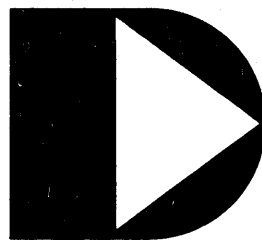


**LIBRARY MAINTENANCE  
UTILITY  
LIB  
User's Guide  
Version 2**

August, 1976

Model Code No. 50207

**DATAPOINT CORPORATION**



**The leader in dispersed data processing™**

## PREFACE

The LIB utility is designed to operate under the Datapoint Disk Operating System on any Datapoint processor containing a minimum 16k memory. The MIN utility is a prerequisite for installation.

## TABLE OF CONTENTS

	page
1. INTRODUCTION	1-1
2. DATA FLOW	2-1
3. INITIALIZATION	3-1
4. LIBRARIAN FUNCTIONS	4-1
4.1 LIST	4-1
4.2 ADD	4-2
4.3 REPLACE	4-2
4.4 DELETE	4-2
4.5 END	4-2
4.6 Library Creation	4-3
Appendix A. EXAMPLES	A-1
Appendix B. ERROR MESSAGES	B-1
Appendix C. INSTALLATION	C-1
Appendix D. CHART OF VALID LIB OPERATIONS	D-1

## CHAPTER 1. INTRODUCTION

LIB is a multifunction librarian for use in maintenance of SNAP/1 and SNAP/2 macro prototype, text file, and relocatable code libraries. The basic functions of LIB are:

- . Listing of library directories.
- . Listing of entire library contents.
- . Listing of selected library modules.
- . Copying libraries on disk.
- . Merging of libraries.
- . Creation of macro prototype libraries.
- . Creation of text file libraries.
- . Conversion of macro prototypes to GEDIT format for editing.
- . Deletion of selected library modules.
- . Replacement of selected library modules.
- . Adding selected modules to libraries.

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

Appropriate file processing routines are selected based on the file type (text, macro library or relocatable library) of the first input file selected.

## CHAPTER 2. DATA FLOW

Three types of files are used by LIB for library maintenance:

- PRIMARY        The primary specifies a master file that is to be copied, updated or listed. It is the source file for the list and deletion functions.
- SECONDARY     The secondaries specify inputs containing update data.
- OUTPUT        The output specifies a new file to be created containing data selected by LIB functions.

During an update cycle, data selected from secondary input files will be copied to the output file as each ADD and REPLACE statement is processed. When the update is terminated with the END statement, data from the primary file will be copied to the output file with any modules specified in DELETE and REPLACE statements omitted during the copy.

Primary files in library format may also be updated without specifying a new output file. SCRATCH/TXT will be used as a temporary work file for selected output. The PRIMARY will not be changed until the librarian END statement is executed.

## CHAPTER 3. INITIALIZATION

The LIB utility is initialized with the following command:

```
LIB (primary-input-file)(,output-file)(;(I)(L)(R)(T))
```

A primary input file must be specified for all operations except file creation. The default file name extension for the primary input file is /MPL. The default file name extensions for secondary input files will be the same as the primary input file extension.

An output file specification is required only if the "I" or "T" option is specified or if a new file is to be created. If the "I" or "T" option is specified, the output file extension default is /INC or /TXT, respectively. Otherwise, the output file extension default will be /MPL if the first input selected is text or a macro library; /REL if first input is relocatable code.

If a primary input file is specified with no output file specification, the primary input file will be updated if ADD, DELETE or REPLACE functions are used.

The 'I' option specifies that input and output files should be processed as text files or text file libraries.

The "L" option specifies that list output is to be directed to a local or servo printer rather than being displayed on the CRT screen.

The "R" option specifies that error messages are to be recorded on a local or servo printer.

The "T" option specifies that macro output is to be written in GEDIT format for editing with the DOS editor.

If the "L" or "R" option is selected the librarian will display "HEADING:" and wait for a 1-80 character heading to be entered from the keyboard.

## CHAPTER 4. LIBRARIAN FUNCTIONS

LIB functions are grouped into two categories; immediate and deferred. The LIST, ADD and END functions are executed immediately. DELETE builds table entries for deferred action and is not executed until the END function is executed. REPLACE is treated like a DELETE followed by an ADD.

The five LIB commands for library manipulation are:

L (*) (,name)(,name)(,name).....etc.	LIST
A secondary-file(,name)(,name)(,name)..etc.	ADD
R secondary-file,name(,name)(,name)....etc.	REPLACE
D name(,name)(,name)(,name)(,name).....etc.	DELETE
E	END

All additions to an output library and all deletions are recorded in a symbol table to prevent duplication of names in output library directories. The maximum capacity of the symbol table is 256 names.

### 4.1 LIST

The LIST function is used to display on the CRT screen or list on a line printer, data from the primary input file.

The LIST command followed by an asterisk indicates that the directory of the primary input file is to be listed. If names are given, data from specified modules will be listed. If the LIST command is given without any parameters, data from all modules in the primary input file will be listed.

When primary input is a relocatable program library, the data listed for selected modules will be:

- . Program Address Block statistics
- . External Definitions
- . External References
- . Transfer Address

Selection of a CRT display or line printer is determined by the "L" parameter in the LIB command line.

Depression of the DISPLAY key during listing will cause the program to pause until the key is released. If the KEYBOARD key is depressed the current listing will be aborted.

#### 4.2 ADD

The ADD function is used for new library or GEDIT text file creation and the merging of text, relocatable, or macro libraries. The secondary file specified will be selected as the source for a text file, macro prototypes or relocatable code modules to be added to the output file. If names are given, only the selected modules will be added. If no names are specified, the entire file will be added. If the secondary input file selected is a program source file, selected macros will be stripped from the surrounding text, unless the 'I' option is specified, then the entire file is used.

#### 4.3 REPLACE

The REPLACE function is used to replace specified modules in the primary input file with correspondingly named text file, macro prototypes or relocatable programs from the secondary file specified in the REPLACE command. Replaced modules will not be copied from the primary file when it is copied at End processing time.

#### 4.4 DELETE

The DELETE function is used to delete specified modules in a text, macro prototype, or relocatable program file. Deletion takes place when the END statement is executed and the primary input file is selectively copied to the output file.

#### 4.5 END

The END processing function terminates execution of the LIB utility program. If both primary input and output files have been specified, the primary input file will be selectively copied to the output file during end processing. If only a primary input file has been specified and add, delete or replace commands were used, the primary input file will be updated.



## 4.6 Library Creation

New macro, relocatable, and text libraries are created using the ADD function to selectively copy modules from secondary input files to an output file (library). A primary input file need not be specified for library creation.

## APPENDIX A. EXAMPLES

Library copy (macro, relocatable, or text)

```
LIB MYLIB1,MYLIB2
E
```

Directory listing on line printer (macro, relocatable, or text)

```
LIB MYLIB2:DR1;L
L *
E
```

Listing of selected macro prototypes on CRT screen

```
LIB MACLIB1
L MOVEL,MOVER,MULT,DIVIDE
E
```

Listing of entire macro prototype library on line printer

```
LIB MACLIB2:DR1;L
L
E
```

Merging of three relocatable libraries

```
LIB MYLIB1/REL,NEWLIB
A MYLIB2
A MYLIB3
E
```

Text conversion of selected macro prototypes for editing

```
LIB ,TEMP;T
A MACRO2,MAC1,MAC2
E
```

Macro library creation from GEDIT text

```
LIB ,MYLIB
A TEXT1/TXT:DRO
A TEXT2/TXT:DR1,BINDEC,DECBIN,BINOCT,OCTBIN
E
```

Complex relocatable library update

```
LIB MYLIB/REL
L *
A RELOLIB1,PROG2A,PROG2B
D PROG1A,PROG3A
R RELOLIB2,PROG4C
R RELOLIB3:DR1,PROG1C,PROG2C
A RELOLIB4
E
```

Text file library creation from GEDIT text

```
LIB ,TXTLIB/INC;I
A TEXT1/TXT
A TEXT2/TXT
E
```

## APPENDIX B. ERROR MESSAGES

INVALID FILE SPECIFICATION.

PRIMARY INPUT NOT FOUND.

INVALID PARAMETER IN OPTION FIELD.

SECONDARY INPUT FILE NOT FOUND, COMMAND IGNORED!

INPUT FILE TYPE IS NOT COMPATIBLE WITH OPTIONS.

OUTPUT FILE MUST BE SPECIFIED FOR "T" OPTION.

OUTPUT FILE MUST BE SPECIFIED WHEN PRIMARY IS NOT A LIBRARY.

UNRECOGNIZABLE COMMAND, COMMAND IGNORED!

PRIMARY INPUT FILE HAS NOT BEEN SPECIFIED, COMMAND IGNORED!

SECONDARY INPUT FILE NOT SPECIFIED, COMMAND IGNORED!

INVALID SECONDARY FILE SPECIFICATION, COMMAND IGNORED!

WRONG TYPE OF FILE SELECTED FOR INPUT, COMMAND IGNORED!

NAMES NOT SPECIFIED, COMMAND IGNORED!

"name" IS NOT A VALID NAME, PARAMETER IGNORED!

"name" IS NOT IN PRIMARY INPUT, PARAMETER IGNORED!

"name" IS NOT IN SECONDARY INPUT, PARAMETER IGNORED!

MISSING PARAMETER IGNORED!

"name" WILL CAUSE SYMBOL TABLE TO OVERFLOW!

INPUT CONTAINS AN IRRECOVERABLE FORMAT ERROR.

OUTPUT WILL DESTROY INPUT FILE, BAD FILE SPECIFICATION!

END-OF-FILE BEFORE "MEND" STATEMENT, "MEND" ASSUMED!

"name" IS ALREADY IN OUTPUT LIBRARY DIRECTORY!

NO OUTPUT HAS BEEN GENERATED!

PARAMETER NOT ALLOWED FOR GEDIT INCLUSION FILE, COMMAND IGNORE!

PRIMARY IS A GEDIT INCLUSION FILE AND CAN NOT BE MODIFIED, COMMAND IGNORED!

"name" IS NOT IN PRIMARY INPUT, COMMAND IGNORED!

"name" IS ALREADY IN OUTPUT LIBRARY DIRECTORY, OUTPUT ABORTED!

## APPENDIX C. INSTALLATION

Installation of the LIB utility is accomplished by inserting the program distribution cassette in the front cassette deck and typing:

```
MIN ;AO
```

When tape motion stops, installation is complete.

APPENDIX D. CHART OF VALID LIB OPERATIONS

TYPE OF FILE	PRIMARY FILE		SECONDARY FILE		FUNCTION			SCOPE OF FUNCTION			
	LIB	TEXT	LIB	TEXT	LIST	ADD	DEL	REP	DIR	ALL	SEL
RELOCATABLE CODE	X				X				X	X	X
	X		X			X				X	X
	X						X				X
	X		X					X			X
MACROS	X	X			X				X	X	X
	X	X	X	X		X				X	X
	X	X					X				X
	X	X	X	X				X			X
TEXT	X				X				X	X	X
		X			X					X	
	X	X	X			X				X	X
	X	X		X		X				X	
	X						X				X
		X					X			ILLEGAL	
	X		X					X			X
	X			X				X		X	
		X	X	X				X		ILLEGAL	

As indicated by the chart:

Files may contain relocatable code, macros, or text.

The primary and secondary files may be libraries or text.

List, Add, Delete, and Replace are the file functions.

Each function has a legal scope, that is, it may act upon the directory of the file, selective members, or the entire file.

Not all combinations of these variables are legal. For instance, the second line of TEXT files indicates that listing the directory or selected members is illegal if the primary file is a text file.



Manual Name \_\_\_\_\_

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