CA Librarian®

ELIPS Command Reference Guide

r4.3

Second Edition

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Documentation Changes

The following documentation updates have been in the second edition of this documentation:

- Access Product Functions from Main Entry Panel (see page 11)—Clarified that the member name in the NEWNAME field must not contain spaces, commas, parentheses, or slashes.
- RENAME Function (R)—Change a Library Member Name (see page 33)—Clarified that a new member name must must not contain spaces, slashes, parentheses, or commas.
- Rules and Restrictions for Move or Copy Operations (see page 67)—Added notes acknowledging possible limitations when ISPF services are invoked for a TO data set that is a PDS.

Contents

Chapter 1: Introduction

This guide contains the information required to use the ELIPS interface between CA Librarian and ISPF/PDF. ELIPS (Extended Librarian Interactive Productivity Services) is an ISPF/PDF application that provides complete CA Librarian access and update capabilities to the online user. ELIPS lets you edit, browse, rename, copy, print, view, or delete CA Librarian members, as well as change member control and history information, easily and immediately.

This section contains the following topics:

What ELIPS Does

ELIPS provides the ability to BROWSE (B), COPY (C), PRINT (P), EDIT (E), RENAME (R), DELETE (D), VIEW (V), change member control information (I) for an CA Librarian member, select an archive level from a list (A), and validate JCL using the JCLVAL (J) option. These functions are available on the ELIPS main entry panel and selection lists. Multiple functions are available on the selection lists. The LONG selection list can be specially tailored for your installation.

ELIPS immediately updates a member whenever the SAVE or END command is issued and data has been changed, unless you are in VIEW (V) mode; then even if the data has been changed, it does *not* update the member. In case of abnormal interruption, ELIPS fully supports automatic EDIT recovery.

HELP Facility

ELIPS has a complete on-line tutorial which can be displayed by entering *HELP* on the command line. Information on individual functions can be accessed by paging through the on-line tutorial. To exit the HELP facility, enter *END*.

Note: The JCLVAL (J) option is an additional, extra-cost option.

Library Naming Conventions

The conventional name of the CA Librarian library consists of two portions, the high-order portion having only one field, either that of the user-prefix qualifier, or that of the installation default name, and the low-order portion having one or more fields.

Specify any CA Librarian library name that adheres to these conventions in the PROJECT/GROUP/TYPE fields of the ELIPS Main Entry Panel. If your CA Librarian library name does not adhere to these conventions, you must specify it in the OTHER LIBRARIAN DSNAME field of that panel.

ELIPS User Exits

ELIPS exits are installation defined and written routines which are given control at certain points in ELIPS processing. The exit can validate and modify certain information, and also tell ELIPS to discontinue processing. The exit routines are defined during installation of ELIPS.

Note: For more information on the exits, see the *System Services Guide*.

Chapter 2: Main Entry Panel

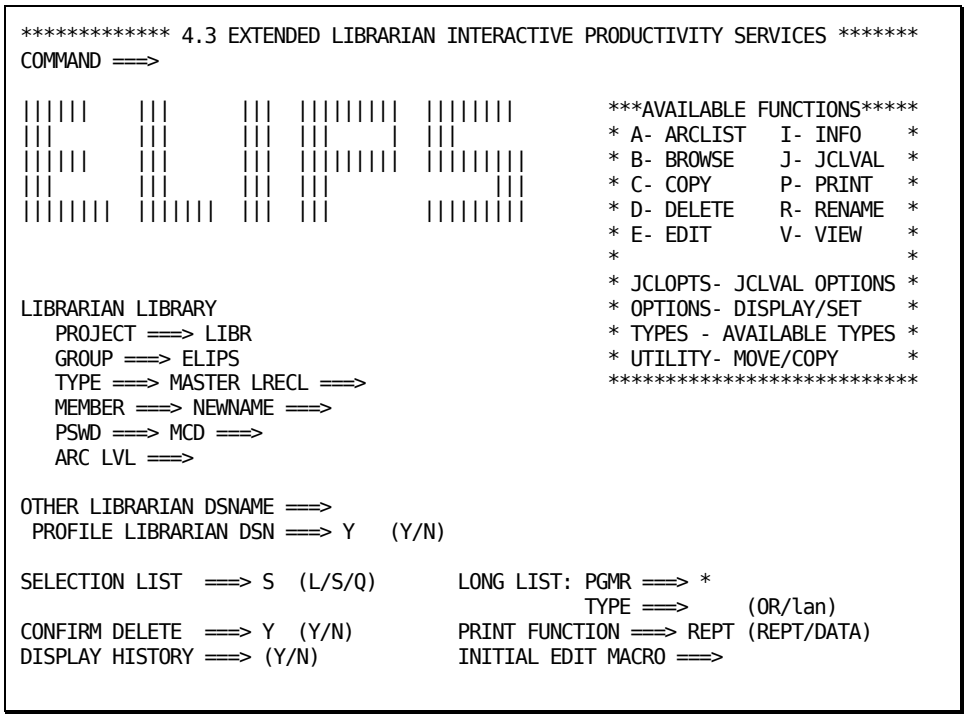
Access Product Functions from Main Entry Panel

The ELIPS entry panel appears when you select ELIPS from the ISPF primary option menu.

You must specify the name of the CA Librarian library that is the target of any ELIPS function commands on the ELIPS entry panel. For this reason, you must come back to the entry panel to change the name of the target CA Librarian library.

You can obtain a member selection list from this panel or specify the name of a CA Librarian member as the target of ELIPS function commands.

The *confirm delete* setting, the *display history* setting, and the initial edit macro name are specified *only* in the entry panel. To change them during an ELIPS session, you must return to this panel.



To invoke an ELIPS functions, enter the first letter of the function on the command line. Most of these functions require that you specify a member name. Available functions are as follows:

A (ARCLIST)

Displays a line describing each level of an archived member.

B (BROWSE)

Displays the contents of an CA Librarian member.

C (COPY)

Makes a copy of a member and assigns to it the name provided in the NEWNAME field.

D (DELETE)

Deletes the member from the CA Librarian library.

E (EDIT)

Invokes the ISPF editor for the member selected.

I (INFO)

Requests the display of a member's control and history information for examination and update. You can also add history records using the INFO function.

J (JCLVAL)

Invokes the CA JCL validation product for the member.

JCLO (JCLOPTS)

Displays the options for the CA JCL validation product.

LI (LIST)

Displays a LONG or SHORT format selection list, depending on what was specified.

OPT (OPTIONS)

Displays CA Librarian library defaults, ELIPS installation options, and user options.

P (PRINT)

Prints a listing of the selected member to the SYSOUT class and DEST defined on the ELIPS OPTIONS panel.

REC (RECOVER)

Queries the Edit Recovery Table for pending entries.

R (RENAME)

Renames the member to the name supplied in the NEWNAME field.

V (VIEW)

Invokes the ISPF editor for the member selected, but does not allow updates to the member.

TY (TYPES)

Displays the member type/language table generated during ELIPS installation. Member types, CA Librarian language code, and sequence field starting column and length are all shown on a scrollable display.

UT (UTILITY)

Copies members to and from CA Librarian libraries and moves members from sequential or partitioned data sets to CA Librarian libraries.

You can specify commands and parameters on this line. When parameters accompany a command name, the command parameters override what is specified in the other fields of the entry panel.

```
COMMAND ===> E TESTMOD ARC(-1)
```

The data set name is taken from the OTHER LIBRARIAN DSNAME field, if this field is not blank. Otherwise, the PROJECT/GROUP/TYPE fields are used for the data set name.

When you do *not* specify a command but supply a member name, the command defaults to EDIT. Specifying a wildcard or a blank member name defaults to LIST. To obtain a member selection list, enter only the CA Librarian library name. The LONG member selection list is the default if the SELECTION LIST field is blank.

PROJECT and GROUP and TYPE

Specifies the three levels of qualification of an CA Librarian library name, when the format of the CA Librarian library data set name is as follows:

project.group.type

You must fill in all three of these fields to specify an CA Librarian library.

MEMBER

Specifies the CA Librarian member to process (or a wildcard specification for a selection list). You can use the MEMBER field when the data set name is specified in the OTHER field and you supply any of the NEWNAME, PSWD, or ARC LVL fields.

Otherwise, you must specify the member name or wildcard name for a selection list in the OTHER LIBRARIAN DSNAME field, enclosed in parentheses immediately after the data set name.

When you specify the member name in the OTHER field, you can also specify archive level selection by enclosing it in parentheses immediately following the member name. You must still specify NEWNAME and PSWD in their respective fields.

```
OTHER LIBRARIAN DSNAME ==> ELIPS.DEMO.DSN2(TESTMOD(-1))
```

If the COMMAND field is blank and the MEMBER field is either blank or a wildcard specification, a member selection list is generated.

LRECL

Specifies the member record length to use when creating a new member with the EDIT function on a wide record master file. Specify a value from 10 to 255.

NEWNAME

Specifies the name of the new member created by the COPY function or the new name for a member being renamed. The new name must not contain spaces, commas, parentheses, or slashes.

PSWD

Specifies the CA Librarian password for the existing member. If your site requires it, you must enter the password to access a member. Otherwise, you can enter the password as a check to be sure you are naming the correct member.

If a password is required for a member of an CA Librarian library that you specified in the OTHER LIBRARIAN DSNAME field, you must specify that password in the PSWD field.

When you supply an incorrect password, even if not required, ELIPS does not process the member.

ARC LVL

Specifies the archive level of the member to process. Specify the archive level in one of three ways:

- Date and time. The syntax is as follows:

  yymmddhhmmss

  yy

  Specifies the year.

  mm

  Specifies the month (default is 12).

  dd

  Specifies the day (default is 31).

  hh

  Specifies the hour (default is 24).

mm

Specifies the minute default is 59).

ss

Specifies the second (default is 59).

Note: If pairs of digits are omitted from the right, the default occurs.

- Absolute level number. The syntax is as follows:

  L*nnn*

  nnn

  Specifies the level number, with 0 as the first version created.

  ```
  ARC LVL ===> L3
  ```

- Relative level number. The syntax is as follows:

  -n

  -n

  Specifies the number, with -0 as the current version.

  ```
  ARC LVL ===> -1
  ```

OTHER LIBRARIAN DSNAME

Defines the name of an CA Librarian library whose name does not follow the three-qualifier format or specifies the name of any CA Librarian library to override without disturbing the entry in the PROJECT, GROUP, and TYPE fields.

You can enter a member name or a wildcard specification in the OTHER LIBRARIAN DSNAME field using the following format:

`dsn.of.library(`*memname*`)`

Note: If the member name is omitted, a selection list is generated.

Enter a fully qualified data set name in the OTHER LIBRARIAN DSNAME field by surrounding it with single quotation marks.

If you omit the single quotes, your TSO prefix is attached to the beginning of the data set name as a high-order qualifier.

PROFILE LIBRARIAN DSN

Determines whether the dataset name specified for OTHER LIBRARIAN DSNAME is saved in the profile and used when you enter ELIPS. **Y** uses the name saved in the file so you don't have to enter it. **N** clears the name from the profile settings so you can enter a different one.

SELECTION LIST

Specifies how you want to view the selection list. If you do not enter a function on the command line and do not specify a member name, specify a wildcard.

L

Specifies a LONG format member selection list.

S

Specifies a SHORT format member selection list, showing member names only.

Q

Specifies a SHORT format member selection list, showing member names only.

PGMR

For the LONG member selection list, displays only members with the specified programmer name in their control information.

You can specify the PGMR field as the name to find on the CA Librarian members or use a wildcard. If the field is left blank or contains only an asterisk (*), then the PGMR field is ignored when the selection list displays.

TYPE

For the LONG member selection list only, specifies the type of member to display on the selection list (for example COBOL, ASM, or CLIST). A table (generated at ELIPS installation) translates the type specified here into a CA-Librarian language code.

You can only use those types that were specified during ELIPS installation. ELIPS translates the member type into an CA Librarian language code for the search.

When you enter a member type that is not on the Type/Language Table, a panel displays showing all of the acceptable member types. The user must then enter a correct member type to proceed. You can enter an asterisk or blank field (meaning all types) as anything can be valid in the TYPE field.

You can specify a one- to three- character CA Librarian language code in the TYPE field by preceding the language code with a slash. For example, specifying /ASM displays only those members with an CA Librarian language code of ASM.

CONFIRM DELETE

Specifies whether you want to be prompted with a CONFIRM DELETE screen whenever a DELETE is to take place.

If you specify **Y**, a panel displays every time you request the DELETE function, showing the pertinent control information for the member to delete. You can cancel the DELETE at this point.

You can only specify the option to display a CONFIRM DELETE screen on the main entry panel.

PRINT FUNCTION

Indicates whether the member listing report or only the member data prints. DATA prints only FBA members (those with 1 in column one of record one) using the FBA character controls.

DISPLAY HISTORY

Specifies whether the member's history records display automatically for BROWSE and EDIT functions. EDIT also requires the EDIT profile to have NOTES ON. You can set NOTES OFF and DISPLAY HISTORY Y to have the records displayed for BROWSE only.

You can only specify the DISPLAY HISTORY option on the main entry panel.

INITIAL EDIT MACRO

Specifies the name of the optional initial macro to use when the PDF editor is invoked for the ELIPS EDIT function. An initial macro is executed after data is read, but before the data displays for edit.

Wildcard Specification

When you request a member selection list, you can specify the member name field and the PGMR name field to select a subset of the members on the CA Librarian library.

There are two ways of using the wildcard specification:

abc*

Placing an asterisk at the end of the specification selects all members whose name or programmer field start with the characters preceding the asterisk.

a*c

Placing an asterisk in a character position selects all members whose name or programmer field are three characters long and contain a in the first position and c in the third position. You can use as many asterisks as needed. Each one stands for one character.

You can use these two types together. For example, specifying *a**c** selects members that have an “a” as the first character, anything as the second character, anything as the third character, “c” as the fourth character, and any number of unspecified characters after that.

Chapter 3: ELIPS Functions

ELIPS provides many functions for the CA Librarian library and a number of ELIPS specific commands.

This section contains the following topics:

Commands and Subcommands

ELIPS Function Commands

These commands are available from the ELIPS entry panel, various selection lists, or from the EDIT function. The following tables list the available commands and the points where you can use them. Both the shortest and longest form of the command are shown. Any abbreviated form is accepted where characters are omitted from the right. For selection lists, you can specify single character commands as a line selection. Otherwise, you must enter the command on the command line.

Shortest Form	Longest Form
A	ARCLIST
B	BROWSE
C	COPY
D	DELETE
E	EDIT
I	INFO
LI	LIST
OPT	OPTIONS
P	PRINT
REC	RECOVER
R	RENAME
S	SELECT
TY	TYPES

Shortest Form	Longest Form
UT	UTILITY
V	VIEW

Note: SELECT is an alias for EDIT.

Selection List Commands

The following are ELIPS selection list commands:

Shortest Form	Longest Form
AL	ALTERNATE
BO	BOTTOM
L	LOCATE
LON	LONG
REF	REFRESH
SH	SHORT
T	TOP

Note: The REFRESH command is *not* available from EDIT MOVE/COPY selection lists.

Edit Subcommands

The following are ELIPS edit subcommands:

- HIST
- INCALL
- MENU
- INC
- INFO
- NEWVERS

Note: These subcommands are available in addition to PDF editor commands.

Editor Commands with Special ELIPS Features

The following are Editor commands with special ELIPS features:

- COPY
- CREATE
- EDIT
- END
- MOVE
- PACK
- REPLACE
- SAVE
- VIEW

Note the following:

- EDIT, when specified in the ELIPS EDIT mode, invokes ELIPS again, letting you edit another member without ending the current editing session.
- COPY, CREATE, and REPLACE support CA Librarian libraries, -INC expansion, and SLAT variable substitution.
- MOVE supports LONG and SHORT format selection lists.
- VIEW, when specified in the ELIPS EDIT/VIEW mode, invokes ELIPS again, letting you view another member without ending the current editing session.

Command Syntax for ELIPS Functions

You can specify ELIPS function commands from the ELIPS entry panel, LONG, SHORT or ARCHIVE selection lists.

The ELIPS entry panel lets you enter the command with or without parameters. When you specify a parameter, the command line overrides any parameter values that are filled in on the panel. Otherwise, ELIPS takes the command parameter values from the appropriate fields on the entry panel.

When you do not specify the command in the entry panel, the command defaults to either:

- EDIT when you specify a member name
- LIST when the member name is a WILDCARD name or blank

The ELIPS selection lists let you enter the command in the command line or as a line selection in the list. Since the line selection panel field is a one character field, you can use only commands that have one character short formats as line selections.

The command syntax for ELIPS functions are as follows, for all commands except LIST:
command member PSWD(*pswd*) ARC(*lvl*) NEW(*newname*)

command

ELIPS function command.

member

Name of the member to act on.

pswd

Member's present password (where appropriate).

lvl

Archive level of the member to access.

newname

New name for RENAME and COPY commands.

Note: You can access members whose names contain lower case characters *only* as a line in the body of a member selection list. Member names entered on the main panel or on a selection list command line are converted to upper case before processing.

The command syntax for the ELIPS LIST command is as follows:
LIST *wildcard* LANG(*lan*) TYPE(*type*) PGMR(*pgmr*)

wildcard

The wildcard name the LIST is generated for. If the list is to include all members, use * (asterisk) as the name.

lan

The three-character CA Librarian language code for the LIST command.

type

The member TYPE for the LIST command. You can specify the TYPE as /lan instead of using the LANG keyword. If you specify both LANG and TYPE, then TYPE is used.

pgmr

The programmer name or wildcard programmer name for the LIST command.

ARCLIST Function (A)

The ARCLIST function displays an ARCHIVE LEVEL selection list for the member for which it is specified.

The ARCLIST function command generates a selection list for an archived CA Librarian member showing all available archive levels. The valid line selection commands for this list are:

- B (BROWSE)
- C (COPY)
- E (EDIT)
- P (PRINT)
- V (VIEW)

Note: You can also use S for EDIT.

Any other ELIPS function command is allowed as a command line specification, except for RENAME, DELETE, and INFO.

You can use the LOCATE command to position to the absolute level number, shown as the first field in the display.

```
*************** ELIPS 4.1 ARCHIVE SELECT FUNCTION PANEL 0 ******** ROW 1 OF 7

COMMAND ===> ALT                                              SCROLL ===> PAGE
****************************************** 0 MEMBERS ACCESSED, 0 UPDATED **
*  LIBR.ELIPSD1.MAST --- MEMBER(ARCMOD) STATUS(T)-------------------------*
*******************************************************************************
   LEVEL PSWD VERSION DATE NEWNAME LANG DESCRIPTION               RCDS
 b 00006      900915114239         COB  MODULE TO BE CALLED       00006
   00005      900911100029         COB  MODULE TO BE CALLED       00005
 c 00004      900910143217 ARCMOD1 COB  MODULE TO BE CALLED       00005
   00003      900910143040         COB  MODULE TO BE CALLED       00005
   00002      900910142916         COB  MODULE TO BE CALLED       00005
   00001      900910142837         COB  MODULE TO BE CALLED       00005
   00000      900910142512         COB  MODULE TO BE CALLED       00005
************************** END OF SELECTION LIST ****************************
```

Shown is the archive selection list for member ARCMOD. The current level is selected for BROWSE and the -2 archive level is copied to create member ARCMOD1. The ALT command is also entered to change to an alternate display.

```
*************** ELIPS 4.1 ARCHIVE SELECT FUNCTION ALT 1 ******** MEMBER COPIED

COMMAND ===>                                                  SCROLL ===> PAGE
****************************************** 0 MEMBERS ACCESSED, 0 UPDATED **
*  LIBR.ELIPSD1.MAST --- MEMBER(ARCMOD) STATUS(T)-------------------------*
*******************************************************************************
   LEVEL PSWD VERSION DATE NEWNAME PROGRAMMER          SS SEQ        RCDS
   00006      900915114239 *BROWSED 00  MODULE TO BE CALLED          00006
   00005      900911100729          00  MODULE TO BE CALLED          00005
   00006      900915114239 *COPIED  00  MODULE TO BE CALLED          00005
   00003      900910143040          00  MODULE TO BE CALLED          00005
   00002      900910142916          00  MODULE TO BE CALLED          00005
   00001      900910142837         COB  MODULE TO BE CALLED          00005
   00000      900910142512         COB  MODULE TO BE CALLED          00005
************************** END OF SELECTION LIST ****************************
```

Afterwards, the alternate display shows the two levels that were selected. RENAME, DELETE and INFO are not valid as line selections because these are member level functions. You cannot rename or delete a specific archive level, and cannot modify control information for a previous level.

Pressing the END key or entering END on the command line returns you to the panel where the ARCHIVE LEVEL selection list was invoked.

BROWSE Function (B)

The ELIPS BROWSE function lets you display the selected member in read-only mode, using the ISPF BROWSE service. You can browse all members in a CA Librarian library, including printer members.

COPY Function (C)

The ELIPS COPY function lets you copy all levels of a member to a new member in the same CA Librarian library.

You can select an archive level of the member to copy, copying the selected level and all available older levels to the new member.

Specify the COPY function by selecting **C** as an option on the main panel, or by entering **C** as the select character on a LONG member selection list or ARCHIVE LEVEL selection function and entering the name of the new member in the NEWNAME field.

You can also specify **COPY** on the command line.

This function has the following format:

```
C memname [PSWD(pswd)] [ARC(level)] NEW(newname)
```

memname

The name of the member to copy.

pswd

The members's password (your site might require a password).

level

The archive level, specified as an absolute or relative number, or a date and time.

newname

The name of the new member.

DELETE Function (D)

The ELIPS DELETE function lets you delete a member from a CA Librarian library. A CONFIRM DELETE panel displays unless you chose, by an option on the main panel, not to confirm the delete.

```
*******************************************************************************
*                                ELIPS                                        *
*                            CONFIRM DELETE                                   *
*                                                                             *
*  MASTER:         LIBR.ELIPSD1.MAST                                          *
*  MEMBER:         TESTMOD                                                    *
*  DESCRIPTION:    SAMPLE ASSEMBLER PGM                                       *
*  PROGRAMMER:     prgrmr2                                                    *
*  LAST UPDATED:   94/06/05 15:54:22                                          *
*  ADDED DATE:     93/09/09                                                   *
*  LANGUAGE:       ASM                                                        *
*                                                                             *
*  THIS LIBRARIAN MEMBER WILL BE DELETED IF THE ENTER KEY IS PRESSED,         *
*  AND KEPT IF THE END COMMAND IS ISSUED.                                     *
*                                                                             *
*  PRESS  ENTER OR END                                                        *
*                                                                             *
*******************************************************************************
```

Note: ARCLVL (archive level) is not allowed on a DELETE function selection since the entire member is always deleted in all its levels. Similarly, you cannot delete only one of the levels displayed on the Archive Level Selection List. You can specify DELETE with a D on the main panel or on the selection list next to the member.

You can also specify DELETE on the command line of any selection list.

This function has the following format:

D *memname* [PSWD(*pswd*)]

memname

The name of the member to delete.

pswd

The four-character member password (your site might require a password).

EDIT Function (E)

The EDIT function lets you edit a CA Librarian member, using the ISPF editor. The additional capabilities of this function are:

- Creation of a new member.
- Immediate update on SAVE or END, if data was changed.
- The ability to display the contents of included members on the screen.

- History record display.
- Control information change on update.
- The NEWVERS command to specify the version integrity option.

For further information on the ELIPS EDIT function and the commands and options available with it, see the “Edit Function: Editing a Member” chapter in this guide.

INFO Function (I)

The ELIPS INFO function displays the current control information for an CA Librarian member and lets you modify it. Updating an archived member creates a new archive level. Normal CA Librarian validity rules apply to the information supplied in the INFO panel and the ELIPS installation requirements are observed for updates (see the section on the OPTIONS command).

```
COMMAND ===>
*********************ELIPS 4.3 CURRENT MEMBER INFORMATION**********************
*  DSNAME: LIBR.ELIPSD1.MAST                              MEMBER: TESTMOD     *
*  LEVELS AVAILABLE: 012  DATE ADDED: 93/09/09   LAST UPDATED: 94/06/03 14:46 *
*  PASSWORD     ===> ZXQL  LANGUAGE ===> ASM  TYPE      ===> ASM              *
*  ARCHIVE      ===> Y     STATUS   ===> T    MCD       ===>                  *
*  DESCRIPTION  ===> SAMPLE ASSEMBLER PGM                                     *
*  PROGRAMMER   ===> LIBDEM2                    LOCKED  ===N (Y/N)            *
*  ARCLR DATE   ===>              (yymmddhhmmss)                              *
*  DELETE HIST? ===>   (Y/N)                                                  *
*  SEQ. OPT     ===> R (R/N)                                                  *
*        COLUMN ===> 73  LENGTH ===> 8  INCR ===> 0010  STARTNUM ===> 0010    *
*  HISTORY DATA:                                                             *
*  ===>                                                                      *
*  ===>                                                                      *
*  ===>                                                                      *
*  ===>                                                                      *
*  ===>                                                                      *
*  ENTER SAVE TO UPDATE THE MEMBER                                           *
*  ENTER END TO EXIT AND UPDATE IF CHANGED                                   *
*  ENTER CANCEL TO EXIT AND NOT UPDATE                                       *
*****************************************************************************
```

DSNAME

The selected CA Librarian library. Not modifiable.

MEMBER

The selected member. Not modifiable.

LEVELS AVAILABLE

The number of archived levels for the member. This field is blank for a non-archived member and is not modifiable.

DATE ADDED

The date the member was created. Not modifiable.

LAST UPDATED

The date and time that the member was last updated. Not modifiable.

PASSWORD

The current CA Librarian password for the member. If this field is changed, an INFO update changes the password accordingly.

Passwords can be any four-character alphanumeric string. Special characters are not permitted. CA Librarian assigns a password consisting of four random alphabetic characters to each module that is added to the master file.

You cannot assign the following CA Librarian reserved words as passwords:

- EXEC
- LIST
- NONE
- NOPC
- NOPR
- PERM
- TEMP
- TEST

LANGUAGE

The current CA Librarian language code for the member.

TYPE

The corresponding TYPE (see TYPES command). If the LANG is not defined in the TYPE table, the TYPE field is blank. You can specify either field. In case of conflict, the LANG field overrides the TYPE specification.

ARCHIVE

The current CA Librarian archive status for the member (Y, N, or S). You can modify this field to activate, deactivate, or suspend archiving for the member.

- If you specify **Y**, the member becomes archived.
- If you specify **N**, all levels, except the current level, are deleted and the member becomes a non-archived member.
- If you specify **S**, subsequent updates replace the level selected for updating, delete more recently created levels (if any), and retain older levels (if any).

LOCKED

For wide record masters. Specify Y or N to lock or unlock the member.

DESCRIPTION

The current CA Librarian description for the member. This is a modifiable 30-character field and can be required as an ELIPS site option (see the section on the OPTIONS command).

STARTNUM

The starting sequence number.

HISTORY DATA

The area for entering up to five CA Librarian HISTORY records that are added to the member upon update.

The SAVE command entered on the INFO panel updates the member (if there were changes) and then redisplays the INFO panel. END SAVEs then EXITs the function.

The CANCEL command EXITs the function without update. You can delete all the old history records for the member by entering a Y next to DELETE HIST? If your site requires a programmer name or description and the required field is blank, you must enter the necessary information before the update is done.

A member Type Error Display appears if you enter a member type on the member information update panel that is not found on the Type/Language Table. This error display shows all of the acceptable member types. You must then enter a correct member type to proceed. You can enter a language type, using the /lan format.

LIST Function (LI)

The LIST command, when entered from the ELIPS entry panel, displays a LONG or SHORT format selection list.

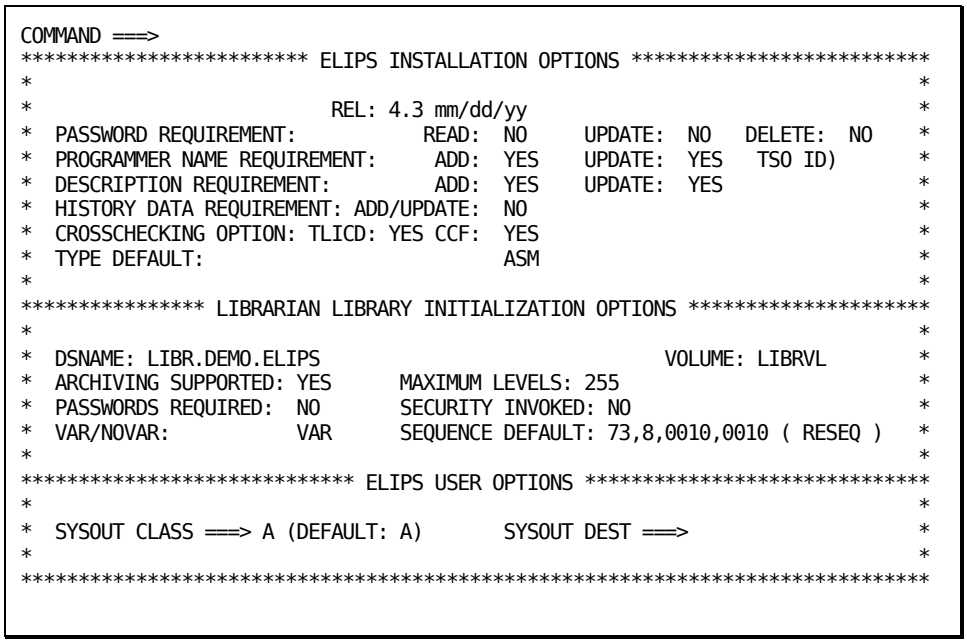
When you enter the LIST command from the LONG format list, the list only regenerates if you specified a different wildcard name, PGMR, or TYPE.

When you enter the LIST command from the SHORT format list, the list regenerates if you specified a different wildcard name. You cannot specify the PGMR and TYPE for the short list.

When you enter the LIST command from the ARCHIVE selection list, the long or short format list (whichever is currently set) regenerates. If you specify a wildcard name, it is used.

OPTIONS Function (OPT)

This function displays both the initialization options for the specified CA Librarian library, the current site options for ELIPS, and the user's SYSOUT options for the ELIPS PRINT command.



```
COMMAND ===>
************************ ELIPS INSTALLATION OPTIONS ***************************
*                                                                              *
*                           REL: 4.3 mm/dd/yy                                  *
*  PASSWORD REQUIREMENT:           READ:  NO     UPDATE:  NO   DELETE:  NO     *
*  PROGRAMMER NAME REQUIREMENT:     ADD:  YES    UPDATE:  YES   TSO ID)       *
*  DESCRIPTION REQUIREMENT:         ADD:  YES    UPDATE:  YES                 *
*  HISTORY DATA REQUIREMENT: ADD/UPDATE:  NO                                  *
*  CROSSCHECKING OPTION: TLICD: YES CCF:  YES                                 *
*  TYPE DEFAULT:                          ASM                                 *
*                                                                              *
***************** LIBRARIAN LIBRARY INITIALIZATION OPTIONS ********************
*                                                                              *
*  DSNAME: LIBR.DEMO.ELIPS                              VOLUME: LIBRVL         *
*  ARCHIVING SUPPORTED: YES      MAXIMUM LEVELS: 255                          *
*  PASSWORDS REQUIRED:  NO       SECURITY INVOKED: NO                         *
*  VAR/NOVAR:           VAR      SEQUENCE DEFAULT: 73,8,0010,0010 ( RESEQ )   *
*                                                                              *
***************************** ELIPS USER OPTIONS ******************************
*                                                                              *
*  SYSOUT CLASS ===> A (DEFAULT: A)       SYSOUT DEST ===>                     *
*                                                                              *
********************************************************************************
```

The OPTIONS function panel consists of three sections:

- ELIPS site options
- CA Librarian library initialization options
- ELIPS user options

The first line in the ELIPS INSTALLATION OPTIONS section shows the CA Librarian release number and release date.

Note: You must specify an CA Librarian library data set name for this function in either the PROJECT, LIBRARY, TYPE fields, or the OTHER MASTER DSNAME field.

PASSWORD REQUIREMENT

Indicates whether the CA Librarian password is required for READ, UPDATE or DELETE functions. If the CA Librarian library requires passwords as an initialization option, then passwords are required, regardless of the ELIPS installation option.

PROGRAMMER NAME REQUIREMENT

Indicates whether the programmer name is required for ADD or UPDATE. (TSO ID) additionally indicates that ELIPS always uses the TSO user ID as the programmer name, regardless of what is supplied.

DESCRIPTION REQUIREMENT

Indicates whether you must supply the CA Librarian description for ADD or UPDATE.

HISTORY DATA REQUIREMENT

Indicates whether you must supply CA Librarian history records for adds and updates to members.

CROSSCHECKING OPTIONS

Indicate whether any are in effect. If CCF is YES, then access to LIB/CCF controlled production CA Librarian libraries is restricted according to the rules the LIB/CCF administrator specified. If TLICD is YES, then no member currently outstanding through the LIBGET command can be updated using any ELIPS function.

TYPE

DEFAULT is the ELIPS TYPE (see the TYPES command) that is used when the CA Librarian member to edit either does not have an CA Librarian LANG or the LANG is not defined in the ELIPS TYPE table. The TYPE determines the edit PROFILE that is used.

LIBRARIAN LIBRARY INITIALIZATION OPTIONS

Shown for the CA Librarian library that is currently specified on the ELIPS entry panel.

DSNAME

Identifies the CA Librarian library.

VOLUME

The volume where that library resides.

ARCHIVING SUPPORTED

Indicates whether the library supports archiving. If YES, then MAXIMUM LEVELS is the maximum number of archived levels that any one member can have. When a member that has reached this maximum number is updated, the oldest level is removed.

PASSWORDS REQUIRED

Indicates whether passwords are required to access members in this library using any ELIPS function except INFO and LIST.

SECURITY INVOKED

Indicates whether CA Librarian library security is activated. NO indicates that no security is activated. YES indicates that the AllFusion CA-Librarian management code (MCD) is activated. EXT indicates that an external security system is activated.

VAR/NOVAR

Indicates whether automatic Source-Load audit trail variable substitution takes place for batch CA Librarian and LIB/AM executions.

SEQUENCE DEFAULT

Shows the sequence number column, sequence field length, increment, starting number, and RESEQ/NORESEQ option that is used when the language TYPE is defined to use the library default. This is the sequence value that ELIPS generates, based on the TYPE entry for the language in the ELIPS TYPES table, when no sequence value is supplied.

The ELIPS USER OPTIONS section lets you modify the SYSOUT class and destination for the PRINT function.

The default CLASS is A. There is no default value for destination (DEST). These options remain in effect, once set, until changed again.

Note: An asterisk (*) is not a valid SYSOUT CLASS for the ELIPS PRINT function.

PRINT Function (P)

The ELIPS PRINT function prints a listing of the selected member by dynamically allocating SYSOUT based on the SYSOUT CLASS and DEST defined on the ELIPS OPTIONS panel. The print listing's job name is the same as the TSO user ID and is routed to the JES spool and printed when the user ID logs off.

You can specify REPT or DATA on the ELIPS entry panel.

REPT prints the member's control information, history records, and data records.

DATA prints only the member's data records. When DATA is specified, if the first character of the first record is the FBA top-of-page carriage control character (1), the member is printed as format FBA. Otherwise, the data records are printed single spaced.

Note the following:

- The DATA and REPT options are not applicable to printer members, which are printed as is. If the first character of the first record is the FBA top-of-page carriage control character (1), then the member is printed as format FBA. Otherwise the member is printed as format FBM.
- You can install ELIPS to optionally support a SYSOUT program that can affect the disposition of the PRINT listing.
- The JES2 TSUCLASS OUTPUT initialization statement must specify YES for the ELIPS PRINT function to allocate SYSOUT.

RECOVER Function (REC)

The ELIPS RECOVER command queries the edit recovery table for pending entries.

During ELIPS EDIT, when the edit profile specifies RECOVERY ON, the changes made to the edit data between SAVES are automatically journaled by the editor in a recovery backup data set.

Should the edit session end abnormally, then the edit session can be recovered upon re-entering ELIPS.

When you enter ELIPS, the recovery table is automatically queried for pending entries. If there is more than one pending entry (or the user deferred the recovery), then the RECOVER command recovers the next entry, without having to exit ELIPS.

```
COMMAND ===>
                  ****************************************
                  *ELIPS EDIT FUNCTION: AUTOMATIC RECOVERY*
                  ****************************************
The following LIBRARIAN member was being edited by the ELIPS edit function
when the session was abnormally terminated:

LIBRARY:  LIBR.BRANTON.TESTMAST
MEMBER:   COBMOD
VERSION:  900424141752
STATUS:   TEST

PASSWORD ===>
MCD      ===>

Instructions:
   Press ENTER key to continue editing the module, or
   Enter END command to return to the ELIPS entry panel or selection list,
   Enter DEFER command to defer recovery of the member, or
   Enter CANCEL command to cancel recovery of member.
   Enter TOP command to defer recovery of this member and redisplay
            recoveries pending starting at the first one
```

The LIBRARY, MEMBER, VERSION and STATUS are non-modifiable fields that identify the member at the current position in the recovery table. This is the edit session that is recovered when you press ENTER. The PASSWORD field is for entering that information, if required.

You can decide to recover the edit session, defer the recovery to a later time, or cancel it altogether.

RENAME Function (R)—Change a Library Member Name

Use the ELIPS RENAME function to change the name of a member on the CA Librarian library.

To rename a member from a LONG member selection list (or from a main panel), type **R** in the function field next to a member, type the password (if necessary) in the password field, and type the new name in the NEWNAME field.

You can rename any number of CA Librarian members on a LONG selection list at once.

In a SHORT or QUICK selection list, you must specify RENAME syntax on the command line. Commands that need a NEWNAME specification, such as RENAME and COPY, must be put entirely on the command line of the SHORT or QUICK member selection lists. You cannot split a command between the list and the command line.

To rename a member from a selection list (using the command line), use the following syntax:

RENAME *memname* [PSWD(*pswd*)] NEW(*newname*)

memname

Specifies the member to rename.

pswd

Specifies the password (if your site requires it).

newname

Specifies the new member name. Member names must not begin with an asterisk (*) and must not contain spaces, slashes, parentheses, or commas. The product converts lowercase letters to uppercase.

SELECT Function (S)

Specifying SELECT invokes the EDIT function. It is the same as EDIT.

TYPES Function (TY)

The TYPES function displays the Type/Language Table that was generated during ELIPS installation. The allowable member types, the corresponding CA Librarian language codes, and the sequence field starting column and length are all shown on a scrollable display.

The following table is an alphabetical list of member types with their language codes, the kind of data they ordinarily contain, and the location of CA Librarian sequence numbers in their records. To be sure of the member types, language codes, and sequence number defaults that your own site installed with ELIPS, you can issue the TYpes command.

An asterisk in the sequence number field indicates that the location and length of the sequence number for that member type defaults to the values assigned to the CA Librarian library at initialization time.

Member Type	Land Code	Contents of Data Set	Default Sequence Number Field
ASM	ASM	Assembler Statements	73 - 80
BASIC	BAS	BASIC Statements	*
CLIST	CMD	TSO Commands	*
CNTL	JCL	JCL and SYSIN for SUBMIT commands	73 - 80
COBOL	COB	ANS COBOL Statements	01 - 06
DATA	DAT	Uppercase Data	81 - 06
FORT	FOR	FORTRAN Statements	73 - 80
FORTGI	FRG	FORTRAN GI Statements	73 - 80
FORTH	FRH	FORTRAN H Statements	73 - 80
GIS	GIS	Generalized Information System (GIS) Routines	*
GOFORT	GOF	FORTRAN Code and Go Statments	73 - 80
MACRO	MAC	Macros	73 - 80
PL1	PL1	PL/1 Checkout or PL/1 Optimizing Compiler Statements	73 - 80
RPG	RPG	Report Program Generator Statements	75 - 06
TEXT	TXT	Uppercase and Lowercase Text	81 - 06
VSBASIC	VSB	VSBASIC Statements	*

Note: An asterisk in the sequence number field indicates that the location and length of the sequence number for that member type defaults to the values assigned to the CA Librarian library at initialization time.

UTILITY Function (UT)

The move/copy utility moves data from a partitioned or sequential data set to a CA Librarian library, or copies data from an CA Librarian library to another or to a partitioned or sequential data set.

You can select the move/copy utility by either:

- Selecting option L.U from the primary option menu,
- Selecting option U from the CA Librarian selection menu, or
- Selecting option UT from the ELIPS entry panel.

For details on using the UTILITY Function, see the “ELIPS Utilities” chapter in this guide.

VIEW Function (V)

The VIEW function works just like an edit session except that no updates take place.

You can use VIEW mode to make changes to a member; then create a new member that contains those changes. The member you accessed in VIEW mode is not updated when you end the session.

Chapter 4: List Function and Selection Lists

The LIST function generates a member selection list based on the SELECTION LIST specification on the ELIPS entry panel:

LONG

Displays all index information for each member.

SHORT

Displays only member names.

QUICK

Displays the SHORT list using the quick-path option.

The LIST is generated using the wildcard name, if supplied. Additionally, you can use the PGMR and TYPE specification to further limit the LONG list on the ELIPS entry panel.

The selection lists let you enter a line selection or command line selection from the ELIPS entry panel.

You can specify some functions by placing the first letter of the function name next to the name of the member to process where it appears in the list. You can specify any function on the command line if it follows syntax rules. Certain commands are for the member selection list itself, to view the top or bottom of a list, to position the list to a particular member, or to view an alternate version of the list as it might be installed at your site.

These selection list commands, described in the following section, are as follows:

Shortest Form	Longest Form
AL	ALTERNATE
BO	BOTTOM
L	LOCATE
LON	LONG
REF	REFRESH
SH	SHORT
T	TOP

This section contains the following topics:

Selection List Commands

The following are the selection list commands.

ALTERNATE (AL)

Displays alternate selection list panels for the LONG selection list and the Archive Selection list. There can be any number of alternate panels defined by your site. The syntax of the ALTERNATE command is:

```
AL   [ <+1>]
     [<n > ]
     [<-n> ]
     [<+n> ]
     [<T > ]
     [<B > ]
```

+1

(Default) selects the next alternate panel.

n

The absolute panel number. The number zero (0) represents the initial panel for the selection list.

-n

Selects an alternate panel whose number is *n* less than that currently viewed

+n

Selects an alternate panel whose number is *n* greater than that currently viewed or the maximum defined by your site, whichever is less.

T

The same as ALT 0 , that is, move to the top or initial selection list panel.

B

Moves to the last (highest number) selection list panel.

BOTTOM (BO)

Displays the last line of the list.

LOCATE (L)

In a LONG or SHORT format selection list, moves the display to the line containing the member specified. If the name is not found, the line before the line where the member would be shown if present displays as the first line. You only have to specify the first part of a member name to position the display to the right alphabetical location.

For an Archive Level selection list, position the display to the level specified.

LONG (LON)

The LONG command switches from the SHORT format selection list to the LONG format selection list without returning to the ELIPS entry panel (or EDIT extended MOVE/COPY panel).

REFRESH (REF)

Regenerates the selection list being viewed.

SHORT (SH)

The SHORT command switches from the LONG format selection list to the SHORT format selection list without returning to the ELIPS entry panel (or EDIT extended MOVE/COPY panel).

TOP (T)

Displays the first screenful of members in the list, for lists that take up more than one screen.

LONG Selection List

The LONG list shows information about each member on the CA Librarian library: The member name, the date of last update, the language code, the description, the number of levels, and the status. Your site can have alternate LONG list displays, formatted differently or showing different information. To display these alternate panels, use the ALT command on the command line.

To process a member on the LONG list, place the first character of the function you want in front of the member name.

```
***********  ELIPS 4.3 LONG SELECTION LIST PANEL 0  ***************** ROW 1
COMMAND ===> ALT                                          SCROLL ===> PAGE
*********************************************0 MEMBERS ACCESSED, B UPDA
*  LIBR.BRANTON.TESTMAST --- WILDCARD(CC*) PGMR(BRANTON) TYPE() ----------
*******************************************************************************
   MEMBER   PSWD VERSION DATE NEWNAME    LANG       DESCRIPTION
   CC            931121000000           DAT  TEST DATA MEMBER
   CCC           930327161607           BAL  TEST PROGRAM
 E CCFSCAN       930328103102           BAL  SPECIAL LIBRSCAN PROGRAM
   CCFSLATS      930415104418           ASM  LIBRSCAN FMT SLATS/DO NOT MOD
***************************** END OF SELECTION LIST **********************
```

Shown is a line selection from the ELIPS LONG selection list. E (or S) selects member CCFSCAN to edit. You can select multiple members at one time from the list and the command line. The commands are processed first from the command line then the selection list.

```
*********** ELIPS 4.3 LONG SELECTION LIST PANEL 1 *****************  ROW 1
COMMAND ===> ALT                                          SCROLL ===> PAGE
*********************************************0 MEMBERS ACCESSED, 0 UPDA
*  LIBR.BRANTON.TESTMAST --- WILDCARD(CC*) PGMR(BRANTON) TYPE() ----------
*******************************************************************************
   MEMBER   PSWD VERSION DATE NEWNAME RCDS   BLKS  ADDED    PROGRAMMER
B  CC            931121000000         00002  001   86/11/21 BRANTON
   CCC           930327161607         00054  004   86/11/11 BRANTON
   CCFSCAN       93B512153311 *EDIT-U 00587  017   87/01/17 BRANTON
P  CCFSLATS      930415104418         00011  002   87/B4/15 BRANTON
***************************** END OF SELECTION LIST **********************
```

The ALT command changed the list to an alternate format and CCFSCAN is marked as being EDITed and UPDATED. Member CC was selected to BROWSE and member CCFSLATS was selected to PRINT. The ALT command is once again entered to change the list to the second alternate format.

```
 MEMBER   PSWD VERSION DATE  NEWNAME LEVEL RCDS SS       LNG LVLS STAT
          DESCRIPTION                    PROGRAMMER
--------------------------------------------------------------------------------
  CC           931121000000 *BROWSED       00002 N 73 8 DAT       TEST
                            TEST DATA MEMBER               BRADLEY
  CCC          93032716160           00004 00B54 N 81 6 BAL   004 TEST
                            TEST PROGRAM                   BRADLEY
  CCFSCAN      9301316102   *EDIT-U  00015 00001 N 81 6 BAL   016 TEST
                            SPECIAL LIBRSCAN PROGRAM       BRADLEY
  CCFSLATS     93041510418  *PRINTED 00002 00011 R 81 6 ASM   003 TEST
                            LIBRSCAN FMT SLATS/DO NOT MOD. BRADLEY
```

The last alternate display shows the three members that were accessed. The list regenerates only when the END, LIST, SHORT or REFRESH commands are used.

You can select an archive level other than the current one by overtyping the date in the UPDATED field with the date when the desired level was current. You can omit an even number of characters from the right hand end of the new date specification. If you do, CA Librarian assumes the highest possible values. See the *Batch Command Reference Guide* for a complete discussion of specifying an archive level by date and time.

You can specify any command suitable for a selection list command line after COMMAND. They can be the ELIPS functions described in the Command Syntax for ELIPS Functions section in the “ELIPS Functions” chapter, the selection list commands described in the Selection List Commands sections at the beginning of this chapter, or the END command to return to the main panel.

A running total is kept for you of the number of members processed and updated in the current session. The name of the CA Librarian library displayed on the selection list is shown, as is the programmer name if one was specified, and any wildcard specification.

Then each member is listed, followed by a blank field for you to enter a password if your site requires it for any processing.

If you need to find out the password, display the CONTROL INFORMATION screen by specifying I in front of the member name.

The UPDATED field accesses a previous archive level of a listed member for any appropriate function.

SHORT/QUICK Selection List

A SHORT/QUICK format selection list shows only the member names and allows you to supply only the password when making a line selection. If you need to specify a newname or archive level, use the command line to specify the entire command.

```
*************** ELIPS 4.3 SHORT SELECTION LIST ********************** ROW 1
COMMAND ===>                                                SCROLL ===> PAGE
*************************************************0 MEMBERS ACCESSED, 0 UPDA
*  LIBR.BRADLEY.TESTMAST --- WILDCARD(CC*) -----------------------------
*************************************************************************
   MEMBER  PSWD   MEMBER   PSWD   MEMBER   PSWD   MEMBER   PSWD   MEMBER
   CC           D CCC             CCFSCAN         CCFSLATS
```

The SHORT format list lets you select any number of line selections and command line selections at one time and processes them first from the command line, then the selection list.

The list is regenerated only when END, LIST, LONG or REFRESH commands are used. A selection from the SHORT list can access only the current level of each member. You can make an archive level specification by entering the command on the command line. You can specify any ELIPS function by entering the first letter of the function next to the member name, except the COPY and RENAME functions, which require a NEWNAME specification. You can enter these functions (and any of the others) on the command line. See the section on command line syntax for details.

For access to back levels of a member, specify A next to the member name.

Note: Depending on site options chosen with respect to security and performance considerations, the QUICK (Q) option for member selection list type might not be shown on the main panel.

Chapter 5: Edit Function-Editing a Member

The ELIPS EDIT function lets you edit an existing member or create a new member (by specifying a member name that does not exist). The EDIT function presents an CA Librarian member using the PDF editor, displaying a full screen of data, and letting you edit any data that is displayed.

You can scroll the data in any direction (up, down, left or right) by a half or full page, or by any number of lines (or columns) by means of the scroll commands.

You can use line commands directly on the affected lines to perform line-oriented editing functions. For instance, you can enter **D** on a line to delete it or **R** to repeat it. You can perform commands on several lines at the same time. Enter general primary commands in the command field on line two of the display to edit operations.

For detailed instructions on the editor, enter **HELP** on the command line of the ELIPS EDIT screen to view the tutorial.

During an EDIT session, you can copy or move data either out of or into the member you are editing.

The ELIPS VIEW function is similar to the EDIT function for existing members. The difference is that no updates take place for the member when you end the session. You can use this functionality to make changes to the member; then create or replace a member with the changes you made. The member you accessed in VIEW mode is not updated with the changes.

This section contains the following topics:

ELIPS Edit Commands

ELIPS provides the following ELIPS edit commands:

- HIST
- INCALL
- MENU
- INC

- INFO
- NEWVERS

The following sections describe each command.

HIST Command

The ELIPS edit HIST command lets you display the HISTORY RECORDS for the member currently edited.

The HISTORY RECORDS appear as NOTE lines at the top of the current display. These lines are not part of the edit data. You can remove them using the RESET command.

This command has the following format:

```
HIST [level]
```

level

Specifies is the archive level in date/time format (*yymmddhhmmss)* for which the History Record display is to start. Specify a level only if you want to display the history records for an archive level that is more recent than the level being edited.

INC Command

The ELIPS edit INC command lets you expand a specific CA Librarian -INC statement that is contained in the edit data.

The included member's records appear as NOTE lines. These lines are *not* part of the edit data. You can remove them using the RESET command.

This command has the following format:

```
INC [linenum] [NEST ] [ ARC(level)]
              [NESTL ]
```

linenum

Required when the -INC statement is not the first line of the lines currently being displayed or the cursor is not positioned to the line containing the -INC statement.

NEST

Expands nested -INC statements.

NESTL

Does not expand nested -INC statements. Additional NOTE lines identify the position and member names of the nested -INC statements.

If you specify neither NEST nor NESTL, then nested -INC statements are not expanded.

ARC(*level*)

The archive level date/time for included members in the format *yymmddhhmmss*.

INCALL Command

The ELIPS edit INCALL command lets you expand all CA Librarian -INC statements that are contained in the edit data.

The included member's records appear as NOTE lines. These lines are not part of the edit data. You can remove them using the RESET command.

Nested -INC statements are not expanded as a default.

This command has the following format:

```
INCALL [NEST ] [ARC(level)]
       [NESTL]
```

NEST

Expands nested -INC statements.

ARC(*level*)

Specifies the archive level date/time for included members in the form *yymmddhhmmss.*

NESTL

Expands and identifies nested -INC statements.

Note:

- If you do not specify NEST or NESTL, then nested -INC statements are not expanded.
- If you do not specify the ARC option, the current level of included members display.
- Included members must reside on the same library.

  The ELIPS EDIT INFO command lets you display and modify the control information for the member currently being edited. When the control information panel is modified, the modifications are applied when the next update function is performed (either through the END or SAVE command). See the section on the INFO command for more details.

MENU Command

The ELIPS edit MENU command lets you END the EDIT function and return directly to the ELIPS entry panel, skipping any selection lists.

NEWVERS Command

Specify ON or OFF. Valid only for archived members. The ELIPS edit NEWVERS command allows the setting of the NEWVERS status.

The NEWVERS status indicates to ELIPS EDIT whether the SAVE command creates a new version (archive level).

- ON - Creates a new version for each SAVE issued during the edit session (provided the SAVE detected changed data).
- OFF - Creates only one version, regardless of how many SAVEs were issued during the edit session. Use NEWVERS OFF when you want to SAVE data changes frequently, but do not want to create multiple versions of the member during the edit session.

The NEWVERS setting affects only the SAVE command, not the END command, and is maintained from session to session until you change it.

Editor Commands

ELIPS also provides special features for the following editor commands.

- COPY
- CREATE
- EDIT
- END
- JCLVAL
- MOVE
- PACK
- REPLACE
- SAVE

Note the following:

- EDIT invokes ELIPS or ELIPS EDIT, recursively.
- COPY/CREATE/REPLACE support CA Librarian libraries, -INC expansion, and VARS (Source-Load Audit Trail) substitution.
- MOVE supports LONG and SHORT format selection lists.
- COPY supports LONG, SHORT, and quick format selection lists.

COPY Command

The ELIPS edit COPY command lets you copy a CA Librarian or PDS member, sequential data set, or a subset thereof, into the edit data. Use the A (after) or B (before) line commands or AFTER/BEFORE .label on the command line to specify where the data is copied.

This command has the following format:

```
COPY member [{AFTER } .label ] [PSWD(pswd)] [ARC(arc)]
            [{BEFORE}        ]
```

All parameters are optional.

member

The member name to copy from the CA Librarian library currently being edited.

AFTER | BEFORE

The position of the new data relative to the insertion point, before or after the point.

label

The line as the insertion point where the data is copied.

PSWD

Specifies the CA Librarian password for the member being copied.

ARC

Specifies the archive level if other than current. You can specify the archive level as:

- *yymmddhhmmss* (date/time),
- *-nnn* (relative level) or
- *Lnnn* (absolute level).

Important! Copying a large member into a smaller member can cause a B37 abend and loss of the data changes made to the smaller member before the copy operation. To prevent this loss of data, copy the larger member to a new member using ELIPS Utility. Then copy the smaller member into the new member.

```
------------------------------ELIPS EDIT - COPY-----------------------------
COMMAND ===>
"CURRENT" DATA SET: LIBR.LIBCCF.TEST2(TESTMEMB)

FROM ISPF OR LIBRARIAN LIBRARY:
    PROJECT ===> LIBR
    GROUP   ===> LIBCCF
    TYPE    ===> TEST2
    MEMBER  ===>                          EXPAND INCLUDES ===> NO
    PSWD    ===>                          MCD ===>
    ARC LVL ===>

FROM OTHER ISPF OR LIBRARIAN LIBRARY:
     DATA SET NAME ===>

LINE NUMBERS (Blank for ALL lines or when "EXPAND INCLUDES" = YES)
     FIRST LINE    ===>
     LAST LINE     ===>
     NUMBER TYPE   ===>   (R=RELATIVE, S=STD, C=COBOL, L=LIBRARIAN, D=DISPLAY

SELECTION LIST ===>   (L/S/Q)  LONG LIST:  PGMR ===>
                                           TYPE ===> (OR/lan)

Press ENTER key to copy.
Enter END command to cancel copy.
```

When the member name is not supplied, the extended copy panel displays. This panel identifies another CA Librarian library, a partitioned data set member, or a sequential data set. A CA Librarian library or PDS can be indicated in the PROJECT/GROUP/TYPE fields.

MEMBER

The name of the member to copy. If you specify blank or a wildcard name, then a selection list displays.

EXPAND INCLUDES

Can be specified as YES or NO. NO is the default. If you specify YES, any CA Librarian -INC statements in the member being copied are expanded. When EXPAND INCLUDES is YES, you cannot specify a FIRST and LAST line number.

DATA SET NAME

The data set name and member name can also be supplied in the OTHER field. Or, the data set name can be supplied in the OTHER field and the member name in the MEMBER field if any one of the PSWD, MCD or ARC LVL fields is supplied.

FIRST LINE and LAST LINE and NUMBER TYPE

When you want to copy a range of lines into the material you are editing, you can specify a FIRST line number, a LAST line number, and a NUMBER TYPE. You cannot use these fields when EXPAND INCLUDES is YES. The NUMBER TYPE can be RELATIVE, STANDARD or COBOL for PDSs, CA Librarian sequence number field, or DISPLAY.

When DISPLAY is selected as the NUMBER TYPE, the member where lines are copied from displays. You can use the C line command or CC block copy line commands to select a line or range of lines to copy.

```
***************** ELIPS 4.1 EDIT COPY MODULE DISPLAY ************
COMMAND ===>                                        SCROLL ===> PAGE
*********************************************************************
** LIBR.LIBCCF.TEST2($PROG) ***********************************
 LINE#- ....|....1....|....2....|....3....|....4....|....5....|.
 000001 000010  IDENTIFICATION DIVISION.
 000002 000020  PROGRAM-ID.      ALTINDEX.
 000011 000110  INPUT-OUTPUT SECTION.
 000012 000120  FILE-CONTROL.
 CC0013 000130      SELECT INDEXED-FILE
 CC0014 000140           ASSIGN TO DA-FILEMAST.
 000021 000210  DATA DIVISION.
 000022 000220  FILE SECTION.
```

Enter END after making the line selection to perform the copy. TOP, BOTTOM, CANCEL, and FINDSEL commands are also supported. FINDSEL positions to the NEXT line selection that you made.

For selection list generation, COPY also supports LONG, SHORT and QUICK lists. For LONG selection lists, PROGRAMMER or wildcard PROGRAMMER name and TYPE is supported.

CREATE Command

The ELIPS edit CREATE command lets you create a new CA Librarian member or partitioned data set member from the edit data or subset thereof.

Specify the lines to use for the new member by:

- Line commands C or CC or a range operand to copy lines.
- Line commands M or MM to move lines. (Copy, then delete.)
- Line labels, specified as command parameters.

This command has the following format:

`CREATE [`*`member`*`] [.`*`strt`*` .`*`end`*`]`

All parameters are optional.

member

The member name to create on the same CA Librarian library currently being edited. When you enter the CREATE command without a member name, the extended create panel displays.

.strt

Starting label name.

.end

Ending label name. See EDIT LABELS and RANGES.

```
---------------------- ELIPS EDIT - CREATE/REPLACE ----------------------------
COMMAND ===>
"CURRENT" DATA SET: LIBR.LIBCCF.TEST2($PROG)

TO ISPF OR LIBRARIAN LIBRARY:
   PROJECT  ===>
   GROUP    ===>
   TYPE     ===>
   MEMBER   ===>
   PSWD     ===>                  (LIBRARIAN MEMBER - IF REQUIRED)
   MCD      ===>                  (LIBRARIAN MEMBER - IF REQUIRED)

TO OTHER ISPF OR LIBRARIAN LIBRARY:
   DATA SET NAME  ===>

EXPAND INCLUDES   ===> NO         REPLACE SLAT VARS ===> NO

Press ENTER key to CREATE/REPLACE.
Enter END command to cancel.
```

You can specify a partitioned data set or CA Librarian library either in the PROJECT/GROUP/TYPE or OTHER field. If the member name is blank, the current member name is used. When you specify EXPAND INCLUDES as YES, any CA Librarian -INC statements are expanded from the CA Librarian library currently being edited as the member is created. When you specify REPLACE SLAT VARS as YES, any CA Librarian Source-Load Audit Trail variables contained in the data are replaced using the current member information.

EDIT Command

When an EDIT command is active, you can invoke EDIT again as a subfunction.

This command has the following format:

EDIT [*member*]

member

Specifies is the name of the member to edit. This member must reside in the same library that is used for the original EDIT session. When you do not specify a member, the ELIPS entry panel displays letting you perform any ELIPS function. When you specify a member, the EDIT panel displays. When EDIT is ended, the previous edit panel redisplays.

END Command

The ELIPS edit END command ends the EDIT session.

- If AUTOSAVE mode is ON, ELIPS SAVE is performed.
- If AUTOSAVE mode is OFF with the PROMPT option, you are prompted to enter the ELIPS SAVE or CANCEL command.
- If AUTOSAVE mode is OFF with the NOPROMPT option, CANCEL is performed.

JCLVAL Command

Invokes the CA JCL validation product for a specified member.

MOVE Command

The ELIPS edit MOVE command moves a partitioned data set member or sequential data set into the edit data. Move means that the data is copied and then the PDS member or sequential data set is deleted.

Use the A (After) or B (Before) line commands to specify where to place the data in the edit data or use *AFTER/BEFORE .label* on the command line.

To preserve the audit trail, MOVE is not supported from CA Librarian libraries.

This command has the following format:

```
MOVE [»AFTER Œ .label]
     [»BEFOREŒ       ]
```

All parameters are optional.

AFTER and BEFORE

The position of the new data relative to the insertion point, after or before that point.

.label

The line as the insertion point to move the data.

The extended move panel displays allowing for the specification of the data set name. If the data set is partitioned, a blank or WILDCARD member name displays a member selection list. You can also specify the format for the list on the panel as L for long or S for short.

REPLACE Command

The ELIPS edit REPLACE command lets you replace a CA Librarian member or partitioned data set member or a sequential data set with all or part of the data from the current edit session.

An existing CA Librarian member is updated (creating a new level, when archived). A nonexistent CA Librarian member is added. An existing PDS member is overwritten. A nonexistent PDS member is added.

A sequential data set must exist and is overwritten.

Specify the lines to use for the new member with:

- Line commands C or CC or else a range operand to copy lines.
- Line commands M or MM to move lines. (Copy, then delete.)
- Line labels, specified as command parameters.

This command has the following format:

```
REPLACE [member] [.strt .end] [PSWD(pswd)]
```

All parameters are optional.

member

The member name to create on the CA Librarian library currently being edited.

.strt

Starting label name.

.end

Ending label name. See the section on EDIT Labels and Ranges for a description of the use of line labels and ranges.

pswd

The CA Librarian password for the member to replace.

```
---------------------- ELIPS EDIT - CREATE/REPLACE ---------------------------
COMMAND ===>
"CURRENT" DATA SET: LIBR.LIBCCF.TEST2($PROG)

TO ISPF OR LIBRARIAN LIBRARY:
   PROJECT  ===>
   GROUP    ===>
   TYPE     ===>
   MEMBER   ===>
   PSWD     ===>                  (LIBRARIAN MEMBER - IF REQUIRED)
   MCD      ===>                  (LIBRARIAN MEMBER - IF REQUIRED)

TO OTHER ISPF OR LIBRARIAN LIBRARY:
   DATA SET NAME ===>

EXPAND INCLUDES  ===> NO          REPLACE SLAT VARS ===> NO

Press ENTER key to CREATE/REPLACE.
Enter END command to cancel.
```

When you enter the REPLACE command without a member name, the extended replace panel displays. You can specify a partitioned data set or CA Librarian library either in the PROJECT/GROUP/TYPE or OTHER field. If the member name is blank, the current member name is used. When you specify EXPAND INCLUDES as YES, any CA Librarian -INC statements are expanded from the CA Librarian library currently being edited as the member is replaced. When you specify REPLACE SLAT VARS as YES, any CA Librarian Source-Load Audit Trail variables contained in the data are replaced with the current member information.

SAVE Command

The ELIPS edit SAVE command immediately updates to the CA Librarian member that is currently being edited, provided that changes were made to the data or control information. The edit session remains active.

You can specify NOAUDIT as a parameter to the SAVE command, bypassing LIBAUDIT Comparator processing and replacing all lines in the member with the lines in the edit data, whether they were changed or not. Since the ten thousand record limit of the Comparator was raised to one million records, you rarely need to specify the NOAUDIT parameter.

ELIPS can display the CONTROL INFORMATION panel to prompt for any site required data (PROGRAMMER, DESCRIPTION, HISTORY, and so on), unless you used the INFO command to supply it before the SAVE.

SAVE observes the NEWVERS setting. When NEWVERS is ON, a new archive level is created. When NEWVERS is OFF, a new archive level is created for the first SAVE, then subsequent SAVEs replace that archive level. (Thus, only one archive level is produced no matter how many SAVE commands are issued).

Note: Although you can enter the PACK command during ELIPS edit, the editor function is disabled. CA Librarian automatically stores the data in the CA Librarian library in a more efficient packed format.

EDIT Labels and Ranges

You can assign symbolic labels to data lines on the edit display. Several of the edit primary commands (including CREATE, REPLACE, MOVE, and COPY) can later reference these labels.

A *label* is a character string that must begin with a period (.), followed by from one to five alphabetic characters. No numeric or special characters are allowed. Labels starting with *.z* are reserved for system use. Once assigned, the labels stay with the line, even if the line is moved.

The label is assigned by typing the valid character string into the line command field of the data line (the leftmost six columns of the edit data display).

```
000018 FILE-CONTROL.
.here      SELECT CD-FILE ASSIGN TO SYS005-S-SYSIN.
000020     SELECT PRT-FILE ASSIGN TO SYS006-S-SYSPRINT.
.there DATA DIVISION.
000022 FILE SECTION.
```

You can assign labels only to data lines. You cannot assign them to special lines (=COLS>, =MASK>, =TABS>, and so on).

Deleting Labels

You can remove a symbolic label from a data line by blanking out the label characters or overtyping with a new label and pressing Enter. You can also unassign a label by deleting the line containing that label or by using the RESET LABEL command.

Overtyping a label with a line command is acceptable and does not unassign the label. The label reappears at the completion of the command and remains displayed in the line command field.

You can move a label to another line by typing the same label on a new line. If you do not take explicit action to unassign the label, the label remains assigned until you terminate the edit.

System Labels

There are several special labels that the editor automatically assigns and maintains. They all begin with the letter Z. Labels beginning with the letter Z are reserved for editor use. You cannot assign them.

Unlike other labels, these system labels do *not* necessarily stay with the same line, but instead represent logical positions on the display.

The editor-assigned labels that you can use are:

.ZCSR

The data line where the cursor is currently positioned.

.ZFIRST

The first data line (relative line number 1). This can be abbreviated .ZF.

.ZLAST

The last data line. This can be abbreviated .ZL.

You can limit the range of lines certain edit commands process by entering a pair of labels indicating the first and last lines to process, then naming those labels in the range operand of the command. The specified command then processes whatever data is contained in the designated (inclusive) range.

For example, the following command finds the first *xxx* in the range of lines from the label .HERE to the end of the data.

```
COMMAND ===> find xxx .here .zl
```

The following command deletes all excluded lines in the range of lines from label .HERE to label .THERE (inclusive).

```
COMMAND ===> del all x .here .there
```

The range operand consists of two labels separated by a blank or comma. A single label is invalid. The labels can be any combination of system labels (.ZFIRST, .ZCSR, .ZLAST) or user labels.

The label representing the smaller relative line number is used as the start of the range and the label representing the larger relative line number is used as the end of the range, regardless of the order you specified.

The range operand applies to the primary edit commands FIND, LOCATE, CREATE, CHANGE, DELETE, REPLACE, EXCLUDE, SORT, RESET, and SUBMIT.

Control Information

You can enter the INFO command in the ELIPS edit function to display the CA Librarian control information for the member being edited and to change the information that is used when the member is updated. If PROGRAMMER, DESCRIPTION or HISTORY is required, this screen displays when the member is updated and you are required to enter the information.

Recovery

In case of abnormal termination of the EDIT session, recovery is the same as in ISPF. When you resume the session, the recovery table is automatically queried for pending entries. If RECOVERY is ON in your ISPF profile and you made changes to a member but did not save the changes, ELIPS displays a screen offering a number of recovery options. If there is more than one pending entry (or you deferred the recovery), you can use the RECOVER command to recover the next entry without having to exit ELIPS. See the section on the RECOVER function in the previous chapter for a description of this function and also for an illustration of the ELIPS Recovery screen.

Chapter 6: ISPF Commands

This chapter details ISPF commands of special importance to users.

This section contains the following topics:

ISPF Commands with Special Significance (see page 57)

ISPF Commands with Special Significance

This guide assumes you are already comfortable with ISPF. However, there are specific ISPF commands that have particular significance in ELIPS:

CANCEL

Ends INFO or an edit session without applying changes to the member.

Note: The SAVE command might have already updated the member.

END

Returns to the panel that invoked the present function and updates the member if data changes were made in EDIT or INFO.

KEYS

The KEYS command displays a panel containing PF key definitions and labels for both primary and alternate PF keys. The panel is modifiable. You can use it to change PF key assignment.

NOTE {ON|OFF}

Determines whether NOTE lines display.

PROFILE

In EDIT, displays the user's ISPF Edit Profile for the member type being edited. Standard ISPF Profile commands entered on the command line change the profile.

Make sure your Edit Profile is set correctly for the member type you are editing. ELIPS sets NUMBER according to the sequence numbers of the CA Librarian member and chooses a profile according to the CA Librarian member type. You must be sure that NOTE is on, CAPS are on or off, and so forth. Keep AUTONUM off.

RESET

Can erase a display of NOTE lines, including any history records or profile information.

Chapter 7: ELIPS Move/Copy Utility

The move/copy utility moves data from a partitioned or sequential data set to a CA Librarian library or copies data from a CA Librarian library to another, a partitioned, or sequential data set.

You can select the move/copy utility by selecting:

- Option *LU* from the primary option menu,
- Option *U* from the CA Librarian selection menu, or
- Option *UT* from the ELIPS entry panel.

This section contains the following topics:

ELIPS Copy Utility

The ELIPS Copy Utility Function makes a copy of the selected member in another library or sequential data set. If the member being copied is an archived CA Librarian member in a BDAM or VSAM master file and the TO master file is wide record (and NOAUTOARC is not specified when the master file is initialized), all archive levels are copied.

(The exception to this is if a specific archive level is specified. In that case, only that archive level is copied.) Otherwise only the current level is copied. If the FROM file is a CA Librarian library, the member control information is also copied. If a like-named member already exists on the TO library, that member is updated. If such a member does not exist, it is added.

The control information that is added or updated includes whatever is on the FROM member, including programmer, description, language, and module type.

If the member is added to the TO file, the history records from the FROM member are also copied. The date of the history records copied is the current date.

Note: The ELIPS Copy Utility does *not* function in the same way as the batch CA Librarian Utility Copy; nor does it function the same way as the CA Librarian routine called LIBRCOPY. The batch CA Librarian Utility Copy copies all archive levels of an archived module, and completely replaces like-named modules existing on the destination master file, unless specifically directed not to replace these modules. LIBRCOPY copies only the current archive level of a module, and updates like-named existing modules on the destination master file, instead of replacing them. For further information on batch CA Librarian Utility Copy and the LIBRCOPY program, see the *Systems Services Guide.*

ELIPS Move Utility

The ELIPS Move Utility function copies the selected member to the TO file and then deletes it from the FROM file. If the FROM file is a sequential data set, the data set is deleted. If the FROM file is a member of a PDS, the moved member is deleted, but the data set remains even though it can be empty as a result.

You can move members into a CA Librarian library from a PDS or sequential data set, but MOVE is not allowed from a CA Librarian library. This restriction prevents the un-intentional destruction of the CA Librarian audit trail.

Move/Copy Utility Panel

To perform a move or copy operation, fill in the fields on the first move/copy utility panel:

```
-------------- LIBRARIAN MOVE/COPY UTILITY ----------------
OPTION ===>

 C - COPY DATA SET, PARTITIONED OR LIBRARIAN MEMBER(S)
 M - MOVE DATA SET OR PARTITIONED MEMBER(S)

SPECIFY "FROM" DATA SET BELOW, THEN PRESS ENTER KEY

FROM LIBRARIAN OR ISPF LIBRARY:
 PROJECT ===>
 GROUP   ===>
 TYPE    ===>
 MEMBER  ===>          ("WC"/BLANK FOR MEMBER LIST, * FOR ALL
 PSWD    ===>          (IF REQUIRED)
 MCD     ===>          REPLACE SLAT VARS ===>
 ARC LVL ===>          EXPAND INCLUDES ===>

FROM OTHER LIBRARIAN, PARTITIONED OR SEQUENTIAL DATA SET:
 DATA SET NAME ===>

SELECTION LIST:
 FORMAT      ===>    (L/S/Q)   PROGRAMMER   ===>
 MODULE TYPE ===>    (OR /LAN)
```

Enter copy (C) or move (M) option in the option field.

Enter the FROM library information in the appropriate fields.

If the FROM data set is partitioned or a CA Librarian library, enter a member name as follows to:

- Move or copy a single member, enter the member name.
- Move or copy all members, enter * (asterisk).
- Request a member selection list, leave member name blank or enter a wildcard selection in the member name field.

Then press ENTER to display the second move/copy panel.

Entering Library or Data Set Information

An *ISPF library* is a cataloged partitioned data set with a three-level data set name of the form *project.group.type*.

To specify an ISPF library, enter the project, group, and type under the heading:

```
ISPF LIBRARY:
   PROJECT ===>
   GROUP   ===>
   TYPE    ===>
   MEMBER  ===>          (WC/Blank for member selection list)
```

Note: For convenience, you can enter any cataloged data set (LIBRARIAN, PDS or sequential) with a three level name in this fashion.

You can also enter a member name. If you leave the member name blank, a member selection list displays. You can make a wildcard member selection that results in a subset of the member selection list.

Enter **MEMBER** to specify all members.

Specifying Other CA Librarian, PDS, and Sequential Data Sets

When you want to specify a data set that is not a three-level data set name, enter it under this heading:

```
OTHER LIBRARIAN, PARTITIONED OR SEQUENTIAL DATA SET:
   DATA SET NAME ===>
```

You can enter any fully qualified data set name by enclosing it in apostrophes, for example:

```
DATA SET NAME ===> 'sys1.maclib'
```

If you omit the apostrophes, your TSO prefix is left-appended to the data set name.

Whenever you enter a data set name in the Other field, it is used, even if you also enter an ISPF library. You must specify the member name in the Other data set name field unless either the PSWD, MCD or ARC LVL fields are filled in. In this case, you can use the MEMBER field if the member name is not specified in the Other data set name.

A member name enclosed in parentheses can follow the data set name (in the apostrophes, if they are present) for CA Librarian and partitioned data sets. If you enter a CA Librarian or partitioned data set without a member name, a member selection list displays. You can enter a member name of asterisk (*) to specify **all members**, for example:

```
DATA SET NAME ===> 'sys1.maclib(_)'
```

You can also enter a wildcard selection as the member name that results in a subset of the member selection list. Wildcard selection uses an asterisk (*) to mask characters in the member name that are not checked for a match, for example:

```
DATA SET NAME ===> 'sys1.maclib(A_)'
```

This example would result in a member selection list of all member names having A as the first character.

Note:

- To access MSS (3850) virtual volumes that are not prestaged, you must have MOUNT authority.
- Non-CA Librarian multi-volume data sets are not supported.
- Partitioned data sets with record format FBS or VBS are not supported.
- Packing and unpacking of TSO data sets is not supported.
- MOVE is only supported from a TSO data set.
- REPLACE SLAT VARS is only supported to a TSO data set.
- TSO data set to TSO data set MOVE/COPY is not supported. At least one of the files must be a CA Librarian library.

MOVE/COPY Member Selection List

Besides the full and wildcard member selection list specification in the member name field, there are additional option fields to further tailor the selection list.

You must specify the format selection as L (LONG), S (SHORT), or Q (QUICK).

- The LONG selection list presents control information about each member of the CA Librarian or PDS library. If using the LONG format, you can also specify a programmer name (or wildcard programmer name selection) for both CA Librarian and PDS libraries. For CA Librarian libraries, you can further provide a module type (or CA Librarian LANG).
- The SHORT and QUICK format selection lists provide only the member names.

If the FROM data set is a CA Librarian or PDS data set and the member name is left blank or specified as a WILDCARD selection on the first panel, a member selection list displays after the second move/copy panel is filled in.

You can scroll through the list using the scroll commands (UP and DOWN) or the LOCATE command. You can select one or more members for processing by entering an S before the name of each member. You can also rename members in the TO data set (if CA Librarian or PDS) by entering a new name in the NEWNAME field on the long selection list. If the CA Librarian password is required for the FROM library, you can enter it in the PSWD field. If the CA Librarian password is required for the TO library, you can enter it in the PSWD2 field. If you are selecting an archived level other than the current one from the FROM CA Librarian library, you can overtype the UPDATED field to specify the level as *yymmddhhmmss*, L*n*, or -*n*.

To terminate the member list, enter the END command.

Important! If you have unprocessed requests when END is entered, they are ignored.

Specifying the TO Data Set

Enter the TO library or data set information in the appropriate fields of the TO data set panel.

- If the TO data set is partitioned or CA Librarian:
  - and the FROM data set is sequential, enter the TO member name.
  - and a FROM member name was entered, enter the TO member name only if you want to give the member a different name (renamed) in the TO data set.
  - and the FROM member field was set to asterisk, do not specify a TO member name. You are **not** allowed to rename members in this case.
  - and the FROM member field was left blank, do not specify a TO member name.

  You can specify new names on the member selection list.
- If the TO data set is CA Librarian, and the TO member exists, and the TO library is NOBYPP, then specify the password for the TO member.

Before proceeding, enter or verify the following options on the second move/copy utility panel.

- If the TO data set is partitioned or CA Librarian, then replace like-named members.
  - Enter **YES** to allow the replacement or update of members in the data set, depending on whether the Wide Record Conversion Utility Copy is being used. See the section on the Wide Record Conversion Utility Copy for more details.
  - Enter **NO** to prevent replacement of members in the data set.
- If the TO data set is sequential, in “To” data set disposition:
  - Enter **OLD** to overwrite existing data in the data set.
  - Enter **MOD** to add to the end of the data set.
- If the FROM data set is partitioned or sequential, in CA Librarian “number mode:”
  - Enter **OFF** to use external numbers (81,6,10,10).
  - Enter **COB** to use COBOL numbers (1,6,10,10).
  - Enter **STD** to use standard numbers (73,8,10,10).
  - Enter **DEF** to use the CA Librarian master file SEQ default.
- If you choose COB or STD, use the existing numbers for ADDing a new member:
  - Enter **YES** to use the existing sequence numbers.
  - Enter **NO** to generate new sequence numbers.

  Note: If you enter YES, be sure that the member has valid numbers in the field referenced by the number mode. Otherwise, an error condition results.

Member Lists

If the FROM data set is a CA Librarian or PDS data set and the member name is left blank or specified as a wildcard selection on the first panel, a member selection list displays after the second move/copy panel is filled in.

You can scroll through the list using the scroll commands (UP and DOWN) or the LOCATE command. You can select one or more members for processing by entering an S ahead of the member names.

You can also rename members in the TO data set (if CA Librarian or PDS) by entering a new name in the NEWNAME field of the long selection list.

- If the CA Librarian password is required for the FROM library, you can enter it in the PSWD field.
- If the CA Librarian password is required for the TO library, you can enter it in the PSWD2 field.
- If an archived level other than current is selected from the FROM CA Librarian library, you can overtype the UPDATED field to specify the level as *yymmddhhmmss*, L*n*, or -*n*.

To terminate the member list, enter **END**.

Important! If you have unprocessed requests when END is entered, they are ignored.

Scrolling Member Lists

Scrolling in member selection lists is done the same way as for ELIPS. To scroll down by the scroll amount, enter a DOWN command. To scroll up by the scroll amount, enter an UP command. The member selection list is never wider than 80 characters, so the LEFT and RIGHT scroll commands are disabled when a member list displays. You can change the scroll amount field at the top of the display as described in the tutorial section on scrolling. An additional method of scrolling is to use the LOCATE command.

The LOCATE command (which you can enter as LOC or L) scrolls to the member that you specify. If the specified name is not in the list, the data is scrolled to the member name that precedes the specified name (in alphabetic sequence).

The example that follows shows how to request a direct scroll to member FORA in the selection list.

```
COMMAND ===> loc fora
   NAME           VV.MM CREATED LAST MODIFIED
   ADRIOT         01.03 02/11/01 02/10/02 09
   BINARYB1       01.06 02/11/01 02/11/03 08
   BINARYB2       01.02 02/11/01 02/10/03 10
   CALLLIB        01.03 02/11/01 02/09/02 10
   COMMONB1       01.20 02/11/01 02/11/02 11
```

Selecting a Member: 'S' Line Command

You can select multiple members from the list by entering an S in front of each member name. It is usually convenient to use the NEW LINE key to position the cursor to the lines. The PSWD, PSWD2, UPDATED and NEWNAME fields are to the right of the member name. If these fields are not present on the short selection list, use the SELECT command to specify these parameters.

The example below shows how you could select members ADRIOT and BINARY02. BINARY02 to BINARY03 are also renamed.

```
COMMAND ===>
   NAME     NEWNAME   VV.MM CREATED  LAST MODIFIED
 s ADRIOT             01.03 02/11/01 02/10/02
   BINARY01           01.06 02/11/01 02/11/03
 s BINARY02 binary03  01.02 02/11/01 02/10/03
   CALLLIB            01.03 02/11/01 02/09/02
   COMMON1             01.20 02/11/01 02/11/02
```

Rules and Restrictions for Move or Copy Operations

At least one data set must be an CA Librarian library. The other can be an CA Librarian or partitioned data set member or a DASD-resident sequential data set.

Record format (non-CA Librarian data sets):

- Blocked or unblocked
- With or without printer control characters. If present, printer control characters are treated as data.
- Logical record length (LRECL) must be 80.

These rules apply for all move/copy operations:

- If the TO data set is sequential, its contents are replaced entirely (for disposition OLD) or added to (for disposition MOD).
- If the TO data set is one of the following, members are added or replaced, depending on whether like names already exist in the TO data set:
  - Partitioned
  - A BDAM or VSAM CA Librarian master file
  - A wide record master file (where the FROM data set is neither a BDAM nor VSAM master file)

  Replacement is subject to user control -- see panel description.
- If the TO data set is a wide record master file and the FROM data set is either a BDAM or VSAM master file, members are added if they do not already exist on the TO master file. If like-named members:
  - Exist on the TO master file, members are updated.
  - Do not exist on the TO master file, members are added.

  If archiving is turned:
  - On for the TO master file/member, all archive levels are copied to the TO master file.
  - Off for the TO master file/member, only the most recent archive level is copied from the FROM master file.

    Note: The most current archive level for the member on the TO master file is replaced, and older levels, if present, are retained. The exception to this is if a specific archive level is specified. In that case, only that archive level is copied.
- If the TO data set is a wide record master file and the FROM data set is either a BDAM or VSAM master file, added and updated dates and times of any archive levels copied are maintained across the copy. That is, the added and last-updated dates and times of the newly copied TO member reflects those for that particular level on the FROM master file.

- The data to move or copy is not renumbered or modified in any way except that CA Librarian -INCs can be expanded and SLAT (source load audit trail) variables can be replaced per the panel 1 option.
- ISPF library statistics that reflect the CA Librarian module control information are created for the module when copying to a partitioned data set.

  Note: ISPF services are invoked when the TO data set is a PDS, and results are subject to limitations of these services.
- When the FROM data set is CA Librarian, only the current archive level is copied (except in the case in which the FROM data set is either BDAM or VSAM **and** the TO data set is a wide record master file).

The characteristics of both data sets that participate in a move or copy operation must be as follows:

- Both data sets must exist and be cataloged. (The move/copy utility does not automatically allocate space for a new TO data set.)
- At least one data set must be an CA Librarian library, the other can be LIBRARIAN, partitioned, or a DASD-resident sequential data set.
- Non-CA Librarian data sets can be blocked or unblocked, but they must have a fixed record format with a logical record length of 80 (with or without printer control characters).

These rules also apply for all move/copy operations.

- If the TO data set is sequential, its contents are replaced entirely (for disposition OLD) or added to (for disposition MOD).
- If the TO data set is an CA Librarian library or partitioned data set, members are added or replaced (replaced if the TO dataset is not a wide record master file and the FROM data set is not a BDAM or VSAM master file; otherwise archive levels are updated per the description above) depending on whether like names already exist in the TO data set. (Replacement is subject to user control -- see panel description.)
- The data to move or copy is not renumbered or modified in any way.
- ISPF library statistics that reflect the CA Librarian member control information are created for the member when copying to a partitioned data set.

  Note: ISPF services are invoked when the TO data set is a PDS, and results are subject to limitations of these services.
- When the FROM data set is LIBRARIAN, only the current archive level is copied (except in the case in which the FROM data set is either BDAM or VSAM **and** the TO data set is a wide record master file).

Wide Record Conversion Utility Copy

The Wide Record Conversion Utility Copy copies data from a BDAM or VSAM CA Librarian master file to a wide record CA Librarian master file, while maintaining all archive levels (including added and last-updated dates and times) across the copy.

The Wide Record Conversion Utility Copy utilizes the same panels as the conventional ELIPS Utility Copy, which can be selected by specifying one of the following options:

- LU from the primary option menu
- U from the CA Librarian selection menu
- UT from the ELIPS entry panel

The functionality is transparent to the user. However, when either a BDAM or a VSAM master file member is copied to a wide record master file, the results differ from those of any other ELIPS Utility Copy scenario. These differences include the following:

- Multiple archive levels are added or copied to the TO data set when the Wide Record Conversion Utility is used. The exception to this is if a specific archive level is specified. In that case, only that archive level is copied. Otherwise only the most recent archive level is copied.
- The added and last-updated dates and times are maintained across the copy when the Wide Record Conversion Utility is used. Otherwise, the dates and times reflect the date and time of the copy.

Once the FROM data set (the BDAM or VSAM master file) has been specified, you will be prompted for the name of the TO data set (the wide record master file). Then you will be prompted as to whether to replace like-named members:

- Specifying NO does not attempt a copy if like-named members exist on the TO data set. (This is the same for all ELIPS Utility Copy processing.)
- Specifying YES causes the TO member to be updated with all archive levels of the member in the FROM master file, if archiving is turned on for the TO master file/member. (The exception to this is if a specific archive level is specified. In that case, only that archive level is copied.) If archiving is turned off, the most recent archive level in the TO master file is replaced by the most recent archive level in the FROM master file.

Messages

The totals at time of interrupt/completion have the following meanings:

TOTAL MEMBERS MOVED/COPIED

The total processed prior to interrupt.

TOTAL MEMBERS NOT REPLACED

The total members that could not be copied/moved because the member exists on the TO file and DO NOT REPLACE EXISTING MEMBERS was specified.

TOTAL MEMBERS EQUAL

The total members that were not copied due to the data being the same.

TOTAL PRINTER MEMBERS

The total number for which the copy failed because the members were printer members, with records 133 characters in length.

TOTAL EMPTY MEMBERS

The total number of members in the FROM file that contained no lines of data. No members were created on the TO file for these empty members.

TOTAL MEMBERS NOT AUTHORIZED

The total members that could not be copied/moved because of security protection.

TOTAL MEMBERS ENQUEUE FAILED

The total members that could not be copied/moved because they are either being edited or are outstanding through LIBGET.

TOTAL MEMBERS FAILED BY EXIT

The total members that could not be copied/moved because the installation's user exit failed the function.

TOTAL MEMBERS ATTEMPTED

The total number of members for which the move/copy was attempted.

TOTAL SEQUENCE ERRORS

The total number not having valid numbers for the MODE being used, when copying from a PDS.

TOTAL MEMBERS IN FILE

The total number of members in the FROM file that were selected for move/copy.

Note: Error messages identifying the member names are logged to the ISPF LOG data set.

Chapter 8: Invoking ELIPS from a Program or CLIST

This chapter explains how to invoke ELIPS and the utility from a CLIST or program. This chapter assumes a general understanding of ELIPS, the utility, ISPLINK, and CLIST processing.

This section contains the following topics:

Invoking ELIPS

You can invoke ELIPS from a program or CLIST using ISPLINK or the ISPEXEC SELECT service.

The format of the SELECT service for invoking ELIPS follows:

```
SELECT PGM(ELIPS) NEWAPPL(LIB@) NEWPOOL +
       PARM( +
            EDREC(query|noquery) +
            DSN('data.set.name') +
            CMD('ELIPS command') +
            MACRO(initmacro) +
            MCD(mcd) +
            RETURN +
            )
```

PGM(ELIPS), NEWAPPL(LIB@), and NEWPOOL keywords are required.

The PARM keyword and all ELIPS parameter keywords (EDREC, DSN, CMD, MACRO, MCD and RETURN) are optional. If you omit the PARM keyword, the ELIPS main panel displays.

ELIPS Parameter Keywords

The parameter keywords are:

EDREC

Indicates whether the ELIPS edit recovery table is checked for pending entries as ELIPS is entered.

QUERY

(Default.) Indicates that the ELIPS edit recovery table is checked for pending entries. If any are found, the ELIPS edit recovery panel displays.

NOQUERY

The check is not performed. Can be abbreviated to NO.

DSN

The default is the dsname currently in the PROJECT/GROUP/TYPE variables. The data set name is taken as is if enclosed in apostrophes. If you omit apostrophes, the specified dsname is prefixed with the TSO profile prefix value.

CMD

(Default = None) CMD specifies the ELIPS function command that is executed after EDREC processing instead of displaying the ELIPS entry panel. You must enclose the command in apostrophes if it contains blanks. If you do not specify CMD, the ELIPS entry panel displays.

Note: See the “ELIPS Functions” chapter in this guide for more command syntax information.

MACRO

(Default = None) Specifies the name of the initial EDIT macro to use. This is normally specified with an ELIPS EDIT function command.

MCD

If required, specify the management code for the master file. See the *Security Administration Guide* for details on the MCD.

RETURN

Specifies that ELIPS returns to the calling program or CLIST when the user ends the ELIPS function (specified by the CMD). If you do not specify RETURN, ELIPS returns to the ELIPS entry panel.

Note: Specifying RETURN with the LIST command ENDs ELIPS when the LIST ends, either through the END command or by specifying any ELIPS function command.

ELIPS Return Codes

The return codes are:

0

The function completed successfully (for example, if the function was EDIT, the member was saved, or if the function was DELETE, the member was deleted).

4

The EDIT function completed successfully, however, the member was not SAVED (that is, the files were equal or the EDIT was canceled).

14

For the BROWSE function, the member was not found.

16

For the LIST function, no members qualified.

20

The function did not complete due to an error.

Note: Unless the RETURN option is used, the return code only reflects the last function performed.

Invoking the Utility

You can invoke the utility from a program or CLIST using ISPLINK or the ISPEXEC SELECT service.

The format of the SELECT service for invoking the utility follows:

```
SELECT PGM(UTIMAIN) NEWAPPL(LIB@) NEWPOOL +
       PARM( +
            FDSN('data.set.name') +
            TDSN('data.set.name') +
            PSWD(psw1,psw2) +
            MCD(mcd1,mcd2) +
            CMD(c|m,ARC(arc level),OPT(options),VAR(yes|no),INC(yes|no)) +
            RETURN +
            )
```

PGM(UTIMAIN), NEWAPPL(LIB@), and NEWPOOL keywords are required. The PARM keyword and all utility parameter keywords (FDSN, TDSN, PSWD, MCD, CMD, ARC, OPT, VAR, INC and RETURN) are optional. If you omit the PARM keyword, the utility main panel displays.

UTIMAIN Parameter Keywords

The parameter keywords are:

FDSN

The data set name (including member name) as it would be entered on the utility FROM panel in the OTHER LIBRARIAN, PARTITIONED OR SEQUENTIAL DATA SET: field. If you omit the member name or specify a wildcard selection, a selection list displays. If you specify an asterisk (*) for the member name, all members are copied or moved.

TDSN

The data set name (including member name) as it would be entered on the utility TO panel in the OTHER LIBRARIAN, PARTITIONED OR SEQUENTIAL DATA SET: field.

PSWD

If required, supply the passwords for the FROM and TO members. For example, PSWD(ABCD,EFGH) or PSWD(ABCD) or PSWD(,EFGH).

MCD

If required, supply the management codes for the FROM and TO CA Librarian master files. See the *Security Administration Guide* for details on the MCD.

CMD

The ELIPS command is made up of both positional and keyword operands.

- {C|M}

  This operand is positional and mandatory. Specify C (copy) or M (move).

- ARC

  Optional keyword operand to specify the archive level. Code this operand as you would enter it on the utility FROM panel's ARC LVL field.

- OPT

  Optional keyword operand that represents the various fill-in fields found on both the utility FROM and TO panels. There are four sets of OPT keywords. You can code them in any order. You do not need to specify defaults. The four TO panel fields and associated options follow. The default options are underscored.
  `REPLACE LIKE-NAMED MEMBERS`

- REP or NOREP
- IF SEQ, TO D/S DISPOSITION
- OLD or MOD
- IF FROM PDS/SEQ. LIBRARIAN NUMBER
- OFF or COB or STD or DEF

- IF COB OR STD, USE EXISTING NUMS. FOR ADD
- USE or NOUSE

For example:

```
OPT(NOREP,STD)
```

This OPT parameter has the same effect as coding OPT(NOREP,OLD,STD,USE).

VAR

Represents the fill-in field REPLACE SLAT VARS found on the utility FROM panel. Code NO or YES (default is NO).

INC

Represents the fill-in field EXPAND INCLUDES found on the utility FROM panel. Code NO (the default) or YES.

RETURN

Specifies that UTIMAIN returns to the calling CLIST or program when the coded function is ended. When you do not specify RETURN, UTIMAIN returns to the utility entry panel.

The following is an example of invoking the utility from a CLIST through the ISPFEXEC SELECT service:

```
SELECT PGM(UTIMAIN) NEWAPPL(LIB@) NEWPOOL +
       PARM( +
            FDSN('LIBR.MMILLER.MAST2(ABC)') +
            TDSN(MMILLER.MAST(XYZ)) +
            PSWD(ABCD,WXYZ) +
            MCD(1234,5678) +
            CMD(C,ARC(900131102030),OPT(NOREP,MOD,COB,NOUSE),+
            VAR(YES),INC(NO)) +
            RETURN +
            )
```

UTIMAIN Return Codes

The return codes are:

0

Function completed successfully.

4

A warning or informational message ID exists in variable UTI@MSG (see the next section).

8

A severe error occurred and the message ID exists in variable UTI@MSG (see the next section).

UTIMAIN Variables

The message variable takes the form of *UTI@MSG*. The length is Length(8). This variable contains the eight-byte ID of the utility message. You can find the short and long associated message text in message library member UTI@0000. You can find this variable in the function's profile pool.

The following variables are available during and after a copy all function. You can find them in the function pool during an interrupt and in the profile pool when the mass copy completes.

Variable	Length	Description
TOTAL	Length(4)	Total members copied/moved.
TOTALNR	Length(4)	Total members not replaced.
TOTALEQ	Length(4)	Total members equal.
TOTALPR	Length(4)	Total printer members.
TOTALNL	Length(4)	Total empty members.
TOTALSQ	Length(4)	Total sequence error members.
TOTALNA	Length(4)	Total members not authorized.
TOTALENQ	Length(4)	Total members enqueue failed.
TOTALEXF	Length(4)	Total members failed by exit.
TOTALCT	Length(4)	Total members attempted.
TOTALNUM	Length(4)	Total members in file.

Accessing the Shared Pool Variables

Normally, when invoking ELIPS (or the utility) from a CLIST or a program, ELIPS must execute under the APPLID of LIB@, with NEWPOOL specified, so that ELIPS can be called recursively or the CLIST or program can be called from in ELIPS. Thus, NEWAPPL(LIB@) and NEWPOOL are specified when invoking ELIPS. However, when control is passed back to the CLIST or program, the ISR shared variable pool is in effect as it was before calling ELIPS and the ELIPS shared pool was deleted.

To maintain the ELIPS shared variable pool while invoking ELIPS from a CLIST, you can front-end your CLIST with another CLIST that calls your CLIST. In doing so, the front-end CLIST executes under the ISR APPLID. The called CLIST executes under the LIB@ APPLID, which maintains the LIB@ variable pool. Similarly, a program can call another program to maintain both variable pools.

For example, a front-end CLIST named CLIST1 can call CLIST2 as follows:

```
ISPEXEC CMD(CLIST2) APPL(LIB@) NEWPOOL
```

and CLIST2 can execute ELIPS and VGET variables from the LIB@ pool as follows:

```
ISPEXEC PGM(ELIPS)
ISPEXEC VGET(variable)
```

Once CLIST2 passes control back to CLIST1, CLIST1 has no access to the LIB@ shared pool that CLIST2 and ELIPS used.

Note: On invocation of ELIPS, variable contents are updated in the ISPF function pool. If a CLIST is invoked from within ELIPS edit which invokes ELIPS, the later invocation overwrites the updates to the ISPF function pool variables which were made during the prior invocation of ELIPS. Therefore, when the later ELIPS is exited, the prior ELIPS retrieves invalid values from the ISPF function pool. This produces erroneous results.

Appendix A: LIB/TSO Interface

LIB/TSO is the CA Librarian/TSO interface that consists of eleven TSO command processors that you can execute from a CLIST to process members on a CA Librarian master file.

This section contains the following topics:

Command Processors

The following table lists the command processors, their aliases, and their functions.

Command	Alias	Function
LIBADD	LIBA	Adds a new member to a master file.
LIBGET	LIBG	Copies a member from a master file into a TSO data set.
LIBSAVE	LIBS	Updates a member the LIBGET command retrieved.
LIBDLM	LIBD	Deletes a member from the master file.
LIBINDEX	LIBI	Indexes the members for a single programmer or an entire master file.
LIBLIST	LIBL	Displays information about a member.
LIBCTL	LIBC	Lists the installation requirements and defaults for LIB/TSO, and lists information about the members LIBGET copied.
LIBEXP	LIBX	Updates a member LIBGET retrieved or still residing on the master file.
LIBUTI	LIBU	Performs delete and rename functions on the TLICD. See the *Systems Services Guide* for information on maintaining the TLICD file.

Command	Alias	Function
LIBTLICD	None	A utility program that creates and maintains the LIB/TSO Control Directory (TLICD). See the *Systems Services Guide* for information on maintaining the TLICD file.

Note: Previous releases of the LIB/TSO interface included the LIBEDIT and LIBROWSE functions. The ELIPS interface supersedes these functions. They are no longer provided with the LIB/TSO interface.

Online Access through ISPF

You can invoke the LIB/TSO command processors using the ISPF/PDF panels. See the *System Services Guide* for information on online access to the command processors.

Command Processors and CLISTs

You can invoke LIB/TSO through command procedures (CLIST), where you can use both LIB/TSO and TSO commands. Syntax errors in the command operands terminate CLIST execution immediately, with no prompting for information.

Master File Names, Module Names and TSO Data Sets

A TSO data set can be sequential or partitioned.

A *partitioned data* set is divided into one or more members. A member name identifies each member. They can be referenced separately. However, the block size and record length must be the same for all members of a PDS. Any TSO data set, whether partitioned or sequential, must be cataloged before you can use it for CA Librarian processing.

Under the LIB/TSO system, the name of the CA Librarian master file consists of two portions. The leftmost or high-order portion must have only one field, that of the user-prefix qualifier or that of the site default name. The rightmost or low-order portion can have one or more fields.

The fields of a typical master file name consist of one- to eight-alphanumeric or national characters, beginning with an alphabetic or national character. The fields must be separated by periods. The total length of the master file name must not exceed 44 characters, including periods.

Specify any master file name that adheres to these conventions through the SOURCE option of the following commands:

- LIBADD
- LIBLIST
- LIBDLM
- LIBEXP
- LIBGET
- LIBINDEX

Important! If your master file name does not adhere to these conventions, then you must specify it through the DSSOURCE option.

TSO Data Set Naming Conventions

LIB/TSO provides default data set name processing that lets you add and retrieve modules using corresponding names. For this processing to work correctly, TSO data sets that are added to a master file or that hold modules being retrieved must have names that adhere to naming conventions. A TSO data set name consists of three fields:

- User-prefix
- User-supplied name (or middle level)
- Descriptive-qualifier

The fields must be separated by periods. The total length of the data set name must not exceed 44 characters, including the periods. If all three fields are specified, the name is referred to as a fully qualified data set name.

The user-prefix can be either the prefix the PROFILE command specified or the user ID. Your site determines which. The user-prefix is the leftmost field of a fully qualified data set name.

The user-supplied name, or middle level name, is one- to eight-alphanumeric or national characters long, beginning with an alphabetic or national character. The characters hyphen (-) and ampersand-zero (12-0 punch) are not accepted in a TSO data set name.

You must always specify the user-supplied name. However, depending on current defaults and requirements, you can omit the user-prefix and descriptive-qualifiers when referencing a TSO data set in a command, allowing LIB/ISPF-TSO to generate these values. At times, you might have to specify a fully qualified name.

The descriptive-qualifier is the rightmost field of a fully qualified data set name. For default name processing to work properly, the descriptive-qualifier of the TSO data set must match the CA Librarian module type. This is either the TYPE option specified with the command, the language code stored with the module as a result of the last LANG or TYPE option specified, or the site module type default.

For partitioned data sets, the name of the member is enclosed in parentheses at the end of the data set name. Member names can be up to eight characters long. The same character restrictions that apply to sequential data set names apply to member names.

Member names are not counted in the 44 character length limit of the partitioned data set name.

LIB/TSO Commands

LIB/TSO commands have the same syntax and data set naming conventions as other TSO commands. A LIB/TSO command consists of a command name and possibly one or more operands or options. The command performs the requested function. The operands provide the specific information required to control command execution.

If required operands are not specified, the command prompts for them. Other options, if not specified, default to preset values.

The syntax rules for LIB/TSO commands are as follows:

- At least one blank or a comma must separate the command name or alias from the first operand.
- Operands must be separated by a blank or a comma.
- An option can be truncated to the shortest form that does not cause ambiguity.
- You can enter commands and their options in either upper or lower case. TSO converts all terminal input to upper case before processing.

You can use commas or blanks as delimiters. The following sections use commas for readability.

LIBADD

The LIBADD command adds a new module to a CA Librarian master file. The module must exist as a cataloged sequential data set or as a member of a cataloged PDS.

This command has the following format:

```
{LIBADD}
{LIBA }
```

Required Operands

{*module-name*}
{*pds-name*(*member*)}

Options

```
[ GETVERS    ARC    CLEARID     ]
[                               ]
[[CHKINC  ] NOCHK               ]
[[NOCHKINC]                     ]
[                               ]
[ DESC('module-description')    ]
[                               ]
[ HIST('history-information')   ]
[                               ]
[[KEEPTSO ]    LANG(lan)        ]
[[NOKEEPTSO]                    ]
[                               ]
[[LIST ]                        ]
[[NOLIST]                       ]
[                               ]
[ PASSWORD(password)            ]
[                               ]
[ PGMR(programmer-name)         ]
[                               ]
[[RESEQ ] [SEQ(s,l,i,v)    ]    ]
[[NORESEQ] [SEQCHK(s,l,i,v)]    ]
[                               ]
[[SOURCE(master-file-name)   ]  ]
[[DSSOURCE{(dsn-of-master)  }]  ]
[[       {('dsn-of-master')}]   ]
[                               ]
[[SYNCHK(l,a)]   [TERMMSG]      ]
[[           ]   [PERMMSG]      ]
[               [TEMPMSG]       ]
[                               ]
[[TSODSN{(data-set-name)     }] ]
[[      {('data-set-name')   }] ]
[[      {(pds-name(member))  }] ]
[[      {('pds-name(member)')}] ]
[                               ]
[ TSOSIZE(nnnnnn)     type      ]
```

module-name

Specifies the name to assign to the module you are adding to the master file. If you specify a module name but do not use the TSODSN option to identify the data set to add, the LIBADD command constructs the data set name for you, using the specified module name as the user-supplied name and prefixing it with your user-prefix.

The descriptive-qualifier is derived from either the type option entry or the system default. For example, if you enter **LIBADD MYMOD,ASM**, the resulting data set name is *user-prefix***.MYMOD.ASM**.

Note: You can let the command derive the name of the data set to add only if the data set is a sequential data set whose name adheres to TSO naming conventions.

pds-name(member)

Use this operand when adding a member of a partitioned data set as a module.

Enter the user-supplied name of the PDS and the name of the member to add.

The LIBADD command constructs the full data set name by prefixing the user-supplied name with your user-prefix and appending the specified type entry to the name. If a type is not specified, the system default type is used. The member name is used as the module name.

Note: You can only use this operand for partitioned data sets whose names adhere to TSO naming conventions. When you are adding a member of a PDS whose name deviates from TSO naming conventions (or when you want the module-name to be different from the member name), you must use the module-name operand to specify the name to apply to the module and identify the PDS and member through the TSODSN option.

The following examples show typical applications for the LIBADD command.

Example 1

```
LIBADD COBMOD,ARC,PASSWORD(FLIP),COBOL
```

This command adds a module to the master file and assigns the name COBMOD to it. The module exists as a sequential data set with the name *user-prefix*.COBMOD.COBOL. The command activates the archiving facility for the module and assigns a password. The specified type (COBOL) is translated into the equivalent three-character language code (COB) and stored with the module.

Example 2

```
LIBADD COBMOD,COBOL,TSODSN(MODBB1.COBOL)
```

This example adds a module to the master file and assigns the name COBMOD to it. The module exists as a sequential data set with the name *user-prefix*.MOD001.COBOL.

Example 3

```
LIBADD ASMCB1,TSODSN('E6B6.ASMAST1.ASM(ASMBB1)'),ARC,
DSSOURCE('E6B6.ASM.MASTER.FILE')
```

This command adds a module and assigns the name ASMC01 to it. The module exists as a member, named ASM001, of a partitioned data set, named E606.ASMAST1.ASM.

The module is added to a master file, named E606.ASM.MASTER.FILE, identified in the DSSOURCE option. Since the master file name is specified in single quotes, LIBADD does not prefix it with the user-prefix, but instead searches for a master file name that exactly matches the one specified. The module is added as an archived module.

LIBCTL

The LIBCTL command:

- Lists all outstanding modules from previous LIBGET commands
- Deletes an entry for an outstanding module from the TLICD and, optionally, the associated data set or member, and
- Lists all site defaults and requirements.

This command has the following format:

```
{LIBCTL}
{LIBC  }
```

Options

```
[  GETVERS                                    ]
[                                             ]
[ [DELETE  ] [GENLIST  ] [KEEPTSO  ] [NOLIST] ]
[ [NODELETE] [NOGENLIST] [NOKEEPTSO] [LIST  ] ]
[                                             ]
```

LIBDLM

The LIBDLM command deletes a module from a CA Librarian master file. If you issue a LIBDLM command against an outstanding module, the module is deleted from the master file, but the entry for the outstanding module remains on the TLICD and the data set created as a result of the LIBGET remains untouched. Any subsequent attempt to issue a LIBSAVE to return the data set as a module fails. To remove the TLICD entry for a deleted outstanding module, you must issue an appropriate LIBCTL command.

This command has the following format:

```
{LIBDLM}
{LIBD  }
```

Required

module-name

Options

```
[ GETVERS                          ]
[                                  ]
[ PASSWORD(password)               ]
[                                  ]
[ [SOURCE(master-file-name)   ] ]
[ [DSSOURCE{(dsn-of-master)  }] ]
[ [       {('dsn-of-master')}] ]
[                                  ]
[ {TERMMSG}                        ]
[ {PERMMSG}                        ]
[ {TEMPMSG}                        ]
[                                  ]
```

module-name

Identifies the module to delete from a CA Librarian master file. You must specify a module to delete. It must be the first operand entered.

LIBEXP

The LIBEXP command:

- Returns a module to an CA Librarian master file that was retrieved through a LIBGET command with the READONLY option specified.
- Updates the control information of a module.
- Updates a module without having to retrieve it from the master file through the LIBGET command. If used in this way, you must create a data set containing an updated version of the module and identify the data set in the LIBEXP command.

Note: Because the LIBEXP command bypasses the TLICD, potentially conflicting updates are possible. To avoid this, management can choose to disable this command at your site.

The LIBEXP command updates only one module at a time and assumes that the module is on an CA Librarian master file.

This command has the following format:

```
{LIBEXP}
{LIBX  }
```

Required Operands

{*module-name* }

{*pds-name*(*member*)}

Options

```
[  GETVERS CLEARID NOTSO          ]
[                                 ]
[  NEWPSWD(password) HSTD         ]
[                                 ]
[ [ARC[(date)]]                   ]
[ [   [(Lx) ]]                    ]
[ [   [(-y) ]]                    ]
[ [NOARC      ]                   ]
[ [ARCOFF     ]                   ]
[ [ARCLR(date)]                   ]
[                                 ]
[ [CHKINC  ]  NOCHK   NOAUDIT     ]
[ [NOCHKINC]                      ]
[                                 ]
[  DESC('module-description')     ]
[                                 ]
[  HIST('history-information')    ]
[                                 ]
[ [KEEPTSO  ]   LANG(lan)         ]
[ [NOKEEPTSO]                     ]
[                                 ]
[ [LIST  ]                        ]
[ [NOLIST]                        ]
[                                 ]
[  PASSWORD(password)             ]
[                                 ]
[  PGMR(programmer-name)          ]
[                                 ]
[ [RESEQ ] [SEQ(s,l,i,v)      ]   ]
[ [NORESEQ]                       ]
[                                 ]
[ [RENAME(module-name)]           ]
[ [COPY(module-name) ]            ]
[                                 ]
[ [SOURCE(master-file-name)   ]   ]
[ [DSSOURCE{(dsn-of-master) } ]   ]
[ [        {('dsn-of-master')}]   ]
[                                 ]
[                  [TERMMSG]      ]
[                  [PERMMSG]      ]
[                  [TEMPMSG]      ]
[                                 ]
[ [TSODSN{(data-set-name) }]      ]
[ [      {('data-set-name')   }] ]
[ [      {(pds-name(member))  }] ]
[ [      {('pds-name(member)')}] ]
[                                 ]
[  TSOSIZE(nnnnnn)     type       ]
```

```
[                                   ]
[ VERS(mmdd[hhmm])                  ]
```

module-name

Specifies the name of the module the LIBEXP command returns or updates.

If you specify the NOTSO option, LIBEXP assumes you are attempting to update the module's control information.

If you do not specify NOTSO, it assumes you are attempting to use the contents of a data set or PDS member to update a module. If you specify a module name but do not specify NOTSO and do not explicitly identify the data set to use to update the module through the TSODSN option, the LIBEXP command constructs the name for you. It does so by using the specified module name as the user-supplied name, prefixing it with your user-prefix. The descriptive-qualifier is derived from the type option entry, any language code stored with the module, or the system default. For example, if you enter: *user-prefix*.MYMOD.ASM

Note: You can let the command derive the name of the data set to use to update the module only if the data set is a sequential data set whose name adheres to TSO naming conventions.

pds-name(member)

Use this operand if you are using a member of a partitioned data set to update a module. Enter the user-supplied name of the PDS and the name of the member. The LIBEXP command constructs the full data set name by prefixing the user-supplied name with your user-prefix and appending the specified type entry to the name. If you do not specify a type, the type stored with the module or the system default type is used. The member name also identifies the module to update.

Note: You can only use this operand for partitioned data sets whose names adhere to TSO naming conventions. If you are using a member of a PDS whose name deviates from TSO naming conventions or if the module-name is different from the member name, you must use the module-name operand to specify the name of the module and identify the PDS and member through the TSODSN option.

The following examples show typical uses of the LIBEXP command.

Example 1

```
LIBEXP FSRBB2,KEEPTSO,PASSWORD(FLAG)
```

In this example, the module FSR002 is updated using the contents of a TSO sequential data set whose name adheres to TSO naming conventions and whose user supplied name is also FSR002. The data set, *user-prefix*.FSR002.type, is retained after command processing.

Example 2

```
LIBEXP USERMOD,ARC(-1),DESC('NEW USER MODULE'),HSTD,NOTSO,LIST
```

In this example, the current level of the archived module, USERMOD, is deleted and the selected level is made the current level. All previous history records stored with the module are deleted and a new description is provided. The LIST option writes a copy of the module to the *user-prefix*.$$$$$$LX.LIST data set. Since this example is not updating the data in the module, no TSO data set is referenced and the NOTSO option is specified.

Example 3

```
LIBEXP USERMOD,TSODSN(MASTMOD)
```

The contents of the specified module, USERMOD, are replaced with the contents of the data set user-prefix.MASTMOD identified through the TSODSN option. Since the data set name is specified without enclosing quotes, the user-prefix is prefixed to the specified name.

LIBGET

The LIBGET command copies a module from a CA Librarian master file into a data set or PDS member. You can use an existing data set or member or allow the LIBGET command to create one.

Modules retrieved from a master file through LIBGET are referred to as outstanding modules. You must return outstanding modules to the master file through the LIBSAVE command.

When a module is retrieved through LIBGET, an entry is made on The LIB/TSO Control Directory (TLICD). The TLICD is a directory of all the modules that were copied from CA Librarian master files into TSO data sets through the LIBGET command. When the outstanding modules are returned through the LIBSAVE command to their respective CA Librarian master files, their entries on the TLICD file are automatically deleted.

The number of module entries allowed per user on the TLICD file is determined at installation. When the limit is reached, the user can either replace one entry by another, without updating the module the entry references or free an entry by terminating the LIBGET command and returning a module to the master file through the LIBSAVE command.

When you specify the READONLY option, the module is copied into a TSO data set, but no entry is made on the TLICD file.

This command has the following format:

```
{LIBGET}
{LIBG  }
```

Required Operands

{*module-name*}

{*pds-name*(*member*)}

Options

```
[  GETVERS                        ]
[                                 ]
[  ARC[(date)] ARCINC[(date)]     ]
[     [(Lx)  ]       [(Lx)  ]     ]
[     [(-y)  ]       [(-y)  ]     ]
[                                 ]
[ [INCLUDE{(RESEQ) }  ]           ]
[ [       {(NORESEQ)} ]           ]
[ [NOINCLUDE          ]           ]
[ [INCASIS            ]           ]
[                                 ]
[  PASSWORD(password)             ]
[                                 ]
[  READONLY                       ]
[                                 ]
[ [SOURCE(master-file-name)   ]   ]
[ [DSSOURCE{(dsn-of-master)  }]   ]
[ [        {('dsn-of-master')}]   ]
[                                 ]
[ [TSODSN{(data-set-name)     }] ]
[ [      {('data-set-name')   }] ]
[ [      {(pds-name(member))  }] ]
[ [      {('pds-name(member)')}] ]
[                                 ]
[ TSOSIZE(nnnnnn)      type       ]
[                                 ]
[ VERS(mmdd[hhmm])    [VAR  ]     ]
[                     [NOVAR]     ]
```

module-name

Identifies the name of the module to retrieve from the CA Librarian master file.

If you do not identify the data set where the module is copied through the TSODSN option, the LIBGET command constructs the name for you. It uses the specified module name as the user-supplied name, prefixing it with your user-prefix.

The descriptive qualifier is derived from either the type entry specified on the command, any language code stored with the module, or the system default. For example:

```
LIBGET MYMOD ASM
```

Copies the module into a data set with the following name:

user-prefix.MYMOD.ASM

pds-name(member)

Identifies the module to retrieve from CA Librarian master file and copy to a TSO partitioned data set member. If you enter the user-supplied name of the PDS and the name of the member to use, the LIBGET command constructs the full data set name by prefixing the user-supplied name with your user-prefix and appending the specified type entry to the name.

If you do not specify a type, the language code stored with the module is converted into the equivalent type and is used. If there is no language code or it is not recognizable to /lib, the system default type is used. The member name is used as the module name.

Note: You can only use this option for partitioned data sets whose names adhere to TSO naming conventions. If you are using a member of a PDS whose name deviates from TSO naming conventions (or if the module-name is different from the member name), you must use the module-name operand to identify the module and you must use the TSODSN option to identify the PDS and member name.

The following examples show some typical uses of the LIBGET command.

Example 1

```
LIBGET ASMMAST(PAROUTB1),INCLUDE(RESEQ),ASM
```

In this example, the contents of a module named PAROUT01 are retrieved and copied into a member of a partitioned data set named *user-prefix*.ASMMAST.ASM. The member name is the same as the module name. Any -INC statements in the module are expanded and the included module is resequenced to make it consistent with the including module. The type entry, ASM, constructs the data set name. ASM indicates to the LIBGET command how to generate comment statements in correct language format for the included modules. You can omit the type option if the language code is ASM or, in the absence of a language code, the default type is ASM.

Example 2

```
LIBGET EJCLB11,PASSWORD(MSJK),READONLY,CNTL,INCLUDE(RESEQ)
TSODSN(JCLMAST(EFILE))
```

The module specified in this example, EJCL011, is copied into a member of a partitioned data set named user-prefix.JCLMAST.CNTL. The member is named EFILE. You must use the TSODSN option since the member name does not match the module name. Since the READONLY option is specified, an entry is not made on the TLICD and you do not have to return this module to the master file through a subsequent LIBSAVE. The type option entry, CNTL, identifies this module as a JCL module. Any generated comments identifying included modules are formatted accordingly.

Example 3

```
LIBGET RTASKAA,DSSOURCE('COB.MASTER'),TSODSN('RTASKAA.RPG')
```

This command retrieves a module name RTASKAA from a master file named COB.MASTER and places it in a sequential data set named RTASKAA.RPG. The master file is identified through the DSSOURCE option because it is not the site default master file. The data set RTASKAA.RPG is identified through the TSODSN option because it does not have a user-prefix qualifier. If the command specified only the module name, CA Librarian would prefix the module name with the user-prefix of the individual who issued the command. However, by identifying the data set through the TSODSN option and enclosing the name in single quotes, you force CA Librarian to search for or generate a data set of that exact name.

LIBINDEX

The LIBINDEX command lists an index of all the modules on a CA Librarian master file or lists an index of all the modules associated with a particular programmer name on the file. The LIBINDEX command has one required operand and a number of options, which you can specify in any order.

Displayed information at the terminal has two formats: a long one and a short one.

The short form describes each module in a single line. The long form adds a second line of description, depending on the required operand selected.

This command has the following format:

```
{LIBINDEX}
{LIBI    }
```

Required Operands

```
{*              }
{programmer-name}
```

Options

```
[ GETVERS                      ]
[                              ]
[                              ]
[[SHORT]         [TERMMSG]     ]
[[LONG ]         [PERMMSG]     ]
[[LONGT]         [TEMPMSG]     ]
[                              ]
[[SOURCE(master-file-name)   ] ]
[[DSSOURCE{(dsn-of-master)  }] ]
[[        {('dsn-of-master')}] ]
```

*

(Asterisk) Indexes all the modules on a CA Librarian master file.

programmer-name

Specifies the name of the programmer whose modules are to be indexed. The name can contain up to 15 characters and must correspond to the name supplied in the PGMR field for the modules on the master file. You must specify * or *programmer-name*.

LIBLIST

The LIBLIST command displays the contents of a selected module on the terminal screen. The listing includes module control information and module records. You can also display any history records associated with the module.

This command has the following format:

```
{LIBLIST}
{LIBL    }
```

Required Operands

```
{module-name     }
{pds-name(member)}
```

Options

```
[ GETVERS                      ]
[                              ]
[ ARC[(date)] [ARCINDEX  ]     ]
[    [(Lx)  ] [NOARCINDEX]     ]
[    [(-y)  ]                  ]
[                              ]
```

```
[[HIST  ] [INCLUDE  ] [INFO  ] ]
[[NOHIST] [NOINCLUDE] [NOINFO] ]
[                              ]
[[LIST[(s,e)]]                 ]
[[NOLIST     ]                 ]
[                              ]
[ PASSWORD(password) [ SHIFT  ]]
[                   [ NOSHIFT]]
[[SOURCE(master-file-name)   ] ]
[[DSSOURCE{(dsn-of-master)  }] ]
[[       {('dsn-of-master')}] ]
```

module-name

Identifies the module on a CA Librarian master file to display.

LIBSAVE

The LIBSAVE command returns a module that was copied through the LIBGET command to the CA Librarian master file. The LIBSAVE command updates only one module at a time and assumes that the module is on an CA Librarian master file.

If you have more than one outstanding module when you issue the LIBSAVE, CA Librarian prompts you for the name of the module to save.

This command has the following format:

```
{LIBSAVE}
{LIBS   }
```

Options

```
[  GETVERS CLEARID                ]
[                                 ]
[  NEWPSWD(password)   HSTD       ]
[                                 ]
[                                 ]
[ [ARC[(date)]]                   ]
[ [   [(Lx)  ]]                   ]
[ [   [(-y)  ]]                   ]
[ [NOARC      ]                   ]
[ [ARCOFF     ]                   ]
[ [ARCLR(date)]                   ]
[                                 ]
[  NOCHK     NOAUDIT              ]
[                                 ]
[  DESC('module-description')     ]
[                                 ]
[  HIST('history-information')    ]
[                                 ]
[ [KEEPTSO  ]    LANG(lan)        ]
[ [NOKEEPTSO]                     ]
[                                 ]
[ [LIST  ]                        ]
[ [NOLIST]                        ]
[                                 ]
[  PASSWORD(password)             ]
[                                 ]
[  PGMR(programmer-name)          ]
[                                 ]
[ [RESEQ ] [SEQ(s,l,i,v) ]        ]
[ [NORESEQ]                       ]
[                                 ]
[ [RENAME(module-name)]           ]
[ [COPY(module-name)  ]           ]
[                                 ]
[ [CHKINC  ]                      ]
[ [NOCHKINC]                      ]
[                                 ]
[ [TERMMSG]                       ]
[ [PERMMSG]                       ]
[ [TEMPMSG]                       ]
[  TSOSIZE(nnnnnn)                ]
[                                 ]
[  VERS(mmdd[hhmm])               ]
```

The following examples show some uses of the LIBSAVE command.

Example 1

```
LIBSAVE ARCLR(95B1),HSTD,HIST('NEW PROD MOD'),RESEQ,
NEWPSWD(FLIP),PASS(FLOP)
```

This example returns an outstanding module to the master file and clears all archiving levels created before the one current on January 31, 1995. This command also deletes all previous history records, adds a new one, and generates a new password.

Example 2

```
LIBSAVE COPY(COBBB2),DESC('COPY OF COBBB1')
```

Since the COPY option is specified, CA Librarian does not update the outstanding module returned, but instead generates a copy with the specified name, in this case COB002. Any changes made to the module are reflected in the copy and not in the original. The description is stored with the new copy of the module only.

LIB/TSO Options

This section lists and describes the LIB/TSO options.

ARC

Command: LIBADD.

Specifying ARC without date or level number on a LIBADD command adds the module to the master file as an archived module. Specifying ARC in this way on a LIBEXP or LIBSAVE command creates the module as an archived module from that execution forward.

If the master file was not initialized to accept archived modules, the add or update is rejected. If you omit the ARC option from the LIBADD command, the module is added as a standard (non-archived) CA Librarian module.

ARC[(date)|(Lx)|(-y)]

Commands:

- LIBEXP
- LIBGET
- LIBLIST
- LIBSAVE

ARC with a date, date and time, relative level number, or absolute level number selects a specific level of a module for processing.

If you omit the ARC option from *x* and *y* and the module is archived, the most recent level is selected for processing.

Updates (LIBSAVE, LIBEXP) with the ARC option used in this way applies to the specified level. Any existing levels created after the specified level are deleted. The updated level becomes the new current level.

ARC(date)

Selects a specific level by the date. The level that was current on the specified date is updated. The format of the date is:

yymmddhhmmss

You can omit an even number of digits from the right. CA Librarian assumes the highest possible values for omitted digits.

For example, if you specify ARC(95), CA Librarian selects the level that was current at the end of the year on 12/31/95 at 23:59:59, and not at the beginning of the year on 01/01/95 at 00:00:00.

ARC(Lx)

Specifies the absolute level, as reported on the module listing. You can specify the absolute level up to five digits. The level number must be prefixed with the letter L.

ARC(-y)

Specifies the relative level number. The level number can be specified up to three digits. The relative level number must be prefixed with a minus sign (-).

Relative Archiving Level is as follows:

- Current Level -0
- One Level Older -1
- Two Levels Older -2
- *n* Levels Older -*n*

ARCOFF

Commands:LIBEXP

- LIBSAVE

ARCOFF terminates archiving of a module and deletes all levels except the current level. The module becomes a standard CA Librarian module. Once specified, ARCOFF remains in effect until ARC is specified at another time.

NOARC

Commands:

- LIBEXP
- LIBSAVE

NOARC suspends the archiving of a module. When the module is updated while NOARC is in effect, the level selected for updating is replaced, more recently created levels (if any) are deleted, and older levels (if any) are maintained. Once specified, NOARC remains in effect for the module until ARC or ARCOFF is specified.

ARCLR

Commands:

- LIBEXP
- LIBSAVE

ARCLR deletes every level of an archived module up to, but not including, the level that was current on the date that you specify. Archiving continues for updates made after an ARCLR operation. The full form of the date is:
`yymmddhhmmss`

You can omit an even number of digits from the right.CA Librarian assumes the highest possible value for the omitted digits. For example, if you specify ARCLR(95), all levels created before the level that was current on the last day of 1995 are deleted.

ARCINC{(date)|(Lx)|(-y)}

Command: LIBGET.

Provides an archiving level selection for all included modules. If you specify this option, every archived module included is expanded using the specified level. If you do not specify this option, the most recent level of any included archived module is selected. This option is ignored for any included module that has an archiving level selection on the -INC statement.

ARCINC(date)

Specifies date (or date and time) when the level was current. The full form of the date is:

yymmddhhmmss

You can omit an even number of digits from the right, but, if you do, CA Librarian assumes the highest possible values for those digits.

For example, if you specify ARCINC(95), CA Librarian selects the level that was current at the end of the year on 12/31/95 at 23:59:59, and not at the beginning of the year on 01/01/95 at 00:00:00.

ARCINC(Lx)

Specifies the absolute level, as reported on the module listing. You can specify the absolute level up to five digits. The level number must be prefixed with the letter L.

ARCINC(-y)

Specifies the relative level number. You can specify the level number up to three digits. The relative level number must be prefixed with a minus sign (-).

The Relative Archiving Level is as follows:

- Current Level -B
- One Level Older -1
- Two Levels Older -2
- ...
- *n* Levels Older -*n*

[ARCINDEX|NOARCINDEX]

Command: LIBLIST

ARCINDEX gives an index of all archiving levels of the module. Information for each level includes the absolute level number, the relative level number, language, programmer name, and the date and time created.

[CHKINC|NOCHKINC]

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

If you specify CHKINC, the LIBADD, LIBEXP, or LIBSAVE command searches for any comment statements identifying unexpanded -INC statements or included records. These comment statements might exist if the data set was retrieved from a master file through the LIBGET command or is a copy of another module that was originally retrieved through LIBGET. Any located comments are replaced with the appropriate -INC statement and any included records are deleted.

You can specify CHKINC, both to restore -INC statements and to prevent included records and the comment statements from being added to the master file. If you specify NOCHKINC, the search for comment statements is not initiated and any comment statements and included records remain in the module. Also, comments that identify unexpanded -INC statements are not converted back to the appropriate -INC statement.

If there are no included records or unexpanded -INC statements in the data set, specify NOCHKINC to save execution time.

This option is ignored when you specify NOTSO.

CLEARID

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

Clears columns 73 through 80 (sequence numbers) of data records added to the master file to blanks. CLEARID does not affect records beginning with a slash (/). This option can reduce the amount of space required to store a module.

[DELETE|NODELETE]

Command: LIBCTL.

Deletes the module entry on the TLICD file and the corresponding TSO data set or PDS member. All outstanding modules are listed. You are prompted for any information needed. You can delete only one entry per command execution.

A single outstanding module on the TLICD file is deleted without the prompting message.

If a TLICD entry or the TSO data set is deleted, you cannot later update the module the entry references through the LIBSAVE command.

DESC('module-description')

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

Provides a description of the module. The description can be 1 to 30 characters in length and must be enclosed in single quotes. If a module description is required for LIBADD but is not supplied, then LIBADD prompts for one. Quote marks are not needed when replying to a prompting message.

DSSOURCE[(master-file-name|('dsn-of-master')(dsn-of-master)]

Commands:

- LIBADD
- LIBDLM
- LIBEXP
- LIBGET
- LIBINDEX
- LIBLIST

Identifies the master file the LIBLIST operation uses. If omitted, the site default master file is used. DSSOURCE('*dsn-of-master*') specifies the full data set name of a master file. If the data set name is not enclosed by single quotes, the name is prefixed with your user-prefix.

[GENLIST|NOGENLIST]

Command: LIBCTL.

Lists all the installation defaults and requirements for LIB/TSO.

GETVERS

Commands:

- LIBADD
- LIBCTL
- LIBDLM
- LIBEXP
- LIBGET
- LIBINDEX
- LIBLIST
- LIBSAVE

GETVERS is a special option that you can specify with any command to display a message indicating the CA Librarian release number of the version of that command that is installed in your system. GETVERS can be the only optional option specified. You can specify a dummy module-name as seen below. Any other options specified are ignored.

```
LIBADD X,GETVERS
```

In response, the following message displays:

```
COMMAND VERSION: release-number release-date
```

Note: GETVERS displays only the message. No other operation is performed.

HIST('*history-information*')

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

Provides history information for the module. History information is limited to 75 characters and must be enclosed in single quotes.

Your site can require HIST information. In that case, you are prompted for it if you do not specify it.

[HIST|NOHIST]

Command: LIBLIST.

HIST displays all history entries for the named module and the history record date stamps. The date displays ahead of the history entries. If consecutive history records have the same date, the date displays on the first record only.

HSTD

Commands:

- LIBEXP
- LIBSAVE

Deletes all history records from a module. You can add new history records during the current execution through the HIST option.

[INCLUDE|NOINCLUDE]

Command: LIBLIST.

INCLUDE expands all the -INC statements in the module. NOINCLUDE is the default. When expanding an -INC statement, the -INC statement itself is replaced with the included records. The sequence numbers of included records are listed as retrieved from the included module.

INCLUDE[(RESEQ)|(NORESEQ)]

NOINCLUDE

INCASIS

Command: LIBGET.

These options control the expansion of -INC statements and the sequencing of the records when a module is copied into a TSO data set. If not specified, the site default, usually NOINCLUDE, is assumed.

A module stored on a master file can contain CA Librarian embedded -INC statements that have the format:

```
-INC module-name[,options]
```

The INCLUDE(RESEQ) and the INCLUDE(NORESEQ) options expand all -INC statements contained in the module. These included modules are written in their entirety to the TSO data set. An included module is preceded by the following comment statements:

```
-INC modname MAKE NO CHANGES FROM HERE TO END OF INCLUDED MOD
-INC modname[,options]
```

The end of the included module is marked by the following message:

```
-INC modname END OF INCLUDED MODULE
```

The module type determines the format of the comment statement (the comment indicator and starting column). The type is derived from the type option specified on the command, the language code stored with the module, or the site default, in that order.

- INCLUDE(RESEQ) reassigns, to records in the included modules, sequence numbers consistent with those specified for the module obtained by the LIBGET command. The sequence numbers of the module the LIBGET command retrieved can be resequenced to prevent duplicate sequence numbers.
- INCLUDE(NORESEQ) keeps the same sequence numbers that were assigned to the included records in the module from which they came. As a result of nonresequencing of included records, the records of the data set can be out of sequence. Use the NONUM mode when editing this data set.
- NOINCLUDE suppresses the expansion of the -INC statements in the CA Librarian module when the LIBGET command retrieves it. Each -INC statement is marked as unexpanded on the statement and is reformatted as a comment statement.

If you specify INCASIS, the module is copied to the data set completely unchanged. All -INC statements are copied exactly as they exist in the module without expansion and without identifying comment records.

Note the following:

- You can add -INC statements to a TSO data set using TSO editing facilities. Because the mnemonic (-INC) must be placed in columns 1 through 4, you should edit COBOL or any other data set types with sequence numbers in these columns in NONUM mode to avoid conflict with the sequence number field.
- Sequence numbers for the -INC statements must appear in columns 73 through 80 if the SEQCHK option is used.
- Up to 64 levels of nesting of -INC statements is permitted.
- Invalid -INC statements are not expanded, are marked as such when reformatted as a comment statement, and error messages are written to the terminal.
- Do not make any changes to the CA Librarian generated comment statements that mark -INC statements.

[INFO|NOINFO]

Command: LIBLIST.

Lists or does not list all module control information including module name, number of records in the module, level number (if archived), password, language, programmer-name, description, date module added to the master file, date and time module last updated, sequence number option (s,l,i,v), status, date the module last copied from another master file through the -OPT UTILITY, the number of updates, and the COBOL syntax checker option (if specified).

[KEEPTSO|NOKEEPTSO]

Commands:

- LIBADD
- LIBCTL
- LIBEXP
- LIBSAVE

These options determine the disposition of the TSO data set after successful completion of processing.

KEEPTSO retains the originating TSO data set or member. If you specify NOKEEPTSO and the TSO data set is sequential, the data set is deleted and uncataloged. If the TSO data set is a PDS member, the member is deleted. If the command (LIBADD, LIBCTL) fails, the TSO data set or member is kept.

For LIBCTL, KEEPTSO prevents the TSO data set from being deleted when the DELETE option is specified.

LANG(*lan*)

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

The value of lan is the one- to three-character language code identifying the language or contents of the module. The specfied language code is stored with the module (through a -LANG record). The entry can be one of the language codes or a user-defined value.

Note: This option is only used to change the language code of the module. Refer to the type option for other aspects of the CA Librarian language code.

[LIST|NOLIST]

Commands:

- LIBADD
- LIBCTL
- LIBEXP
- LIBSAVE

If you specify LIST and the module is successfully updated, batch CA Librarian writes the module update listing to a data set called user-prefix.$$$$$$LS.LIST. You can only save this information, which contains all updated records and control information, by printing or renaming the data set because the updated records and control information from the next execution overlay the current contents of user-prefix.$$$$$$LS.LIST.

If you specify NOLIST, then the module listing is suppressed.

In certain instances, the SYNCHK option can invokee the LIST option even if you specify NOLIST or it is the default.

If neither is specified, then LIST or NOLIST is selected according to the site default.

For LIBCTL, LIST (the default) lists all outstanding module information from previous LIBGET command executions, including:

- Module name.
- Time the module was copied through the LIBGET command.
- Master file name.
- Data set name and the member name, if partitioned.
- Absolute archiving level number if an archived module.
- Date and time the module was last updated, if not an archived module, or the date and time the selected archiving level was created.

[LIST[(s,e)]|NOLIST]

Command: LIBLIST.

LIST displays only the data records of the module. LIST(s,e) displays a range of records, where:

- s is the starting sequence number; it can be one to eight digits in length.
- e is the ending sequence number; it can be one to eight digits.
- NOLIST suppresses the displaying of data records and is the default.

NEWPSWD(password)

Commands:

- LIBEXP
- LIBSAVE

Specifies a new four-character, alphanumeric password. See the PASSWORD option for a description of the restrictions on passwords.

NOAUDIT

Commands:

- LIBEXP
- LIBSAVE

Suppresses CA Librarian Auditing Facility (LIBAUDIT) processing. Specify this option only if LIBAUDIT is installed and there are more than 10,000 records either in the TSO data set or in the CA Librarian module you are updating.

Note: Take great care when using this option. NOAUDIT updates all the records of a module, not just the changed records. This is important with archived modules because NOAUDIT forces the archiving facility to retain an additional copy of every record in the module, changed or not.

NOCHK

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

Suppresses COBOL syntax checking for the module being added. Specify this option only if you specified the SYNCHK option but you do not want to have the syntax checker process the module during the add. The values specified on the SYNCHK option are retained and applied to subsequent updates of the module.

NOTSO

Command: LIBEXP.

Specify this option if you are updating only the control information of a module and are not referencing a TSO data set.

Note: A new level is generated for archived modules even if only the module's control information is updated.

PASSWORD(*pswd*)

Command: LIBADD.

When you add a module, you can use this option to assign a four-character, alphanumeric password to the module. If you omit this option, the CA Librarian generates a four-character password, all consonants, for the module.

If you specify this option, you can assign as a password any four-character alphanumeric string (no special characters) except for the following CA Librarian reserved words: BYPP, EXEC, FULL, LIST, NONE, NOPC, NOPR, PERM, TEMP, and TEST.

Commands:

- LIBDLM
- LIBEXP
- LIBGET
- LIBSAVE

For these commands, use the PASSWORD option to specify the four-character, alphanumeric password currently assigned to the module. The master file or your site can require password. If it is required but not supplied, you are prompted for a correct password.

To assign a new password to an existing module, see the NEWPSWD option.

PGMR(*programmer-name*)

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

Specifies the name of the programmer responsible for the module. The name can be 1 to 15 characters long and must not contain blanks or commas. Your site can require PGMR.

If PGMR is not specified but is required, LIBADD and LIBEXP prompt for a programmer name. If it is not specified and not required, LIBADD uses the user-prefix as the programmer name. LIBEXP defaults to your user-prefix as the programmer name in that case, unless the module already has a PGMR field.

READONLY

Command: LIBGET.

When you specify this option, no entry is made on the TLICD file. The module is simply retrieved and copied into a TSO data set.

{RENAME|COPY}(*module-name*)

Commands:

- LIBEXP
- LIBSAVE

RENAME renames the CA Librarian module when the module is returned to the master file.

COPY creates a copy of the selected module and gives it the new module name.

Note: If you are updating the module while at the same time making a copy, the changes are applied only to the copy; the original remains unchanged.

RENAME and COPY are mutually exclusive.

{RESEQ|NORESEQ}

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

These options specify a module's RESEQ/NORESEQ attribute. The specified value has no effect on sequence numbers during LIBADD, although the RESEQ/NORESEQ attribute specified for LIBADD is active during all updates to the module. For information on sequence number formats, refer to the SEQ and SEQCHK options.

RESEQ renumbers the records of the module if any records are inserted or deleted. The renumbering is based on the sequence number attributes established through the SEQ or SEQCHK options.

If the module is not resequenced (NORESEQ), CA Librarian does not renumber the module’s records. It assigns sequence numbers to the inserted data records, beginning with one greater than the sequence number of the record after which the new records are inserted, and incrementing by one. When necessary, the sequence numbers of existing records are also incremented to prevent duplicate sequence numbers.

Note: Standard modules can have their RESEQ/NORESEQ attribute changed. Archived modules must keep the attribute specified for them when they were added.

{SEQ(s,l,i,v)|SEQCHK(s,l,i,v)}

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

These options control the location, length, initial value, and increment of sequence numbers assigned to the module.

SEQ assigns sequence numbers to the module records based on the specified values.

SEQCHK does not assign sequence numbers to the data records, but rather verifies that sequence numbers are present in the specified columns and are in ascending numeric order. If an error is detected in the sequencing of the records, the module is not processed and an error message is written on the CA Librarian update message file.

The attributes specified through either option are used if the numbers are resequenced in subsequent updates. SEQ and SEQCHK are mutually exclusive.

The variables for SEQ and SEQCHK are:

s

The column where the sequence number starts. Acceptable values for SEQ are 1 to 81 and for SEQCHK 1 to 80. If you specify 81, the sequence number associated with each record is stored outside the record; all 80 bytes of the record are then available for data. Since SEQCHK cannot scan for sequence numbers outside of the record, you cannot specify 81 as the starting column for SEQCHK.

l

The length of the sequence number field. Acceptable values are 1 to 9. If you specify a starting column number of 81, you must specify a length of 6. If you do not specify the starting column number 81, the sum of the starting column and the length must not exceed 81.

i

The increment. Acceptable values are 1 through 9999.

v

The sequence number to assign to the first record of the module during addition of the module or during sequenced updating. Acceptable values are 0 through 9999.

When you do not specify SEQ or SEQCHK, the master file's default sequence parameters are used.

If you specify both SEQCHK and NORESEQ, the increment and starting values are not used while the module is added, but are retained to control the generation of sequence numbers during subsequent updates.

Note the following:

- With LIBEXP, SEQCHK is ignored if the LIBAUDIT facility is in use.
- If SEQ alters the length or location of the sequence number field, LIBAUDIT can be rendered useless for determining which records of the module were updated. Although LIBAUDIT ignores the value in the sequence number field, it views a record with a sequence number field that is different in length or location as updated, even if no other changes are made. If these values are changed, LIBAUDIT views every record as updated.

[SHIFT|NOSHIFT]

Command: LIBLIST.

If the sequence number ends in column 80 on a data record, SHIFT displays the sequence number in the leftmost position of a terminal line, and the rest of the data record displays one space past the sequence number. When displaying the sequence number, the first three leading zeros are suppressed. NOSHIFT displays the data records as retrieved from the module. SHIFT is the default.

[SHORT|LONG|LONGT]

Command: LIBINDEX.

Determines the format used for indexing the modules on the master file. Both SHORT and LONGT format can display at the terminal.

The SHORT format lists the module name, password, module description, date added, date and time last updated, number of records, module source language, and module status.

The LONG format, when selected with *, lists all information included in the short format and the programmer name, the number of accesses, number of updates, number of blocks, date last accessed, sequence number position and increment, number of archived levels, and current archived level number.

The LONGT format, when selected with programmer-name, lists all information included in the short format and Job Control Language procedures and sequence number positions and increments.

Batch CA Librarian is invoked when you specify the LONG format. Supplying programmer-name produces the Programmer Index listing. Supplying the * produces the Management Index listing.

If you specify LONG, the information gathered is written into a permanent data set, user-prefix.$$$$$$LI.INDEX. You can only save the information by printing or renaming the data set because the information from the next execution overlays the current contents of user-prefix.$$$$$$LI.INDEX.

If you specify LONGT, the information displays only on the terminal and is not written to the permanent data set.

Note: If you specify the SHORT option of LIBINDEX or it is assumed, the TERMMSG option is ignored and no Update Report is produced.

SOURCE(*master-file-name*)

Commands:

- LIBADD
- LIBDLM
- LIBEXP
- LIBGET
- LIBINDEX
- LIBLIST

Identifies the master file the LIBLIST operation uses. If omitted, the site default master file is used.

SOURCE(*master-file-name*) specifies the low-order portion of the name of a master file. The high-order portion or prefix assumes the site default.

SYNCHK(l,a)

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

CA Librarian verifies that the records of a module consist of syntactically valid COBOL statements. The syntax checker scans each record of the module and verifies that sentence structure, punctuation, and the use of reserved words conform to COBOL rules. The validity of data or procedure references is not checked.

The SYNCHK variables are:

l

Identifies the COBOL syntax level to apply. Specify one of the following:

- CA for ANS COBOL
- CD for COBOL D
- CE for COBOL E
- CF for COBOL F
- CW for OS/VS2 COBOL (ANS COBOL 74)

a

Designates the action to take. Specify one of the following:

S

Suppresses writing of the module to the compilation file in the event of a syntax error. The LIST option is automatically invoked for the module. The module is still updated.

C

In the event of a syntax error, writing of the module to the compilation file is not suppressed nor is the LIST option invoked. The module is still updated.

SE

Functions the same as S. In addition, it expands the COBOL COPY verb for disk master files (for batch executions).

CE

Functions the same as C. In addition, it expands the COBOL COPY verb for disk master files (for batch executions).

Note: The wide record format does not support SYNCHK(l,a).

SYNCHK(D,X)

Commands:

- LIBEXP
- LIBSAVE

Deactivates the syntax checker option for all future updates of the module. D is the delete option. X is a dummy option. D and X are not variables and must be used as illustrated.

[TERMMSG|PERMMSG|TEMPMSG]

Commands:

- LIBADD
- LIBDLM
- LIBINDEX
- LIBSAVE

Parameters:

TERMMSG

The CA Librarian Update Report is written to the terminal.

PERMMSG

CA Librarian writes the Report to a data set, named:

- *user-prefix*.$$$$$$LA.MSGS for a LIBADD execution
- *user-prefix*.$$$$$$Lx.MSGS for a LIBxxx execution
- *user-prefix*.$$$$$$LA.MSGS for a LIBxxx execution

You can save this information only by printing or renaming the data set because the Update Report from the next execution overlays it.

TEMPMSG

The Update Report is written to a temporary data set that is deleted at the end of command processing. If you omit this option, your site default is assumed.

TSODSN{('*data-set-name*')|(*data-set-name*)|('*pds-name(member)*')|(*pds-name(member)*)}

Commands:

- LIBADD
- LIBEXP
- LIBGET

For LIBADD and LIBEXP, identifies the data set used to update the master file. Use this option if CA Librarian cannot determine the data set name from the module-name option and other specified or defaulted information.

Note: With LIBXP, this option is ignored if you specify NOTSO.

For LIBGET, specifies the name of the data set where the retrieved module is copied. You must identify the data set with the TSODSN option only if the LIBGET command cannot determine the data set name from the module name option and other supplied or default information.

Do not use this option if you specified the pds-name(member) option.

You can enter the data set or PDS name with or without single quotes. If you omit the quotes, LIBGET prefixes the name with your user-prefix. You must specify all other qualifiers whether you enter the name with or without your user prefix.

TSOSIZE(*nnnnnn*)

Commands:

- LIBADD
- LIBEXP
- LIBSAVE

If you specified CHKINC and the LIBAUDIT facility is not active, CA Librarian must allocate a temporary data set to hold the records of your module while restoring included modules back to their original -INC statements. If the allocated data set is not large enough to hold the module, LIBADD, LIBEXP, or LIBSAVE fails with a B37-04 abend.

If such an abend occurs, reenter the command with TSOSIZE and the size (in number of records) of the data set or member.

Note: TSOSIZE is ignored if you specify either NOTSO or NOCHKINC. Command: LIBGET

You can use TSOSIZE if needed to specify the size, in number of records, of a new sequential data set that the LIBGET command is to allocate to hold a retrieved module. The size must be the sum of the records currently in the module plus all records included as a result of expanded -INC statements.

If the default size is too small to hold the original module and all included records, LIBGET fails with a D37 or B37 abend.

If such an abend occurs, delete the data set and reenter the LIBGET command, specifying the estimated number of records in the data set with the TSOSIZE option.

Note: You cannot use TSOSIZE to specify the size of an existing data set. You cannot use TSOSIZE when copying a module into a member of a partitioned data set.

type

Commands:

- LIBADD
- LIBEXP
- LIBGET

Identifies the contents of the module. If you are allowing LIBADD or LIBEXP to construct the name of the data set to add or use to update the module, the specified type entry becomes the descriptive-qualifier of the constructed name. If you omit this option, the site default (usually COBOL) is assumed.

Note: During CA Librarian installation, types are set as part of per site customization. You can use the LIBCTL command to list the valid types allowed.

The valid entries for this option are:

- ASM
- BASIC
- CLIST
- CNTL
- COBOL
- DATA
- FORT
- FORTGI
- FORTH
- GIS
- GOFORT
- PL1
- PLIF
- RPG
- TEXT
- VSBASIC

Your site can change or add more at installation time.

The type also determines the format of any CA Librarian-generated comment statements that can be inserted into the module. The specified type is converted into a language code stored with the module (through a -LANG statement) unless the LANG option is specified or the module already has a -LANG parameter associated with it. If you specify the LANG option with a language code, that language code is stored with the module.

In building a data set name, CA Librarian determines the module data type and thus the descriptive-qualifier from:

- The type specified on the LIBEXP command statement
- The current language code stored with the module (unless the contents are meaningless to CA Librarian)
- The site default (usually COBOL)

[VAR|NOVAR]

Command: LIBGET

Invokes the Source-Load Audit Trail facility for the current execution if you also specified the READONLY option. Without the READONLY option, VAR is ignored. Entering NOVAR suppresses the processing of the facility for the current execution.

VERS(***mmdd[hhmm]***)

Commands:

- LIBEXP
- LIBGET
- LIBSAVE

With LIBGET, terminates processing of a module if the specified date (in *mmdd* format) or date and time (in *hhmm* format) do not match that of the most recently applied update. Processing proceeds normally if the specified date or date and time matches that of the latest update.

LIB/TSO Messages

The LIB/TSO system messages, both prompting and diagnostic, are self-explanatory. You can display the second and third message levels, designated by plus signs (+), by entering question marks (?) at the terminal.

The TSO HELP command provides online information about the function and syntax of all the commands. To request help, simply enter the HELP command followed by the command name or alias. For example, the following command displays a description of the function and use of the LIBADD command:

```
HELP LIBADD
```

LIB/TSO Generated Data Sets for Messages and Listings

The following table lists the various permanent files that you can use during LIB/TSO processing, depending upon the command options specified and the system defaults in effect.

File Name	Function
user-prefix.$$$$$$LA.LIST *user-prefix*.$$$$$$LS.LIST *user-prefix*.$$$$$$LX.LIST	Holds the module listing if the LIST option is invoked for commands LIBADD, LIBSAVE, or LIBEXP.
user-prefix.$$$$$$LA.MSGS *user-prefix*.$$$$$$LS.MSGS *user-prefix*.$$$$$$LD.MSGS *user-prefix*.$$$$$$LI.MSGS *user-prefix*.$$$$$$LX.MSGS	Holds the CA Librarian Update Report for commands LIBADD, LIBSAVE, LIBDLM, LIBINDEX, and LIBEXP, if you select the PERMMSG option. user-prefix.
$$$$$$LI.INDEX	Holds the index produced through the LIBINDEX command if you specify the LONG option.

LIBAUDIT Processing and LIB/TSO

The CA Librarian Auditing facility (LIBAUDIT) provides the following benefits:

- For archived modules, LIBAUDIT conserves master file space by retaining only the changed records of an updated module in the module instead of generating a complete copy of the module as a separate level.
- For non-archived modules, LIBAUDIT marks the changed records generated during an update with date stamps. Thus, updates can be identified through the date stamps.
- For LIB/TSO, LIBAUDIT notes the changes that were applied through a LIBGET/LIBSAVE sequence or the LIBEXP command. It then issues the appropriate CA Librarian control statements (-INS, -DEL, and -REP) to update the changed records only.

You can suppress LIB/TSO LIBAUDIT processing for individual command executions by specifying the NOAUDIT operand on the LIBSAVE or LIBEXP commands. NOAUDIT causes LIB/TSO to issue a -REP ALL,NOAUDIT control statement.

Note:

- The advantages of LIBAUDIT can be lost through careless handling of sequence numbers. If you change the location of your sequence numbers, LIBAUDIT views the records as updated, even if no other changes are made. This problem can be especially acute if editing COBOL data sets. Take great care to ensure that sequence numbers remain in the same location when modules are retrieved from or returned to the master file. In addition, avoid using ISPF AUTONUM if LIBAUDIT is in effect.
- Without LIBAUDIT, CA Librarian generates an entire copy of the module for every archiving level and CA Librarian does not date stamp the changed records of non-archived modules.

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