



Version 1

USER'S GUIDE

**SYSTEM LIBRARY
MAINTENANCE UTILITY
LIBSYS15**

Document No. 50303

November, 1977

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NOTICE

Datapoint strongly recommends that its customers use Datapoint Customer supplies. These disks, diskettes, cassettes and ribbons are certified by Datapoint to meet all Datapoint hardware specifications for consistent optimum performance.

PREFACE

The LIBSYS15 Utility is designed to operate under Datapoint DOS.H Version 2.4 on a 1500 processor containing a minimum of 36K memory.

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CHAPTER 1. INTRODUCTION

LIBSYS15 is a multifunction librarian for use in maintenance of library type files. A library file is a DOS file containing one or more modules, in the format defined in Appendix D, Format of Library Files. All modules of a library must be the same type; possible types are absolute, relocatable, and form modules. "Absolute" indicates DOS-loadable machine object code -- the DOS file UTILITY/SYS is an absolute library. "Relocatable" indicates relocatable code suitable for link-loading by DOS. The DOS file UTILITY/REL is a relocatable library. "Forms" indicates a library of forms that were produced by DATAFORM 15 Generator.

LIBSYS15 will only produce new directory format libraries. LIBSYS will additionally write protect all libraries it produces. This write protection is altered automatically if LIBSYS15 updates a library file; however, it always leaves the library file write protected.

The basic functions are:

- Listing the contents of the library
- Copying libraries on disk
- Merging libraries
- Deletion of selected library modules
- Replacement of selected library modules
- Adding of selected library modules
- Creation of library files
- Reorganization of library files
- Upgrading the old style directories to the new style
- Extracting members to an absolute file.

Operating procedures have been kept as simple as possible with only six basic commands used to perform all LIBSYS15 functions. Library manipulation may be performed either through the keyboard or using the CHAIN utility.

CHAPTER 2. LIBSYS15 OPERATION

2.1 Command Syntax

LIBSYS15 is invoked from the keyboard by entering

```
LIBSYS15 [<oldlib>][,<newlib>][,<drive>][;<options>]
```

Square brackets enclose optional fields, corner brackets enclose a replacement string and do not actually appear in the command line.

2.2 File Specifications

<oldlib> specifies the primary input file and must be specified for all operations except new library creation. The file specified by <oldlib> must already exist and must be a library. The oldlib file is the source for List, Xtract, or Delete commands. The default extension for oldlib is /LIB.

<newlib> is the output file and will be a library with the new directory format. The default extension for newlib is the extension given or assumed for oldlib; the default name is the same name as given for oldlib. If no entry is made for <newlib> the oldlib will be updated if any update commands are given.

If only oldlib is specified and Add and Delete update commands only are given, the update will take place directly on the oldlib file. Note that this type of update will leave areas of unused space in the library file if deletes are performed. If any Replace commands are given LIBSYS15 uses a work file called SCRATCH/LIB for the reorganization. Changes are made while creating this work file and it is then copied back to the oldlib file.

Example: LIBSYS15 MYLIB

If newlib is specified, but no oldlib, the LIBSYS15 run will create a new library file. On a creation run only ADD commands will be accepted.

Example: LIBSYS15 ,NEWLIB

The <drive> specification allows the user to specify the drive on which LIBSYS15 will place its work file, if needed. Only the drive specification is used from the third parameter; if a file name is given it will be ignored.

Example: LIBSYS15 MYLIB,,:DR1

2.3 Options

The <options> accepted are R, L, N, O.

The 'R' and 'L' options are for printed output. The 'N' option is for no chop of the library file. The 'O' option is for file overwrite while under the chain utility. Each option is discussed in the following paragraphs.

The options available for hard copy output are 'R' and 'L'. The 'R' option causes all messages to or from LIBSYS15 to be printed on the serial printer. The 'L' option will cause LIBSYS15 to print the results of a List command.

If the 'R' or 'L' option is used, a heading will be requested. This heading will appear on all pages of output produced. The heading may be up to 50 characters long.

The option to overwrite an existing file is 'O'. This option will enable LIBSYS15 to overwrite an existing or write protected file, if LIBSYS15 was invoked from CHAIN. The 'O' option has no affect if LIBSYS15 was not running under CHAIN. In other words LIBSYS15 will always ask the operator before overwriting a file if not running under CHAIN.

LIBSYS15 always de-allocates (chops) the output library file to its correct size; however, if the user does not wish the file chopped, an 'N' option may be entered on the command line. This option will inhibit the chop on the output library file.

2.4 Operation Description

When LIBSYS15 is brought up, it requests commands from the operator. Update commands are accepted, verified, and a table of action is built. When the END command is received, the actions specified by update commands entered by the operator are executed. If a List command is entered, the requested information is immediately listed. See the next chapter for descriptions of the LIBSYS15 commands. Commands to LIBSYS15 may be provided by a

chain procedure, allowing LIBSYS15 to be executed from CHAIN.

Three categories of file are used by LIBSYS15

Oldlib	This file contains the library that is to be listed, copied, or updated. It is the source file for LIST, XTRACT, and DELETE.
Newlib	This file will contain the results of the LIBSYS15 run if a new library was produced. It will always be a new library type file. It may be the same file as the old library.
Secondary	These files contain library modules or other type files to be added or to replace modules in the new library file.

If the newlib file already exists, or exists with write protection, a message is displayed asking the operator if the file should be overwritten. If a 'Yes' reply was given LIBSYS15 will overwrite the file. If a 'No' reply was given the LIBSYS15 run will abort. If running under control of the chain utility the 'O' option is used to overwrite existing files.

During the update cycle commands are accepted and tables are built. If the ADD or REPLACE command is entered the secondary file specified is checked to insure

- 1) the module exists if the file is a library.
- 2) if not a library file it must be absolute, or form file (produced by forms)

No update type commands are processed until the END command is entered.

CHAPTER 3. LIBSYS15 COMMANDS

LIBSYS15 commands are grouped into two categories; immediate and deferred. The LIST and END commands are immediate, while the update type commands are deferred until the END command is given.

Generalized command syntaxes

ADD <filespec>[,<name1>[,<name2>...]]

REPLACE <filespec>[,<name1>[,<name2>...]]

XTRACT <filespec>[,<name>]

DELETE <name1>[,<name2>[,<name3>...]]

LIST [*][<name1>[,<name2>...]]

OS

END

When a <filename> appears on a command line in the samples below (except XTRACT) it specifies a secondary input file. This secondary input file is used as the source file for that command only. For examples of LIBSYS15 usage refer to Appendix A.

An Absolute file is a DOS file in the DOS-loadable object format.

A Library file is a DOS file which is a library file in the new directory format, as shown in Appendix D.

A Form file is a DOS file which was produced by the DATAFORM 15 Generator.

3.1 ADD Command

The ADD command is used to create new library files, to add new members to an existing library, or for the merging of libraries or library modules. The processing of the ADD command is dependent upon the file type of the secondary input file. The following table shows the actions based on the file types of the secondary input file:

Non Library Type File

<u>SYNTAX</u>	<u>ACTION</u>
<u>ADD</u> <filename>	Add the file to the output library and name the member "filename". <u>Example:</u> ADD ZAPP/CMD
<u>ADD</u> <filename>,<name1>	Add the file to the output library and name the member "name1". <u>Example:</u> ADD ZAPP/CMD,MYZAPP

Library File Type

<u>SYNTAX</u>	<u>ACTION</u>
<u>ADD</u> <filename>	Add all members from this secondary library file to the output library. <u>Example:</u> ADD UTILITY/SYS
<u>ADD</u> <filename>,<name1>[,<name2>...]	Add only the specified members, (name1,...) from this secondary library file to the output library. <u>Example:</u> ADD UTILITY/SYS,CAT,FREE

3.2 REPLACE Command

The REPLACE command is used to replace existing members in the primary input file with correspondingly named members from the secondary input file. This command will insert the new members in the same relative position as the old members in the directories. The processing of the REPLACE command is dependent on the file type of the secondary input file. The following table shows the commands and program actions based on the type of secondary input file:

Non Library Type File

SYNTAX

REPLACE <filename>

ACTION

Replace the member named "filename" with the file specified by <filename>.

Example: REPLACE ZAPP/ABS

REPLACE <filename>,<name>

Replace the member named "name" with the file specified by <filename>.

Example: REPLACE ZAPP/ABS,MYZAPP

Library Type File

SYNTAX

REPLACE <filename>

ACTION

Replace all members in the primary input file with correspondingly named members from the secondary input file.

Example:
REPLACE NEWLIB/LIB

REPLACE <filename>,<name1>[,<name2>..] Replace the specified members (<name1>,<name2>,...) in the primary input file with correspondingly named members from the secondary input file.

Example:
REPLACE NEWLIB/LIB,ZAPP,FREE

3.3 XTRACT Command

The XTRACT will extract a single member from a library and write it to a separate disk file. It will be written in the non-library format. That is to say, it will be in the form it was in before it was added to a library. Because relocatable code is always in a library format single members can not be extracted to a non-library type file.

SYNTAX

XTRACT <filename>

XTRACT <filename>,<name1>

ACTION

Extract the member named "filename" and write it to the file <filename>. Example: XTRACT CAT/ABS

Extract the member named "name1" and write it to the file <filename> Example: XTRACT CAT/ABS,NEWCAT

3.4 DELETE Command

The DELETE command is used to delete specified members from the primary input file. If the update is being performed in place (no REPLACE commands) this will remove the members from the oldlib file, leaving unused space. If the update is being performed to a scratch file or to a newlib file, the DELETE just suppresses copying the members from the oldlib file to the output file.

SYNTAX

DELETE <name1>[,<name2>[...]]

ACTION

Delete the specified members. Example: DELETE OLDCAT,OLDFIX

3.5 LIST Command

The LIST command will display the names of the members in the primary input file or will display information on individual relocatable modules. Pressing the DISPLAY key makes the listing pause. Pressing the keyboard key terminates the listing in progress.

SYNTAX

LIST *

LIST [<name1>[,<name2>...]]

ACTION

List all directory entries in the primary input library, along with the starting LRN of each member.
NOTE: The LRN is octal.
Example: LIST *

List the program name, program address blocks, external definitions, external references, and the transfer address for the specified library members (<name1>,<name2>,...). Works only if the primary input file is a relocatable library. If no member names are specified, all library members will be listed.
Example: LIST LOCAL,SERVO

3.6 OS Command

The OS directive will cause LIBSYS15 to return back to DOS. No processing of directives takes place, and files are not altered.

SYNTAX

OS

ACTION

Return to DOS.

3.7 END Command

The END will cause the library creation or updating to begin. If no update type commands were given LIBSYS15 returns to DOS. If both oldlib and newlib were given and no update directives given, the oldlib file will be copied to the newlib.

SYNTAX

END

ACTION

If no update commands have been given, return to DOS, otherwise begin update activities.

Example: END

APPENDIX A. EXAMPLES OF LIBSYS15 USAGE

The following pages are examples for the use of LIBSYS15.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

SAMPLE OF THE LIST DIRECTORY COMMAND.

COMMAND STATEMENT WAS: LIBSYS15 UTILITY/SYS:DR1;R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP

DIRECTIVE WAS: LIST *

UTILITY /SYS IS A NEW STYLE ABSOLUTE LIBRARY
DIRECTORY ENTRIES:

000001	ABTONOFF
000005	APP
000013	AUTO
000020	BACKUP
000050	BLOKEDIT
000072	BOOT
000077	BUILD
000104	CAT
000114	CHANGE
000120	CLOCK
000131	COPY
000137	DECODE
000144	DOSGEN
000162	DUMP
000211	EDIT
000264	ENCODE
000271	FILES
000312	FIX
000320	FREE
000326	KILL
000336	LIST
000354	MANUAL
000360	NAME
000365	PUTIFL
000375	PUTVOLID
000404	SAPP
000411	SUR

PLEASE ENTER THE DIRECTIVES or HELP
DIRECTIVE WAS: END

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs- VERSION 1.1

SAMPLE LIST OF A RELOCATABLE LIBRARY.
COMMAND STATEMENT WAS: LIBSYS15 LIBPROGS/REL;R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP
DIRECTIVE WAS: LIST OPENTEMP

LIBPROGS/REL IS A NEW STYLE RELOCATABLE LIBRARY

PROGRAM NAME:	OPENTEMP	REVISION	LEVEL	
PROGRAM BLOCKS:	010000	/ABSOLUTE/	SIZE = 000000	(ABS)
	000000	/CODE	SIZE = 000154	(REL)
	000000	/MESSAGE	SIZE = 000164	(REL)
EXTERNAL DEFINITIONS:	000000	/CODE	OPENTEMP	
EXTERNAL REFERENCES:			FILEPDN	
			FILEPFN	
			MCR\$	
			DOSFNC	
			NLIBPFN	
			NLIBPDN	
			OPEN\$	
			BIN2OCT	
			CONVDRN	
			FATAL	

NO TRANSFER ADDRESS

PLEASE ENTER THE DIRECTIVES or HELP
DIRECTIVE WAS: END

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

BUILDING A NEW LIBRARY FILE.

COMMAND STATEMENT WAS: LIBSYS15 ,NEWLIB/NEW:DR1;R

THIS IS A NEW LIBRARY CREATION RUN

PLEASE ENTER THE DIRECTIVES or HELP

DIRECTIVE WAS: ADD LIBSYS/ABS
DIRECTIVE WAS: ADD LIBINIT/ABS
DIRECTIVE WAS: ADD LIBCRACK/ABS
DIRECTIVE WAS: ADD LIBEXEC/ABS
DIRECTIVE WAS: ADD LIBLIST/ABS
DIRECTIVE WAS: END

OUTPUT LIBRARY IS NEWLIB /NEW:DR1

ADDING LIBSYS FROM FILE LIBSYS /ABS:DR1
ADDING LIBINIT FROM FILE LIBINIT /ABS:DR1
ADDING LIBCRACK FROM FILE LIBCRACK/ABS:DR1
ADDING LIBEXEC FROM FILE LIBEXEC /ABS:DR1
ADDING LIBLIST FROM FILE LIBLIST /ABS:DR1

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

ADDING PROGRAMS TO UTILITY/SYS
COMMAND STATEMENT WAS: LIBSYS15 UTILITY/SYS:DR1;R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP
DIRECTIVE WAS: ADD NEWLIB/NEW
DIRECTIVE WAS: END

CHECKING THE LIBRARY FORMAT

** WARNING ** DO NOT RESTART DURING THIS PHASE!

ADDING LIBSYS FROM FILE NEWLIB /NEW:DR1
ADDING LIBINIT FROM FILE NEWLIB /NEW:DR1
ADDING LIBCRACK FROM FILE NEWLIB /NEW:DR1
ADDING LIBEXEC FROM FILE NEWLIB /NEW:DR1
ADDING LIBLIST FROM FILE NEWLIB /NEW:DR1

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

UPDATE AN EXISTING LIBRARY FILE.

COMMAND STATEMENT WAS: LIBSYS15 UTILITY/SYS:DR1;R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP

DIRECTIVE WAS: REPLACE NEWLIB/NEW

DIRECTIVE WAS: END

USING WORK FILE SCRATCH /LIB:DR0

ADDING ABTONOFF FROM FILE UTILITY /SYS:DR1
ADDING APP FROM FILE UTILITY /SYS:DR1
ADDING AUTO FROM FILE UTILITY /SYS:DR1
ADDING BACKUP FROM FILE UTILITY /SYS:DR1
ADDING BLOKEDIT FROM FILE UTILITY /SYS:DR1
ADDING BOOT FROM FILE UTILITY /SYS:DR1
ADDING BUILD FROM FILE UTILITY /SYS:DR1
ADDING CAT FROM FILE UTILITY /SYS:DR1
ADDING CHANGE FROM FILE UTILITY /SYS:DR1
ADDING CLOCK FROM FILE UTILITY /SYS:DR1
ADDING COPY FROM FILE UTILITY /SYS:DR1
ADDING DECODE FROM FILE UTILITY /SYS:DR1
ADDING DOSGEN FROM FILE UTILITY /SYS:DR1
ADDING DUMP FROM FILE UTILITY /SYS:DR1
ADDING EDIT FROM FILE UTILITY /SYS:DR1
ADDING ENCODE FROM FILE UTILITY /SYS:DR1
ADDING FILES FROM FILE UTILITY /SYS:DR1
ADDING FIX FROM FILE UTILITY /SYS:DR1
ADDING FREE FROM FILE UTILITY /SYS:DR1
ADDING KILL FROM FILE UTILITY /SYS:DR1
ADDING LIST FROM FILE UTILITY /SYS:DR1
ADDING MANUAL FROM FILE UTILITY /SYS:DR1
ADDING NAME FROM FILE UTILITY /SYS:DR1
ADDING PUTIPL FROM FILE UTILITY /SYS:DR1
ADDING PUTVOLID FROM FILE UTILITY /SYS:DR1
ADDING SAPP FROM FILE UTILITY /SYS:DR1
ADDING SUR FROM FILE UTILITY /SYS:DR1
REPLACING LIBSYS FROM FILE NEWLIB /NEW:DR1
REPLACING LIBINIT FROM FILE NEWLIB /NEW:DR1
REPLACING LIBCRACK FROM FILE NEWLIB /NEW:DR1
REPLACING LIBEXEC FROM FILE NEWLIB /NEW:DR1
REPLACING LIBLIST FROM FILE NEWLIB /NEW:DR1

COPYING THE WORK FILE TO THE LIBRARY FILE UTILITY /SYS:DR1

** WARNING ** DO NOT RESTART DURING THIS PHASE!

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

SAMPLE OF EXTRACT, DELETE AND HELP
COMMAND STATEMENT WAS: LIBSYS15 UTILITY/SYS:DR1:R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP
DIRECTIVE WAS: HELP

THE COMMANDS FOR THIS VERSION ARE:

ADD Add file<, name1><, name2> . . .
DELETE Delete name1<, name2> . . .
REPLACE Replace file<, name1><, name2> . . .
EXTRACT eXtract file<, name>
LIST List <*> or <name1><, name2> . .
END End
0 Return to DOS

PLEASE ENTER THE DIRECTIVES or HELP

DIRECTIVE WAS: XTRACT CAT/XXX
DIRECTIVE WAS: XTRACT FREE/ABS:DR1
DIRECTIVE WAS: XTRACT GREX/XXX, ABTONOFF
DIRECTIVE WAS: DELETE CAT, ABTONOFF
DIRECTIVE WAS: DELETE FREE
DIRECTIVE WAS: END

CHECKING THE LIBRARY FORMAT

** WARNING ** DO NOT RESTART DURING THIS PHASE!

DELETING CAT FROM FILE UTILITY /SYS:DR1
DELETING ABTONOFF FROM FILE UTILITY /SYS:DR1
DELETING FREE FROM FILE UTILITY /SYS:DR1
EXTRACT CAT TO FILE CAT /XXX:DR0
EXTRACT FREE TO FILE FREE /ABS:DR1
EXTRACT ABTONOFF TO FILE GREX /XXX:DR0

NOTE: THE LIBRARY FILE CONTAINS UNUSED AREAS.

EXECUTION COMPLETE.

LIBSYS15 UTILITY 11/02/77 AT 0800hrs VERSION 1.1

SAMPLE OF ADDS AND REPLACES TO AN EXISTING FILE
COMMAND STATEMENT WAS: LIBSYS15 UTILITY/SYS:DR1,,:DR0;R

THIS IS A LIBRARY UPDATE RUN

PLEASE ENTER THE DIRECTIVES or HELP

DIRECTIVE WAS: ADD CAT/XXX
DIRECTIVE WAS: ADD FREE/ABS:DR1
DIRECTIVE WAS: ADD GREX/XXX,ABTONOFF
DIRECTIVE WAS: REPLACE UTILITY/SYS:DR0,LIST,FILES,NAME
DIRECTIVE WAS: REPLACE NEWLIB/NEW
DIRECTIVE WAS: END

USING WORK FILE SCRATCH /LIB:DR0

ADDING APP FROM FILE UTILITY /SYS:DR1
ADDING AUTO FROM FILE UTILITY /SYS:DR1
ADDING BACKUP FROM FILE UTILITY /SYS:DR1
ADDING BLOKEDIT FROM FILE UTILITY /SYS:DR1
ADDING BOOT FROM FILE UTILITY /SYS:DR1
ADDING BUILD FROM FILE UTILITY /SYS:DR1
ADDING CHANGE FROM FILE UTILITY /SYS:DR1
ADDING CLOCK FROM FILE UTILITY /SYS:DR1
ADDING COPY FROM FILE UTILITY /SYS:DR1
ADDING DECODE FROM FILE UTILITY /SYS:DR1
ADDING DOSGEN FROM FILE UTILITY /SYS:DR1
ADDING DUMP FROM FILE UTILITY /SYS:DR1
ADDING EDIT FROM FILE UTILITY /SYS:DR1
ADDING ENCODE FROM FILE UTILITY /SYS:DR1
REPLACING FILES FROM FILE UTILITY /SYS:DR0
ADDING FIX FROM FILE UTILITY /SYS:DR1
ADDING KILL FROM FILE UTILITY /SYS:DR1
REPLACING LIST FROM FILE UTILITY /SYS:DR0
ADDING MANUAL FROM FILE UTILITY /SYS:DR1
REPLACING NAME FROM FILE UTILITY /SYS:DR0
ADDING PUTIPL FROM FILE UTILITY /SYS:DR1
ADDING PUTVOLID FROM FILE UTILITY /SYS:DR1
ADDING SAPP FROM FILE UTILITY /SYS:DR1
ADDING SUR FROM FILE UTILITY /SYS:DR1
REPLACING LIBSYS FROM FILE NEWLIB /NEW:DR1
REPLACING LIBINIT FROM FILE NEWLIB /NEW:DR1
REPLACING LIBCRACK FROM FILE NEWLIB /NEW:DR1
REPLACING LIBEXEC FROM FILE NEWLIB /NEW:DR1
REPLACING LIBLIST FROM FILE NEWLIB /NEW:DR1
ADDING CAT FROM FILE CAT /XXX:DR0
ADDING FREE FROM FILE FREE /ABS:DR1
ADDING ABTONOFF FROM FILE GREX /XXX:DR0

COPYING THE WORK FILE TO THE LIBRARY FILE UTILITY /SYS:DR1
** WARNING ** DO NOT RESTART DURING THIS PHASE!

EXECUTION COMPLETE.

APPENDIX B. INFORMATIVE MESSAGES

- I LIBSYS15 UTILITY date AT time VERSION v.r.
Signon Message.
- I THIS IS A LIBRARY UPDATE RUN.
If update type directives are given the old library will be
the base for updates.
- I THIS IS A NEW LIBRARY CREATION RUN.
No old library file was given, LIBSYS15 is building the output
library for the first time.
- I THE OLD LIB FILE IS AN OLD STYLE RELOCATABLE LIBRARY.
NOTE: THE NEW LIB FILE WILL BE IN THE NEW FORMAT.
The LIBSYS15 utility will only create or update libraries to
the new directory format. It will not change an new type
directory into the old style.
- I HEADING:
The L or R option was used and LIBSYS is waiting for the
printer heading, maximum 50 characters.
- I OUTPUT LIBRARY IS file spec.
This is the file to receive the results of the LIBSYS15 run.
- I LIBSYS15 EXECUTION COMPLETE.
Signoff Message
- I USING WORK FILE SCRATCH/LIB:DRn.
LIBSYS15 was forced to use a scratch file that will be copied
back to the library file. Using a replace request while only
specifying the oldlib file, as example, will force LIBSYS15 to
use this file. It is killed at normal completion.

Footnote: I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

- I COPYING THE WORK FILE TO THE LIBRARY FILE file spec.
LIBSYS15 has completed the update process and is now copying the work file back to the library file. During this phase LIBSYS15 will click after each library module is copied.
- I (action name) FROM (TO) FILE (file spec).
Action can be adding, replacing, deleting, or extract. This message is displayed as LIBSYS15 processes the user entered directives. This shows the user what is going on. If the "R" option was given these messages are also printed. The display screen is rolled up when a new directive is being processed.
- I ** WARNING ** DO NOT RESTART DURING THIS PHASE!
LIBSYS15 is updating the output library now, and a restart will cause a loss of information and control bytes from the output library. This loss of data can make the file unusable.
- I NOTE: THE LIBRARY FILE CONTAINS UNUSED AREAS.
Please see Chapter 2 LIBSYS15 OPERATION.
- I CHECKING THE LIBRARY FORMAT
LIBSYS15 will perform a fast check, on the oldlib file, to see if the directory pointers correspond with the contents of the library. A click is done as each pointer is checked. This is only done on an update in place.
- I THE NEW LIBRARY FILE IS ALREADY ALLOCATED. OVERWRITE IT? YES OR NO
The library already exists. Do you wish to write over it?
- I THE NEW LIBRARY FILE IS WRITE PROTECTED. OVERWRITE IT? YES OR NO
The library file already exists and is write protected. Do you wish to overwrite the file.

Footnote: I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

APPENDIX C. ERROR MESSAGES

C.1 Initialization Error Messages

- F *** OVERLAY MISSING ERROR ***
One of the LIBSYS15 modules could not be found.
- F NO FILE SPECIFICATIONS GIVEN!
LIBSYS15 was called with out any file specifications for the oldlib file or the newlib file.
- F INVALID DRIVE SPECIFIED!
Drive specification for the old or new library file is not in the correct format.
- F OLD LIBRARY CAN NOT BE FOUND!
The oldlib file does not exist or could not be found on the specified drive.
- F THE OLD LIBRARY FILE IS NOT IN THE CORRECT FORMAT!
The oldlib file specified does not have the correct format.
- F UTILITY/REL FILE NOT FOUND!
The R or L option was given and the UTILITY/REL file could not be found.
- F NO PRINTER ON LINE FOR THE L OR R OPTION!
LIBSYS15 could not detect a printer on line.
- F UTILITY/REL DOES NOT CONTAIN THE CORRECT MODULES!
The UTILITY/REL file is missing the printer driver.
- F DOS VERSION 2.3 IS REQUIRED FOR EXECUTION
LIBSYS15 uses several DOS FUNCTIONS not present in earlier versions of DOS. For this reason version 2.3 is required.

Footnote I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

C.2 Syntax Error Messages

- S1 INVALID LIBSYS15 REQUEST. PLEASE RETRY.
The request line must start with a valid LIBSYS15 directive ADD, DELETE, XTRACT, LIST, or END. Re-enter the correct directive.
- S1 UNEXPECTED ITEM ON DIRECTIVE LINE.
LIBSYS15 found something after the logical end of the directive syntax. It is ignored.
- S1 "name" COULD NOT BE FOUND IN THE LIBRARY FILE filename.
The library does not contain the requested member "name". The entire directive is ignored.
- S1 ONLY ADD DIRECTIVES ARE LEGAL FOR CREATION RUN.
When creating a new library file (oldlib file not given) the only valid directives are ADD and END.
- F NO VALID DIRECTIVES TO PROCESS!
LIBSYS15 is creating a new library file, however no valid ADDs were found before the END.
- F THE SECONDARY FILE IS OF AN UNKNOWN FILE FORMAT!
The secondary file is not in the correct file format.
- F MIX FILE TYPES IN LIBRARIES CAN NOT BE MIXED!
The LIBSYS15 utility will not mix file types. As example absolute and relocatable file types in a single library.
- F ONLY EXTRACT FROM ABSOLUTE LIBRARIES CAN BE DONE!
The LIBSYS15 utility will not extract members other than absolute ones.

Footnote I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

- S1 THE FILE COULD NOT BE FOUND
The requested secondary input file does not exist or could not be found on the specified drive. The entire request is ignored.
- S1 THE FILE IS IN AN UNKNOWN FORMAT
The secondary file is in a file format unknown to LIBSYS15. The entire directive is ignored.
- S1 FILE SPECIFICATION NOT GIVEN.
The LIBSYS15 directive line did not contain a valid file specification. The entire directive is ignored.
- S1 DRIVE SPECIFICATION INVALID.
The LIBSYS15 directive line contained an invalid drive specification. The entire directive is ignored.
- S1 DUPLICATE MEMBER NAME FOUND "name".
LIBSYS15 has already processed a directive with the same member name. The entire directive is ignored.
- F TOO MANY TABLES BUILT FOR AVAILABLE MEMORY!
LIBSYS15 has used all assigned core for table generation. The run must be broken down into smaller sections.
- F SECONDARY INPUT FILE AND OUTPUT FILE CAN NOT BE THE SAME!
The newlib file and this secondary input file are the same.

Footnote: I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

LIST request error messages

LIBRARY IS ABSOLUTE AND INDIVIDUAL MODULES CAN NOT BE LISTED.

Only the LIST * request can be used on absolute libraries.

SYNTAX ERROR IN FORMAT OF THIS RELOCATABLE MODULE.

The LIST section has discovered a format error in this module of relocatable code. Listing of the requested modules will continue

MODULE COULD NOT BE FOUND IN THE LIBRARY FILE filename.

The named module could not be found in this library and cannot be listed.

Footnote: I = Informative message

F = Fatal error

S1= Error which will set ABTIF in DOSFLAG.

C.4 Other Error Messages

- F FATAL INTERNAL ERROR
This message is issued if the tables built have become scrambled.
- F FATAL POSITIONING ERROR.
This message is issued when positioning a file past its allocated area. Usually occurs when trying to read a library directory which has invalid pointers..
- F *** FATAL ERROR *** THE RUN WAS ABORTED!
The LIBSYS15 run was aborted due to the reason displayed above this message.
- S1 THE ENTIRE DIRECTIVE WILL BE IGNORED.
An error was found in the last directive entered.
- S1 *** action name *** NOT PROCESSED!
During the execution of the directives this request was not processed. Could be caused for example by replacing a non-existent module.
- F LRN nnnnn IS IN ERROR!
This library file can not be updated in place! During the quick format check of oldlib file, LIBSYS15 has found a library format error. Updating can not be done in place; however, members may be able to be added one at a time to a new-library file, or extracted to separate files.
- F USER DOES NOT WISH TO OVERWRITE FILE!
The user has chosen not to overwrite the existing file.

Footnote: I = Informative message
F = Fatal error
S1= Error which will set ABTIF in DOSFLAG.

APPENDIX D. FORMAT OF LIBRARY FILES

The Library is constructed from two types of entries, Directory Entries and members.

D.1 Directory

The first entry of the library file must be the first Directory Entry. Additional directory entries are formatted as required and linked into the directory chain. Each directory has two major parts:

1) The directory header which is 7 bytes. The format is as follows:

| 0377 |	

| 0200 |	Directory Unique Code 2 Bytes long
| 0100 |	Type of library (see library type chart)
| LSB |	Pointer to next directory entry LRN 0377,0377 if last one.
| MSB |	
| LSB |	Pointer to end of file sector, (LRN) (only valid in first directory).
| MSB |	

2) Member name entries, each one is 10 bytes long.

| |	Member name 8 bytes long in ASCII code
| LSB |	
| MSB |	Starting LRN of this member

One directory entry can contain a maximum of 24 member names. All unused member name entries will be set to 0377's. A deleted member will be set to 0377's also.

An entire directory entry:

Directory Header	Member	LRN	Member	LRN	.....	Member	LRN	0377
	Name 1		Name 2			Name n		

D.2 Library Type Chart

The following is the bit chart for library types

1.	...	...	Reserved
.1	...	...	Absolute
..	1..	...	Relocatable
..	.1.	...	Forms Library
.	..1	111	Undefined

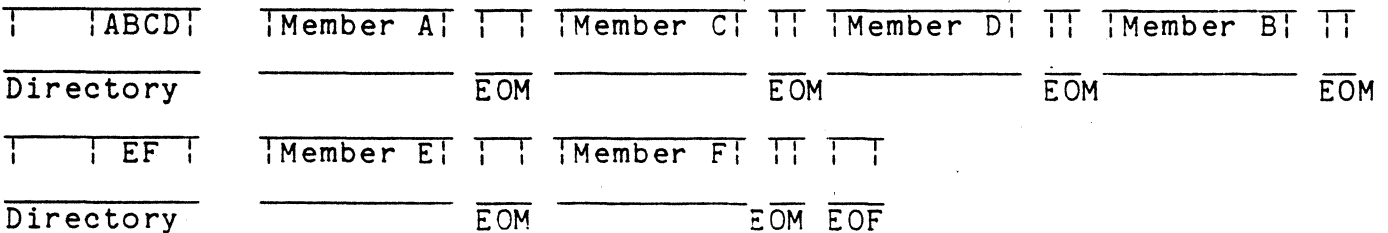
D.3 Members

The members are the second type entry of the library. Each member is pointed to by the member name pointer in one of the directory entries. Each member is terminated by an end of member (EOM) code. The EOM is indicated by a sector which contains six bytes of 000 followed by 010.

NOTE: EOM indicates only the end of this member not the end of the library.

If the library contained more than 24 members another directory entry would be placed into the chain of directories.

A simple library file format



CUT ALONG LINE FOR MAILING

Manual Name _____

Manual Number _____

READER'S COMMENTS

Did you find errors in this manual? If so, specify by page.

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