRS DSN rule Tape/Copy-VDR will also alter the first nine characters of the DSN recorded in RMM to "OPENTECH." or "OPENTEC.H" (depending on which results in a valid DSN value). Frequently, this will cause the VRS rule which is currently retaining the file to no longer match there by allowing the file to expire based on the expiration date that was set.

Even when the dataset prefix is changed, it is possible that it will not override the current VRS record (if the VRS record is keying on part of the DSN that was not changed). To eliminate this potential exposure, a VRS for DSN=OPENTEC\*.\*\* should be created with the retention criteria set to Until Expired like this;

```
TSO RMM ADDVRS DSNAME('OPENTEC*.**') UNTILEXPIRED.
```

## Addition to RMM Daily Maintenance

When a dataset that is retained by a VRS rule is expired and renamed, as described above, it might also have the INIT Release Action set as well. The INIT Release Action is set when the DSN change affects the last 17 characters of the DSN. RMM validates the last 17 characters of the DSN against the last 17 of the DSN that is stored in the tape label when the tape is reused as a scratch tape. When the "last 17" values do not match, RMM rejects the scratch tape. To manage this situation, Tape/Copy-VDR sets the Release Action INIT flag which prevents the tape from going into scratch status until it has been re-INIT-ed. A true/physical reinitialization is not required, only telling RMM the volume that has been reinitialized is required. To perform the "logical reinitialization", the RMM command needs to be executed for any volumes in the PENDING INIT status:

```
TSO RMM CV <volser> INIT(YES) CRLSE(INIT)
```

To automate this process, a maintenance program has been created (see RMMPENDI in the product JCL library). This job step can be added to your daily RMM maintenance process or can be run less frequently (e.g. weekly or monthly). RMMPENDI will create a RMM report extract file and scan it for any entries that are Pending INIT and have been renamed as described above. Any matching entries are reported and logically initialized. Alternatively, if the job is run with PARM=SIM the report will be generated and the logical initialization commands will be generated, but instead of executing the commands they will be written to DD name RMMUPDTS. The RMMUPDTS output can be manually reviewed and potentially executed via TSO (or TSO batch, PGM=IKJEFT01).

## RMM Logical INIT Report

The RMM Logical INIT Report is generated to show the detail activity of tapes eligible for logical INIT processing.

REL x.x.x		PTF x		T A P E / C O P Y				OTTC0010 JOB99999	
DATE: xx/xx/xxxx		TIME: xx:xx:xx		DFSMS/RMM LOGICAL INIT REPORT FOR NONE				PAGE 1	
		RLSE							
VOLSER	STATUS	PEND	ACTN	INIT	EXPIRATION	RETENTION	RVDSNAM1	ACTION	
		RLSE	INIT	PEND	DATE	DATE			
ETR001	MASTER	Y	Y	Y	2010/104	2010/103	OPENTECH.TEST.FILE03MO	*LOGICAL INIT	
ETR019	MASTER	Y	Y	Y	2010/139	2010/138	OPENTECH.TEST.FILE02MO	*LOGICAL INIT	
ETR023	MASTER	Y	Y	Y	2010/085	2010/084	OPENTEC.H2.RETP04.FILE01	*LOGICAL INIT	
ETR025	MASTER	Y	Y	Y	2010/085	2010/084	OPENTEC.H2.RETP10.FILE01	*LOGICAL INIT	
ETR029	MASTER	Y	Y	Y	2010/217	2010/216	OPENTECH.TEST.FILE02MO	*LOGICAL INIT	



# 4

# Installation Instructions

---

## TOPICS COVERED IN THIS CHAPTER

- Step 1 - Pre-Installation Checklist (page 4-2)
- Step 2 - Save XMIT File (page 4-2)
- Step 3 - Upload XMIT File (page 4-2)
- Step 4 - RECEIVE the XMIT File (page 4-3)
- Step 5 - Edit RECEIVE JCL Member (page 4-3)
- Step 7 - Apply Maintenance (page 4-3)
- Step 8 - APF Authorize LOADLIB (page 4-4)
- Step 9 - Customize REXX Library (page 4-4)
- Step 10 - Customize LIBRYDEF Member (page 4-5)
- Step 11 - Customize USERSETS Member (page 4-6)
- Step 12 - Run SETUP Job\* (page 4-7)
- Step 13 - Customize PROPRIET Member (page 4-9)
- Step 14 - Provide AUTHCODE (page 4-10)
- Step 15 - Create Stacking Conflict Avoidance Database (optional) (page 4-10)
- Step 16 - EXCPVR Performance Enhancement (optional) (page 4-11)
- Step 17 - Bind OAM Interface Plans (page 4-11)
- Step 18 - Installation Verification Procedure (page 4-12)

## Introduction

This chapter explains how to install the Tape/Copy product, using a CD, an emailed product file or a downloaded product XMIT file and perform the minimum customization required to use Tape/Copy. Use the Installation Checklist found in [Appendix B](#) to mark off the steps as they are completed to ensure that the installation is done completely.



---

**Warning** Users that are upgrading their existing Tape/Copy libraries rather than installing the new release separately should refer to the Tape/Copy Product Update Bulletin.

---



---

**Note** Throughout this chapter (and the rest of this manual also), @DSPREFIX is the dataset name prefix chosen on your "[Pre-Installation Checklist](#)".

---

## Step 1 - Pre-Installation Checklist

Review [Chapter 2](#) and complete the Pre-Installation Checklist located in [Appendix A](#).

## Step 2 - Save XMIT File

The Tape/Copy product is shipped on CD, emailed, or is downloadable from OpenTech secure Support Portal in the form of an XMIT file. Save the file named TAPECOPY.XMITFILE (from the CD or the email you received) to a directory on your PC.



---

**Warning** If installing Tape/Copy from a cartridge tape, refer to the installation instructions you received with the tape.

---

## Step 3 - Upload XMIT File

Upload TAPECOPY.XMITFILE to your mainframe as a binary file (i.e. with no ASCII and CRLF translation) using INDSFILE, FTP or your terminal emulator's file transfer option. Name the new mainframe file @DSPREFIX.TAPECOPY.XMITFILE. If pre-allocating the mainframe target file, the DCB attributes must be:

```
DCB=(LRECL=80, BLKSIZE=3120, RECFM=FB, DSORG=PS)
```



---

**Note** The TAPECOPY.XMITFILE requires approximately 900 TRKS of DASD space.

---

## Step 4 - RECEIVE the XMIT File

Use the TSO RECEIVE command below to restore the XMIT file into its original PDS library structure.

```
TSO RECEIVE INDA ('@DSPREFIX.TAPECOPY.XMITFILE')
```

After the command is issued, you will receive the following prompt:

```
INMR906A Enter restore parameters or 'DELETE' or 'END' +
```

Enter the following reply:

```
DSN ('@DSPREFIX.TAPECOPY.INSTALL') VOL (vvvvvv)
```

Where vvvvvv is the DASD volume where you wish to create the Tape/Copy INSTALL library. (The VOL parameter is optional.)



---

**Note** If you require more information on using the TSO RECEIVE command, issue "TSO HELP RECEIVE" on the ISPF command line for an explanation of the command and its available parameters.

---

## Step 5 - Edit RECEIVE JCL Member

Edit the RECEIVE member of the INSTALL library. Following the instructions in the JCL comments, update the job card and the dataset name prefix used throughout the job (@DSPREFIX). Update the UNIT and VOL parameters in the RECEIVE statements in the JCL to direct the allocation of the Tape/Copy libraries to the DASD volume selected on the Pre-Installation Checklist.

Submit the RECEIVE member JCL. The Tape/Copy product libraries are then restored.

## Step 6 - Edit LINKOBJ JCL Member

Edit the LINKOBJ member of the INSTALL library. Following the instructions in the JCL comments, update the job card, the dataset name prefix used throughout the job (@DSPREFIX), and update the LE370 object library in the SYSLIB DD.

Submit the LINKOBJ member JCL.

## Step 7 - Apply Maintenance

Go to OpenTech's Support web site (<http://www.opentechsystems.com/support.php>) and download any maintenance that may be available for the release of Tape/Copy you are installing. Instructions for applying the maintenance will be included on the web site.



---

**Warning** If you encounter any problems applying the maintenance, please stop the installation and contact Technical Support before proceeding.

---

## Step 8 - APF Authorize LOADLIB

The Tape/Copy LOADLIB must run with APF authorization under MVS. This APF authorization may be temporarily set using the MVS SETPROG system command from a system console. The format of the SETPROG command is:

```
SETPROG APF,ADD,DSNAME=@DSPREFIX.TAPECOPY.LOADLIB,VOL=vvvvvv
```



**Warning** The effect of the SETPROG command is only temporary. The authorization will be lost the next time the system is IPL'd. Please have the Tape/Copy LOADLIB permanently authorized as soon as possible.

---

## Step 9 - Customize REXX Library

- 1 Edit the OTTC@PRM member of the Tape/Copy REXX library. Change the following lines from:

```
TCPRMLIB = 'OT.TAPECOPY.PARMLIB'
```

```
TCLODLIB = 'OT.TAPECOPY.LOADLIB'
```

to:

```
TCPRMLIB = '@DSPREFIX.TAPECOPY.PARMLIB'
```

```
TCLODLIB = '@DSPREFIX.TAPECOPY.LOADLIB'
```

- 2 After saving the changes to the OTTC@PRM member, edit the TAPECOPY member in the REXX library and change the following lines from:

```
ADDRESS TSO "ALTLIB ACTIVATE APPLICATION(EXEC)",
```

```
    "DATASET('OT.TAPECOPY.REXX')"
```

```
ADDRESS ISPEXEC
```

```
"LIBDEF ISPLLIB DATASET ID('OT.TAPECOPY.LOADLIB')"
```

```
"LIBDEF ISPPLIB DATASET ID('OT.TAPECOPY.PANELS')"
```

```
"LIBDEF ISPMLIB DATASET ID('OT.TAPECOPY.MSGS')"
```

```
"LIBDEF ISPSLIB DATASET ID('OT.TAPECOPY.SKELS')"
```

to:

```
ADDRESS TSO "ALTLIB ACTIVATE APPLICATION(EXEC)",
```

```
    "DATASET('@DSPREFIX.TAPECOPY.REXX')"
```

```
ADDRESS ISPEXEC
```

```
"LIBDEF ISPLLIB DATASET ID('@DSPREFIX.TAPECOPY.LOADLIB')"
```

```
"LIBDEF ISPPLIB DATASET ID('@DSPREFIX.TAPECOPY.PANELS')"
```

```
"LIBDEF ISPMLIB DATASET ID('@DSPREFIX.TAPECOPY.MSGS')"
```

```
"LIBDEF ISPSLIB DATASET ID('@DSPREFIX.TAPECOPY.SKELS')"
```

- 3 After the changes are made, place a copy of the TAPECOPY member into a SYSPROC or SYSEXEC concatenated dataset for access by Tape/Copy users at log on (TSO TAPECOPY).

Tape/Copy can also be invoked by entering the following command from the TSO command panel:

```
EX `@DSPREFIX.TAPECOPY.REXX(TAPECOPY)'
```

## Step 10 - Customize LIBRYDEF Member

Edit the LIBRYDEF member of the Tape/Copy PARMLIB.

The LIBRYDEF member is used to define the type of automated or virtual tape libraries you use (if any). Enter the manufacturer name, software interface, release level and load library name of your automated /virtual tape library (from item 9 on the Pre-Installation Checklist).



---

**Note** If the tape library interface load library is listed in your system's Linklist concatenation, you can use the word 'LINKLIST' in place of the load library name.

---

The information should be entered as shown in the following examples.

### Example 1:

If you have an IBM virtual tape server that is using LCS release 1.5 on a z/OS system as the software interface and the load library is included in your system's link list, your LIBRYDEF entry would be:

```
* LIBRARY
* INTERFACE  ADDITIONAL PARAMETERS
*-----+ +-----+
IBM-LCS/Z1.5 LOADLIB=LINKLIST
```

### Example 2:

If you have STK silos that are using HSC release 4.1 as the software interface and the load library MY.HSC.LOADLIB is not included in your system's link list, your LIBRYDEF entry would be similar to:

```
* LIBRARY
* INTERFACE  ADDITIONAL PARAMETERS
*-----+ +-----+
STK-HSC/R4.1 LOADLIB=YOUR.HSC.LOADLIB.GOES.HERE
```

An entry should be made in the LIBRYDEF member for each automated / virtual library that uses a different library interface.



---

**Note** Wildcards are not supported in the LIBRYDEF member. An asterisk in column 1 indicates a comment.

---

## Step 11 - Customize USERSETS Member

Tape/Copy is a parameter driven tool. During each job, Tape/Copy merges input parameters from three potential sources to obtain the parameters that will control the execution of the job.

When Tape/Copy loads a parameter value, the search order for the parameter value is:

- 1 PGMSETS - a DDname in the Tape/Copy job JCL; parameters changed through the Tape/Copy ISPF panels or manually entered into the JCL. (If no PGMSETS DD is found in the job, the PGMSETS member of the Tape/Copy PARMLIB is checked for overriding parameter values.)
- 2 USERSETS - PARMLIB library member; user's installation-wide settings.
- 3 DEFAULTS - Built-In default values.

Logically, parameter values are taken from the first source (PGMSETS, USERSETS, or DEFAULTS) in which they are found. The parameter/value format of the PGMSETS, USERSETS, and DEFAULTS is the same.

As part of the installation process, several parameters must be set in the USERSETS member to identify your tape management system, desired dataset name high-level qualifier, etc. to Tape/Copy. While Tape/Copy has many parameters and options, the parameters listed in the default USERSETS member that pertain to your system are the minimum that should be set in order to customize Tape/Copy.



---

**Warning** See the USERSETS member comments for details on which parameters to customize for your installation. Definitions and valid settings for all parameters can be found the Parameter Reference Guide. Please note that some parameters do not apply to all tape management systems.

---

## Step 12 - Run SETUP Job\*

**\* See the note on the next page for special requirement for Control-T users.**

Edit the SETUP member of the Tape/Copy INSTALL library. The JCL in this member invokes the automated set-up utilities required to customize Tape/Copy to your data center. Enter a JOB card and update the dataset name prefixes (@DSPREFIX) according to the information gathered using the Pre-Installation Checklist before submitting the SETUP JCL.



---

**Warning** This job can run for up to an hour on some systems, depending on the size of the tape management catalog.

---

The following functions are performed by the SETUP JCL. All of these functions and their corresponding reports are explained in detail in [Chapter 5, "SETUP Utility"](#).

### ATLNAMES\_REBUILD

*(required for sites with automated / virtual tape libraries)*

This function scans the tape management system catalog, returns the ATL id of ATL resident tapes and builds an internal table which is passed to the IOCNTLTB\_REBUILD process to define ATLS in the IOCNTLTB member. For IBM VTS users, it also defines VTS devices in the BVIRBASE member of the PARMLIB library.



---

**Note** If your data center does not have automated or virtual tape libraries, this function can be skipped by inserting an asterisk in column 1 in front of it's function name in the SETUP job JCL.

---

### IOCNTLTB\_REBUILD

*(required for all sites)*

This function uses the Eligible Device Table (EDT) on your system to build the IOCNTLTB table in the Tape/Copy PARMLIB.



---

**Note** If you are upgrading your Tape/Copy release and reinstalling rather than using the upgrade procedures in the current Tape/Copy release bulletin, review your existing IOCNTLTB table in your current Tape/Copy PARMLIB to see if there are any entries with an "N" in the REBLD column. This indicates that this entry has been manually modified or customized by the user. You will likely want to copy this customization to your new IOCNTLTB as well.

---

#### **\*Control-T Consideration**

Control-T users should first run the SETUP job with ONLY the IOCNTLTB\_REBUILD option uncommented in the JCL. Do not run the ATLNAMES\_REBUILD with this initial run of the SETUP job. This initial run will populate the IOCNTLTB member with the esoteric and generic tape device definitions from the EDT, which will be used to help identify the media type of the tape entries in the Control-T database.

After the initial run of the SETUP job, rerun the job with the ATLNAMES\_REBUILD option turned on. Then check the sysout to see if message OTUL0154W has been issued

and an Unknown Tape Media Report has been generated. If it has, review the user action for message OTUL0154W and add the appropriate entry to the IOCNTLTB member of the Tape/Copy PARMLIB and run the job again. Upon successful completion of the SETUP job, proceed to Step 12 of the installation instructions.

## CRT\_PGM\_FREQ\_ANAL

*(optional)*

This optional function is provided to assist users who may not know the creating program or creating job names of their proprietary data formats. This information is helpful when completing the next step of the installation (Customizing the PROPRIET member of the Tape/Copy PARMLIB library).



---

**Note** This function is “commented out” in the JCL so it does not run by default. You must take the asterisk out of column 1 in front of the CRT\_PGM\_FREQ\_ANAL statement in the JCL in order for this process to run.

---

## AUDITLOG\_RENAME

*(NOT required for new installations; only for users with pre-R2.5 Audit Log files)*

This function is used to back-level Tape/Copy Audit Log files that were created prior to Tape/Copy R2.5, and reset the Audit Log GDG base so that the new Audit Log format is used.

The AUDITLOG\_RENAME process of SETUP only works for SMS-managed GDG datasets. If your Tape/Copy Audit Log file is not SMS-managed, please choose a new name for the Tape/Copy Audit Log file and update the AUDIT-LOG-FILE-GDG-BASE-NAME parameter in the Tape/Copy USERSETS with the new name. Your existing pre-R2.5 Audit Log file will remain untouched but will no longer be used by Tape/Copy.



---

**Note** This function is “commented out” in the JCL so it does not run by default. You must take the asterisk out of column 1 in front of the AUDITLOG\_RENAME statement in the JCL in order for this process to run.

---

## Step 13 - Customize PROPRIET Member

Tape/Copy's EXCP conversion program copies at the block level, so it is able to physically copy any data format. However, Tape/Copy should not be used to copy datasets that were created by a program that uses its own database to track which volsers its datasets are on rather than using the system catalog. **There are a few exceptions to this rule, as noted below.**

The PROPRIET member of the Tape/Copy PARMLIB library provides the mechanism for identifying datasets that Tape/Copy should not process, or that Tape/Copy should process differently from the rest of your datasets.

The PROPRIET member has been filled in with default values that fit the needs of most data centers, but if your data center uses a product that creates tape datasets and uses its own database to track the volsers instead of first querying the system catalog as to the location of the dataset, you may need to make changes to this member to ensure that your datasets are properly excluded or processed by the correct data movement program.

### Exceptions:

While the EXCP data copy engine used by Tape/Copy is capable of copying any type of data, Tape/Copy cannot update all program product databases used by the other product to locate its datasets. The exceptions to this rule are:

- DFSMSHsm (backup/migration tapes)
- DMS/CA-Disk (archive/migration tapes)
- FDRABR
- SAR/CA-View
- OAM (object storage and backup tapes)

Tape/Copy can also, with certain restrictions, process the following:

- DB2
- IMS
- Mobius Infopac



---

**Warning** Please review [Chapter 5, "Processing Proprietary Data Formats"](#) of the Tape/Copy User Guide for the considerations and restrictions for processing proprietary data formats.

---

Datasets can be identified in the PROPRIET table by the following:

- Dataset name (or dataset name pattern)
- Creation job name (or creating job name pattern)
- Creating program name (or creating program name pattern)
- Dataset LRECL
- Dataset BLKSIZE
- Dataset RECFM
- System catalog status (cataloged or uncataloged)



---

**Note** A slash (/) entered into a column tells Tape/Copy to accept any value for that field.

---



**Warning** Identification in the PROPRIET table will be performed in the order the criteria is entered in this member (from top to bottom). The first criteria that matches a dataset will be used. Be careful not to create ambiguous situations that cause misidentification when entering criteria into this table.

---

**Example 1:**

* TYPE	DSN	JOBNAME	PGMNAME	LRECL	BLKSIZE	RECFM	CATLG	PROCESS
FDRABR	/	/	FDRABR	/	/	/	/	Y

The above example tells Tape/Copy to process (PROCESS column is set to Y) any datasets that have a creating program name of "FDRABR" with the FDRABR conversion engine.

**Example 2:**

*TYPE	DSN	JOBNAME	PGMNAME	LRECL	BLKSIZE	RECFM	CATLG	PROCESS
TAPECOPY	XYZ/	/	CNTLD/	/	/	/	N	N

The above example tells Tape/Copy not to process (PROCESS column is set to N) any uncataloged datasets that have XYZ as the first 3 characters of the dataset name and CNTLD as the creating program name.



**Warning** An entry does not need to be made for each and every dataset in your tape management catalog (only those that require special handling). Any datasets that do not match the criteria in this table will be processed by Tape/Copy's Internal EXCP engine.

---

## Step 14 - Provide AUTHCODE

Enter the authorization code obtained during pre-installation into the AUTHCODE member of the Tape/Copy PARMLIB library. A unique authorization code is required for each CPU on which Tape/Copy will run.



**Note** If you do not yet have your authorization code, please see ["Obtaining An Authorization Code"](#) for information on how to get your code.

---

## Step 15 - Create Stacking Conflict Avoidance Database (optional)

Tape/Copy provides an optional Stacking Conflict Management process that uses the information from the user's SMF records, along with the tape management system database to intelligently avoid stacking datasets on the same tape that may need to be used simultaneously. More information on this optional feature is available in [Chapter 20, "Stacking Conflict Avoidance"](#) of the Tape/Copy User's Guide.

If you wish to create the Stacking Conflict Management Database, the JCL can be found in the CONFJCL member of the Tape/Copy JCLLIB. Enter a JOB card and update the dataset

name prefixes (@DSPREFIX) according to the information gathered using the Pre-Installation Checklist before submitting the JCL.



---

**Warning** To use the Stacking Conflict Avoidance feature, the CONFJCL job will need to be scheduled to run periodically (once or twice a week) so that the database can be updated with current SMF data.

---

## Step 16 - EXCPVR Performance Enhancement (optional)

Optional user parameters are available to enhance the performance of the EXCP conversion engine by allowing the conversion jobs to page fix the I/O in memory to improve conversion job run times.

In order to use the performance enhancement, the Tape/Copy SIO appendage module needs to be copied into the system's LPA as described in the Tape/Copy User Guide, "SIO Appendage Module Installation Instructions", and the following parameter values should be added to the USERSETS member of the Tape/Copy PARMLIB:

EXCPVR-IO-APPENDAGE-SUFFIX: ZA (or any value from WA-Z9. ZA is the default.)

EXCPVR-MODE: YES

EXCPVR-NONSWAPPABLE: YES



---

**Note** See [Chapter 13, "Conversion Job Performance"](#) in the Tape/Copy User Guide for more information about the set up and use of the EXCPVR enhancements.

---

If your DB2 library **SDSNLOAD** is not in LINKLST, you will need to add a STEPLIB to all TapeCopy/VDR jobs. The Candidate Selection and Conversion process will need DB2 module DSNALI.



---

**Warning** If OAM ever moves to another DB2 sub-system, you will need to rebind the TapeCopy modules.

---

## Step 17 - Bind OAM Interface Plans

If OAM object storage or backup tapes are to be processed, the OTTCBIND job must be run to bind the OAM interface plans. This job must be run by the owner of the OAM TAPEVOL table, which will be the user who ran the OAM install jobs that created the OAM tables and the OAM plans.

Edit the OTTCBIND member of the Tape/Copy INSTALL library. Enter a JOB card and update @DSPREFIX with the dataset name prefix, @DB2HLQ with the DB2 dataset high level qualifier (e.g. DSN710), @DB2 with the DB2 subsystem ID, and @OAMAUTH with the authorization ID that will be used to update the OAM tables. This information was gathered using the Pre-Installation Checklist. Have the user who is the owner of the OAM TAPEVOL table submit this job.

## Step 18 - Installation Verification Procedure

The Installation Verification Procedure is provided to confirm that Tape/Copy is properly installed and that there are no obvious errors in the product customization.

Edit the IVPICL member of the Tape/Copy INSTALL library. Enter a JOB card and update the dataset name prefixes (@DSPREFIX) according to the information gathered using the Pre-Installation Checklist before submitting the JCL.



---

**Warning** This job may run for about 30 minutes, depending on the size of your tape management catalog.

---

If you receive a condition code greater than 0 (zero) and/or the job abends, please see the [Chapter 7, "Troubleshooting"](#) for solutions to common installation and set-up problems. **If you are unable to resolve the problem, please contact Technical Support.**

Please refer to the Tape/Copy User Guide to find information about the various ways Tape/Copy can improve your tape processing. Some of Tape/Copy's functions are:

- Stacking
- Media conversion
- Virtual tape library population
- Virtual Data Recovery (authorized users only; see Tape/Copy's Virtual Data Recovery (VDR) Guide)
- CopyCrypt file encryption product option (authorized users only; see Tape/Copy's CopyCrypt)



---

**Warning** Keep in mind that there are many uses for the Tape/Copy product so other processes may need to be implemented or other changes made to the Tape/Copy PARMLIB library depending on how you use the product. Any such changes will be explained in the User Guide where applicable.

---

# 5

# SETUP Utility

---

## TOPICS COVERED IN THIS CHAPTER

[ATLNAMES\\_REBUILD \(page 5-3\)](#)

[IOCNTLTB\\_REBUILD \(page 5-4\)](#)

[AUDITLOG\\_RENAME \(page 5-8\)](#)

## Introduction

The Tape/Copy set-up and initialization program is available to assist in the customization of various parameter library members.

The JCL for running the "set-up" job is in the Tape/Copy INSTALL library member named SETUP. (There is also a copy of the SETUP JCL in the Tape/Copy JCLLIB.) **SETUP should not be run until the Tape/Copy USERSETS parameters and the LIBRYDEF member are customized to the customer site.**

SETUP is designed to generate/regenerate content for parameter library members and to generate reports to assist in manually customizing parameter library members.

SETUP supports the following functions (these functions are described in more detail later in this chapter):

- **ATLNAMES\_REBUILD** - lists the robotic and virtual tape library names currently installed. Also populates the BVIRBASE PARMLIB member if IBM VTSs are found.
- **IOCNLTB\_REBUILD** - builds/rebuilds the input/output device allocation table (IOCNLTB) in the Tape/Copy PARMLIB.
- **CRT\_PGM\_FREQ\_ANAL** - generates the Creating Program Name Frequency Report, the Creating Job Name Frequency Report and the Dataset Name Frequency Report.
- **AUDITLOG\_RENAME** - renames currently existing Tape/Copy Audit Log files and generates an Audit Log Rename Report. *(This function only applies to users that already had a version of Tape/Copy on their system that had produced Audit Log files.)*

Each of these functions can be invoked separately or together. If any one function fails, the other functions will still be performed. Each of these functions can be switched off by placing an asterisk (\*) in column 1.

## SETUP Utilities Report

The following report is generated to show the status of each function.

REL x.x.x	PTF x	T A P E / C O P Y		PROGRAM OTTC025
DATE: xx/xx/xxxx	TIME: xx:xx:xx	SETUP UTILITIES REPORT FOR OPENTECH_SYSTEMS,_INC.		PAGE 1
FUNCTION NAME-----+	FUNCTION REQUEST STATUS:			
ATLNAMES_REBUILD	REQUESTED FOR EXECUTION			
IOCNLTB_REBUILD	REQUESTED FOR EXECUTION			
CRT_PGM_FREQ_ANAL	NOT REQUESTED FOR EXECUTION			
AUDITLOG_RENAME	NOT REQUESTED FOR EXECUTION			

## Include/Exclude Filter Tables Report

The Include/Excluded Filter Tables Report is provided to help both Technical Support staff and the user identify when inclusion and exclusion patterns/tables were in use when the Tape/Copy job ran. The report lists which inclusions and exclusions were in use by each phase of the job that uses that type of selection criteria.

REL x.x.x	PTF x	T A P E / C O P Y				PROGRAM OTTCAND
DATE: xx/xx/xxxx	TIME: xx:xx:xx	INCLUDE/EXCLUDE FILTER TABLES REPORT FOR OPENTECH_SYSTEMS,_INC.				PAGE 1
PROCESSING PHASE	TBL NAME	LEN	FILTER DATA			
NEWNAMING	NEWNMRFF	1	OT02.BACKUP/			
PRE-SELECTION	INCLVOLS	<<<<	NO ENTRIES	>>>>		
	EXCLVOLS	<<<<	NO ENTRIES	>>>>		
	INCLDSNS	<<<<	NO ENTRIES	>>>>		
	EXCLDSNS	<<<<	NO ENTRIES	>>>>		
CANDIDATE SELECTION	INCLDSNS	<<<<	NO ENTRIES	>>>>		
	EXCLDSNS	<<<<	NO ENTRIES	>>>>		
	INCLVOLS	<<<<	NO ENTRIES	>>>>		
	EXCLVOLS	<<<<	NO ENTRIES	>>>>		
	INCLACT#	<<<<	NO ENTRIES	>>>>		
	EXCLACT#	<<<<	NO ENTRIES	>>>>		
	INCLDTP	<<<<	NO ENTRIES	>>>>		
	EXCLDTP	<<<<	NO ENTRIES	>>>>		
	INCLVDR	<<<<	NO ENTRIES	>>>>		
	EXCLVDR	<<<<	NO ENTRIES	>>>>		
	INCLOUTC	6	<NULL>			
		6	<#LIB>			
		6	<#VMS>			
	EXCLOUTC	<<<<	NO ENTRIES	>>>>		
	INCLCRJB	<<<<	NO ENTRIES	>>>>		
	EXCLCRJB	<<<<	NO ENTRIES	>>>>		
	INCLCRPG	<<<<	NO ENTRIES	>>>>		
	EXCLCRPG	<<<<	NO ENTRIES	>>>>		
	INCLCRSN	<<<<	NO ENTRIES	>>>>		
	EXCLCRSN	<<<<	NO ENTRIES	>>>>		
	INCLDSCJ	<<<<	NO ENTRIES	>>>>		
	EXCLDSCJ	<<<<	NO ENTRIES	>>>>		



**Note** The Include/Exclude Filter Tables Report is also produced by other Tape/Copy jobs, including the Candidate Selection job and the Auditlog Report job.

## ATLNAMES\_REBUILD

This function scans the tape management system catalog and checks selected active tape volumes for ATL residence. If a tape volume is found in an ATL, the ATL id is returned as part of the returned information. This ATL id and manufacturer, along with whether or not the ATL is real or virtual (in the R/V column), is used in the next process to create the input/output device allocation table (IOCNTLTB).

For data centers with IBM or STK virtual tape libraries, this function will also populate the BVIRBASE member of the Tape/Copy PARMLIB with information about the virtual tape libraries. This information is used by the optional Bulk Volume Information Retrieval (BVIR) interface (see “Bulk Volume Information Retrieval (BVIR) Support” in [Chapter 12, “Tape/Copy Conversion Process”](#) of the Tape/Copy User Guide for more information on this feature).



**Note** This function can run for up to an hour on most systems, depending on the size of the tape management catalog.

Only the first volume of a multi-volume chain and the first dataset of a multi-dataset chain, along with single volume datasets, are checked. It is assumed that all chains are located in the same robotic area.

## ATL Library Name Report

The status report for this function will look similar to the following:

REL	x.x.x	PTF	x	T A P E / C O P Y			PROGRAM	OTTC0025
DATE:	xx/xx/xxxx	TIME:	xx:xx:xx	ATL LIBRARY NAME REPORT FOR OPENTECH_SYSTEMS,_INC.			PAGE	1
ATL	TPNM	ATL						
NAME	R/V	CODE	MANU					
+-----+	+	+++	+++					
OTATL001	R	3	IBM					
OTVTL001	V	3	IBM					
OTVTL002	V	3	IBM					
OTVTL003	V	3	IBM					
OTVTL004	V	3	IBM					
PROCESS COMPLETED WITH CC=00								



**Warning** If Tape/Copy is unable to determine whether or not the ATL library is real or virtual it will set the R/V column to 'R' by default and this step will get a condition code of 4 with a message on the report explaining the requested user action.

## IOCNTLTB\_REBUILD

This function builds or rebuilds the IOCNTLTB parameter library member. The IOCNTLTB table lists the entries Tape/Copy requires to perform input dataset selection and output tape device targeting. As tape hardware is installed/removed, it may be necessary to adjust the entries in the IOCNTLTB member or rerun this process.

All entries, whether user-created or Tape/Copy-generated, fall into one of the following classifications:

- **USER DEFINITIONS** - All unique user entries that do not fall into any of the other four classifications. All entries in this section will be preserved during any member rebuild so that they do not have to be reentered when the IOCNTLTB member is rebuilt by Tape/Copy.
- **ROBOTIC LIBRARY NAMES** - All entries that refer to a robotic library.
- **EDT GENERIC UNIT NAMES** - All of the generic unit names in the EDT.
- **EDT ESOTERIC UNIT NAMES** - All of the esoteric unit names in the EDT.
- **OPENTECH DEFAULTS** - These are unique entries Tape/Copy uses for general candidate selection and tape device targeting. Entries for non-installed tape devices are also recorded here to be used by Tape/Copy when forecasting tape usage prior to the installation of higher capacity tape devices.

The IOCNTLTB\_REBUILD routine uses the following rules during processing after the initial run:

- All the lines in the initial comments are kept, but the "rebuilt on" line is updated to reflect the date the table was updated.
- All lines in the user definitions section are kept, regardless of the REBLD setting.
- All lines in the robotic libraries section are kept, regardless of the REBLD setting (if the ATLNAMES\_REBUILD process was not also run).

- Otherwise the comments and entries with REBLD=N are kept and the entries found by the ATLNAMES\_REBUILD that do not match the MediaName and TapeName values of any of the robotic REBLD=N entries are added.
- If there is no robotic libraries section in the member, one will be added and the new robotic entries will be added after that.
- For the generic units, esoteric units, and the OpenTech defaults section comments and entries with REBLB=N are kept. Also, new entries that do not match the REBLD=N entries (Media Name & Tape Name) will be added.

## Input/Output Allocation Control Table Report

The status report for this function will look similar to the following:

```

REL x.x.x PTF x                                T A P E / C O P Y                                PROGRAM OTTC0025
DATE: xx/xx/xxxx    TIME: xx:xx:xx    INPUT/OUTPUT ALLOCATION CONTROL TABLE REPORT FOR OPENTECH_SYSTEMS,_INC.    PAGE    1

  USER DEFINITIONS (THESE ENTRIES WILL NEVER BE AUTOMATICALLY REBUILT)

  MEDIA M/    UNIT    TAPE
  TYPE R/V I/O  NAME    DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
+-----+ + + +-----+ +-----+ +-----+ +-----+ +-----+ +
NONVIRT M  B  =3490  N/A    N/A    N/A    3490  N
VIRTUAL V  B  =VTAPE N/A    N/A    N/A    3490  N

  ROBOTIC LIBRARY NAMES

  MEDIA M/    UNIT    TAPE
  TYPE R/V I/O  NAME    DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
+-----+ + + +-----+ +-----+ +-----+ +-----+ +
ATLNO001 R  B  =3590-1  N/A    N/A    N/A    3590B  N
A000/L00 R  B  =3490  N/A    N/A    N/A    3490  N
A000/L01 R  B  =3490  N/A    N/A    N/A    3490  N
ATLNO002 V  B  =VTS   N/A    N/A    N/A    3490  Y

  EDT GENERIC UNIT NAMES

  MEDIA M/    UNIT    TAPE
  TYPE R/V I/O  NAME    DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
+-----+ + + +-----+ +-----+ +-----+ +-----+ +
2400-3  M  B  =2400-3  N/A    N/A    N/A    3420  Y
3400-3  M  B  =3400-3  N/A    N/A    N/A    3420  Y
3400-5  M  B  =3400-5  N/A    N/A    N/A    3420  Y
3400-6  M  B  =3400-6  N/A    N/A    N/A    3420  Y
3400-9  *  B  =3400-9  N/A    N/A    N/A    3480  Y
3490    *  B  =3490  N/A    N/A    N/A    3490  Y
3480    *  B  =3480  N/A    N/A    N/A    3480  Y
3590-1  R  B  =3590-1  N/A    N/A    N/A    3590B  Y

  EDT ESOTERIC UNIT NAMES

  MEDIA M/    UNIT    TAPE
  TYPE R/V I/O  NAME    DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
+-----+ + + +-----+ +-----+ +-----+ +-----+ +
JESTAPE M  B  =JESTAPE  N/A    N/A    N/A    3420  Y
SYS348XR *  B  =SYS348XR  N/A    N/A    N/A    3490  Y
SYS3480R *  B  =SYS3480R  N/A    N/A    N/A    3480  Y
TAPE    M  B  =TAPE   N/A    N/A    N/A    3420  Y
TAPEC   *  B  =TAPEC  N/A    N/A    N/A    3490  Y
TAPE90  *  B  =TAPE90  N/A    N/A    N/A    3490  Y
VTAPE   *  B  =VTAPE  N/A    N/A    N/A    3490  Y

  OPENTECH DEFAULTS (DO NOT REMOVE (BUT YOU MAY CHANGE))

  MEDIA M/    UNIT    TAPE
  TYPE R/V I/O  NAME    DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
+-----+ + + +-----+ +-----+ +-----+ +-----+ +
ALL     *  I  N/A    N/A    N/A    N/A    *    Y
ASIS    *  O  N/A    N/A    N/A    N/A    *    Y
009     M  B  =2400-3  N/A    N/A    N/A    3420  Y
036     *  B  =3490  N/A    N/A    N/A    3490  Y
018     *  B  =3480  N/A    N/A    N/A    3480  Y
3490-XL *  B  =3490  N/A    N/A    N/A    3490-XL  Y
128     *  B  =3590-1  N/A    N/A    N/A    3590B  Y
256     *  B  =3590-1  N/A    N/A    N/A    3590E  Y

```

## Input/Output Allocation Control Backup Report

The Input/Output Allocation Control Backup Report lists the contents of the IOCNTLTB member prior to the updates performed by the IOCNTLTB\_REBUILD process.

```
REL x.x.x PTF x                                T A P E / C O P Y                                PROGRAM OTTC0025
DATE: xx/xx/xxxx    TIME: xx:xx:xx    INPUT/OUTPUT ALLOCATION CONTROL BACKUP REPORT FOR OPENTECH_SYSTEMS,_INC.    PAGE    1
* USER DEFINITIONS (THESE ENTRIES WILL NEVER BE AUTOMATICALLY REBUILT)
*
* MEDIA  M/      UNIT      TAPE
* TYPE  R/V I/O  NAME      DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
*-----+ + + +-----+ +-----+ +-----+ +-----+ +-----+ +
*
* ROBOTIC LIBRARY NAMES
*
* MEDIA  M/      UNIT      TAPE
* TYPE  R/V I/O  NAME      DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
*-----+ + + +-----+ +-----+ +-----+ +-----+ +
*
* EDT GENERIC UNIT NAMES
*
* MEDIA  M/      UNIT      TAPE
* TYPE  R/V I/O  NAME      DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
*-----+ + + +-----+ +-----+ +-----+ +-----+ +
*
* EDT ESOTERIC UNIT NAMES
*
* MEDIA  M/      UNIT      TAPE
* TYPE  R/V I/O  NAME      DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
*-----+ + + +-----+ +-----+ +-----+ +-----+ +
*
* OPENTECH DEFAULTS (DO NOT REMOVE (BUT YOU MAY CHANGE))
*
* MEDIA  M/      UNIT      TAPE
* TYPE  R/V I/O  NAME      DATACLAS  STORCLAS  MGMTCLAS  NAME  REBLD
*-----+ + + +-----+ +-----+ +-----+ +-----+ +
```

## CRT\_PGM\_FREQ\_ANAL

This function was developed to simplify the task of customizing the PROPRIET table of the Tape/Copy PARMLIB. It scans the tape management system catalog and generates three reports:

- Creating Program Name Frequency Report
- Creating Job Name Frequency Report
- Dataset Name Frequency Report



**Note** If your tape management system does not contain creating program information, the Creating Program Name Frequency Report will not be generated.

Since the best way to identify a proprietary data format is by identifying the program that creates it, the Creating Program Name Frequency Report lists all of the non-blank creating program names and a count of how many tape datasets are created by this program. This provides a comprehensive list of all of the unique programs creating tapes in your tape library. Identifying a proprietary data format in the PROPRIET member by the creating program name is the best method for isolating the tapes from processing.

The Creating Job Name Frequency Report lists all of the unique creating job names that create tapes in your tape library. This list only contains information for tape datasets that were not reported on the Creating Program Name Frequency report.

The third report is the Dataset Name Frequency Report. This reports lists all of the tape datasets that were not listed in the two previous reports. Identifying a proprietary data

format by a dataset name mask may be an effective method of isolating these tapes from processing.



**Note** This function can run for up to 1 hour, depending on the size of your tape management system catalog.

Examples of the reports generated by this function are listed on the next page.

## Creating Program Name Frequency Report

REL x.x.x	PTF x	T A P E / C O P Y										PROGRAM OTTC0025	
DATE: xx/xx/xxxx	TIME: xx:xx:xx	CREATING PROGRAM NAME FREQUENCY REPORT FOR OPENTECH_SYSTEMS,_INC.										PAGE 1	
CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT	CREATING PROGRAM	COUNT
\$AVRINIT.....158		\$AVRUNLD.....1		AAMOCNBU.....7		AAMOCNVT.....14		ADRSSU.....4		AHECOCVA.....1		APSP0330.....4	
ARAO5100.....1		ASAR6020.....5		AWHBFXPR.....2		AWHBFXZ4.....1		A12DKRM3.....3		A12DKROM.....1		A24SVB.....1	
A32W566.....20		A3241A22.....2		A3241E5C.....2		A5X126.....2		A71SWTC.....3		B6750B33.....2		B6750C05.....2	
CHRB0503.....1		COPYMDPC.....19		CRP92003.....1		CSQYASCP.....8		C6750B33.....3		C6750C05.....2		C6750C09.....2	
DFSRRCO0...2,193		DFSUARCO.....110		DFSUCUM0.....10		DFSUDMP0...3,006		DFMB004.....51		DFMB020.....96		DSNUTLIB..63,374	
DSNYASCP...936		DSN1COPY.....4		ER1001.....3		FABHX034.....57		FATAR.....1		FDR.....123		FDRABR..120,755	
FDRARCH.....13		FDRDSF.....34		FDRREORG.....60		FDRTCOPY.....200		FDRTSEL..57,274		FILEAID.....84		FRP510.....6	
.		.		.		.		.		.		.	
ZARA.....29		ZEBB.....5											
TOTAL FILES REPORTED:		297,989											

## Creating Job Name Frequency Report

REL x.x.x	PTF x	T A P E / C O P Y										PROGRAM OTTC0025	
DATE: xx/xx/xxxx	TIME: xx:xx:xx	CREATING JOB NAME FREQUENCY REPORT FOR OPENTECH_SYSTEMS,_INC.										PAGE 1	
CREATING JOB NAME	COUNT	CREATING JOB NAME	COUNT	CREATING JOB NAME	COUNT	CREATING JOB NAME	COUNT	CREATING JOB NAME	COUNT	CREATING JOBNAME	COUNT	CREATING JOB NAME	COUNT
AJJ54\$01.....2		AJJ54YKT.....4		AJK84\$IT.....1		AJK84ARS.....2		AJK84FIO.....1		AJK84FI6.....2		AJK84Z6.....2	
AJM47\$01.....2		AJM47IDL.....2		AJM47ISP.....1		AJM47ITN.....2		ALFAP.....5		ALFIAB.....2		ALFI30.....5	
ALFMRG.....2		ALFPEND.....5		ALFRCT.....1		AOHC3085.....1		AOHEXP88.....1		AOH11188.....1		AOH11189.....1	
AOH11190.....3		AOH11591.....4		AOH12286.....1		AOH12287.....1		AOH12892.....1		AOH17\$01.....2		AOH17CHE.....1	
AOH17JE.....2		AOH17FLP.....10		AOH20893.....1		AOH21590.....1		AOH22690.....1		AOH22691.....1		AOH22692.....3	
AOH22889.....1		AOH22988.....1		AOH2690.....1		AOH41284.....1		AOH42585.....1		AOH42883.....1		AOH60690.....1	
.		.		.		.		.		.		.	
YE6025G3.....7		YE6104.....32		YE6104BK.....4		YE6104MS.....1		YE6104TX.....4		YE6108BD.....3		YE6220CH.....1	
YE790225.....1													
TOTAL FILES REPORTED:		9,630											

## Dataset Name Frequency Report

REL x.x.x	PTF x	T A P E / C O P Y				PROGRAM OTTC0025
DATE: xx/xx/xxxx	TIME: xx:xx:xx	DATASET NAME FREQUENCY REPORT FOR OPENTECH_SYSTEMS,_INC.				PAGE 1
DATASET NAME	COUNT	DATASET NAME	COUNT			
OT01.TEST.DATA1	.....2	OT01.TEST.DATA2	.....4			
OT01.TEST.DATA3	.....2	OT01.TEST.DATA4	.....2			
.						
OT01.TEST.DATA256	.....1					
TOTAL FILES REPORTED:	10					

## AUDITLOG\_RENAME

This function is provided for users that have a previously installed version of Tape/Copy on their system that has produced an Audit Log file(s). The format of the Audit Log has changed in Tape/Copy R2.5 and appending to the old format Audit Log is not feasible. The AUDITLOG\_RENAME function will rename the existing Tape/Copy Audit Log files (by adding ".B" to the end of the existing dataset name or replacing the last character of the dataset name with a B, if the dataset is too long to append to) and resets the Audit Log to start recording in the new format in the first generation of the GDG base defined by the AUDIT-LOG-FILE-GDG-BASE-NAME parameter.

This function can only be run successfully one time. If this is the first time Tape/Copy is being used at your data center, this function does not need to be submitted. It can also be bypassed by existing Tape/Copy users that have chosen a new AUDIT-LOG-FILE-GDG-BASE-NAME parameter value (so that the new Audit Log file name will be different from the existing Audit Log file names).



**Warning** The AUDITLOG\_RENAME process of SETUP only works for SMS-managed GDG datasets. If your Tape/Copy Audit Log file is not SMS-managed, please choose a new name for the Tape/Copy Audit Log file and update the AUDIT-LOG-FILE-GDG-BASE-NAME parameter in the Tape/Copy USERSETS with the new name. Your existing pre-R2.5 Audit Log file will remain untouched but will no longer be used by Tape/Copy.

## Auditlog R250/0 Rename Status Report

REL x.x.x	PTF x	T A P E / C O P Y				PROGRAM OTTC0025
DATE: xx/xx/xxxx	TIME: xx:xx:xx	AUDITLOG R250/0 RENAME STATUS REPORT FOR OPENTECH_SYSTEMS,_INC.				PAGE 1
ORIGINAL-----+ AUDITLOG MEMBER DATASET NAME	STATUS	BACKUP-----+ AUDITLOG MEMBER DATASET NAME	STATUS			
OT05.TC.AUDITLOG.G0001V00	UNCATALOGED	OT05.TC.AUDITLOG.B.G0001V00	CATALOGED			
PROCESS COMPLETED WITH CC=00						

# 6

# Product Maintenance

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## TOPICS COVERED IN THIS CHAPTER

[OpenTech Systems Product Distribution \(page 6-2\)](#)

[Maintenance Classifications \(page 6-2\)](#)

[Maintenance Classifications \(page 6-2\)](#)

## OpenTech Systems Product Distribution

OpenTech Systems' products are distributed via an XMIT installation at a **base level** (without maintenance applied). PTF maintenance and zaps are periodically available for download from our Support website to provide fixes and enhancements to the base level. This maintenance should be applied whenever it is available (users can sign up to receive notification via email when the Support website is updated with new maintenance).

Only the latest PTF and its applicable zaps need to be applied, as each PTF should contain all previously published maintenance associated with the current release.

## Maintenance Classifications

This section discusses the different classifications of maintenance issued by OpenTech Systems for the Tape/Copy product and how they are used.

### Published PTF

A published PTF contains a replacement product load library and serves as preventative, cumulative maintenance for all reported problems to the date that it is published. The changes incorporated into PTFs have been tested and should be installed in all environments. The most current PTF is always available to be downloaded from the Technical Support website.

PTFs are designed to supersede all zaps that have been previously applied to the product. Therefore if any special zaps (created to address a specific need at your data center) that have been applied they will be overwritten and you will need to request a new special zap from Technical Support, if applicable.

PTFs are numbered in sequence along with the product release number. For example, the first PTF for Tape/Copy release 2.6.4 would be PTF1 (Tape/Copy R2.6.4 PTF1).

### Published Zap

A published zap is a tested fix to a reported problem. Some zaps may have prerequisite relationships with other previously published zaps, if so it will be listed in the comments of the zap. All published zaps are available to be downloaded from the Technical Support website.

Tape/Copy zaps are in the format PTFxxZnn, where xx is the PTF level and nn is the zap number.

### Special Zap

A special zap is a zap that is created by Technical Support to address a need or minor product change that is specific to one or more clients, but that most clients do not want or need. Special zaps are verified in testing in-house when at all possible and provided to only those clients that wish to take advantage of the changes provided by the special zap. These special zaps are generally not available on our website but can be requested from Technical Support if the need arises.

Special zaps are in the format PTFxxSnn, where xx is the PTF level and nn is the zap number.



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**Warning** If you are upgrading from a previous release of Tape/Copy you should check your current release (with the LISTIDR program) to determine if you have any special zaps applied. If there are special zaps applied, contact OpenTech Technical Support to determine if there is a corresponding special zap for the new release or if that functionality has been addressed in some other way.

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## Applying Maintenance

Instructions for applying PTF maintenance are always included with the maintenance package itself. If the PTF maintenance is downloaded from the Support website the instructions are either listed on the web page, or in a text file within the product maintenance zip file.



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**Warning** Always review the Product Update Bulletin that accompanies any PTF maintenance package. The Product Update Bulletin will inform you of any manual changes that may be required to your Tape/Copy libraries as a result of applying the maintenance.

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For applying zap maintenance, use the JCL provided in the ZAP member of the Tape/Copy JCLLIB library.



# 7

# Troubleshooting

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## TOPICS COVERED IN THIS CHAPTER

- [U0100 Abend \(General Information\) \(page 7-2\)](#)
- [U0100 Abend with IKJ56228I Message \(page 7-3\)](#)
- [S913 Abend \(page 7-3\)](#)
- [S0C4 Abend \(General Information\) \(page 7-3\)](#)
- [Required Volume List Is Not Found \(page 7-3\)](#)
- [S338 Abend Running the SETUP Job \(page 7-3\)](#)
- [S806-04 Abend Running the IVP Job \(page 7-4\)](#)
- [Syncsort z/OS Failures \(page 7-4\)](#)

## Introduction

If you should encounter problems with the installation and customization of Tape/Copy, the following items may help.

*Click one of the issues listed below for more information.*

- U0100 Abend (General Information)
- U0100 Abend with IKJ56228I Message
- S913 Abend
- S0C4 Abend (General Information)
- Required Volume List Is Not Found
- S338 Abend Running the SETUP Job
- S806-04 Abend Running the IVP Job
- Syncsort z/OS Failures

If you are unable to resolve the issue after reviewing this information, please check the Technical Support web site (<http://www.opentechsystems.com/support.php>) for any fixes that may be available that are not already applied to your Tape/Copy LOADLIB.

If no additional fixes are available, contact Technical Support for assistance. Please have the following information available:

- Tape/Copy release, version and PTF level
- OS/390 or z/OS release number
- Tape management system name and release number
- JCL that was submitted
- Job output and dump, if generated
- Any error message codes
- Any other information you think may be important to understanding the problem

## U0100 Abend (General Information)

There are many reasons that the Installation Verification Procedure job (IVPJCL) could produce a U0100 abend. However, there should be a general message, starting with OT, listed above the U0100 abend message in the JES job log. Look up the OT message in the Tape/Copy Messages & Codes Guide and read the description of the message to determine the possible cause of the abend. Contact Technical Support if you are unable to resolve the problem. Please be prepared to send a copy of the **complete** job log and dump (if any). This information is usually needed to determine the problem.

## U0100 Abend with IKJ56228I Message

This error usually indicates the your tape management system's database name was not listed (or listed incorrectly) in the USERSETS member of the Tape/Copy PARMLIB. Verify the value listed for the TMS-DATABASE-NAME parameter to ensure that it is correct. If you are certain that the parameter value is not in error, contact Technical Support for assistance.

## S913 Abend

Tape/Copy must be security authorized to open, read and write any tape that is planned to be moved. Tape/Copy must also be authorized to read and write to the tape management system database. Be sure that Tape/Copy is security authorized to perform its functions and it is run using an authorized user id with sufficient clearance to perform all Tape/Copy functions. The Tape/Copy RACF Authorization Checking feature can be used to avoid this error.

See RACF-AUTHORIZATION-CHECKING for more information.

## S0C4 Abend (General Information)

The most common reason for a S0C4 in the Installation Verification Procedure job (IVPJCL) is that the sort product parameters are specified incorrectly in USERSETS. These parameters are SORT-PRODUCT-NAME and SORT-PRODUCT-PARAMETERS-DDNAME. The default values for these parameters are SYNCSORT and \$ORTPARM, respectively. However, these parameters should be updated to reflect the sort product used by your data center. Verify these parameters are set correctly in your USERSETS member. If the parameters are set correctly and you are still receiving a S0C4, please contact Technical Support for further assistance.

## Required Volume List Is Not Found

This message indicates that the user needs to specify values for the DYNAMIC-ALLOCATION-VSAM-DATA-VOLSER and DYNAMIC-ALLOCATION-VSAM-INDEX-VOLSER parameters. These parameters have a default of NONE in the USERSETS member of the Tape/Copy PARMLIB when they are shipped, but a valid DASD volser should be given to correct this IDCAMS error.

## S338 Abend Running the SETUP Job

This error indicates that an unauthorized load library is listed in the STEPLIB DD of the SETUP JCL that is used to create the IOCNTLTB and collect ATL information. Be sure that any/all LOADLIBs listed in the STEPLIB DD of the SETUP job get authorized, then re-run the job.

## S806-04 Abend Running the IVP Job

When this abend is preceded by the CSV003I REQUESTED MODULE MI2 NOT FOUND message, this error indicates a dataset that was created by DMS was detected by Proprietary Data Format processing but DMS is not installed on the system or the DMS load libraries are not in the system linklist. Refer to the DMS/CA-Disk section in the Processing Proprietary Data Formats chapter of the User Guide and Proprietary Datasets section in this guide for more information about DMS/CA-Disk.

## Syncsort z/OS Failures

The following messages may be symptoms of a Syncsort memory management problem or “insufficient virtual storage” error that can cause sort failures and abend Tape/Copy jobs (sometimes with a U0016 abend, but others abends could occur). Messages may be issued to the console and/or issued as SYSOUT messages. This is not a complete list of possible messages. Any messages indicating that the job failure occurred during Syncsort processing may be symptoms of this problem.

```
WER999A VDRRECV2,S010      ,          - UNSUCCESSFUL SORT
OTUL0053E SORT FUNCTION FAILURE - SEE SORT SYSOUT DD FOR
SPECIFIC FAILURE AND DIAGNOSTIC INFORMATION OTUL0099I USER
ABEND MODULE TRACE:
```

and/or

```
WER164B 10,828K BYTES OF VIRTUAL STORAGE AVAILABLE, MAX
REQUESTED,
WER164B      0 BYTES RESERVE REQUESTED, 10,804K BYTES USED
WER146B 20K BYTES OF EMERGENCY SPACE ALLOCATED
```

and/or

```
WER039A INSUFFICIENT VIRTUAL STORAGE
```

If you experience these errors, the following work-around can be used to possibly bypass the sort failure.

- Update the value of the SORT-PRODUCT-PARAMETERS-DDNAME parameter in the USERSETS to “SYSIN” and add the following override for Syncsort to the Tape/Copy JCL experiencing the Syncsort failure:

```
//SORTPARM DD *
          HBPDMX,VSCORE=2M
//*
```

If the above work-around does not remedy the Syncsort problem, please contact Technical Support for assistance.

# A Pre-Installation Checklist

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## TOPICS COVERED IN THIS APPENDIX

[Checklist \(page A-2\)](#)

## Checklist

Please complete the following checklist before beginning the Tape/Copy installation. Having all of the requested information available at the time of installation will help make installation easier.

- 1 Review Tape/Copy's software requirements in [Chapter 2](#).
- 2 Review the Tape Management System Considerations section and the "Special Considerations" section in [Chapter 2](#).
- 3 Register for access to OpenTech's Support website:  
<http://www.opentechsystems.com/support.php>
- 4 Once Support website access is approved, review the Support Notices section of the Support website.
- 5 Decide on the dataset name prefix (high level qualifier) that you would like to use for Tape/Copy's datasets.  
@DSPREFIX = \_\_\_\_\_
- 6 The generic name for the DASD units at your site (SYSDA is the default value), and the name of the DASD volume where you would like to install the Tape/Copy product libraries.  
UNIT = \_\_\_\_\_  
VOLSER = \_\_\_\_\_



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**Note** Tape/Copy creates an extract file of your tape management system's records so the product's work files can be quite large. Make sure you select a volume with plenty of free space (actual size will depend on the size of your tape management system's database).

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- 7 The authorization code generated by Technical Support or given to you by your Tape/Copy sales representative.  
AUTHCODE = \_\_\_\_\_
- 8 The name, version and release of your tape management system and the dataset names of the tape management system database and load library.  
Tape Management System name & release level = \_\_\_\_\_  
Tape Management System database name = \_\_\_\_\_  
Tape Management System load library name = \_\_\_\_\_



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**Note** The tape management system database name is not required for RMM users. The tape management system load library name is not required for TLMS users, or for users who have the tape management system load library name already in their system's Linklist concatenation.

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- 9 The type(s) of automated/virtual tape library software interface (such as LCS or HSC), the software interface release level and software interface product load library name.

ATL/VTL interface = \_\_\_\_\_

ATL/VTL release level = \_\_\_\_\_

ATL/VTL load library name = \_\_\_\_\_



---

**Note** The ATL/VTL interface load library name is not required for users who have the ATL/VTL interface load library name already in their system's Linklist concatenation.

---

- 10 The name of the sort product and DDname to assign to the sort statement file used by the sort product on your system.

Sort Product=\_\_\_\_\_

Sort Product DDname=\_\_\_\_\_

- 11 If OAM object storage or backup tapes are to be processed, the DB2 subsystem ID, the DB2 high level data set qualifier, the owner ID of the OAM TAPEVOL table, and the user or group authorization ID that will be used to update the OAM tables are needed.

OAM DB2 subsystem ID=\_\_\_\_\_

OAM DB2 high level data set qualifier=\_\_\_\_\_

OAM TAPEVOL table owner=\_\_\_\_\_

OAM update authorization ID=\_\_\_\_\_



# B Installation Checklist

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## TOPICS COVERED IN THIS APPENDIX

[Checklist \(page B-2\)](#)

## Checklist

Use the checklist below for quick reference when installing the Tape/Copy product from a CD or emailed product installation file. **This checklist is only a guide; see Chapter 4 for a complete description of the required steps.**

- 1 Complete the “[Pre-Installation Checklist](#)”.
- 2 Save XMIT file to a directory on your PC.
- 3 Upload the XMIT file from your PC to your mainframe.
- 4 Enter the TSO RECEIVE command and restore parameters to create the INSTALL library.
- 5 Edit the RECEIVE JCL in the INSTALL library and submit it to create the other Tape/Copy product libraries.
- 6 Edit the LINKOBK JCL in the INSTALL library and submit it.
- 7 Apply available Tape/Copy maintenance zaps (if any are available) from the OpenTech Support website.
- 8 APF authorize the Tape/Copy LOADLIB.
- 9 Customize the OTTC@PRM and TAPECOPY members of the REXX library.
- 10 Customize the LIBRYDEF member of the PARMLIB library.
- 11 Customize the USERSETS member of the PARMLIB library.
- 12 Edit the SETUP JCL in the INSTALL library and submit it to run the automated set-up utilities.



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**Note** See note in the Installation Instructions regarding special considerations for Control-T users during this step.

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- 13 Customize the PROPRIET member of the PARMLIB library.
- 14 Update the AUTHCODE member of the PARMLIB library with your Tape/Copy authorization code.
- 15 *OPTIONAL* - Create the Stacking Conflict Management Database.
- 16 *OPTIONAL* - Configure EXCPVR (conversion job performance enhancement feature).
- 17 For OAM support, EDIT the OTTCBIND JCL in the INSTALL library and submit it.
- 18 Edit the IVPJCL JCL in the INSTALL library and submit it to perform the Installation Verification Procedure.



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**Note** After the installation is complete, the XMIT file can be deleted from your system.

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# C

# Wildcard Characters

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## TOPICS COVERED IN THIS APPENDIX

[Wildcards \(page C-2\)](#)

## Wildcards

These rules describe the data masking that can be used for data selection by generic criteria. **Not all Tape/Copy library members and parameters will accept wildcards.** Please read the member/parameter description to see if wildcarding is permitted. In the following table, a “data string” can mean a dataset name, volser or text string.

Wildcard	Description
/	Causes the remainder of the data string to be bypassed. Ex: OTTC./ will select all dataset names that have OTTC as the first node.
*	Allows a variable number of characters to be skipped within a data string. The number of characters skipped is dependent upon when the substring following the * is matched. Ex: OTTC*.DATA will select all dataset names that have OTTC as the first node and DATA as the last node. <b>Note: Do not use an * in column 1 except to signify a comment.</b>
!	Allows a single numeric character to be skipped in a data string. Ex: OTTC.DATA.G00!V00 will select datasets of the OTTC.DATA GDG base that range from generation 00 to 99.
%	Allows a single alphabetic character to be skipped in a data string. Ex: OTTC.DATA.FILE% will select datasets that have OTTC.DATA as the first 2 nodes, then have third node that is the word FILE followed by a letter. (OTTC.DATA.FILEA, but not OTTC.DATA.FILE2).
?	Allows a single character (alphabetic or numeric) to be skipped in a data string. Ex: OTTC.DATA?.FILE will select datasets that have OTTC as the first node, a second node of DATA and a numeric or alphabetic character, then have third node of FILE. (OTTC.DATA3.FILE and OTTC.DATAX.FILE).
(xx)	Allows for dataset selection by GDG relative generation number. xx is equal to the desired relative generation number. Ex: OTTC.DATA.FILE(0) will select the most recent generation of the OTTC.DATA.FILE GDG. <b>Note: This wildcard can only be used with inclusion and exclusion data set name lists.</b>